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Pathways to Maternal and Child Well-Being: Stability and Transaction across Toddlerhood

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SYNOPSIS

Objective.—This study examines the development of minor parenting stress, parenting satisfaction, and dyadic dysregulation across early childhood and evaluates their roles in predicting maternal and child well-being one year later.

Design.—Data was collected from 322 low-income, Mexican American mother-child dyads at child ages 12, 18, 24, and 36 months. Mothers responded to questionnaires during structured interviews, and mother-child dyadic interactions were observed during structured teaching tasks and later coded for global displays of emotional, attentional, and behavioral dysregulation.

Results.—Cross-lag path analyses revealed negative concurrent relations between minor parenting stress and parenting satisfaction at every time point and stability in constructs across time. Parenting stress predicted greater subsequent dyadic dysregulation. Greater dyadic dysregulation and stress related to parenting predicted more maternal depressive symptoms and child behavior problems, whereas greater parenting satisfaction predicted less maternal depressive symptoms and child behavior problems.

Conclusion.—In this minority at-risk population, there was substantial stability in and a lack of transactional relations between minor parenting stresses, parenting satisfaction, and dyadic dysregulation across toddlerhood. These factors are important determinants of maternal and child well-being, with minor parenting stress emerging as particularly powerful.

Keywords

dyadic dysregulation; parenting stress; parenting satisfaction; Mexican American; parent-child interaction

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Conflict of Interest Disclosures

Each author signed a form for disclosure of potential conflicts of interest. No authors reported any financial or other conflicts of interest in relation to the work described.

Ethical Principles

The authors affirm having followed professional ethical guidelines in preparing this work. These guidelines include obtaining informed consent from human participants, maintaining ethical treatment and respect for the rights of human or animal participants, and ensuring the privacy of participants and their data, such as ensuring that individual participants cannot be identified in reported results or from publicly available original or archival data.

INTRODUCTION

Toddlerhood, often referred to as “the terrible twos,” can be a trying time for parents given increases in child mobility, expressive capability, autonomy seeking, and curiosity. The psychological well-being of the mother and her satisfaction in the maternal role are important for the quality of parenting behavior, the parent-child relationship, and children’s healthy psychosocial development (Nelson-Coffey & Stewart, 2019; Walker et al., 2011). As such, dynamic, multimethod investigations of individual parenting effects, parent-child dyadic functioning, and their interplay across the child’s early developmental years are crucial to enhance an understanding of the processes that facilitate or disrupt maternal and child well-being. This study applies a transactional perspective (Belsky, 1984; Sameroff, 2009) to explore how parent-child dyadic functioning and maternal risk and protective factors interact across toddlerhood to influence the development of later child behavior problems and maternal depression among Mexican American families, an underrepresented group in existing literature.

Parenting Stress as a Risk Factor

Parenting stress, conceptualized as the frustrations involved in child rearing and dealing with child problem behaviors, is ubiquitous (Deater-Deckard & Panneton, 2017) and has multiple implications for parenting and children’s developmental well-being (Mackler et al., 2015; Thompson, 2014). Parenting stress often results from difficulties adapting to the demands of parenthood (Deater-Deckard, 2004) and is considered to be a core determinant of parenting quality and behaviors (Crnic & Ross, 2017). Higher reported levels of parenting stress have been linked with more negativity in parent-child interactions (Farmer & Lee, 2011; Lovejoy, Graczyk, O’Hare, & Neuman, 2000), greater parental endorsement of depressive symptoms (Shea & Coyne, 2011; Skedren et al, 2012; Thomason et al., 2014), less effective parenting (Coldwell, Pike, & Dunn, 2006; Crnic, Gaze, & Hoffman, 2005), and increased child behavior problems (Neece, Green, & Baker, 2012). Furthermore, higher numbers of stressors related to parenting have been reported by young mothers (Nomaguchi & Brown, 2011), ethnic minority mothers (Nomaguchi & House, 2013), single mothers (Avison et al., 2007), mothers with more children in the home (Crnic & Ross, 2017; McBride, Schoppe, and Rane, 2002; Skreden et al., 2012), low-income mothers (Muslow, Caldera, Pursley, Reifman, & Huston, 2002), and less educated mothers (Solem, Christophersen, & Martinussen, 2011). Despite the volume of research devoted to understanding the determinants and consequences of parenting stress, the developmental mechanisms by which parenting stress exerts its influence, and how these mechanisms might operate over time to influence both parent and child well-being, remain relatively unexplored (Crnic & Ross, 2017).

Parenting Stress in the Context of Parenting Satisfaction

One mechanism by which parenting stress influences maternal and child well-being may be parenting satisfaction, conceptualized as the degree to which parents enjoy or derive pleasure from their parenting (Johnston & Mash, 1989). Parenting satisfaction is a core component of parent’s overall feelings of parenting competence, relevant to familial processes beyond the parent-child relationship, including marital satisfaction and overall family functioning (Ohan, Leung, & Johnston, 2000). In general, mothers with lower

parenting satisfaction may feel less competent in their maternal role, more frequently implement dysfunctional parenting practices, and exhibit poorer maternal mental health throughout children's development (Coleman & Karrakar, 2000). Decreased parenting satisfaction is frequently related to increased maternal depression and parenting stress (Crnic & Greenberg, 1990; Rogers & Matthews, 2004). Among mothers, greater parenting satisfaction is repeatedly associated with decreased reliance on dysfunctional discipline practices (such as maternal laxness, overreactivity, and verbosity) and a lower-conflict parenting style, whereas lower levels of parenting satisfaction may predict the likelihood of ineffective parenting behaviors and dysfunctional parent-child interactions across time (Ohan et al., 2000; Rogers & Matthews, 2004).

Parent-Child Dyadic Interaction in the Development of Psychopathology

Dyadic interpersonal interaction between mothers and their children can be conceptualized as a bidirectional proximal process, based on both the mother's responsiveness to changes in the state and behavior of the child as well as the child's responsiveness to changes in state and behavior of the mother (Bronfenbrenner & Morris, 1998). Consequently, dysregulated parent-child interactions (i.e., rigidity, inflexibility, affective asynchrony) are often associated with later child behavior problems (Ensor, Roman, Hart, & Hughes, 2012; Lunkenheimer, Albrecht, & Kemp, 2013; Lunkenheimer, Olson, Hollenstein, Sameroff, & Winter, 2011), perhaps due to the child's reduced exposure to models of adaptive regulatory strategies to deal with arousal. The quality of the parent-child interaction suffers when a mother is coping with high levels of stress (Downey & Coyne, 1990), which can compromise her responsivity to the child. Similarly, mothers with high levels of depressive symptoms exhibit less positivity and more negativity during parent-child interactions (Tronick & Reck, 2009). Further explicating maternal factors that exert longitudinal and transactional effects on the quality of the parent-child interaction will help identify targets and timelines for prevention and intervention strategies that aim to promote maternal mental health and mitigate the adverse and lasting negative impact on child self-regulatory functioning and emerging psychopathology.

The Influence of Parenting Satisfaction on the Mother-Child Relationship

Parenting satisfaction may play an equally important role in pathways of child well-being via the parent-child relationship. Lower parenting satisfaction is concurrently associated with parental report of more child behavior problems (Ohan et al., 2000; Roger & Matthews, 2004), and mothers of difficult, dysregulated children may correspondingly feel less satisfied with and competent in their parenting experience (Coleman & Karraker, 2000; Roger & Matthews, 2004). In the context of risk (e.g., maternal depression), higher perceived parental competence may buffer against poor child outcomes (Knoche, Givens, & Sheridan, 2007), potentially by maintaining the quality of parent-child interactions. Such relations contribute to our understanding of the role of parenting satisfaction, but it is important to identify the directionality of pathways that may link parenting satisfaction, quality of dyadic interactions, and maternal and child well-being.

Mexican American families, specifically, may be an especially relevant group for which a more nuanced understanding of pathways to maternal and child well-being is needed.

Several socioeconomic and cultural factors may differentially impact the parenting experience among Mexican American mothers. Not only is the Latinx population (in which Mexican Americans are included) the fastest growing minority group in the United States (U.S. Census Bureau, 2017), but Latinx families are also more than twice as likely to live in poverty than non-Latinx, European American families (Population Reference Bureau, 2016). Parenting under financial strain is a well-documented contributor to parental stress and psychological well-being (Le et al., 2008). Given that ethnic minority mothers, compared to European American mothers, tend to have children at an earlier age (Mathews & Hamilton, 2009), have more biological children in the home (Martin et al., 2011), and have lower levels of education and income (Musu-Gillette et al., 2016), understanding the implications of parenting stress may be especially pertinent. Mexican-origin mothers living in the United States may also face stress associated with acculturative processes. In support of a family stress model, White et al. (2009) found increased acculturative stress is associated with increased depressive symptoms and decreased warmth and disciplinary consistency among Mexican American mothers.

The importance of accounting for the broader, cultural context in which parenting occurs has been promoted as key to understanding developmental processes of minority children and families (Garcia Coll et al., 1996), as certain cultures place differential importance on parenting and the maternal role (Bornstein & Cheah, 2006). In traditional Mexican American culture, *familismo* and *marianismo* values emphasize the importance of motherhood and placing children's and family members' needs above individual needs (Castillo & Cano, 2007). Familism values pose both protection and risk for Mexican American mothers dependent on other contextual factors (Calzada, Tamis-LeMonda, & Yoshikawa, 2013). Women identifying with cultural backgrounds that place primary significance on motherhood may experience greater levels of parenting satisfaction more generally. Perhaps, among Mexican American women who highly value their maternal role, everyday parenting stress is less likely to impact parenting behavior, parent-child interactions, and pathways to maternal and child well-being. Indeed, Ispa et al. (2004) found that maternal stress was not associated with intrusiveness during Mexican American mothers' play with their toddlers, whereas a positive association was found among European American mothers. By contrast, the mental health of Mexican American women who align more strongly with the maternal role may be more negatively impacted by parenting stressors, feeling unsatisfied as a mother, or dysregulated interactions with their child. Prior research suggests that Mexican American mothers highly value respect, good manners, and benevolence towards others in their young children (Ng, Tamis-LeMonda, Godfrey, Hunter, & Yoshikawa, 2012). Among the current low-income sample, it is possible that Mexican American mothers could become especially distressed in interactions with their children in which they are misbehaving.

There have been important suggestions in the literature of the need to disentangle cultural and socioeconomic influences on parenting. Ethnic minority parents are more likely to parent in disadvantaged contexts; a failure to recognize the socioeconomic context in models evaluating cultural influences on parenting behaviors may inaccurately attribute maladaptive parenting practices to certain cultural groups, when they are more the product of limited socioeconomic resources. Additionally, adaptive cultural practices may counteract

socioeconomic constraints that limit parental resources (Garcia Coll et al., 1996; Le et al., 2008). Testing evidence-based pathways to maternal and child well-being that are specific to low-income, ethnic minority groups of women and their children will help to disambiguate the stress processes that operate within these families.

The Present Study

The current study sought to advance an understanding of the interplay between minor parenting stress, parenting satisfaction, and dyadic dysregulation at 12, 18, and 24 months as they relate to maternal and child well-being at 36 months in a high-risk, ethnic minority population. Within each time point, we expected a positive relation between minor parenting stresses and parenting satisfaction and that both of these maternal factors would relate negatively to dyadic dysregulation. Minor parenting stresses and dyadic dysregulation at 24 months were hypothesized to predict greater maternal depression and child behavior problems at 36 months, whereas parenting satisfaction was expected to predict less maternal depression and child behavior problems at 36 months. Less clear were the expected directions of effect among minor parenting stress, dyadic dysregulation, and parenting satisfaction.

METHOD

Participants

Participants included 322 Mexican American mother-child dyads (53.7% female, *M* maternal age = 27.8). Four participants were removed prior to analyses due to missing data at all time points. Therefore, the final sample size was 318 pairs. Participants were recruited from prenatal care clinics in Maricopa County, AZ, as a part of the larger *Las Madres Nuevas* project, a longitudinal study spanning the prenatal period to child age six years. To participate in the study, mothers had to self-identify as Mexican or Mexican American, have fluency in Spanish or English, be 18 years or older, report a household annual income below $25,000 or qualify for Medicaid or Federal Emergency Services coverage, and report no prenatal evidence of serious health or developmental problems with the anticipated singlet baby. See Table 1 for additional sample demographics.

From the initial sample of 318 participants, 266 (83.6%) were included at the 12-month time point, 237 (74.5%) were included at the 18-month time point, 243 (76.4%) were included at the 24-month time point, and 215 (67.6%) were included at the 36-month time point. Attrition status was not associated with maternal level of education, number of years in the United States, number of other biological children, dyadic dysregulation, or parenting satisfaction. In general, older mothers were less likely to miss a data collection time point. Furthermore, minor parenting stress at 12 months predicted less attrition at 24 and 26 months.

Procedures

Data were collected during a prenatal visit during the third trimester of pregnancy in the participant's home and when children were 12, 18, 24, and 36 months in a University-based psychology laboratory context. The visits lasted 2–3 hours and were carried out by female,

bilingual interviewers who were fully trained according to a specified protocol. The visits included structured interviews, physiological data collection, questionnaire presentations, interaction tasks between mother and child, and measures of child socioemotional and cognitive functioning. To account for variations in literacy, all questions were read out loud in the mother's preferred language (80% Spanish) and responses were recorded using Blaise Survey Software. Transportation costs were covered, and monetary compensation for the mother's time was provided.

At each visit, structured mother-child observational episodes were conducted, filmed, and later coded for dyadic dysregulation. At the 12-, 18-, and 24-month visits, the mother and child completed tasks that were designed to elicit frustration to provide a context for the assessment of dyadic functioning. Mothers were asked to "teach" their child four tasks that involved a skill slightly beyond the child's capabilities. The interaction tasks were modified at each visit to be developmentally appropriate for the child's age and abilities. Examples of the tasks include rolling a ball back and forth (12-month visit), fitting animal puzzle pieces into place on a farm backdrop (18-month visit) and stringing big wooden beads through a string (24-month visit). Mothers and children were alone during these interactions and a trained interviewer called a phone in the room to signal the mother to move onto the next task after a 5-minute time period had elapsed.

Measures

Minor Parenting Stress.—Minor parenting stress was assessed at the 12-, 18-, and 24-month laboratory visits using the Parenting Daily Hassles scale (PDH; Crnic & Greenberg, 1990). The items included 20 commonplace parenting related events (i.e., "Continually cleaning up messes of toys or food."). Mothers provided to answers for each question using a 5-point Likert scale, the first rating the frequency of occurrence (i.e., how *often* is this a hassle) and the second addressing the intensity of the hassle (i.e., how *much* of a hassle.) Higher scores indicate a greater frequency and burden of parenting hassles as perceived by the mother. This measure produces a frequency scale summed score (*none of the time* = 1, *an extreme amount of time* = 5) and an intensity scale summed score (*not at all a hassle* = 1, *an extreme hassle* = 5). Due to the positive correlation between the two scales, $r = .81$ (12 months), $r = .79$ (18 months), $r = .78$ (24 months), all ps $< .001$, the current study used only the intensity rating for all analyses (12-month $\alpha = .95$; 18-month $\alpha = .94$; 24-month $\alpha = .94$).

Parenting Satisfaction.—The Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989) was administered to assess maternal parenting satisfaction when children were 12, 18, and 24 months of age. This scale consists of 16 items used to measure parental competence across two dimensions, satisfaction (9 items) and efficacy (7 items), on a 6-point Likert scale. Only the Satisfaction subscale was used and included statements such as "Being a parent makes me tense and anxious" and "Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age." Higher scores reflected greater perceived satisfaction in the maternal role (12-month $\alpha = .81$; 18-month $\alpha = .79$; 24-month $\alpha = .78$).

Dyadic Dysregulation.—A dyadic dysregulation coding system, adapted from Hoffman, Crnic, and Baker (2006), was used to assess the degree to which mother-child dyads showed signs of dyadic dysregulation during the video recorded observational episodes. This system evaluates the dyad's ability to modulate their collective levels of emotional, attentional, and behavioral arousal based on the intensity, duration, lability, and recovery time from instances of distress. The dysregulation coding system was conceptually informed by relevant research (Thompson, 1994; Cole, Michel, & Teti, 1994; Hoffman, Crnic, & Baker, 2006). Scores ranged from 1 to 5, with higher scores indicating greater dyadic dysregulation. Undergraduate research assistants were trained in teams of two by a graduate student and had to attain an inter-rater reliability above 70% exact match and 95% within 1 rating point of the master coder before coding independently of the graduate student (12-month *ICC* = .66; 18-month *ICC* = .78; 24-month *ICC* = .72). Dyadic dysregulation at each time point (12, 18, and 24 months) was represented in statistical analyses by a latent variable, with coded dysregulation during each of the four teaching task episodes as indicators.

Maternal Depressive Symptoms.—Maternal depressive symptomatology was indexed using the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). Mothers responded to 20 questions using a 4-point Likert scale (0 = *Rarely or none of the time*; 3 = *Most or all of the time*). Higher scores are representative of greater depressive symptomatology. Possible scores range from 0 to 60, and a score greater than 26 indicates clinically significant levels of depression in non-psychiatric Spanish populations (Vazquez, Blanco, & Lopez, 2007). The internal consistency of the scale was satisfactory at both the 12- and 36-month time points, αs = .88 and .71, respectively.

Child Behavior Problems.—Child emotional and behavioral problems were assessed during the 12-month laboratory visit using the Brief Infant-Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan, Carter, Irwin, Wachtel, & Cicchetti, 2004; Briggs-Gowan & Carter, 2006) and during the 36-month laboratory visit using the Child Behavior Checklist for ages 1.5 to 5 (CBCL; Achenbach & Rescorla, 2000). Only the problem scale of the BITSEA (31 items; α = .81) was used to provide continuity in construct between the BITSEA at 12 months and the CBCL at 36 months. The BITSEA has been found to be a reliable and valid screening tool for problem behaviors within low-income, Hispanic, and Spanish-speaking populations (Hungerford, Garcia, & Bagner, 2015). The BITSEA problem scale scores explain a significant proportion of the variance in later scores on the CBCL total problems scale among culturally diverse populations (Briggs-Gowan et al., 2004; Briggs-Gowan & Carter, 2008; Hungerford, Garcia, & Bagner, 2015; Kruizinga et al., 2012).

Mothers responded to 99 questions on the CBCL that described possible behavioral and emotional problems of their child and rated each item on a 3-point scale; *not true* (0), *sometimes true* (1), or *very true* (2) of their child. Five subscales were used to create a composite variable (α = .96): emotionally reactive (9 questions), anxious/depressed (8 questions), withdrawn (8 questions), attention problems (5 questions), and aggressive behavior (19 questions).

Covariates.—Given that 86% of mothers were born in Mexico, elements of acculturation were accounted for by including the number of years mothers had lived in the United States

at the prenatal visit as a covariate in all analyses. The following variables were also considered for inclusion in the statistical model given their potential relations to parenting stress, parenting satisfaction, and/or dyadic dysregulation: maternal age, maternal level of education, household income, number of other biological children, and child gender. All potential covariates were collected during a structured interview at the prenatal visit.

Analytic Plan

Preliminary analyses were performed to examine frequency and descriptive information for all study variables (Table 2). Individual study variables were examined for normality and outliers. Correlational analyses were run for all variables (Table 2). The statistical analysis program M*plus* 8.1 (Muthén & Muthén, 1998–2017) was used due to its ability to handle missing data with full information maximum likelihood (FIML) estimation (Enders, 2010). Hypotheses were tested using an autoregressive cross-lagged panel (ACLP) model (Dwyer, 1983). ACLP models account for stability over time within each construct (e.g., longitudinal associations of minor parenting stress from 12 months to 18 months to 24 months) as well as concurrent correlations (e.g., the association between minor parenting stresses and parenting satisfaction at the 12-month time point). Maternal depressive symptoms and child behavior problems at 12 months were included as predictors of the 36-month outcomes. Model fit was examined using chi-square (χ^2), comparative fit index (CFI), standardized root mean square residual (SRMR), and 90% confidence intervals for the root mean square error of approximation (RMSEA).

RESULTS

Descriptive Statistics and Preliminary Analyses

Means, standard deviations, and zero-order correlations are presented in Table 2. All variables were approximately normally distributed. Zero-order correlations revealed that income, maternal country of birth, and child gender were not significantly related to parenting stress, parenting satisfaction, or dyadic dysregulation at 12 months. Maternal age, $r = -.14$, $p < .05$, number of other biological children, $r = -.19$, $p < .01$, and maternal level of education, $r = .27$, $p < .001$, entered into analyses as covariates due to their significant correlations with parenting satisfaction at 12 months.

Cross-Lag Results and Additive Effects

The structural equation model fit the data well, χ^2 [$N = 318$; $df = 244$] = 317.4, $p = .001$, CFI = .941, SRMR = .054, RMSEA = .031 {90% CI: .02 .04}. Significant model results are shown in Figure 1 and full model results are shown in Table 3. Mothers who were more highly educated reported higher parenting satisfaction at 12 months, $\beta = .261$, $SE = .067$, $p < .001$. There was also a positive relation between the number of other biological children and parenting stress at 12 months, $\beta = .230$, $SE = .083$, $p = .006$. Minor parenting stresses, parenting satisfaction, and dyadic dysregulation showed relative stability across 12, 18, and 24 months. Minor parenting stresses and parenting satisfaction were mildly and negatively related within measurement period. No significant correlations emerged between dyadic dysregulation and the maternal factors within any measurement period. Between 12 and 18 months, no significant cross-lag relations between minor parenting stress, parenting

satisfaction, and dyadic dysregulation were found. Greater parenting stress at 18 months predicted more dyadic dysregulation at 24 months, β = .201, *SE* = .084, *p* = .017, and greater dyadic dysregulation at 18 months was on trend to predict decreased parenting satisfaction at 24 months, β = −.125, *SE* = .072, *p* = .082.

Predicting Maternal Depressive Symptoms and Child Behavior Problems

Although few cross-lag relations were found between minor parenting stresses, parenting satisfaction, and dyadic dysregulation, all three were powerful predictors to the outcomes of interest (Figure 1). Higher levels of parenting stress at 24 months predicted greater maternal depression, β = .148, *SE* = .064, *p* < .001, and greater child behavior problems, β = .206, *SE* = .07, *p* = .003, one year later. A higher sense of satisfaction in the parenting role at 24 months predicted fewer maternal depressive symptoms, β = −.206, *SE* = .068, *p* = .002, and fewer child behavior problems, β = −.150, *SE* = .07, *p* = .032, at 36 months. Last, higher levels of dyadic dysregulation at the 24-month visit predicted greater maternal depression, β = .180, *SE* = .088, *p* = .04, and greater child behavior problems, β = .201, *SE* = .095, *p* = .034, one year later.

Post-Hoc Analyses

Given the emergence of 18-month parenting stress as a significant predictor of 24-month dyadic dysregulation, mediation of the effects of 18-month parenting stress on 36-month outcomes by 24-month dyadic dysregulation were tested using bootstrap confidence intervals to examine the significance of the indirect effects (MacKinnon, 2008). Tests of mediation did not reveal any significant indirect effects from 18-month minor parenting stress to outcome variables via 24-month dyadic dysregulation.

DISCUSSION

Focusing on minor parenting stresses, parenting satisfaction, and parent-child dyadic dysregulation in a sample of Mexican American mother-child dyads, we aimed to disentangle the directionality between these factors over time to explicate a clear pathway by which these factors undermine maternal and child well-being. Each of these three factors is an important determinant for child emotional and behavioral functioning and maternal depressive symptoms. Stability across time was evident, but the full complexity of the expected pathways across time did not emerge among the factors of interest.

Relations Within and Across Time

Previous studies have found that satisfaction in a romantic relationship can buffer the negative effect of parenting stress on maternal depression (Weitlauf, Vehorn, Taylor, & Warren, 2014), however there is very little work specifically examining the effect of satisfaction *within the parenting role*. In the current study, the concurrent negative relation between parenting satisfaction and minor parenting stress at the 12-, 18-, and 24-month time points suggests that concurrent parenting satisfaction may be important for immediate perceptions of minor parenting stresses and vice versa. Mothers who are more stressed also feel less satisfaction in the parenting role. The lack of transactional pathways between minor parenting stresses and satisfaction over time suggests that perceptions of parenting

satisfaction in the moment are not especially meaningful for perceptions of minor parenting stresses 6 months later. The lack of concurrent relations between the maternal factors and dyadic dysregulation at 12, 18, and 24 months was unexpected and may reflect differences in measurement method (i.e., self-report versus observational coding).

The stability of minor parenting stress over time is in line with previous longitudinal findings (Crnic et al., 2005; Neece et al., 2012). Although it is possible that toddlerhood simply is not as dynamic in terms of fluctuating levels of stress and satisfaction as children enter "the terrible twos," we should also consider that stability in parenting stress may suggest an underlying personality attribute of the parent (Crnic & Ross, 2017; Deater-Deckard, 2004). Stable perceptions of minor parenting stresses may indicate that certain mothers chronically report higher levels of stress. Given the documented link between parenting stress and parental behavior, chronic stress may signify similarly chronic, cumulative disruptions in dyadic interactions. Increased parenting stress, even when not specifically directed at the child, has been shown to impact children's behavioral and emotional development (Deater-Deckard & Panneton, 2017).

Earlier minor parenting stresses were found to have implications for later dyadic dysregulation. Other studies have similarly found an elevated risk for dyadic dysregulation in the context of maternal psychological distress (Feldman, Eidelman, & Rotenberg, 2004). Furthermore, it seems that stressful experience of parenting may be more critical to maternal and child well-being than maternal sense of satisfaction and dyadic dysregulation, highlighting the salience of parenting stress as a core determinant of parenting (see Crnic & Coburn, 2019; Deater-Deckard & Panneton, 2017). However, perceptions of minor parenting stresses earlier do not appear to play an important predictive role in determining maternal parenting satisfaction at subsequent time points. Perhaps, the chronicity of minor parenting stresses across the toddlerhood period, a developmental time when children are beginning to assert their autonomy and challenge parent directives, may be more meaningful for parenting satisfaction later on in development. Alternatively, for Latinx mothers who highly value their maternal role (Gress-Smith et al., 2013), the minor stresses may simply be seen as a part of the experience and, in turn, do not diminish satisfaction over time. This is a testable hypothesis for future research to address through consideration of alignment with cultural values in studies of parenting satisfaction and parenting stress.

Pathways to Maternal and Child Well-Being

Minor parenting stresses, parenting satisfaction, and dyadic dysregulation were all found to be important determinants of child well-being during the toddlerhood period. Each component provides a unique contribution and remains meaningful even after the inclusion of individual maternal (age, education, years in the United States) and contextual factors (number of biological children in the home) known to influence parenting stress, parenting satisfaction, and dyadic dysregulation. Findings of the current study highlight unique, additive associations across time during this important early childhood period between minor parenting stresses, parenting satisfaction, and dyadic dysregulation which, in turn, influence later child and maternal well-being.

The findings of the current study support the use of stress management interventions to reduce dysregulation in the mother-child relationship, child behavior problems, and maternal depression. Moreover, the “terrible twos” is an important early developmental period where parents’ increased experience of stress may have particularly meaningful implications for child development. During this period, children may be especially susceptible to the presence of parenting stress and overall troubled family interaction (Akcinar & Shaw, 2018; Belsky, Woodworth, & Crnic, 1996). Although it is important to understand what confers risk for development of depression, it is equally important to understand protective factors and processes that help make some mothers resilient in the face of adversity (Luthar, 2015). In addition to protecting against maladaptive psychological outcomes, parenting satisfaction may be an important positive contributor to overall maternal well-being. Indeed, feelings of parenting satisfaction have been linked to greater global happiness and self-esteem (Nomaguchi, 2012). Lowering exceedingly high expectations of mothers in the parenting role, familiarizing them with the notion of “good enough parenting” (Winnicott, 1960), and fostering a sense of community amongst stressed mothers (Luthar, Curlee, Engleman, & Stonnington, 2017) are possible ways to increase maternal satisfaction in the parenting role. Through increasing parenting satisfaction, program effects are likely to also carryover and reduce perceptions of minor parenting stresses, consequently lowering parental negativity within dyadic interactions.

Dyadic mother-child interaction in the context of challenging situations was also found to contribute meaningfully to development of depressive symptoms and child behavior problems. Dysregulation in Mexican American mother-child interactions at age 2 was predictive of child behavior problems 1 year later, a finding that is congruent with previous research in a variety of other populations (Ensor et al., 2012; Lunkenheimer et al., 2013). Among families of Mexican descent, in particular, the cultural values of the family are considered important determinants of parent-child dyadic interaction patterns (Gamble & Modry-Mandell, 2008). Gamble and Modry-Mandell (2008) posited that positive familial relationships may serve to support Mexican American preschool children’s internalization of family values or expectations, ultimately making them more likely to behave in accordance with those values and promoting positive outcomes. In line with this thinking, the current finding suggests that dyadic dysregulation may hinder the internalization of family values, decrease the desire to conform to expectations, and increase problem behaviors. The link between observed dyadic dysregulation and mothers’ report of depressive symptoms and child behavior problems is especially meaningful given that it connects independently observed behavior with maternal reports across time. This finding, present across modalities, indicates the robustness of the association and lends credence to the salience of dysregulation within the mother-child relationship for both maternal and child well-being 1 year later.

Limitations

Several limitations are relevant to interpretation of these results. Although the study utilized measures of observationally coded dyadic dysregulation, several primary study variables were measured via maternal self-report (minor parenting stresses, parenting satisfaction, child behavior problems, and maternal depressive symptoms). Therefore, associations

between minor parenting stresses, parenting satisfaction, and outcome variables may be overinflated. However, the effects of minor parenting stresses on subsequent dyadic dysregulation and dyadic dysregulation on maternal depressive symptoms and child behavior problems would be less affected by maternal bias. Similarly, the longitudinal nature of the model and demonstrated stability of minor parenting stress and parenting satisfaction over time further reduce concerns of self-report biases. Last, given the model was evaluated among low-income Mexican American women and children, results may not generalize to developmental pathways of maternal and child well-being among families from different socioeconomic and ethnic backgrounds. The cultural importance and expectations of motherhood among this sample may explain the lack of certain hypothesized pathways between parenting stress and parenting satisfaction. Perhaps, among mothers who strongly identify with their maternal role, increased parenting stress is not predictive of subsequent decreased parenting satisfaction.

IMPLICATIONS FOR PRACTICE AND THEORY

The current study points to the importance in consideration of three unique constructs – minor parenting stress, parenting satisfaction, and parent-child dyadic dysregulation – in pathways of maternal and child well-being throughout the first 3 years of life. Our work aimed to uncover whether pathways of maternal and child mental health were predominantly stress-driven, resource-driven, or relationship-driven. Instead, our findings highlighted the stability of these three constructs and their relations over time. There is no one “driver”; rather, each individual construct exerts a unique, longitudinal influence on maternal and child mental health. Mother-child dyads marked by high levels of parenting stress, low levels of parenting satisfaction, and high levels of dyadic dysregulation during infancy likely remain at elevated risk for maladaptive maternal and child outcomes throughout early childhood. Furthermore, the current study’s unique sample of low-income, Mexican American mothers extends our understanding of these pathways of maternal and child well-being during the first few years of life to a relatively understudied population. Even among the current study’s generally at-risk sample, women with fewer years of education reported less parenting satisfaction and women with more biological children reported higher levels of parenting stress. Early identification of at-risk dyads and clinical interventions targeting parenting stress, parenting cognitions, and/or parent-child interactions have the potential to support both maternal and child mental health.

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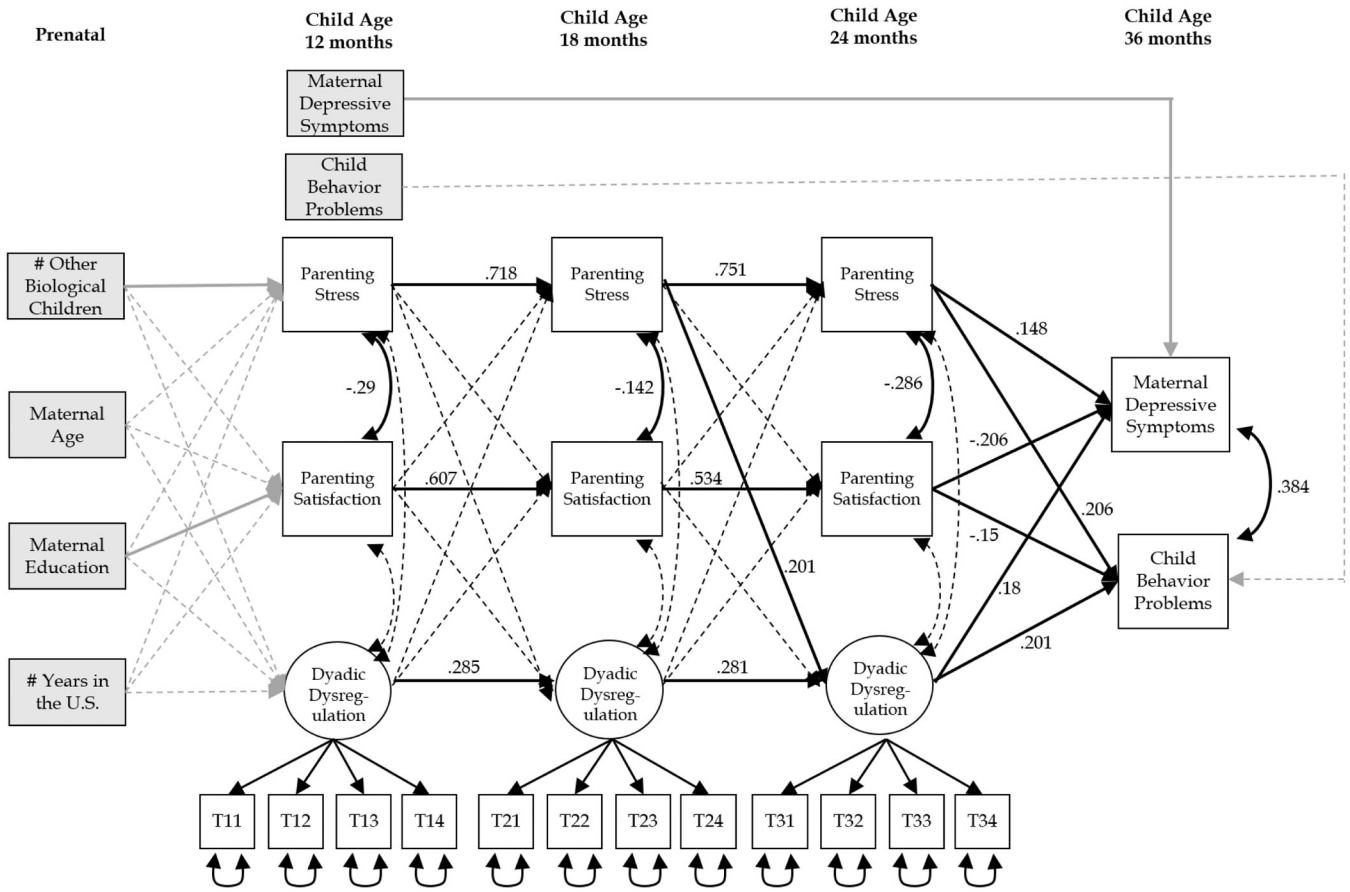

Figure 1.

Longitudinal relations among parenting stress, parenting satisfaction, and dyadic dysregulation predicting maternal and child well-being. Standardized coefficients are reported. Solid lines indicate significant paths at $p < .05$, and dotted lines denote nonsignificant paths. Correlations between maternal depressive symptoms, child behavior problems, and other study variables at 12 months are not included for visual clarity.

Table 1.

Descriptive statistics for all study variables ($N = 318$).

Variable Name	Min	Max	*M*	*SD*	%	*n*
Mother's age (y)	18	42	27.87	6.49		318
Mother's education	0	18	10.11	3.22		318
Mother's country of birth						
United States					13.6	43
Mexico					86.1	273
Number of years in the United States	0	32	11.90	6.00		318
Child's gender						
Male					45.7	145
Female					54.3	172
Marital status						
Married					30	61
Separated					4.4	14
Living with partner but not married					46.8	95
Number of other biological children	0	9	1.99	1.68		318
Estimated total income						
≥ $5,000					13.9	44
$5,001 – 10,000					18.9	60
$10,001 – 15,000					26.8	85

Table 2.

Descriptive statistics and bivariate correlations between parenting stress, parenting satisfaction, dyadic dysregulation, and outcomes ($N = 318$)

Variable	1	2	3	4	5	6	7	8	9	10	11
M	35.26	35.32	0.00	34.16	37.38	0.00	34.41	37.15	0.00	7.79	28.25
SD	*13.98*	*8.92*	*.40*	*13.11*	*8.37*	*0.19*	*13.47*	*48.32*	*0.34*	*8.11*	*21.27*
1. Parenting Stress 12 months	-										
2. Parenting Satisfaction 12 months	−.25**	-									
3. Dyadic Dysregulation 12 months	−.01	.03	-								
4. Parenting Stress 18 months	.73**	−.17**	−.03	-							
5. Parenting Satisfaction 18 months	−.18**	.63**	−.01	−.22**	-						
6. Dyadic Dysregulation 18 months	.01	−.06	.40**	.03	−.07	-					
7. Parenting Stress 24 months	.72**	−.17*	−.10	.74**	−.12	.01	-				
8. Parenting Satisfaction 24 months	−.13**	.60**	−.02	−.13	.54**	.01	−.23**	-			
9. Dyadic Dysregulation 24 months	.13**	−.08	.18**	.16*	−.05	.40**	.12†	−.15*	-		
10. Maternal Depressive Symptoms 36 months	.33**	−.37**	.03	.24**	−.35**	.21**	.31**	−.36**	.23**	-	
11. Child Behavior Problems 36 months	.29**	−.12	.09	.19**	−.12	.06	.32**	−.26**	.23**	.48**	-

Notes. Factor scores were used for dysregulation variables.

* $p < .05$.

** $p < .01$.

Parent Sci Pract. Author manuscript; available in PMC 2022 January 01.

Table 3.

Full model results.

DV	IV	β	SE	*p*
Maternal Depressive Symptoms 36 mos.				
	Dyadic Dysregulation 24 mos.	.180	.088	.040
	Parenting Stress 24 mos.	.148	.067	.028
	Parenting Satisfaction 24 mos.	−.206	.068	.002
	Maternal Depressive Symptoms 12 mos.	.230	.064	<.001
Child Behavior Problems 36 mos.				
	Dyadic Dysregulation 24 mos.	.201	.095	.034
	Parenting Stress 24 mos.	.206	.070	.003
	Parenting Satisfaction 24 mos.	−.150	.070	.032
	Child Behavior Problems 12 mos.	.037	.067	.580
Dyadic Dysregulation 24 mos.				
	Parenting Stress 24 mos.	.019	.087	.830
	Parenting Satisfaction 24 mos.	−.142	.087	.103
	Parenting Stress 18 mos.	.201	.084	.017
	Parenting Satisfaction 18 mos.	−.003	.084	.969
	Dyadic Dysregulation 18 mos.	.281	.101	.006
Parenting Stress 24 mos.	Parenting Sat. 24 mos.	−.286	.061	<.001
	Parenting Stress 18 mos.	.751	.030	<.001
	Parenting Sat. 18 mos.	.028	.045	.532
	Dyadic Dysregulation 18 mos.	−.004	.056	.937
Parenting Satisfaction 24 mos.				
	Parenting Stress 18 mos.	−.013	.056	.818
	Parenting Sat. 18 mos.	.534	.049	<.001
	Dyadic Dysregulation 18 mos.	−.125	.075	.082
Dyadic Dysregulation 18 mos.				
	Parenting Stress 18 mos.	.055	.090	.539
	Parenting Sat. 18 mos.	−.023	.090	.796
	Parenting Stress 12 mos.	−.005	.085	.957
	Parenting Sat. 12 mos.	−.150	.092	.103
	Dyadic Dysregulation 12 mos.	.285	.101	.005
Parenting Stress 18 mos.				
	Parenting Sat. 18 mos.	−.142	.067	.033
	Parenting Stress 12 mos.	.718	.033	<.001
	Parenting Sat. 12 mos.	−.018	.050	.726
	Dyadic Dysregulation 12 mos.	−.022	.059	.711
Parenting Satisfaction 18 mos.				
	Parenting Stress 12 mos.	−.024	.054	.656
	Parenting Satisfaction 12 mos.	.607	.046	<.001
	Dyadic Dysregulation 12 mos.	−.004	.065	.953

DV	IV	β	SE	*p*
Dyadic Dysregulation 12 mos.				
	Parenting Stress 12 mos.	−.029	.081	.716
	Parenting Satisfaction 12 mos.	.018	.083	.834
	Child Behavior Problems 12 mos.	−.057	.081	.483
	Maternal Depression Symptoms 12 mos.	−.013	.082	.870
	Maternal Age	−.129	.107	.226
	Maternal Education	.054	.089	.544
	Number of Other Biological Children	.056	.118	.639
	Number of Years in U.S.	−.032	.094	.732
Parenting Stress 12 mos.				
	Parenting Satisfaction 12 mos.	−.290	.060	<.001
	Child Behavior Problems 12 mos.	.247	.066	<.001
	Maternal Depressive Symptoms 12 mos.	.430	.054	<.001
	Maternal Age	−.107	.076	.164
	Maternal Education	.111	.065	.088
	Number of Other Biological Children	.230	.083	.006
	Number of Years in U.S.	−.028	.067	.674
Parenting Satisfaction 12 mos.				
	Child Behavior Problems 12 mos.	−.252	.069	<.001
	Maternal Depressive Symptoms 12 mos.	−.523	.050	<.001
	Maternal Age	−.056	.081	.490
	Maternal Education	.261	.067	<.001
	Number of Other Biological Children	−.027	.090	.762
	Number of Years in U.S.	−.019	.071	.786

Note. Standardized results are reported.