

Economic Hardship, Parents' Depression, and Relationship Distress among Couples With Young Children

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Abstract

Using data from the FFCW ($n = 1,492$ couples), the authors assessed stress, health selection, and couple-crossover hypotheses by examining (1) the bidirectional association between economic hardship and depressive symptoms one, three, and five years after the birth of a child; (2) the association between economic hardship and depression on relationship distress for both parents; and (3) whether the associations vary by marital status. The results suggest a pernicious cycle for mothers after the birth of a child. Economic hardship increases depression, but maternal depression also increases economic hardship. These reinforcing mechanisms increase both mothers' and fathers' relationship distress. Taken together, policies aimed at strengthening couples' relationships should work in tandem with economic and mental health policies to reach optimal outcomes for couples with young children. Effect patterns were generally consistent between married and cohabiting couples, with some variation in levels of statistical significance.

Keywords

economic hardship, depression, stress process, relationship distress, dyads

Parenthood is an ever changing experience that produces a delicate balance of rewards and stressors (Nomaguchi and Milkie 2003). The demands and challenges of parenting a young child can increase stress, which elevates risks for psychological distress (Evenson and Simon 2005; Nomaguchi 2012; Umberson, Pudrovska, and Reczek 2010) and can adversely affect children and the health of the whole family (Child Trends 2014). Moreover, depression can decrease productivity, incapacitating individuals in ways that limit economic well-being by decreasing employment opportunities, work hours, and household income (Ennis, Hobfoll, and Schroder 2000; Gupta and Huston 2009). At the same time, economic instability may lead some parents to become frustrated and emotionally overwhelmed. Consequently, economic instability can create or exacerbate

parental depression, particularly as couples adapt to growth in family demands after a child's birth (Bronte-Tinkew et al. 2007; Manuel et al. 2012). Thus, economic hardship and depression may reciprocally influence each other over time while also creating emotional strain between intimate partners that lowers relationship quality and puts

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the relationship at risk for dissolution (Hardie and Lucas 2010; Proulx, Helms, and Buehler 2007).

Although prior studies have focused on the association between hardship and depression (e.g., Mirowsky and Ross 2001), most are unidirectional (e.g., economic hardship to depression) and focus on only one parent (e.g., the mother or female partner). As a result, less is known about the reverse association (i.e., depression to economic hardship) and how these processes operate for both members of the couple dyad (particularly with respect to the male partner). Using data from the Fragile Families and Child Well-being Study (FFCW), the purpose of this study therefore is to (1) examine the links between family economic hardship and parents' depression as a reciprocal and dyadic process among couples one, three, and five years after the birth of a child and to understand the extent to which (2) economic hardship and (3) parental depression are associated with mothers' and fathers' reports of relationship distress by the time of their child's fifth birthday. Furthermore, given the increase in nonmarital births and the differences in financial and psychological resources between families (married and cohabiting), we also examine variation by (4) marital status.

Taken together, this study extends previous research in a number of ways. First, we use information from both mothers and fathers to paint a more holistic picture of family stress, parental mental health, and relationship distress among couples. Second, we analyze data across three critical time points for parents with a child—infant, toddler, and preschool—to understand the potential reciprocity between parental depression and economic hardship. Children of depressed parents (Child Trends 2014) and children experiencing economic hardship (McLoyd 1990) are at greater risk for several adverse academic and behavioral outcomes. Last, we examine how family stress and each parent's mental health affects the intimate partnership between a mother and a father. In an era of family policies aimed at strengthening couples' relationships, understanding the factors that affect the stability of romantic partners may prove to be valuable for scholars and policy makers alike.

LITERATURE REVIEW

Theoretical Framework

The lives of family members are inextricably interwoven (Cox and Paley 1997). To understand

some of the ways they are linked, we study couple dyads with an emphasis on how the associations between economic hardship and couples' mental health lingers over time to influence one another and how these factors increase vulnerability to negative relationship functioning. In the present study, stress process, the health selection hypothesis, and family stress perspectives guide our approach because these models focus on the extent to which economic hardship and depression are related (stress process and the health selection hypothesis; Muntaner et al. 2004; Pearlin et al. 2005) and how these factors contribute to relationship distress between partners (family stress; Conger, Conger, and Martin 2010; Westman and Vinokur 1998). Although these perspectives are usually associated with different research agendas, incorporating them into a single study highlights the distinct ways that stress manifests at both individual and family levels (Milkie 2010). Given the recent emphasis on extending stress process models to family-level outcomes (Milkie 2010), in the present study we seek to understand how intimate partners affect each other, how stressors shape the family unit by influencing one or both partners, and how negative feelings and stress between them adversely affect the relationship (Cox and Paley 1997; Neff and Karney 2007; O'Brien 2005).

Reciprocity between Economic Hardship and Depression

Economic hardship captures adverse material and economic conditions (e.g., poor housing, inability to pay bills) that negatively influence families by affecting individuals' depression, physical health, anxiety, and anger (Edin and Kissane 2010; Goosby 2007; Kahn and Pearlin 2006; McLoyd 1990). The stress process model posits that economic hardship influences depressive symptoms as a response to the stress arising from limited access to adequate goods and services (Pearlin et al. 2005). Economic hardship is especially challenging for parents because financial insecurity interferes with mothers' and fathers' ability to satisfy parenting roles (Avison and Turner 1988; Pearlin et al. 1981, 2005; Ross and Huber 1985). Prior studies using both individual- and dyadic-level data revealed that economic hardship increased depression or depressive symptoms (for reviews, see Conger et al. 2010; Muntaner et

al. 2013). These studies, however, generally examined hardship and depression as a unidirectional process using cross-sectional data (e.g., Heflin and Iceland 2009), and many of the longitudinal studies used data from homogenous samples (e.g., Wickrama et al. 2010, 2012), which may limit the generalizability of results.

Given that mental health can be a selective mechanism that contributes to socioeconomic disparities (Muntaner et al. 2004), the link from depression to economic hardship is important to consider. Often referred to as the health selection hypothesis, this line of reasoning proposes that individuals with mental health problems are less likely to obtain and maintain employment (Dohrenwend et al. 1992; Wadsworth and Achenbach 2005) which, in turn, increases stress by limiting one's ability to purchase essential household goods and services (e.g., food, paying utility bills, obtaining health care). Prior studies show that depressive symptoms hinder economic opportunities such as employment (Butterworth et al. 2012; Dooley, Prause, and Ham-Rowbottom 2000; Olesen et al. 2013) and income (Whooley et al. 2002). Given that previous findings support the association between economic hardship and depression in both directions, longitudinal studies with intergenerational data have shed light on the economic status-mental health debate (Muntaner et al. 2013). Results have been mixed (e.g., Dohrenwend et al. 1992; Muntaner et al. 2004), however, suggesting that the associations depend on the populations studied and the economic and mental health measures used.

In the present study, we test the stress process and health selection hypotheses jointly in couple dyads during the critical time after the birth of a child, when parents are more susceptible to depression. Thus, the first goal of this study is to assess the extent to which economic hardship and depression are associated through longitudinal reciprocal influences for both partners in a racially diverse national sample.

The Consequence of Economic Hardship and Depression on Relationship Distress

Family stress theories argue that economic hardship has debilitating consequences on the quality and stability of intimate relationships (e.g., Conger et al. 2010). Economic stress creates tension and

frustration between intimate partners (Hardie and Lucas 2010) that lowers marital quality and increases marital distress (Conger et al. 1990; Conger, Rueter, and Elder 1999). Relatedly, studies also demonstrate that economic factors such as unemployment, income, and neighborhood poverty increase negative interactions between partners (Benson et al. 2003; Cunradi et al. 2000; Cutrona et al. 2003; DeMaris et al. 2003; Fox et al. 2002; Fox and Chancey 1998). Family debt also affects marital satisfaction (Dew 2007, 2008) and is a frequent source of argument in many couples (Papp, Cummings, and Goeke-Morey 2009). These studies suggest that families' economic circumstances play a vital role in the quality and stability of intimate relationships, such that stress processes affect the health of individuals and family units. Thus, the second goal of the study is to assess the extent to which economic hardship is associated with higher levels of relationship distress for both partners.

Similar to economic stress, depression also takes a toll on intimate partnerships. Prior studies show that depression affects relationships in two ways. First, an individual's own depression leads to lower levels of relationship quality. For example, two studies showed that both wife's and husband's emotional distress is significantly associated with higher levels of marital conflict (Conger et al. 1999, 2002). In a study of European and Mexican American families, Parke et al. (2004) found that mothers' and fathers' depressive symptoms were linked to higher levels of marital problems. Additional studies have shown that wives' and husbands' psychological distress is significantly associated with marital adjustment (Kinnunen and Feldt 2004) and hostile marital interaction (Solantaus, Leinonen, and Punamaki 2004) for both spouses. Taken together, these studies suggest that depressive symptoms decrease the quality of intimate relationships.

Second, studies have also shown that depressive symptoms in one partner can negatively affect how the other partner views the relationship, creating an emotional contagion or "crossover effect" within families (Hatfield, Cacioppo, and Rapson 1994; Larson and Almeida 1999; Westman and Vinokur 1998). Emotional crossover is an interindividual dyadic process whereby the mood or emotion of one individual influences another individual's mood (Larson and Almeida 1999; Westman 2001; Westman and Etzion 1995). For example, prior evidence suggests that one partner's

depressed mood is related to the other partner's negative feelings about the relationship (Thompson and Bolger 1999) and that when husbands or wives report negative health symptoms, partners display higher negative mood and lower positive mood (Yorgason, Almeida, and Neupert 2006).

Among newlywed couples, husbands report lower levels of marital satisfaction when wives experienced higher stress levels, but not vice versa (Neff and Karney 2007). Other studies generally support the negative association between depression and relationship quality (Du Rocher Schudlich, Papp, and Cummings 2011; Proulx et al. 2007; Pruchno, Wilson-Genderson, and Cartwright 2009; Whisman and Uebelacker 2009). Taken together, these findings point to the importance of partners for understanding how economic hardship and emotional distress reinforce each other and how these factors combine to decrease family stability. Thus, our third goal is to assess the extent to which each partner's depression are positively associated with their own report of relationship distress (actor effect) and the extent to which each parent's depression increase their partner's relationship distress (partner effect crossover).

Differences between Families: Married Couples and Cohabitators

The final goal of this study is to explore whether the associations between economic hardship, parental depression, and relationship distress vary by relationship status in order to understand if stress and family stress processes function similarly for individuals and couples in different family types. Although prior research has examined the association between economic hardship and depression among couple dyads, those studies focused largely on married couples (Conger et al. 2010). Clarifying whether associations operate similarly across different family types is important because of the increased number of nonmarital births (Manning and Cohen 2012) and because cohabitators and married couples differ in terms of economic resources, mental health, and relationship quality and stability (Brown 2000; Brown and Booth 1996; McLanahan 2009; McLanahan and Percheski 2008; Sassler 2010). Given increased adversity that nonmarried parents experience, the effects may be stronger for cohabiting couples. One prior study, however, addressing

marital status differences on the effects of hardship and relationship quality, found no differences between married and cohabiting couples (Hardie and Lucas 2010), which suggests that the hardship may affect both family types similarly. Thus, although there may be mean-level differences between groups on key measures, potential differences in the associations among measures are less clear.

METHODS

Data

Data for this study are from the FFCW. The FFCW is a nationally representative, longitudinal study that follows an urban birth cohort of 4,898 children and their parents (3,712 unmarried and 1,186 married births) in 20 U.S. cities with populations of 200,000 or more. The FFCW is a stratified, multistage probability sample with an oversample of unmarried births in urban cities. The study began in 1998–2000 with 4,898 mothers and 3,830 fathers. At baseline, mothers were interviewed in person while in the hospital within 48 hours of giving birth, and the focal child's father was interviewed in person or by phone once he was located (Reichman et al. 2001). Parents were reinterviewed when the child was one, three, and five years of age. The response rates for eligible mothers and fathers at baseline were 86 percent and 78 percent, respectively. Subsequent one-, three-, and five-year follow-up yielded 90 percent, 88 percent, and 87 percent response rates for eligible mothers and 74 percent, 72 percent, and 70 percent for eligible fathers (Bendheim-Thomas Center for Research on Child Wellbeing 2008).

The sample was limited to couples (the biological mother and father of the focal child) who were living together (either married or cohabiting) at the one-year follow-up ($n = 2,672$). Although all survey years were used, the main analyses were based on the follow-up years because the focal variables (i.e., economic hardship and depression) were measured at the one-, three-, and five-year follow-up surveys. Of the 2,672 couples, 25 percent of the couples were dropped at the three-year follow-up survey because they were missing (7 percent) or were no longer together (18 percent). At the five-year follow-up survey, 38 percent were dropped because they were missing (11 percent) or because the parents were no longer

in romantic relationships (27 percent). The final analytic sample includes 1,492 couples who were in consistent relationships across all three survey years.

Because of the variation across the focal variables with regard to sample size, multiple imputation was used to impute missing data on the covariates to maximize sample size and preserve information. The focal endogenous variables were included in the imputation model, but nonimputed versions were used in the analysis models so that a hybrid multiple imputation and full information maximum likelihood was used to estimate the model parameters (Acock 2005; Allison 2002; Enders and Bandalos 2001). In this way, only couples that remained together contributed to the estimation of parameters, while preserving information on exogenous variables. Ten multiple imputation data sets were constructed using imputation by chained equations in Stata, and then the analyses were conducted and combined using Rubin's rules (Rubin and Little 2002) in Mplus. City sampling weights were used for the descriptive statistics to adjust for oversampling of non-marital births but not for the analyses, because the study controls for key characteristics associated with the weights (e.g., marital status at the birth of the child, age, race, and education; see Winship and Radbill 1994). As a robustness check, we estimated the models with other missing data techniques, including listwise deletion, and with dependent variables and the parameters estimates remaining consistent.

There were some couples that were not married at the baseline but married the focal child's birth parent by the one-year follow-up ($n = 299$). These couples were included with the cohabiting couples because cohabiters who marry after the birth of a child are more similar to cohabiting couples than married couples (McLanahan 2006). Taking this approach is in line with family policy agendas that are concerned about the relationship status of parents at the time of a child's birth. Notably, substantive results do not change if cohabiting couples who subsequently married are treated as married.

Measures

Depression was assessed at each survey year using the Composite International Diagnostic Interview–Short Form for Major Depression, which is

a comprehensive, standardized instrument used to assess the presence of mental disorders as specified by the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association 1994). Both parents were asked stem questions about whether, at some time during the past year, they had feelings of dysphoria or anhedonia. Parents who experienced dysphoria and/or anhedonia for a two-week period most of the day or every day were asked additional questions regarding the following: (1) "losing interest," (2) "feeling tired," (3) "changes in weight," (4) "trouble sleeping," (5) "trouble concentrating," (6) "feeling down," and (7) "thoughts about death." Mothers and fathers who affirmed at least one stem question and at least three of the other seven questions were considered depressed (1 = depressed, 0 = not depressed). Previous studies using the FFCW have assessed depression for both mothers and fathers (Bronte-Tinkew, Horowitz, and Scott 2009; Heflin and Iceland 2009).

Economic hardship at each year was measured by mothers' responses to eight dichotomous indicators (no = 0, yes = 1): (1) "received free meals," (2) "had trouble paying rent or mortgage," (3) "had trouble paying gas/electric bill," (4) "borrowed money from friends or family to pay bills," (5) "been evicted," (6) "moved in with relatives," (7) "stayed in a shelter," and (8) "someone needed a doctor but couldn't go." The measure of family economic hardship was created by summing scores to each of the eight items across the survey years. Reliability estimates across survey years were .59, .63, and .62, respectively. Despite the modest reliability, this measure is commonly used in national surveys (Beverly 2001; Heflin and Iceland 2009; Manuel et al. 2012).

Relationship distress at the five-year survey (mother's $\alpha = .84$, father's $\alpha = .79$) was measured using three trichotomous items (1 = never, 3 = often) that asked mothers and fathers how often they (1) "thought their relationship might be in trouble," (2) "discussed ending the relationship with their partner," and (3) "talked to a close friend about a break-up." The items were averaged, which indicates that higher scores reflect higher levels of relationship distress (e.g., Williams, Cheadle, and Goosby 2015).

A number of control variables were included in our statistical models, with identical measures used for mothers and fathers (unless otherwise specified). Mothers' and fathers' ages were measured (in years) as continuous variables, and

mothers' and fathers' education levels were measured using four categories: (1) less than high school (reference), (2) high school or equivalent, (3) some college or tech training, and (4) college graduate or more (Mirowsky and Ross 2001; Sobolewski and Amato 2005; Umberson et al. 2006). Mothers' race (Bulanda and Brown 2007; Child Trends 2014; DeNavas-Walt, Proctor, and Smith 2011) was measured with the following dummy variables: white (reference), black, Hispanic, and other. A separate dummy variable was included to represent parents who differed on race/ethnicity (i.e., mixed-race couple) (Bratter and Eschbach 2006; Bratter and King 2008; Hohmann-Marriott and Amato 2008). Physical health (measured at the year 3 and year 5 surveys for both parents and child; Pearlin et al. 2005; Umberson and Montez 2010) was measured by asking parents the following question: "In general, how is your health?" Mothers reported child's health (Nicholson et al. 2011; Reiss 2013) with responses ranging from (1) poor to (5) excellent. Employment status (Danziger et al. 2000; Lerner et al. 2004; Sayer et al. 2011) was measured with a dichotomous item indicating whether each parent at the year 3 and year 5 surveys "did any regular work for pay last week." Responses were (0) no and (1) yes.

Financial support (Cutrona 2012; Henly, Danziger, and Offer 2005; Manuel et al. 2012) was measured with a dichotomous question (0 = no, 1 = yes) asking both parents, "Since child was born, have you received any financial help or money from anyone other than [partner]?" Mothers reported the number of children in the household (Duncan and Brooks-Gunn 2000; Paulson, Dauber, and Leiferman 2006; Twenge, Campbell, and Foster 2003) at the one-year follow-up. Parents' fertility history was gauged with two separated measures. First, a measure was created to indicate whether the focal child was a higher order birth or first birth (0 = first birth, 1 = higher order birth). Second, dummy variables indicating multipartnered fertility (at one-year follow-up; Carlson and Furstenberg 2006; Turney and Carlson 2011) were used to capture whether mothers and fathers reported having children with other partners—neither parent has a child by another partner (reference), father has child by another partner only, mother has child by another partner only, and both parents have children by other partners. Marital status (Child Trends 2014; McLanahan and Beck 2010) was measured by a dichotomous

variable with (0) indicating married (reference group) and (1) indicating cohabitation.

Analytic Strategy

Structural equation modeling (SEM; Bollen 1989) were estimated using Mplus (Muthén and Muthén 2010). SEM provides a flexible approach for handling dyadic data by allowing the specification of longitudinal and bidirectional paths between partners over time (Kenny, Kashy, and Cook 2006). First, for the bidirectional association between economic hardship and depression, the model was estimated using logistic regression (when depression was the outcome) and negative binomial regression (when economic hardship was the outcome) with maximum likelihood estimation with robust standard errors. This approach was adopted to take into account the dichotomous measure of parental depression and the overdispersion of economic hardship as a count variable.

Second, for the relationship distress analysis, the model was estimated using standard regression with full information maximum likelihood. The analyses were executed using an actor-partner interdependence model (Kenny et al. 2006) with distinguishable dyads (i.e., mothers and fathers) to examine the direct effect of each parent's own depression on his or her own relationship distress and the effect of each parent's depression on his or her partner's relationship distress. The endogenous variable is standardized so that all comparisons reflect standard deviation differences in partner-specific relationship distress. Last, to address whether the effects differ between families (married and cohabiting), models were reestimated by marital status using multigroup SEM (Bollen 1989). For the economic hardship-depression model, the standard chi-square difference test was not available with the robust maximum likelihood estimator used with multiple imputation. Instead, we used *t* tests of coefficient constraints between groups to assess parameter-specific hypothesis tests.

Given that our study takes into account a number of statistical controls, we take note on the ways in which they were applied to both sets of analyses. For the bidirectional model between economic hardship and depression, we used the control variables on the year 3 and year 5 endogenous variables that supply the key inferential parameters. For the time-varying measures (i.e., parental health),

they are applied to endogenous variables with the corresponding year (e.g., year 3 maternal health applied to year 3 maternal depression). For the relationship distress model, mothers' report of control variables are applied to mothers' reports of relationship distress, just as father measures were used to predict fathers' relationship distress. Race/ethnicity and child's health have paths to both mother and father reports. With regard to the time-varying measures, only contemporaneous year 5 measures are used.

RESULTS

Descriptive Statistics

Table 1 presents the mean, percentages, and standard deviations for demographic characteristics for mothers and fathers in the sample and by marital status (weighted using the city sampling weights). Married couples were slightly older, more likely to be non-Hispanic white, more likely to have higher levels of education, more likely to be employed, and less likely to have children by others partner compared with cohabiting couples. All parents were in good health, on average. Table 2 shows descriptive characteristics (unweighted) for economic hardship, parental depression, and relationship distress and significant differences by marital status evaluated using two-group mean comparison *t* tests and chi-square tests to assess differences between groups (e.g., married mothers versus cohabiting mothers). The results show that, on the basis of *t* tests, cohabiting couples experience significantly higher levels of economic hardship and experience higher levels of relationship distress compared with married couples. Also, using chi-square tests, cohabiting mothers experience higher levels of depression across survey years compared with married mothers but were only significantly different at year 1 and year 3. For fathers, no significant differences emerged across the survey years.

All Couples

The first goal of this study was to assess whether a bidirectional association exists between economic hardship and depression for heterosexual couples after the birth of a child. The factors associated with the stress process model (i.e., economic hardship to parental depression) were

examined. The exponentiated coefficients are displayed in Table 3 (odds ratios for depression, incidence risk ratios multiplying the count for economic hardship). For all couples, with respect to years 1 to 3, the results show that for each additional hardship, the odds of being depressed for mothers are 1.18 ($p < .05$) times greater than for nondepressed mothers. For years 3 to 5, a similar effect was revealed, with the odds of being depressed 1.22 ($p < .01$) times greater than for nondepressed mothers. For fathers, with respect to years 1 to 3, the results show that for each additional number of hardships, the odds of fathers' being depressed are 1.12 ($p < .05$) times greater than nondepressed fathers. For years 3 to 5, although marginally significant, the odds of fathers' being depressed are 1.18 ($p < .10$) times greater than nondepressed fathers. All in all, the findings give support for the stress process perspective for mothers and fathers, while controlling for the possibility of mental health selection (i.e., depression) for both parents.

The reciprocal paths between depression and economic hardship allow the *selection perspective* to be examined. The results, presented in Table 3, are displayed as exponentiated negative binomial regression coefficients. For all couples, with respect to years 1 to 3, the results show that being a depressed mother increases the expected count in hardships to increase by 39 percent ($p < .05$). With respect to years 3 to 5, the association between economic hardship and maternal depression was not statistically significant. For fathers, the reciprocal association between depression and economic hardship did not achieve statistical significance. Although the results support the selection perspective for mothers, the results do not give support to the selection perspective for fathers. In other words, there is a small effect of maternal mental health on hardship three years after the birth of a child. Overall, the bidirectional associations show that early economic hardship affects both parents' later mental health, and early maternal depression affects later hardship. These findings suggest that economic hard times generate emotional stress for both parents and that maternal depression can decrease the family's economic well-being in the first years after a child's birth.

The second goal of this study was to examine the association between economic hardship and each parent's report of relationship distress. As shown in Table 4, the findings show that for every

Table 1. Sample Statistics (Means, Percentages, and Standard Deviations), among Couples, by Marital Status.

Variable	All Couples		Married Couples		Cohabiting Couples	
	M or %	SD	M or %	SD	M or %	SD
Family structure						
Married	62.960					
Cohabiting	37.040					
Age at child's birth (years)						
Mother	27.810	6.080	29.540	5.540	24.880	5.850
Father	30.540	7.070	32.150	6.450	27.800	7.250
Mother's race/ethnicity						
White non-Hispanic	33.570		45.500		13.100	
Black non-Hispanic	27.900		17.100		46.400	
Hispanic	31.220		27.300		38.000	
Other non-Hispanic	7.300		10.100		2.520	
Parents are a different race/ethnicity	13.770		13.700		13.900	
Mother's education						
Less than high school	24.520		18.000		35.700	
High school diploma or equivalent	31.290		24.100		43.500	
Some college	20.260		20.600		19.700	
Bachelor's degree or higher	23.910		37.300		1.120	
Father's education						
Less than high school	26.890		20.300		38.200	
High school diploma or equivalent	26.380		18.300		40.100	
Some college	21.410		23.400		18.100	
Bachelor's degree or higher	25.300		38.000		3.680	
Health status						
Mother's health (year 3)	3.840	1.040	3.930	1.010	3.670	1.05
Mother's health (year 5)	3.860	1.010	4.000	0.940	3.630	1.09
Father's health (year 3)	4.050	0.930	4.110	0.900	3.930	0.97
Father's health (year 5)	3.910	0.940	3.970	0.890	3.800	1.02
Child's health (year 3)	4.480	0.760	4.500	0.720	4.440	0.82
Child's health (year 5)	4.550	0.690	4.630	0.640	4.430	0.77
Financial support (year 1)						
Mother received support	29.220		25.800		35.000	
Father received support	29.760		27.800		33.200	
Number of children in home <18 years old	1.090	1.250	1.0000	1.170	1.260	1.36
Fertility history						
Couple higher order birth (yes = 1)	49.630		54.900		40.600	
Multipartnered fertility						
Neither parent has a child by another partner	65.910		79.900		41.900	
Father has a child by another partner	10.790		7.480		16.400	
Mother has a child by another partner	11.840		6.080		21.700	
Both parents have a child by another partner	11.460		6.490		20.000	
Employment status (year 3)						
Both parents unemployed	7.530		5.020		12.200	
Both parents employed	44.970		48.700		38.100	
Only father employed	41.000		42.900		37.500	
Only mother employed	6.500		3.390		12.300	
Employment status (year 5)						
Both parents unemployed	4.820		1.300		11.400	

(continued)

Table 1. (continued)

Variable	All Couples		Married Couples		Cohabiting Couples	
	M or %	SD	M or %	SD	M or %	SD
Both parents employed	53.750		59.300		43.300	
Only father employed	33.770		33.600		34.100	
Only mother employed	7.660		5.800		11.100	
<i>n</i> (unweighted)	2,672		1,022		1,650	

Note: Variables are from the baseline and one-year surveys. All means are weighted using city sampling weights. Numbers of cases are unweighted.

Table 2. Unweighted Means for Economic Hardship, Parental Depression, and Relationship Distress, by Marital Status (*n* = 1,492).

Variable	All Couples		Married Couples		Cohabiting Couples		χ^2 or Mean Difference
	% or M	SD	% or M	SD	% or M	SD	
Economic hardship (M)							
Year 1 (100%)	.640	1.060	.450	.960	.830	1.120	$p < .001$
Year 3 (100%)	.620	1.080	.410	.880	.840	1.210	$p < .001$
Year 5 (99.7%)	.650	1.110	.940	.860	.860	1.220	$p < .001$
Depression (M)							
Year 1 (100%)	11.190		9.830		12.580		$p < .10$
Year 3 (99%)	15.490		12.500		18.530		$p < .001$
Year 5 (99.5%)	12.440		11.080		13.820		<i>ns</i>
Depression (F)							
Year 1 (92.6%)	5.570		5.720		5.420		<i>ns</i>
Year 3 (93%)	9.790		10.020		9.540		<i>ns</i>
Year 5 (90.3%)	7.120		6.130		8.140		<i>ns</i>
Relationship distress							
Year 5 (M; 86%)	1.340	.510	1.250	.440	1.440	.560	$p < .001$
Year 5 (F; 75.6%)	1.240	.410	1.160	.320	1.340	.480	$p < .001$

Note: Mean differences by marital status are tested using two-tailed *t* tests for economic hardship and relationship distress. Chi-square difference tests are used for parental depression. Percentages with survey years represent percentage not missing for that year. F = fathers; M = mothers.

standard deviation increase in economic hardship, relationship distress increases by .20 standard deviations ($p < .001$) for mothers and .07 standard deviations ($p < .05$) for fathers. These findings suggest that economic hardship creates stress and strain that affects both members of the couple dyad. Our third goal was to examine whether there were significant actor and partner effects for mothers and fathers. For mothers, being depressed was associated with a .56 ($p < .001$) standard deviation increase in their own reports of relationship

distress; for fathers, being depressed was associated with a .95 ($p < .01$) standard deviation increase in their own reports of relationship distress. There is also some evidence for cross-partner effects: for mothers, when their partners are depressed (focal child's father), relationship distress increases by .23 ($p < .05$) standard deviations; for fathers, their partner's depression (focal child's mother) did not achieve statistical significance with fathers' reports of relationship distress once their own depression was adjusted for.

Table 3. Exponentiated Coefficients for the Bidirectional Associations between Economic Hardship and Parental Depression, by Marital Status.

Variable	All Couples				Married Couples				Cohabiting Couples			
	Mother		Father		Mother		Father		Mother		Father	
	exp(b)	t	exp(b)	t	exp(b)	t	exp(b)	t	exp(b)	t	exp(b)	t
Stress process												
Depression year (year 3)												
Economic hardship (year 1)	1.180*	2.150	1.210*	2.230	1.150	1.000	1.200	1.450	1.240*	2.260	1.150	1.120
Depression year (year 5)												
Economic hardship (year 3)	1.220**	2.670	1.180 [†]	1.690	1.300 [†]	1.860	1.130	.620	1.240*	2.270	1.240 [†]	1.800
Selection hypothesis												
Economic hardship (year 3)												
Depression (year 1)	1.390*	2.560	.850	-.860	1.550*	2.050	.100	-.190	1.300 [†]	1.670	.880	-.550
Economic hardship (year 5)												
Depression (year 3)	.990	-.100	1.140	1.020	1.070	.270	1.240	.940	.950	-.450	1.030	.180
	(n = 1,492)				(n = 753)				(n = 739)			

Note: Depression coefficients are from logistic regression; economic hardship coefficients are from a negative binominal model. All models include control variables for parents' age, race/ethnicity, mixed raced, both parents' education, health status (years 3 and 5), child's health (years 3 and 5), financial support, number of children, multipartnered fertility, and each parents' employment status (years 3 and 5).
[†]p < .10. *p < .05. **p < .01.

Table 4. Standardized Regression Coefficients for the Effects of Economic Hardship and Parental Depression on Relationship Distress.

Variable	All Couples				Married Couples				Cohabiting Couples			
	Mother		Father		Mother		Father		Mother		Father	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Parental depression (year 5)												
Actor effect	.560***	.090	.950**	.110	.500***	.130	.830***	.160	.620***	.110	1.060***	.140
Partner effect	.230*	.100	.140	.110	.260 [†]	.160	.280 [†]	.140	.200	.140	.010	.130
Economic hardship (year 5)												
	.200***	.030	.070**	.030	.200***	.040	.090*	.040	.190***	.040	.060	.040
	(n = 1,492)				(n = 753)				(n = 739)			

Note: The parameters for actor and partner effects are Y standardized; economic hardship is XY standardized. Fit statistics for all couples are as follows: comparative fit index = 1.000, root mean square error of approximation = .000, and standardized root mean square residual = .007. Chi-square difference test between unconstrained and constrained models: $\chi^2 = 4.790$ (df = 4), p = .309. All models include control variables for parents' age, race/ethnicity, mixed raced, both parents' education, health status (year 5), child's health (year 5), financial support, number of children, multipartnered fertility, and each parents' employment status (year 5).
[†]p < .10. *p < .05. **p < .01. ***p < .001.

These findings support the research hypothesis that both economic hardship and depression have significant associations with relationship distress for mothers and fathers five years after the birth of a child. Moreover, although the effects are small, the findings give some support for

the cross-partner association for mothers within the couple dyad. Simply put, both economic hardship and parental depression are associated with dyadic partners' contemplating ending the relationship in the years following the birth of a child.

Differences between Families: Married and Cohabiting

Table 3 also presents the bidirectional association between economic hardship and parental depression for both married and cohabiting couples, which is the last goal of the study. No statistical significant differences emerge between married and cohabiting couples with regard to the reciprocal association between economic hardship and parental depression. Turning to the relationship distress model (Table 4), the effects of economic hardship and depression on relationship distress were also examined separately by marital status. The differences between married and cohabiting couples were examined by comparing the fit of an unconstrained model with a constrained model by calculating the difference in chi-square to assess whether the groups are significantly different. The chi-square difference was not statistically significant ($p = .107$), indicating that the effects were not significantly different between married and cohabiting couples. Taken together, these findings suggest that these family processes operate consistently across married and cohabiting couples and that in some cases, it is possible to model these family types jointly to increase statistical power.

DISCUSSION

The purpose of the present study was to assess multiple hypotheses related to families and stress, health selection, and emotional crossover between parents. We have addressed the perspectives guiding these hypotheses by (1) examining the reciprocal associations between economic hardship and depression for couples one, three, and five years after the birth of a child; (2) examining whether economic hardship and depression lead to higher levels of relationship distress for couples by their child's fifth birthday; and (3) assessing whether the effects vary between families (married and cohabitators). Using data from a diverse, nationally representative sample of urban couples after the birth of a child, the present study reveals how economic stress and individual and familial processes unfold and are associated over time for families with at least one young child.

Overall, these findings are consistent with the stress process perspective but elaborate on prior findings by taking into account the potential

selection of parental mental health while focusing on parents with a young child in a diverse longitudinally assessed sample. The consistent positive and significant effects for mothers and fathers reflect the added stress and strain that financial hard times place on families (Conger et al. 2010; Edin and Kissane 2010). These findings are particularly important during a child's early developmental stages (i.e., infant, toddler, and preschool). For example, children of depressed parents are more likely to experience a range of adverse outcomes (e.g., Ramchandani et al. 2008). Moreover, it appears that parents who experience economic hardship after the birth of child may be more vulnerable to economic stress. Financial hard times may both impede fathers' parental role as economic provider and mothers' early involvement in child care (Bianchi and Milkie 2010).

In addition, the findings provide incomplete support for the health selection hypothesis linking depression to economic hardship; that is, the findings were significant only for mothers during the early period, years 1 to 3. These results suggest that mothers' depression after a child's birth decreases their financial contributions to the household, leading in turn to higher levels of economic hardship. Previous studies suggest that parental demands such as daily stressors, time constraints, and child care may put parents at risk for elevated levels of psychological distress (Umberson et al. 2010). As a consequence, maternal depression may put some families back financially, at least in the short run, making the birth of a child more challenging for already challenged families than it otherwise might be. Thus, increasing access to mental health treatment and services for mothers after birth may be valuable both for helping mothers' well-being and families' economic conditions over the critical early years of their children's lives.

For fathers, no reciprocal effects between depression and economic hardship emerged. Fathers, in general, had lower levels of depression; thus, it appears that depression after the birth of child did not hurt economic opportunities for fathers who did not experience the biological challenges of giving birth and may be protected by the "breadwinner" role as part of the father role identity. These findings may also highlight the consequences of gender differences in depression (Kessler 2003) and the key role maternal mental health plays in the family's economic well-being.

Overall, the results show that the effects of hardship are damaging to fathers' mental health; however, for mothers, economic hardship and maternal depression are related in a reciprocal fashion that may lead to perpetual disadvantage, affecting not only mothers but families more broadly, particularly because mothers are also more likely to have child care responsibilities if the union dissolves.

In the analysis for relationship distress, the results give support for family stress theories. More specifically, economic hardship increased relationship distress for both mothers and fathers five years after the birth of a child. Given that the sample in this study includes both cohabiting and married mothers, these findings are consistent with other studies showing that economic hardship plays a major role in marital distress (Gudmunson et al. 2007) and a family's finances play a more critical role for unmarried, low-income couples than married higher income couples (Gibson-Davis, Edin, and McLanahan 2005). In addition, the findings also indicate that mothers' and fathers' depression is associated with higher levels of relationship distress, which points to the importance of mental health and the quality of intimate relationships for sustaining romantic partnerships. Thus, similar to previous research, this study shows that depression affects the quality of intimate partnerships for both parents (Conger et al. 2010; Kouros and Cummings 2011), while also elaborating on these prior findings by showing that mental health is a strong antecedent that affects relationship functioning five years after the birth of a child, which is a critical time for both couples' stability (Cherlin 2010) and child development (Cheadle 2008). Thus, these results have broader implications not only for couples, but also children's well-being (McLanahan 2004), as a mother's mental health appears to influence both her economic chances and to put a strain on her relationship.

Family scholars also suggest that one partner's mood can lead to how the other partner evaluates the overall quality of the relationship (i.e., emotional crossover). Our results are consistent with previous studies using convenience samples highlighting emotional crossover in couple dyads (Thompson and Bolger 1999; Yorgason et al. 2006). The findings show that maternal depression is associated with fathers' reports of relationship distress. Although the magnitude of the associations is relatively small, the findings provide evidence for the hypotheses for mothers only. Thus, dyadic outcomes such as parents' relationship

distress are not only sensitive to the family's economic hardship, but also interpersonal stressors (i.e., partner's depression). Moreover, these findings corroborate Milkie's (2010) argument that incorporating the stress process and family stress theories can be fruitful in understanding how stress affects both individuals and families. These findings are especially important in light of family policies that promote strengthening intimate relationships.

Finally, with respect to differences between married and cohabiting couples, parameter estimates did not achieve statistical significance for reciprocal association or for relationship distress. In other words, despite differences between married and cohabiting couples in terms of economic, psychological, and relationship well-being (Smock 2000), the processes linking economic hardship and depression, and relationship distress were similar and were generally unable to reach statistical significance when they differed. These findings suggest that the extent to which these processes affect individuals and families were similar across family types.

Although this study demonstrates that economic hardship and depression affects individuals and families, some limitations must be noted. First, the results of the present study can be generalized only to parents who had children in the late 1990s while living in urban cities with populations of 200,000 or more. Importantly, however, the results we present are largely consistent with those reported from regional and racially homogenous samples. Second, as with many studies, there is potential for missing variable bias. Even in longitudinal studies, it is difficult to take into account changes that may have occurred between surveys. To help reduce missing variable bias, control variables were added to the statistical models that were theoretically linked to the endogenous variables in the study. Last, economic hardship was measured using mothers' reports only because fathers were not asked about hardships at the one-year follow-up survey. Thus, we used mothers' reports to retain consistency across time, which could strengthen mother-hardship associations in our modeling framework while weakening those associations for fathers.

CONCLUSION

In conclusion, we focused on urban parents who had children in the late 1990s to underscore how

economic hardship, mental health, and relationship distress unfold within couple dyads. This research focused on parents with young children because the birth of a child is a stressful time economically (Demo and Cox 2000), and it can put strain on parents' health (Umberson et al. 2010) and intimate relationships (Carlson 2007). The results suggest that during the first five years after the birth of a child, the mental health of both members of the couple dyad is vulnerable to economic hardship. For mothers, mental health both responds to and predicts economic hardship over the early years, creating the potential for a negatively reinforcing cycle that decreases both mothers' and their offspring's life chances. Furthermore, although depression and hardship increase relationship distress for both partners, paternal depression also contributes to the mother's relationship distress. Taken together, policies aimed at strengthening couples' relationships should work in tandem with economic and mental health policies in efforts to reach optimal outcomes for low-income couples with young children.

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