

## A Test of the Family Stress Model Using a Remarriage Sample

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### ABSTRACT

The family stress model delineates the connections between economic hardship, economic pressure, marital interactions, marital quality, and, finally, marital instability. This study evaluated the family stress model in a sample of 661 remarried couples using structural equation modeling. The model was evaluated both within and between spouses. Consistent with the family stress model, marital instability and quality were influenced by economic hardship and pressure through decreased spousal warmth and increased spousal hostility. Implications for remarriage education and counseling are discussed.

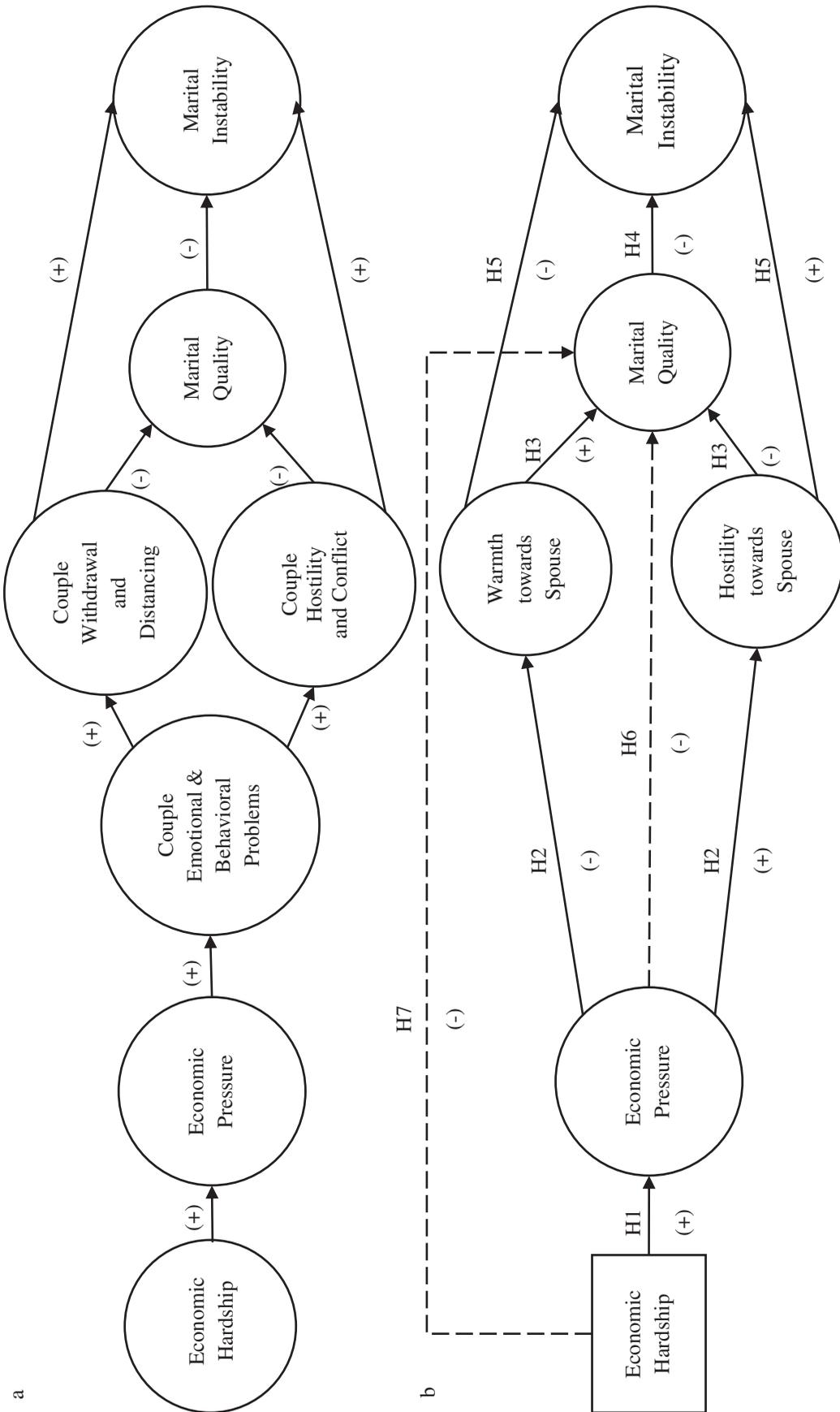
### KEYWORDS

Economic hardship; economic pressure; family stress model; marital instability; marital quality; remarriage

Economic difficulties can be harmful to individual well-being and family functioning. For example, economic hardship has been linked to poorer psychological functioning (Bridges & Disney, 2010; Gathergood, 2012) and physical health (Krause, Newsom, & Rook, 2008). Furthermore, economic challenges are associated with decreased interpersonal warmth and increased hostility (Conger et al., 1990; Conger, Rueter, & Elder, 1999), lower marital quality (Conger et al., 1990), and increased risk of divorce or separation (Amato, Booth, Johnson, & Rogers, 2007; Karney & Bradbury, 2005).

### *The family stress model*

Linking economic hardship to adverse marital outcomes, Conger and colleagues developed the family stress model (Conger & Elder, 1994; Conger et al., 1990; Conger, Conger, & Martin, 2010; Conger et al., 1999). According to the family stress model (see Figure 1a), economic hardship could lead to economic pressure, which is conceptualized as “psychologically meaningful events and conditions within the life of the family, such as the inability to purchase basic necessities like adequate food and medical care” (Conger &



**Figure 1.** (a) Family stress model and (b) research model tested in this study.

Note: In the research model, circles indicate latent and rectangles indicate observed variables. Solid lines indicate primary and dashed lines indicate secondary hypotheses. Not shown are disturbances and an error covariance between warmth and hostility.

Conger, 2002, p. 363). Economic pressure, in turn, could lead to emotional and behavioral problems.

The family stress model incorporates Berkowitz's (1989) reformulation of the frustration–aggression hypothesis. This reformulation posits that when humans and animals respond to frustrating events with negative affect, they might experience greater aggressive inclinations and behavior (Breuer & Elson, 2017). Other reactions, such as depression, are also more likely (Breuer & Elson, 2017). Thus, the “psychologically meaningful events” that comprise economic pressure could lead to emotional and behavioral problems in marital and romantic partners experiencing economic pressure. As a result, couples might then exhibit greater hostility and conflict toward one another and distance themselves from one another (Conger et al., 2010). Next, increased hostility, conflict, and distancing between couples might lead to a decrease in marital quality. Finally, completing the chain from economic hardship to marital instability, deterioration of marital quality increases the risk of divorce (e.g., Karney & Bradbury, 2005).

Thus, the family stress model identifies the processes through which economic hardship undermines relationship stability. In common with most evaluations of the family stress model (for a review, see Conger et al., 2010), not all components were evaluated in this study. Specifically, emotional and behavioral problems of couples were not explicitly considered in this study, but were assumed to be a mechanism linking economic pressure to greater hostility, conflict, withdrawal, and less warmth between couples.

### ***The Family Stress Model Applied to Remarried Couples***

The associations between economic hardship, economic pressure, and decreased relationship quality and stability have been examined in diverse contexts and countries, such as the United States, Korea, Finland, and Turkey (e.g., Aytaç & Rankin, 2009; Kinnunen & Feldt, 2004; Kwon, Rueter, Lee, Koh, & Ok, 2003). However, one context in which the family stress model has rarely been tested is that of remarriage.

Remarried couples differ from first-marriage couples in several ways. First, remarried couples face increased vulnerability, including higher rates of divorce (Bumpass & Raley, 2007). Second, remarried couples could be at greater risk of lower marital quality and marital interactions. For a review, see Shriner (2009) and Sweeney (2010). Due to these challenges, remarried couples might be particularly sensitive to external stressors on family relationships. Consequently, the family stress model might be particularly applicable to remarried couples. However, remarried couples could be more independent in their finances than first-married couples. Allen, Baucom, Burnett, Epstein, and Rankin-Esquer (2001) found that remarried couples

were more likely to endorse autonomy in finances (i.e., less sharing of finances and similarity in financial activity). Spouses in a remarriage might also have financial obligations to a former spouse or children from a previous relationship (Coleman, Ganong, & Fine, 2000).

Given this tendency toward financial autonomy and distinct financial obligations, spouses in a remarriage might be somewhat insulated from one another's experiences of economic hardship and pressure. Economic hardship and pressure experienced primarily by one spouse might be less disruptive to marital interactions, marital quality, and marital stability than economic hardship and pressure experienced by both spouses. Although past applications of the family stress model found that marital interactions and marital quality were disrupted by economic hardship for both spouses (e.g., Kinnunen & Feldt, 2004), remarried couples might not experience this disruption to the same degree. Consequently, there is a need to empirically evaluate the family stress model in a sample of remarried couples, which is the purpose of this study.

### ***Evaluating the Family Stress Model: Within- and Between-Spouse Approaches***

If economic hardship and pressure are experienced primarily by one spouse in a remarriage, it is possible the associations outlined in the family stress model might be experienced primarily by that spouse. An evaluation of the family stress model that examines the hypothesized associations only within one spouse (a "within-spouse" or "intraindividual" approach) could provide important information about how economic hardship and pressure affect that spouse's perceptions of his or her own marital interactions, the quality of his or her marriage, and its stability or instability. However, a within-spouse approach does not provide insights into how the other spouse is affected by the first spouse's experiences.

A more thorough evaluation of the family stress model could be conducted by also using a "between-spouse" or "interindividual" approach using "crossover effects" (e.g., Kinnunen & Feldt, 2004). A crossover effect is a phenomenon in which stress experienced by one partner in one domain (e.g., husband's hostility) leads to strain in the same domain or a different domain for the partner (e.g., wife's marital quality). For this study, evaluating crossover effects consisted of testing whether the economic hardship, economic pressure, and decrease in warmth and increase in hostility experienced by one spouse affected the marital quality and relationship stability experienced by the other spouse. The between-spouse approach provided insights into how one spouse's experiences affected the other spouse. It also removed the possibility that model components are significantly associated only because they were provided by the same spouse (i.e., same-source method bias; Podsakoff, MacKenzie, & Podsakoff, 2012). This

study evaluated crossover effects in addition to evaluating the family stress model separately for each spouse.

### ***Evaluating the Family Stress Model: Additional Direct Effects***

The primary purpose of this study was to evaluate the family stress model in a remarriage sample (solid paths in [Figure 1b](#)). However, several evaluations of the family stress model (Aytaç & Rankin, 2009; Kinnunen & Feldt, 2004; Kwon et al., 2003) found additional paths through which economic hardship and economic pressure could affect marital quality (dashed paths in [Figure 1b](#)). The authors of these studies surmised that the existence of these additional paths might be related to economic and cultural differences. These additional paths represent additional mechanisms—not considered in the family stress model—through which economic hardship and pressure might affect marital quality. The nature of these additional mechanisms is beyond the scope of this study. However, as an initial step, this study explored the existence of direct effects from economic hardship and economic pressure on marital quality beyond the indirect effects identified in the family stress model.

### ***This study***

This study evaluated the family stress model in a remarriage sample. The following hypotheses were tested (see [Figure 1b](#)). Couple withdrawal and distancing were operationalized as warmth, with higher levels indicating less withdrawal and distancing.

H1. Economic hardship is positively associated with economic pressure.

H2. Economic pressure is positively associated with spousal hostility and negatively associated with spousal warmth.

H3. Spousal hostility is negatively associated with marital quality and spousal warmth is positively associated with it.

H4. Marital quality is negatively associated with marital instability.

H5. Spousal hostility and warmth are also directly associated with marital instability.

In addition, the following secondary hypotheses were also tested.

H6. Economic pressure has a direct effect on marital quality.

H7. Economic hardship has a direct effect on marital quality.

This study examined whether the hypothesized associations held both within individual spouses and between spouses. Associations within individual spouses were examined by testing the family stress model (H1– H5) and potential modifications (H6– H7) based on the reports of each spouse separately. This approach indicated whether economic hardship, economic pressure, and the associated changes in marital interactions experienced by one spouse affected his or her perceived marital quality and instability.

In contrast, associations between spouses (crossover effects) were tested in a similar manner with the exception that marital quality and marital instability were reported by the other spouse. This approach indicated whether economic hardship, economic pressure, and the associated decrease in the quality of marital interactions experienced by one spouse affected his or her spouse's perceived marital quality and instability.

Some hypothesized associations in this study were previously reported (Higginbotham & Felix, 2009). Specifically, Higginbotham and Felix (2009) reported that economic pressure was associated with marital quality and marital instability. This study built on these findings in three ways. First, this study incorporated additional components of the family stress model (i.e., economic hardship, spousal warmth, and spousal hostility) to more fully evaluate the family stress model in remarriage. The inclusion of these intermediaries might be necessary to identify significant associations between economic hardship and marital quality and instability (see Conger et al., 1990). Second, this study used structural equation modeling (SEM) to test the mechanisms linking economic pressure, marital quality, and marital instability previously reported. Finally, this study examined crossover effects between spouses. This study extends the literature surrounding the impact of economic hardship on marriage by testing the family stress model using a remarriage sample.

## **Method**

### **Sample**

The Office of Vital Records in a western state provided mailing addresses for all remarried couples (i.e., at least one spouse was previously married) that wed in 2006 in 26 of the 29 counties. In 2007, packets of questionnaires were mailed to all couples (4,886). Data were returned by 1,106 women and 942 men. The protocol was approved by the Institutional Review Board at Utah State University. For the purpose of testing crossover effects, the analytic sample was restricted to couples for which both husbands and wives returned questionnaires and provided complete data on study measures (661). Data from the original marriage licenses, provided by the Office of Vital Records,

**Table 1.** Demographic Characteristics of Analytic Sample and Rest of Sample

	Husbands		<i>p</i>	Wives		<i>p</i>
	Analytic Sample	Rest of Sample		Analytic Sample	Rest of Sample	
County Type			.322			.322
Rural	186 (30.4%)	1391 (32.5%)		186 (30.4%)	1391 (32.5%)	
Urban	425 (69.6%)	2884 (67.5%)		425 (69.6%)	2884 (67.5%)	
Age	41.03 (13.87)	39.15 (12.76)	.002	37.58 (13.10)	36.29 (11.95)	.023
Education (Years)			<.001			<.001
Less than 12	18 (2.9%)	287 (6.7%)		16 (2.7%)	287 (6.7%)	
12	184 (30.7%)	1633 (40.0%)		152 (25.5%)	1530 (37.5%)	
13 -16	311 (51.9%)	1765 (43.2%)		348 (58.5%)	1926 (47.2%)	
17 or more	86 (14.4%)	397 (9.7%)		79 (13.3%)	338 (8.3%)	
Times Married			.012			.017
1	120 (19.7%)	1041 (24.6%)		166 (27.3%)	912 (21.6%)	
2	366 (60.0%)	2252 (53.2%)		301 (49.5%)	2270 (53.7%)	
3	93 (15.2%)	696 (16.4%)		97 (15.9%)	724 (17.1%)	
4 or more	31 (5.1%)	247 (5.8%)		44 (7.2%)	324 (7.7%)	
End of Previous Marriage			<.001			<.001
Divorce/Dissolution	415 (68.1%)	2906 (68.8%)		383 (63.4%)	2974 (70.9%)	
Annulment	6 (1.0%)	59 (1.4%)		7 (1.2%)	64 (1.5%)	
Death	68 (11.2%)	217 (5.1%)		48 (7.9%)	245 (5.8%)	
Not Applicable	120 (19.7%)	1041 (24.7%)		166 (27.5%)	912 (21.7%)	
Race/Ethnicity			.191			.008
White	591 (97.7%)	3989 (95.7%)		597 (98.4%)	3993 (95.3%)	
Black	7 (1.2%)	83 (2%)		2 (0.3%)	41 (1%)	
Native American	2 (0.3%)	45 (1.1%)		0 (0.0%)	50 (1.2%)	
Filipino(a)	4 (0.7%)	39 (0.9%)		4 (0.7%)	65 (1.6%)	
Another Race	1 (0.2%)	14 (0.3%)		4 (0.7%)	43 (1.0%)	

Note. Difference between analytic vs. rest of sample tested with independent samples *t*-test or  $\chi^2$  independence test.

allowed for comparisons between individuals included in the analytic sample and those not included (see Table 1). Participants in the analytic sample were slightly older and better educated and were more likely to identify as White (marriage licenses did not collect data on ethnicity). There was also variation in terms of the number of times husbands and wives had been previously married and how previous marriages ended.

In the analytic sample, around 98% reported their "Race" as White, with almost 70% living in urban areas. The average age for husbands was 41.03 ( $SD = 13.87$ ) and 37.58 ( $SD = 13.10$ ) for wives. Approximately 64% of husbands and 72% of wives had completed at least some college. Median household income was between \$60,001 and \$80,000 for both husbands and wives. The majority of husbands and wives ended previous marriages through divorce (68% for husbands, 63% for wives). The average time couples had been married was 9.34 months ( $SD = 2.96$ ). Households had an average of two related adults ( $M = 2.21$ ,  $SD = 0.70$ ) and 1 minor ( $M = 1.06$ ,  $SD = 1.38$ ) with almost half of couples reporting no children in their household.

## Measures

### Economic hardship

Economic hardship was operationalized as low family per-capita income, consistent with previous evaluations of the family stress model (Conger et al., 2002). Participants estimated their household income before taxes from all individuals age 15 or older, including wages, self-employment income, pensions, social security, interest and dividends, and noncash benefits such as food stamps. Household income was classified using the following scale: less than \$10,000 = 1; \$10,001 to \$20,000 = 2; \$20,001 to \$30,000 = 3; \$30,001 to \$40,000 = 4; \$40,001 to \$50,000 = 5; \$50,001 to \$60,000 = 6; \$60,001 to \$80,000 = 7; \$80,001 to \$100,000 = 8; over \$100,000 = 9. Consistent with Conger et al. (2002), low family per-capita income was calculated by dividing scores on the 9-point income scale by the number of household members and multiplying by -1 such that higher scores represent greater economic hardship.

### Economic pressure

Economic pressure was measured using items developed by Conger et al. (2002) that assessed elements of economic pressure; specifically, inability to purchase needed goods and services. Participants were asked to indicate their agreement on a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree* that they had sufficient money to afford clothing, food, medical care, their desired home, and so on. Participants also reported how much difficulty they had paying bills using a 5-point scale ranging from 1 = *a great deal of difficulty* to 5 = *no difficulty at all*. Finally, participants reported how much money they had left at the end of the month using a 4-point scale ranging from 1 = *more than enough money left over* to 4 = *not enough money to make ends meet*. All items except the final item were reverse coded. Because items were ordered categories, reliability was calculated using the ordinal alpha coefficient (Zumbo, Gadermann, & Zeisser, 2007). The ordinal alpha coefficients were .94 for husbands and .94 for wives.

### Warmth toward spouse

Husbands' and wives' warmth was self-assessed using a measure derived from the affectional expression subscale of Huston and Vangelisti's (1991) Socioemotional Behavioral Index (SBI). The warmth measure contained seven behaviors directed at a spouse (e.g., said "I love you," initiated physical affection, shared emotions, feelings, or problems; did something nice). Participants were asked to consider their daily interactions and report how frequently they engaged in each of the behaviors using the following response options: 1 = *never*; 2 = *sometimes, but not every day*; 3 = *once or twice a day*; 4 = *often*; and 5 = *always*. Because *never* was very rarely used (less than 1.5% for all items) it was combined with *Sometimes, but not every day*. This is a common approach to addressing

sparse response categories when analyzing ordinal data (Liu et al., 2017). The ordinal alpha coefficients were .87 and .86 for husbands and wives, respectively.

### **Hostility toward spouse**

Husbands' and wives' hostility was self-assessed using a measure derived from the negativity subscale of the Huston and Vangelisti (1991) SBI. The hostility measure contained six items directed at a spouse (e.g., dominated conversation; showed anger or impatience; criticized or complained). Instructions and response options were the same as for the warmth measure. Because *always* was rarely used (less than 2.0% for nearly all items) it was combined with *often*. For husbands, the ordinal alpha coefficients were .79 and .75 for husbands and wives, respectively.

### **Marital quality**

The marital quality measure was adopted from Conger et al. (1990) and contained two self-report items: "How happy are you with your marriage?" and "How satisfied are you with your relationship with your spouse?" Participants responded using a 7-point scale ranging from 1 = *extremely unhappy/dissatisfied* to 7 = *extremely happy/satisfied* with the middle point of 4 = *mixed*. Because very few individuals used response options lower than *mixed* (less than 1.8% for any given option) these response options were combined, resulting in a 5-point scale. The ordinal reliability coefficients were .94 for husbands and .94 for wives.

### **Marital instability**

The abbreviated form of the Marital Instability Index, developed by Booth, Johnson, and Edwards (1983), was used to assess marital instability for both husbands and wives in this study. The abbreviated form of the Marital Instability Index is a five-item instrument (e.g., have thought about the marriage being in trouble; have thought about separation or divorce) with three possible responses (1 = *never*; 2 = *yes, in the past but not recently*; or 3 = *yes, recently*). The ordinal alpha coefficients were .94 for husbands and .94 for wives for this sample.

### **Analytic Plan**

The model shown in Figure 1b was analyzed using SEM. Latent variables for economic pressure, warmth, hostility, marital quality, and marital instability were fit using the measures discussed earlier. Because the response options for the measures were ordered categories, the data were fit using the threshold model using the weighted least square mean and variance adjusted (WLSMV) estimator and theta parameterization (e.g., Muthen, 1984). Specifically, model parameters were estimated using diagonal weighted least squares (DWLS) estimation and robust standard errors were computed using the full weight matrix. The goodness-of-fit model test statistic ( $\chi^2$ ) was mean- and variance-adjusted.

The analytic approach used in this study addressed two assumptions often neglected when skewed or ordinal indicators are treated as continuous. First, the differences between adjacent response options were not assumed to be equivalent (e.g., Muthen, 1984). For example, the difference between *more than enough money left over* and *some money left over* was not assumed to equal the difference between the latter and *just enough to make ends meet*. Assigning values of 1, 2, and 3 to these response options *would* assume equivalence. Second, indicators of latent variables were not assumed to have a multivariate normal distribution; no distribution was assumed. Violations of the assumption of multivariate normality would have increased the risk of Type I errors if a normal theory estimation method had been used (Finney & DiStefano, 2013; Kline, 2016).

Models were fit as follows. First, a measurement model was tested to evaluate the fit of the latent variables. Second, the paths representing the primary hypotheses identified in Figure 1b were tested, followed by the addition of the paths representing the secondary hypotheses. Following these steps, within-person models (i.e., all measures were reported by one spouse) were tested separately for husbands and wives.

To test for crossover effects, the previous steps were repeated for between-spouse models with the latent variables for marital quality and marital instability being estimated from the other spouse's responses. In other words, economic hardship, economic pressure, warmth, and hostility were based on the husband's data, whereas marital quality and marital instability were based on the wife's data, and vice versa. The lavaan package version 0.6–2 (Rosseel, 2012) in R version 3.5.0 (R Core Team, 2018) and RStudio version 1.1.453 (RStudio Team, 2018) was used to fit each model.

SEM involves several assumptions (Kline, 2012). Assumptions regarding the distribution of data were addressed by using an appropriate estimation method, as discussed previously. A key assumption of SEM is that the model is properly specified, meaning that relevant covariates and paths are included and the associations between covariates is properly modeled (i.e., linear vs. nonlinear). Theory and prior research guided model specification as discussed in a prior section. Furthermore, our hypotheses and analyses tested for potential misspecification (i.e., missing paths). Finally, modification indices and residuals were examined to identify any misspecification.

## Results

### *Within-Person Models*

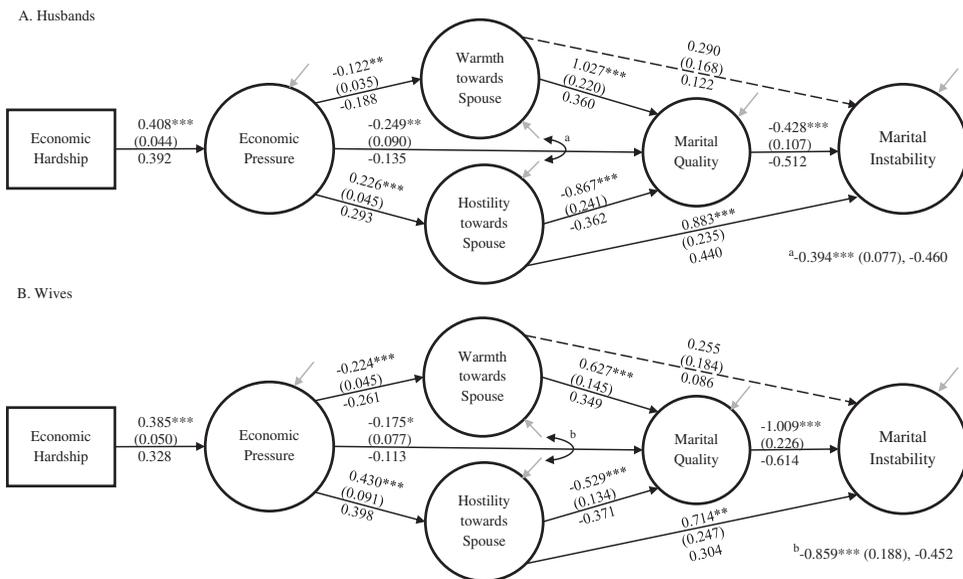
#### *Husbands*

The measurement model demonstrated good fit (comparative fit index [CFI] = .990, root mean square error of approximation [RMSEA] = .031,

standardized root mean square residual [SRMR] = .055). Full results are available on request. The initial structural model matching the solid paths in Figure 1b was supported (H1–H4; CFI = .987, RMSEA = .033, SRMR = .057), with the exception that warmth toward spouse did not significantly predict marital instability (H5 supported for hostility, but not warmth). Next, we tested whether there was a direct path from economic pressure to marital quality (H6) beyond the indirect effects carried through warmth and hostility. The path was significant and improved model fit,  $\chi^2(1) = 9.126, p = .003$ . Finally, we tested whether there was a direct path from economic hardship to marital quality (H7) beyond the indirect effects carried through economic pressure, warmth, and hostility. The path was not significant and did not improve model fit,  $\chi^2(1) = 0.065, p = .799$ . This additional path was not retained. The final model had good fit (CFI = .988, RMSEA = .031, SRMR = .055). Final estimates are presented in Figure 2a. Factor loadings for all models are available on request.

**Wives**

The measurement model demonstrated good fit (CFI = .988, RMSEA = .036, SRMR = .059). The initial structural model matching the solid paths in Figure 1b was supported (H1–H4; CFI = .985, RMSEA = .038, SRMR = .060), with the exception that warmth toward spouse did not significantly predict marital instability (H5 supported for hostility, but not warmth). Next, we tested whether



**Figure 2.** Within-spouse evaluation of family stress model.

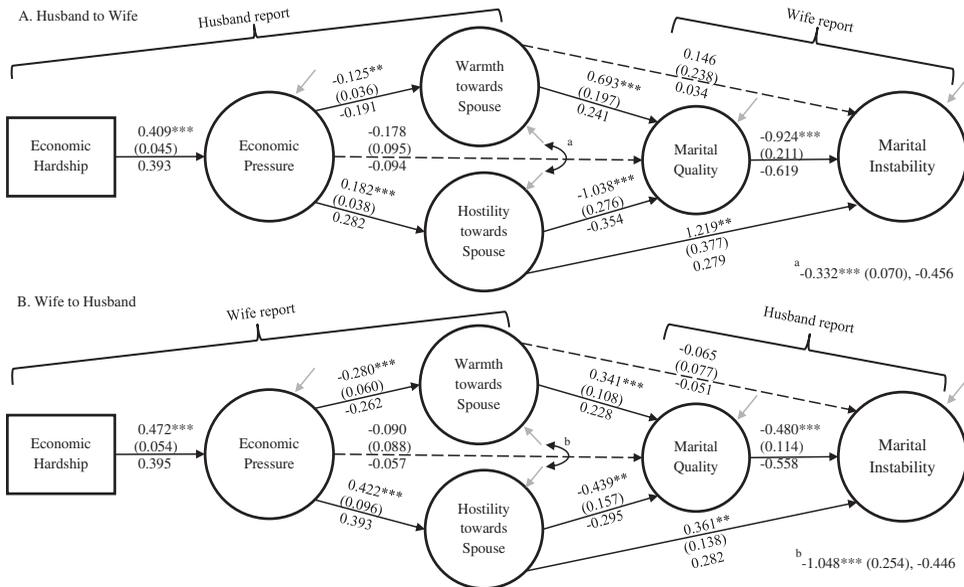
Note: Unstandardized coefficients (with significance), standard errors (in parentheses), and standardized coefficients reported. Dashed lines indicate nonsignificant paths. Factor loadings are not shown. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

there was a direct path from economic pressure to marital quality (H6). The path was significant and improved model fit,  $\chi^2(1) = 6.106, p = .013$ . Finally, we tested whether there was a direct path from economic hardship to marital quality (H7). The path was not significant and did not improve model fit,  $\chi^2(1) = 0.051, p = .821$ . This additional path was not retained. The final model had good fit (CFI = .985, RMSEA = .037, SRMR = .059). Final estimates are presented in Figure 2b. Factor loadings are available on request.

**Between-Person Models**

**Husbands to wives**

The measurement model demonstrated good fit (CFI = .993, RMSEA = .029, SRMR = .053). The initial structural model matching the solid paths in Figure 1b was supported (H1– H4; CFI = .990, RMSEA = .030, SRMR = .055), with the exception that warmth toward spouse did not significantly predict marital instability (H5 supported for hostility, but not warmth). Next, we tested whether there was a direct path from economic pressure to marital quality (H6). The path was not significant but improved model fit,  $\chi^2(1) = 3.851, p = .00497$ . Finally, we tested whether there was a direct path from economic hardship to marital quality (H7). The path was not significant and did not improve model fit,  $\chi^2(1) = 0.568, p = .451$ . This additional path was not retained. The final model had good fit (CFI = .991, RMSEA = .030, SRMR = .054). Final estimates are presented in Figure 3a.



**Figure 3.** Between-spouse evaluation of family stress model. Note: Unstandardized coefficients (with significance), standard errors (in parentheses), and standardized coefficients reported. Dotted lines indicate nonsignificant paths. Factor loadings are not shown. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

### ***Wives to husbands***

The measurement model demonstrated good fit (CFI = .988, RMSEA = .033, SRMR = .062). The initial structural model matching the solid paths in [Figure 1b](#) was supported (H1– H4; CFI = .986, RMSEA = .032, SRMR = .062), with the exception that warmth toward spouse did not significantly predict marital instability (H5 supported for hostility, but not warmth). Next, we tested whether there was a direct path from economic pressure to marital quality (H6). The path was not significant and did not improve model fit,  $\chi^2(1) = 1.056, p = .304$ . Finally, we tested whether there was a direct path from economic hardship to marital quality (H7). The path was not significant, did not improve model fit,  $\chi^2(1) = 0.949, p = .330$ , and was not retained. The final model had good fit (CFI = .986, RMSEA = .033, SRMR = .062). Final estimates are presented in [Figure 3b](#).

### **Discussion**

The purpose of this study was to evaluate the family stress model with a remarried sample, examining hypothesized intermediaries linking economic hardship and pressure with marital quality and instability. This study built on previous research that evaluated the family stress model in diverse settings, including among White Americans in the rural Midwest, African Americans in the south, Koreans, Finns, and Turks (for a review, see Conger et al., 2010). This study evaluated the family stress model in a new population, remarried couples. It expanded on a previous analysis of the data used in this study (Higginbotham & Felix, 2009) by incorporating additional components of the family stress model (i.e., economic hardship, spousal warmth, and spousal hostility) to more fully evaluate the family stress model using SEM. Additionally, this study examined crossover effects between spouses to determine if economic hardship and pressure experienced by one spouse affected the marital quality and instability perceived by the other spouse.

The results of this study indicated many similarities to previous evaluations of the family stress model. In all models, economic hardship was associated with greater economic pressure for both husbands and wives (H1). Economic hardship, in turn, was associated with decreased warmth and increased hostility directed toward a spouse (H2). Less warmth and greater hostility were associated with lower marital quality (H3), which was strongly associated with greater marital instability (H4). Findings were uniform for husbands and wives.

Hostility was also directly associated with marital instability (H5) in addition to its indirect association through marital quality. This finding suggests that hostility affects marital instability through another mechanism(s) beyond its impact on marital quality. Additional research is needed to identify and better understand this mechanism(s) in remarriages.

One difference between the findings of this study and the hypothesized associations identified in the family stress model (Conger et al., 2010; Conger et al., 1990)

was that warmth directed toward a spouse was not directly associated with marital instability (H5). However, warmth was significantly associated with marital quality, which was strongly associated with marital instability. Whereas a nonsignificant direct association might suggest that warmth was associated with marital instability only through marital quality, other intermediaries between warmth and marital instability excluded from the model could mask a direct association (see Rucker, Preacher, Tormala, & Petty, 2011). A nonsignificant direct association could indicate that either (a) two constructs are truly unrelated, or (b) at least two other “mediating” paths—opposite in sign—have been excluded from the model. Consequently, it is difficult to draw conclusions from a nonsignificant direct association. Indeed, Conger et al. (1990) illustrated how model misspecification (i.e., excluded paths) can mask significant paths identified by the family stress model, a challenge common to all statistical models (Kline, 2016). Nevertheless, warmth directed toward a spouse was still associated with marital quality, which in turn was associated with marital instability. Thus, the underlying assertion of the family stress model—that warmth affected marital quality and instability—was supported. This is in contrast to some previous evaluations of the family stress model that did not find an association between warmth and marital quality, at least for wives (Conger et al., 1990; Cutrona et al., 2003).

Previous empirical evaluations of the family stress model have identified additional connections within the family stress model (Aytaç & Rankin, 2009; Kinnunen & Feldt, 2004; Kwon et al., 2003). These connections—the secondary hypotheses tested in this study—linked economic pressure (H6) and economic hardship (H7) directly with marital quality. Whereas economic hardship was not directly associated with marital quality (H7), economic pressure was directly linked to marital quality (H6) as well as indirectly through warmth and hostility—but only for the within-spouse models.

As noted previously, a nonsignificant direct effect is difficult to interpret (see Rucker et al., 2011). Consequently, no conclusions can be drawn regarding the nonsignificant paths (H6 in between-spouse models and H7 in all models). However, it can be concluded that the economic pressure experienced by a spouse influenced his or her perceptions of marital quality through some other mechanism—excluded from the model—other than warmth and hostility. The authors who previously identified additional connections within the family stress model suggested that these connections might be due to differences in cultural beliefs and practices, gender roles, and economic conditions relative to the United States (Aytaç & Rankin, 2009; Kinnunen & Feldt, 2004; Kwon et al., 2003). However, that one connection was significant in this study using a sample drawn from the United States suggests that other factors might be responsible. These factors are not yet fully understood (Conger et al., 2010) or identified and additional research is needed.

This study evaluated the family stress model and its application to remarried couples. Overall, the hypotheses identified in the family stress model linking

economic hardship and pressure to marital quality and instability were supported in our analysis using a remarriage sample. There are several reasons that the family stress model might be particularly applicable to remarried couples. Remarried couples are at greater risk of negative marital interactions, poor marital quality, and divorce than first-marriage couples (Bumpass & Raley, 2007; Shriner, 2009; Sweeney, 2010) and thus might be particularly sensitive to external stressors on family, such as economic challenges.

Yet, remarried couples might be more independent in their finances than first-married couples (e.g., Allen et al., 2001; Van Eeden-Moorefield, Pasley, Dolan, & Engel, 2007) and might have financial obligations to a former spouse or children from a previous relationship (Coleman et al., 2000). Consequently, economic pressure might not be felt to the same degree by both spouses and might not be as disruptive to marital quality and stability as outlined by the family stress model. Despite these possibilities, the findings from this study suggest that the family stress model is applicable to the experiences of remarried couples. The tendency of remarried couples to keep finances separate was apparently not extensive enough to prevent economic hardship and pressure from affecting spouses' marital interactions, quality, and instability both individually and jointly.

A unique characteristic of this study's evaluation of the family stress model was the analysis of crossover effects. For this study, crossover effects were evaluated by testing whether the economic hardship, economic pressure, and decrease in warmth and increase in hostility experienced by one spouse affected the marital quality and relationship stability experienced by the other spouse. Testing for crossover effects provided a more rigorous evaluation of the family stress model because components of the family stress model were provided by different respondents, which practice reduced same-source method bias (Podsakoff et al., 2012). Findings from this study indicated that the economic pressure and accompanying lower levels of warmth and higher levels of hostility experienced by one spouse "cross over" to affect the marital quality and instability perceived by the other spouse. These findings suggest that how one spouse was affected by economic hardship affected not only his or her perceptions of marital quality and instability, but also that of his or her spouse, underscoring the significant impact economic hardship and pressure can have on the well-being of remarried couples.

The results of this study reinforce previous calls to develop and deliver effective remarriage preparation programs (Adler-Baeder & Higginbotham, 2004; Higginbotham, Miller, & Niehuis, 2009). Marriage professionals can use these results and the theoretical model to inform practice with remarriage education. Given that the results indicate that both remarried husbands and wives are negatively influenced by economic hardship and pressure, couples education might prove more effective than individual counseling.

A second implication for relationship education is the potential "value added" of involving financial counselors to assist with traditional relationship

education programs for remarried couples. This study supports the recommendations of Higginbotham, Tulane, and Skogrand (2012), who encouraged financial counselors and relationship educators to work collaboratively. It could be that couples struggling with finances are better served by attending both relationship education and financial counseling, or attending an integrated program, rather than just one or the other.

This study had several limitations that help point to future research needs. First, and most notable, was the homogeneity of the sample. Approximately 98% of the sample was White. Because the state's marriage licenses only asked for race (not ethnicity), there was no differentiation by Hispanic or Latino(a) origin. Second, not all components of the family stress model were included; couple emotional and behavioral problems were excluded. Due to the number of components included in the model, other evaluations of the family stress model share this limitation (for a review of studies, see Conger et al., 2010). Third, the data used in this analysis were cross-sectional, limiting the causal conclusions that can be drawn from this study.

This study also had several strengths. First, the large sample was drawn from both rural and urban counties. Second, data were analyzed using SEM estimation methods that were appropriate for ordinal data and did not assume data were normally distributed. Third, the use of data from both spouses reduced the risk of same-source method bias. Finally, testing for crossover effects provided a more rigorous evaluation of the family stress model. In summary, this study extended the work of Conger and colleagues (Conger et al., 2010; Conger et al., 1990) demonstrating that the family stress model applies to the experiences of remarried couples where their economic hardships and pressures can contribute to their warmth, hostility, marital quality, and stability.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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