

Crossover of Marital Dissatisfaction During Military Downsizing Among Russian Army Officers and Their Spouses

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This study examined mechanisms of strain crossover within couples and the moderating role of gender. Data were collected at a time of military downsizing from a sample of 1,250 Russian army officers and their spouses. The authors tested a model that incorporated 3 mechanisms for the crossover of marital dissatisfaction among dual-earner couples. The model provided support for 2 suggested crossover mechanisms: direct reactions of crossover and indirect mediated effects through social undermining. Strong evidence was also provided for gender asymmetry in the crossover process. Marital dissatisfaction crossed over from husbands to wives but not vice versa, and social undermining behavior played a role in the process of crossover of marital dissatisfaction for husbands but not for wives.

The interpersonal process that occurs when a psychological strain experienced by one person affects the level of strain of another person in the same social environment is referred to as crossover (Bolger, DeLongis, Kessler, & Wethington, 1989; Westman, 2001) or transmission (Jones & Fletcher, 1993; Rook, Dooley, & Catalano, 1991). Findings suggest that one partner's strain affects the well-being of the other so that one's strain is often a stressor to the other (Burke, Weir, & DuWors, 1980; Jones & Fletcher, 1993). Findings show crossover of distress, depression, burnout, and work–family conflict from one spouse to another (Barnett, Raudenbush, Brennan, Pleck, & Marshall, 1995; Hammer, Allen, & Grigsby, 1997; Hammer, Bauer, & Grandey, 2003; Mauno & Kinnunen, 2002; Takeuchi, Yun, & Teslu, 2002; Westman & Etzion, 1995; Westman & Vinokur, 1998). The study of crossover is not limited only to the transmission of the same type of strain between two partners, but applies also to situations in which one person experiences strain that is transmitted and creates or exacerbates another type of strain in the other person.

The present study investigated crossover of marital dissatisfaction among married couples in the Russian army at a time of military downsizing in a declining economy. The threat of unemployment loomed large as a major stressor in the lives of the couples, making this setting highly relevant for a study of crossover processes. The considerable body of work linking stressful

life events to psychological strain indicates that job loss and unemployment place people at increased risk of economic strain and poor mental health in terms of increased depression and anxiety (Liem & Liem, 1988; Vinokur, Price, & Caplan, 1996). Financial strain has well-documented effects on psychological and marital distress (e.g., Conger, Rueter, & Elder, 1999). Leinonen, Solanaus, and Punamaki (2002) and Vinokur et al. (1996) have documented the deleterious effects of financial strain on distress indicated by poor mental health. In addition to their effects on general distress, financial hardship and negative life events increase marital dissatisfaction because both are perceived as threats to the integrity of the marriage (Conger et al., 1999) and they increase hostile, conflictual, and undermining behaviors in both spouses (Vinokur et al., 1996).

In this context of downsizing, we focused on marital dissatisfaction because this aspect of the relationship has been shown to be adversely affected by unemployment and job insecurity (e.g., Atkinson, Liem, & Liem, 1986; Barling & MacEwen, 1992). *Marital dissatisfaction* can be defined as a negative cognitive and emotional reaction to the marital relationship. It has been shown in the literature to contribute to serious undesirable outcomes for individuals as well as for the society (Bradbury, Fincham, & Beach, 2000), including marital separation and divorce (Gottman, 1994).

The Context of Marital Relationships and Downsizing in the Military

Our sample of Russian army officers and their wives represents an extreme case with regard to the impact of potential joblessness. At the time of data gathering, life both inside and outside the Russian army was characterized by extreme economic deprivation. Many of the perquisites of officer status and the associated financial well-being were shared by spouses. Furthermore, the wives of these officers lived in the context of a male-dominated organiza-

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tion that reduced their employment opportunities in comparison to wives of men in civilian occupations (Scarville, 1990; Schwartz, Brad, Wood, & Griffith, 1991). The larger context of stress for the couples in this study has also to do with the general economic dislocation that characterized Russia at that time. The economic deprivation for the armed forces resulted in severe strain from actual or anticipated unemployment (e.g., International Center for Human Values, 1997; Rukavishnikov & Zolotich, 1996). Rohall, Hamilton, and Segal (2001) have emphasized the similarities between military service and civilian employment and indicated that downsizing in the armed forces is akin to the downsizing of other organizations. This might have also been the case in nations such as Russia, where downsizing was intended to be tightly coupled with base closing, making the latter process very similar to the closing of an industrial plant. In the same context, Segal and Harris (1993) maintained that job security was often seen as one of the major benefits of military life. Thus, the respondents in our sample provided an ideal testing ground for examining hypotheses regarding crossover processes.

Below we build on the theoretical frameworks of research on stress, interpersonal relationships, and stress-and-strain crossover to propose a schematic model for our investigation and a set of hypotheses tailored to the specific context of downsizing in the military. The hypotheses are illustrated in our model as paths of directional influence from each construct to the others (see Figure 1).

The Crossover Process

Westman and Vinokur (1998) specified three main mechanisms that can account for the crossover process: (a) direct crossover

through empathic reactions, (b) indirect mediating interaction process, and (c) common stressors. The direct empathetic crossover implies that stress and strain are transmitted from one partner to another directly as a result of empathetic reactions. This is based on the finding that crossover effects appear between closely related partners who care for each other and share the greater part of their lives together. According to Lazarus (1991), empathy is "sharing another's feelings by placing oneself psychologically in that person's circumstances" (p. 287).

However, what sets this study apart from most of the previous studies on crossover is its focus on marital dissatisfaction for which the underlying mechanism of the direct crossover is not an empathy reaction but rather a contagion process. Contagion is viewed as a reciprocal emotional reaction toward the other person in a close relationship (see, e.g., Bakker & Schaufeli, 2000; Bakker, Schaufeli, Sixma, & Bosweld, 2001). Being exposed to the marital dissatisfaction of one's partner brings out in the other partner a reciprocal emotional contagious reaction of dissatisfaction that manifests itself as a direct crossover.

This process of contagion of emotional reaction in interpersonal contacts was illuminated by Heider (1958) and has been demonstrated in many social psychological studies of interpersonal relationships (e.g., Byrne & Nelson, 1965; Smith, Becker, Byrne, & Przybyla, 1993). Emotional contagion has also been used by Bakker and Schaufeli (2000) and Bakker et al. (2001) to account for direct crossover of burnout. On the basis of the interpersonal process of contagion shown in earlier studies, we predict its occurrence and appearance as a direct crossover in our sample of military couples.

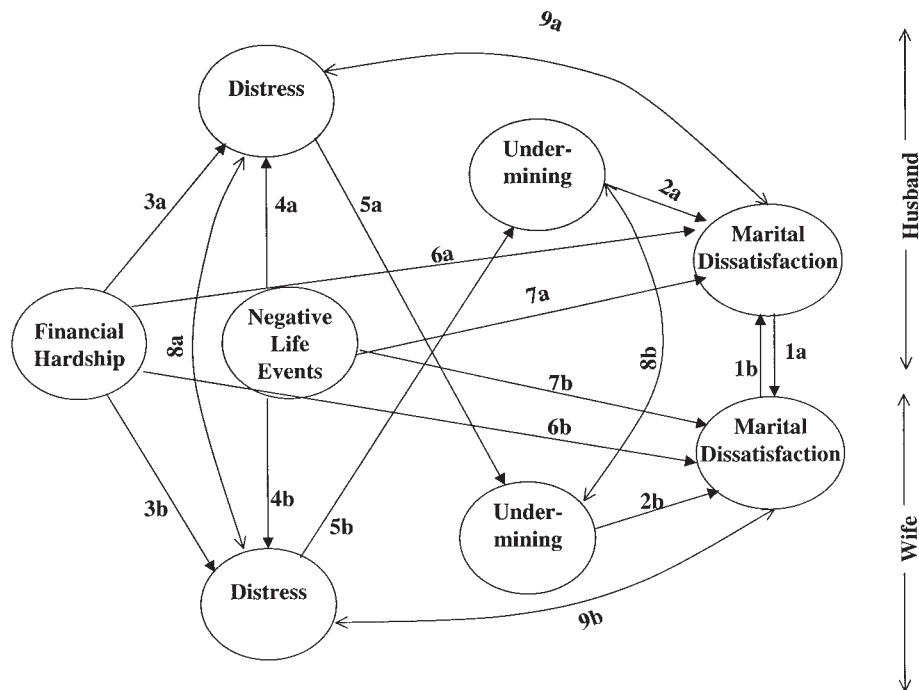


Figure 1. Model of crossover of marital satisfaction within spouses.

Hypothesis 1: The marital dissatisfaction from one spouse will cross over to the other spouse directly and vice versa (see Paths 1a & 1b, respectively in Figure 1).

The second crossover mechanism specified by Westman and Vinokur (1998) was the indirect crossover of strain as a transmission mediated by interpersonal exchange. Here, an indirect crossover occurs when a stressor, such as economic hardship or a negative life event, increases the strain of a partner such as was shown by Westman and Vinokur (1998) and Conger et al. (1999). The increased distress and its accompanying frustration lead to aggressive behavior (Berkowitz, 1989) or otherwise initiates or exacerbates a negative interaction sequence with the partner, as shown in studies on social undermining (Duffy, Ganster, & Pagan, 2002; Vinokur & van Ryn, 1993). Empirical support for the effects of distress on social undermining can be found in a host of studies that describe the stress process leading to conflictual interactions (Conger et al., 1992; MacEwen, Barling, & Kelloway, 1992). Other studies went further and showed how distress increases conflictual interactions (Schaefer, Coyne, & Lazarus, 1981), which, in turn, augments depression and marital dissatisfaction (Conger et al., 1999; Coyne & Downey, 1991; Vinokur et al., 1996). As the couples in our sample were experiencing economic hardship and other negative life events, we predicted that they would engage in social undermining that in turn would increase their marital dissatisfaction.

Hypotheses 2 (H2) and 3 (H3): Financial hardship (H2) and negative life events (H3) will increase the level of distress of each spouse (see Paths 3a, 3b, 4a, and 4b, respectively, in Figure 1).

Hypothesis 4: Distress will increase social undermining from one spouse to another (see Paths 5a and 5b, in Figure 1).

Hypothesis 5: Social undermining will increase the marital dissatisfaction of both husbands and wives (see Paths 2a and 2b, respectively, in Figure 1).

The third type of crossover, suggested by Westman and Vinokur (1998), is generated by common stressors affecting both partners. The simultaneous effects of the common stressors on increasing both partners' strain result in a positive correlation between partners' strain, which may be erroneously interpreted as a genuine crossover effect. For this reason, Westman and Vinokur suggested viewing the effect of common stressors as a case of spurious crossover; that is, the common stressors merely represent the effect of a third variable that independently but simultaneously increases the strain of each spouse.

Hypotheses 6 (H6) and 7 (H7): Financial hardship (H6) and negative life events (H7) of both spouses will increase their marital dissatisfaction (see Paths 6a, 6b, 7a, and 7b, respectively, in Figure 1).

These three mechanisms of crossover can operate independently of one another and are not mutually exclusive. Therefore, it is quite possible that some of the proposed mechanisms operate jointly. Vinokur et al. (1996) found that financial strain, representing common stressors, increased depression in the job seeker and in

the spouse. These depressive symptoms increased the partner's undermining behavior, which increased depressive symptoms in the job seeker, indicating an indirect crossover effect via social interaction. Similarly, Westman and Vinokur (1998) found both direct and indirect crossover between spouses as well as effects as a result of common stressors. The possibility that several mechanisms may operate simultaneously requires an analytical model that takes into account all the potential contributors to crossover.

The Role of Gender in the Crossover Process

Whereas crossover studies focusing on traditional families with husbands as breadwinners found unidirectional crossover of strain from husbands to wives (Jones & Fletcher, 1993; Westman, Etzion, & Danon, 2001), recent studies of dual-career families found bidirectional crossover effects of stress or strain for both spouses (e.g., Barnett et al., 1995; Hammer et al., 1997, 2003; Mauno & Kinnunen, 2002). Considering the inconsistency of the results concerning the role of gender in the crossover process, the role of gender needs to be reexamined in the context of single versus dual-career earners as well as in terms of traditional versus modern gender role ideology; indeed, our sample of Russian officers and their wives exemplifies one of the four possible combinations of career and gender ideology: the dual-career family with a relatively traditional gender role ideology (Olson & Matskovsky, 1994).

There is some indication that women are more susceptible than men to the impact of stressors affecting their partners (Kessler, 1979). Thus, our last set of hypotheses focused on the moderating effects of gender in the context of dual-career families with a traditional gender role ideology. Kessler and McLeod (1984) showed that events happening to spouses are more distressing to women than to men. They suggested that because of their greater involvement in family affairs, women become more sensitive not only to the stressful events they experience but also to those that affect other family members. In the same vein, Johnson and Jackson (1998) demonstrated that whereas men's levels of stress dropped after reentering work, their wives' strain remained high. They suggested that women may act as "shock absorbers," taking on the men's stress. Also, women may be better able to compartmentalize their family roles (Westman & Etzion, 1990) in ways that allow them to maintain emotional boundaries and limit transmission of distress and dissatisfaction to their spouses (Belsky, Youngblade, Rovine, & Volling, 1991).

Hypothesis 8: The direct impact of the husbands' marital dissatisfaction on their wives' marital dissatisfaction (i.e., Path 1a in Figure 1) will be greater than the counterpart impact of the wives' on their husbands (i.e., Path 1b in Figure 1).

There are also gender differences in behaviors among marital partners, especially in traditional families (see, e.g., Boss & Gurko, 1994, regarding Russian marital relations). Vannoy and Cubbins (2001) maintained that for centuries, the Russian family has been a patriarchal institution. Furthermore, in recent years, the processes of economic and social transformation in Russia have magnified the traditional gender stereotypes in the family. Lastly, the tolerance of authoritarian structures characteristic of Russian

culture also contributed to the maintenance of gender inequality. Vannoy and Cubbins concluded that "Both men and women in Russia still have relatively traditional views of the role of men and women" (p. 214).

In the context of a traditional family, the role of the wife encompasses socioemotional functions (Parsons & Bales, 1960) that place social undermining behavior as atypical, out-of-role behavior. According to role theory (Davis, 1949; Merton, 1957), individuals behave according to the normative role expectations of the roles they occupy. In addition, role theory also postulates that behaviors that violate normative role expectations, such as social undermining initiated by a wife in a traditional family context, will produce adverse reactions and sanctions from others, particularly from complementary role incumbents such as a husband.

Considering the social and familial context, the wife's aggressive and undermining behavior toward her husband is likely to be perceived as more atypical and out of role and a more serious violation of the normative role expectation of a wife than the husband's undermining behavior toward his wife. It is therefore that the wife's socially undermining her husband is more likely to have a strong adverse impact on the husband's marital satisfaction, as it may also damage his self-esteem as a husband and an officer.

Hypothesis 9: The direct impact of social undermining from the wives on the marital dissatisfaction of their husbands (i.e., Path 2a in Figure 1) will be greater than the impact of the social undermining from the husbands on their wives' marital dissatisfaction (i.e., Path 2b in Figure 1).

Finally, gender differences are also apparent with regard to economic hardship. Grote and Clark (2001) indicated that marriages are characterized by distress and conflict when one partner has neglected the other's needs or cannot meet the other's needs and becomes dissatisfied with the marriage. In the context of financial hardship, the wife is likely to be disappointed with the husband's failure to meet the traditional normative gender role expectations as a breadwinner. Roehling and Bultman (2002) pointed out that despite the changing demographics of the workplace, there is still a general belief that the breadwinner role is primarily the man's role. In the same vein, Voydanoff and Donnelly (1988) found that job insecurity of husbands was related to marital and family dissatisfaction among women but not among men. These findings indicate that women's marital satisfaction is adversely affected by economic hardship more than the marital satisfaction of the men because of men's role as primary breadwinner and because the women have to cope with the daily difficulties of managing a household with inadequate resources.

Hypothesis 10: The direct impact of financial hardship on marital dissatisfaction will be greater for the wives (see Path 6b in Figure 1) than for the husbands (see Path 6a in Figure 1).

To complete the description of the model in ways that would allow its estimation with structural equation modeling techniques, we needed to specify relationships between other unspecified contributors to some key factors. These unspecified contributors

are represented as disturbance factors but do not appear in Figure 1. Thus, the correlations between additional unspecified factors (disturbances) that influence the distress level of both partners need to be represented. The unspecified disturbance influencing distress may include lack of educational opportunities for children, the emotional and social burden of aging parents, and similar adversities. The influence of these disturbance factors on the distress of both partners is represented by Correlation 8a (see Figure 1). The additional influence of unspecified factors on the inclination of both spouses to engage in social undermining is represented by Correlation 8b. Finally, the correlations between unspecified factors in each partner that influence both the level of distress and the marital dissatisfaction are represented by Correlations 9a and 9b. For example, a general personal disposition to experience negative emotions, often referred to as *negative affectivity* (Watson & Pennebaker, 1989), may underlie experiences of both distress and marital dissatisfaction.

The purpose of the present study was to extend work on the crossover of marital dissatisfaction in the context of military downsizing. Using a longitudinal design, the study investigated the role of (a) direct crossover from one spouse to the other; (b) negative interactions, as indicated by social undermining, in producing further strains; and (c) common stressors affecting both spouses. Because the study included simultaneous modeling of data from both spouses, it permitted the identification of potential gender differences in the crossover process.

Method

Participants

Using face-to-face personal interviews, data were collected from Russian army officers and their wives in two waves of data collection, separated by 18 months. In Wave 1, a forthcoming downsizing had been announced, and approximately half the officers expected to be released from the army within 6 months. By the time that Wave 2 had been completed, 39% of the officers had been dismissed.

In Wave 1, of the 1,998 male officers who were contacted, 1,798 were interviewed (a 90% response rate) as well as 1,609 of their wives (a 93% response rate); thus, data were collected from 1,609 matched Russian army officers and their wives. Of the officers who were interviewed in Wave 1, 1,536 (85%) were reinterviewed in Wave 2. Of the wives who were interviewed in Wave 1, 1,341 (83%) were reinterviewed in Wave 2. The present analysis is based on 1,250 couples for whom no more than 10% of the data were missing.

In Wave 1, the ages of the officers ranged from 20 to 51 years ($M = 35$, $SD = 6$); the ages of their wives ranged from 19 to 53 years ($M = 33$, $SD = 7$). Mean tenure in the army was 15 years ($SD = 6$). On average, the couples had been married for 10 years. Eighty-six percent of the officers had completed high school, and 13% had a higher education. Among the wives, 54% had vocational education, 39% had a college and university education, and 5% had completed high school.

Of the wives, only 5.2% had never worked. Eighty-one percent worked in at least one of the data collection waves, and 42% worked in both waves. The most common occupation of the wives was civilian work for the army (32%). Twenty-six percent held high-complexity jobs (e.g., doctors, accountants, and librarians); 32% held middle-complexity jobs (e.g., teachers and nurses), and 10% held low-complexity jobs (e.g., production machine operators, salespersons, and waitresses). The wives worked an average of 36.81 hours per week. The characteristics of the wives indicate that when only job status is considered, most of these couples are dual-career or dual-earner cou-

ples. However, in terms of gender ideology, these couples could be described as traditional. When asked about their agreement with the statement "A husband should be head of the family," 64% of the women and 80% of the men agreed with it. Furthermore, when asked about who was doing the housework, 34% of the husbands reported they engage in housework in comparison to 73.4% of the wives.

Procedure

The first wave of data collection took place during October–December 1995 and the second wave during May–August 1997. At the end of the Wave-1 interviews, married officers were asked for permission to interview their wives. Almost all the officers (96%) were married, and almost all of them gave their permission. The wives were contacted and interviewed a short time after the husbands granted permission. Interviews in both waves averaged 60–67 min in length. Respondents were paid to participate the ruble equivalent of \$8.50 in Wave 1 and \$13.50 in Wave 2.

Seven majors, who worked at the Ministry of Defense Sociological Department, served as field supervisors and trained 160 interviewers. These interviewers were military officers from among the psychological services personnel at each locale and were used to discuss sensitive matters in a confidential manner with their fellow officers. A standard regimen of training based on the field training at the University of Michigan's Survey Research Center was followed.¹ Each interviewer interviewed from 7 to 23 respondents in total. Interviews were conducted face to face, except when the type of question was judged sensitive (drinking); self-administered questionnaires were used for the latter items.

Measures

The questionnaires for this study were initially prepared in English, then translated into Russian by personnel from the International Center for Human Values in Moscow, who oversaw the survey research² and back-translated by other translators employed by the Center. The Russian version and back-translation were sent to the United States, where a second independent back-translation was prepared. The two were compared and discrepancies resolved. The measures in the present study were the same for both waves of data collection and for husbands and wives.

Marital dissatisfaction was assessed with a 6-item scale that was drawn from the longer Dynamic Adjustment scale (Spanier & Glick, 1981). The scale response options ranged from 1 to 5 for low to high agreement to statements concerning satisfaction with relationship. The Cronbach coefficient alphas in Wave 1 were .88 for husbands and .87 for wives and were .85 and .88, respectively, in Wave 2.

Social undermining (as perceived by spouse) was assessed using a measure that was based on seven items regarding undermining behaviors of the partner (Vinokur & van Ryn, 1993). The respondents were asked to indicate the frequency of undermining behaviors directed at them by their partners in daily life using a 3-point scale, with response options of 1 (*never*), 2 (*sometimes*), and 3 (*always*). For example, they were asked how often the partner "showed he or she dislikes you," and "he or she criticizes you." This scale was measured only in Wave 2. The Cronbach coefficient alphas for husbands' and wives' undermining scale were .76 and .80, respectively.

Distress was assessed with an index based largely on the Symptom Checklist-90 (SCL-90; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), originally the Hopkins Symptom Checklist (HSCL; Derogatis et al., 1974), with the exception of one item drawn from Pearlin, Lieberman, Menaghan, and Mullan (1981). Response choices ranged from 1 (*not at all*) to 5 (*a great deal*). Three subscales from these items served as indicators of distress: Depression (12 items), Anxiety (5 items), and Hostility (4 items). Anxiety and Depression are theoretical dimensions from the original HSCL; Hostility is a dimension newly incorporated from the SCL-90. These three interrelated indicators of distress are commonly used in sur-

veys on the effect of unemployment (e.g., Broman, Hamilton, & Hoffman, 2001).

Depression refers to standard symptoms of clinical depression. Item examples included "feeling lonely" and "thoughts of ending your life." *Anxiety* refers to clinical symptoms of high manifest anxiety. Items included "nervousness" and "trembling." The Hostility subscale included such items as "feeling easily annoyed or irritated" and "having urges to break or smash things." In Wave 1, the Cronbach coefficient alphas for husbands and wives were .82 and .86, respectively, for the Depression subscale; .60 and .72 for the Anxiety subscale; and .65 and .70 for the Hostility subscale. In Wave 2, the Cronbach coefficient alphas for husbands and wives were .84 and .87, respectively, for the Depression subscale; .62 and .74 for the Anxiety subscale; and .68 and .70 for the Hostility subscale. The raw scores of each subscale were transformed into *z* scores for scale computation.

Negative life events were measured in Wave 2, with 25 items based on Holmes and Rahe's (1967) Schedule of Recent Events. For each event, the respondent indicated 0 (no) or 1 (yes) whether they had experienced the event during the previous 12 months. The negative life events score consisted of the sum of the events that were checked yes. The most common events experienced by both the husbands and the wives were illness of a parent, illness of a spouse, death of a relative, and learning problems of children.

Financial hardship was measured with a 5-item index based on three items from Pearlin and Schooler (1978) and two items from Vinokur and Caplan (1987). Because all respondents were still employed in Wave 1, this measure was collected in Wave 2 only. The items tapped how often the family had been unable to afford food, health care, clothing, leisure, or pay monthly bills during the last 12 months. The responses were provided on a 4-point scale ranging from 1 (*never*) to 4 (*very often*). The coefficient alphas were .83 for husbands and .82 for wives.

Because negative life events and financial hardship represent stressors that are common to both husbands and wives, these factors were indicated by the respective measures of both the husband and the wife.

Results

A matrix of the intercorrelations among the model variables, their means, and standard deviations are presented in Table 1. For ease of presentation, the indicators of each latent variable were averaged. For example, the distress score for each spouse in both waves is an average of the Depression, Anxiety, and Hostility subscales. Financial hardship and negative life events scores are the average of both spouses' reports.

As the data include parallel measures from spouses, we compared the means of husbands' and wives' stress and strain in both waves. The means and significance tests presented in Table 2 show that although all differences are statistically significant because of sample size, their effect sizes were very small. The main differences are in the psychological strains: distress and marital dissatisfaction. Whereas wives reported higher levels of distress in both waves, husbands reported higher levels of marital dissatisfaction.

¹ All interviewers underwent a demanding training regime as follows: They were lectured on the general principles of face-to-face interviewing; they practiced interviewing in triads (interviewer, respondent, observer) and were guided in persuading respondents to participate.

² The Center was founded in the 1980s by staffers (Matskovsky, Denisovsky, and Kozyreva) of the Russian Academy of Sciences to give them greater control over the content and wording of surveys they were carrying out. As the Russian political scene changed, the Center survived as an independent survey research organization.

Table 1
Means, Standard Deviations, and Correlations Among Model Variables ($N = 1,250$)

| Variable | <i>M</i> | <i>SD</i> | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--------------------------------------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|----|
| Wave 1 | | | | | | | | | | | | | | |
| 1. Husband's distress | 0.00 | 0.56 | — | | | | | | | | | | | |
| 2. Wife's distress | 0.00 | 0.62 | .32** | — | | | | | | | | | | |
| 3. Husband's marital dissatisfaction | 4.07 | 0.59 | .21** | .15** | — | | | | | | | | | |
| 4. Wife's marital dissatisfaction | 4.04 | 0.58 | .09** | .25** | .54** | — | | | | | | | | |
| Wave 2 | | | | | | | | | | | | | | |
| 5. Husband's distress | 0.00 | 0.57 | .10** | .06* | .00 | .02 | — | | | | | | | |
| 6. Wife's distress | 0.00 | 0.61 | .06* | .13** | .01 | .02 | .45** | — | | | | | | |
| 7. Husband's marital dissatisfaction | 4.45 | 0.54 | .03 | .00 | .17** | .15** | .26** | .18** | — | | | | | |
| 8. Wife's marital dissatisfaction | 4.38 | 0.59 | .01 | .01 | .15* | .15** | .20** | .37** | .60** | — | | | | |
| 9. Husband's undermining | 1.45 | 0.29 | .07* | -.03 | .08* | .08* | .26** | .22** | .57** | .40** | — | | | |
| 10. Wife's undermining | 1.42 | 0.30 | .02 | -.02 | .14** | .14** | .25** | .35** | .40** | .60** | .47** | — | | |
| 11. Financial hardship | 2.42 | 0.61 | .02 | .08* | .00 | .00 | .22** | .24** | .07* | .09* | .07* | .06* | — | |
| 12. Negative life events | 1.09 | 1.26 | .11** | .06* | .03 | .03 | .23** | .30** | .13** | .12** | .05 | .08* | .09** | — |

* $p < .05$. ** $p < .01$.

Overview of the Analytical Strategy and the Model

The principal analysis consisted of confirmatory latent-variable structural modeling using the EQS program (Bentler, 1995). This technique provides a simultaneous estimation of the hypothesized regressions using the covariance matrix of the relations among all variables. We used the gap between the observed and the estimated covariance matrix, produced according to the specified model, to compute goodness-of-fit indices that help determine the extent to which the conceptual model provides an acceptable fit—that is, acceptable representation of the data. We relied on the widely used goodness-of-fit indices known as the normed fit index (NFI), the nonnormed fit index (NNFI), and the comparative fit index (CFI) to indicate the extent of fit and on the value of .95 or larger as indication of a good fitting model. In addition, we also used the root-mean-square error of approximation (RMSEA) misfit index and its recommended value of .06 or lower (Hu & Bentler, 1999) to indicate acceptable fit. Couples whose missing data exceeded 10% on model variables were dropped from the analysis. Thus, for the analysis, we used a pairwise covariance matrix with the total N set to 1,250 (couples).

The model we estimated was constructed with two or three indicators for each theoretical construct. Distress was indicated by depression, anxiety, and hostility. Financial hardship and negative

life events were each indicated by the husband's and wife's score on the respective measure. Using the accepted approach of parceling (Bandalos, 2002; Stacy, Bentler, & Flay, 1994), marital dissatisfaction and perceived undermining were each indicated by a random half of the items that make up the scale. Our model also estimated the longitudinal effects of Wave-1 marital dissatisfaction and distress to the corresponding measures in Wave 2. The residual errors of the corresponding indicators across the time waves were found to be correlated and so were the residual errors of the indicators for the husbands, and separately for the wives, with all other errors from the same source (i.e., husband or wife) across constructs. These model specifications constitute the preferred modeling specification for longitudinal designs and for models with data from two or more sources.

In our first analysis, we estimated the measurement model that included all the indicators and constructs in both waves. The results indicated a very good fit to the data, $\chi^2(216, N = 1,250) = 514.10, p < .05$; and with NFI = .973, NNFI = .972, CFI = .984, and RMSEA = .033. We then proceeded to the next analysis, which estimated a model that incorporated all of the hypotheses specified earlier (from Hypothesis 1 to 7). The model shows a good fit to the data, $\chi^2(252, N = 1,250) = 669.90, p < .05$; and with NFI = .965, NNFI = .966, CFI = .978, and RMSEA = .036.

Table 2
Means and Standard Deviations of Variables for Husbands and Wives ($N = 1,250$)

| Variable | Husband | | Wife | | <i>t</i> value (paired samples) | <i>d</i> |
|----------------------------|----------|-----------|----------|-----------|------------------------------------|----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | |
| Distress T1 | -0.08 | 0.52 | 0.08 | 0.66 | -8.17*** | .22 |
| Marital dissatisfaction T1 | 4.07 | 0.59 | 4.04 | 0.59 | 2.04* | .05 |
| Distress T2 | -0.08 | 0.53 | 0.07 | 0.64 | -8.51*** | .23 |
| Marital dissatisfaction T2 | 4.45 | 0.54 | 4.36 | 0.59 | 4.99*** | .14 |
| Financial hardship T2 | 2.40 | 0.69 | 2.43 | 0.67 | -2.20* | .07 |
| Negative life events T2 | 1.17 | 1.42 | 1.02 | 1.45 | 3.85*** | .14 |
| Undermining T2 | 1.45 | 0.29 | 1.42 | 0.30 | 2.77** | .07 |

Note. T1 = Time 1; T2 = Time 2.

* $p < .05$. ** $p < .01$. *** $p < .001$.

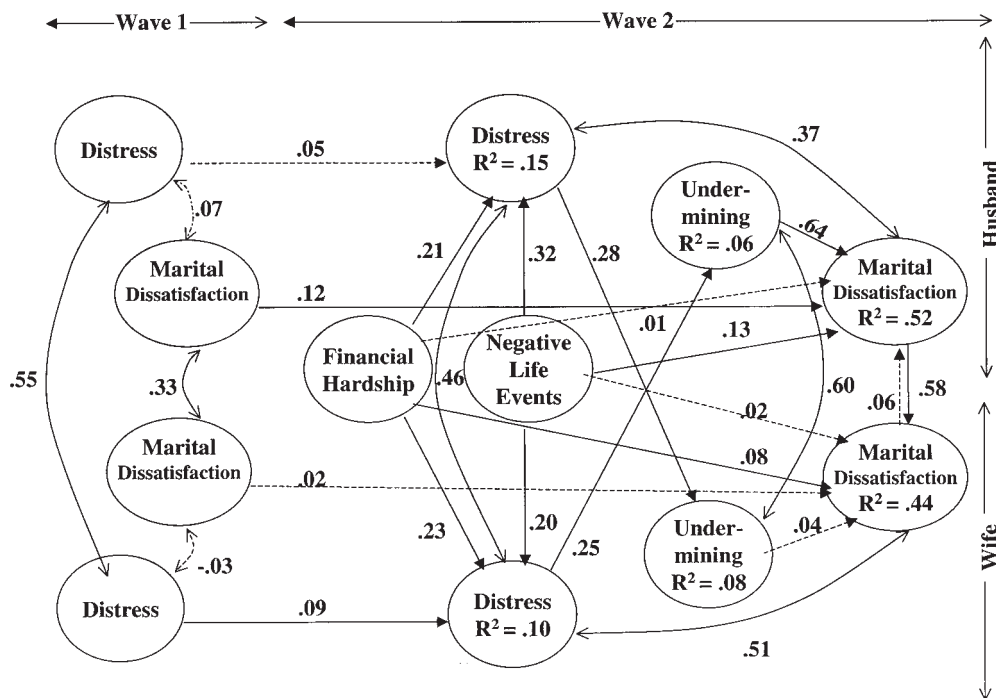


Figure 2. Structural equation model of marital dissatisfaction within spouses. The values along the paths are standardized regression coefficients (betas), and those along the double-arrow curves are correlations. $\chi^2(252, N = 1,250) = 669.90, p < .05$; with normed fit index = .965, nonnormed fit index = .966, comparative fit index = .978, and root-mean-square error of approximation = .036. The dotted lines indicate statistically nonsignificant paths. In Wave 2, each double-arrow curve represents a correlation between the disturbances of the respective latent factors.

The results of this estimated model, which included all the hypothesized path coefficients and correlations, are presented in Figure 2.³

The results that support Hypotheses 1–7 are indicated in Figure 2, with solid lines representing statistically significant ($p < .05$) paths of influence of unattenuated standardized regression coefficients. Dotted lines represent paths that are not statistically significant. Support for Hypotheses 8–10 regarding the moderating effects of gender would be indicated by tests that compared the relative strength of the corresponding paths with the marital satisfaction of the partners and are presented and discussed later.

Crossover of Marital Dissatisfaction From One Spouse to the Other

Direct crossover through contagious reaction, as indicated by Hypothesis 1 (see Paths 1a and 1b in Figure 1), received strong support only in the path of influence of marital dissatisfaction from husbands to wives ($\beta = .58$). The reciprocal path of influence from the wives' marital dissatisfaction to the husbands' (Path 1b) was negligible ($\beta = .06$) and statistically not significant.

For both spouses, Hypotheses 2 and 3 were supported, as the crossover of strains that begins with the influence of financial hardship and negative life events on distress is statistically significant ($\beta = .23$ and $.20$, respectively, for the wives and $.21$ and $.32$ for the husbands). In turn, as suggested by Hypothesis 4, distress resulted in a significant increase in the level of undermining by

the other spouse for both the wives ($\beta = .25$) and the husbands ($\beta = .28$).

Indirect crossover that originates in various strains passing through the social undermining mechanism, as indicated by Hypotheses 5 (see Paths 2a and 2b in Figure 1), received strong support, but only for its effect on the husbands, not the wives. For the husbands, the increased undermining from the wives resulted in a strong significant increase in marital dissatisfaction ($\beta = .64$), which lends support to Hypothesis 5. However, this effect was negligible and statistically not significant for the wives ($\beta = .04$). That is, increased undermining from the husbands did not have an effect on the wives' marital dissatisfaction.

Common stressors in the form of financial hardship and negative life events, as indicated by Hypotheses 6 and 7 (see Paths 6a, 6b, 7a, and 7b, respectively, in Figure 1), demonstrated differential

³ In addition to the model that appears in Figure 2, we attempted to estimate a number of alternative models. Thus, for example, we estimated a model with the two correlations between the disturbances of distress and marital dissatisfaction of the spouses replaced by paths of influence from distress to dissatisfaction. Another model included these paths reversed, that is, going from dissatisfaction to distress. Other estimated models included paths from distress to undermining and also the reverse, from undermining to distress. Unfortunately, all of the alternative models that were estimated failed to produce results because of empirical underidentification.

impact on the partners' marital dissatisfaction. Specifically, negative life events had a significant impact on husbands' marital dissatisfaction ($\beta = .13$) but not on that of the wives ($\beta = .02$), and the difference between the betas of the paths was statistically significant at $p < .001$. Financial hardship had a significant impact on the wives' marital dissatisfaction ($\beta = .08$) but not on that of the husbands ($\beta = .01$).

The moderating effects of gender were suggested by Hypotheses 8, 9, and 10. We tested these hypotheses with models that constrained the corresponding paths of wives and husbands to be of equal size and evaluated whether the increase in chi-square was statistically significant. For every one of these tests, the increase in chi-square turned out to be statistically significant ($p < .05$), lending support to the hypothesis. Thus, it was shown that the direct crossover from husbands to wives (see Path 1a) is stronger than from wives to husbands (Path 1b); the effect of the wives' undermining on the husbands' marital dissatisfaction (Path 2a) is greater than that from the husbands to the wives (Path 2b); and the effect of financial hardship on marital dissatisfaction is stronger for the wives (Path 6b) than for the husbands (Path 6a).

Our findings showed a pronounced gender asymmetry in the process of crossover of marital dissatisfaction among Russian military married couples. Whereas the wives' marital dissatisfaction increased primarily through direct crossover from the husbands' dissatisfaction, the husbands' dissatisfaction increased by a process that began with their wives' stresses and distress and was transmitted through their undermining behavior toward the husbands.

Discussion

The Three Hypothesized Mechanisms of Crossover

Our findings did not support the hypothesis that common stressors and strains result in the appearance of crossover (a spurious effect) by having a parallel effect on the strain of both spouses. None of the common stressors in this study had an impact on both husbands' and wives' marital dissatisfaction. In contrast, the results support the hypotheses regarding direct crossover of marital dissatisfaction and an indirect crossover mediated by negative conflictual interactions, which, in turn, affect marital dissatisfaction. However, these direct and indirect effects are not symmetrical; they are moderated by gender. As hypothesized, the direct crossover of marital dissatisfaction is transmitted from husband to wife, whereas the indirect crossover is mediated by the impact of the wife's social undermining behavior on her husband.

Our findings regarding direct crossover replicate the predominantly unidirectional crossover from husbands to wives, as reported by several researchers (e.g., Crouter, Bumpus, Maguire, & McHale, 1999; Jones & Fletcher, 1993; Westman et al., 2001). Yet, whereas empathic reaction was the hypothesized underlying active mechanism of the direct crossover in these studies, reciprocal contagious reaction was the hypothesized active mechanism in the direct crossover found in our study. These findings are inconsistent with the results of studies that have found bidirectional crossover between spouses (e.g., Barnett et al., 1995; Hammer et al., 1997, 2003). In a similar vein, our findings regarding the indirect form of crossover were also unidirectional, albeit from wives to husbands, and were inconsistent with the findings of other

studies, which demonstrated symmetrical effects, that is, additional effects from husbands to wives (MacEwen et al., 1992; Matthews, Conger, & Wickrama, 1996). All of these studies found that distress triggered negative marital interactions, which, in turn, increased depression and marital dissatisfaction. In our study, the mediating effect of social undermining was found only for the effects of wives on their husbands, but not for the effects of husbands on their wives. However, with two exceptions (Barnett et al., 1995; MacEwen et al., 1992), all the studies that demonstrated direct bidirectional crossover or indirect symmetrical effects through social undermining were based on either a cross-sectional design or on separate analyses for husbands and wives. In contrast, our results were based on a longitudinal design with simultaneous analysis of both spouses. At the same time, the difference between our results and others may be due not to methodological or design differences, but may rather be rooted in differences in contextual variables that affect the couples' relationships.

The Impact of Contextual Variables

Those studies that demonstrated symmetrical bidirectional crossover effects included what can be described as nontraditional dual-career couples who also hold nontraditional attitudes toward gender family roles (e.g., Mauno & Kinnunen, 2002). The available data regarding the couples in our study suggest that although they too share the role of breadwinner and may be described as dual-career or dual-earner couples, they still hold traditional gender attitudes. These attitudes express themselves in viewing the husband as the head of the family and the wife as the one in charge of housework. These traditional attitudes toward gender roles in the family may account for the unique unidirectional crossover effects we found, as these traditional attitudes shape the expectations of the husband and wife from each other, their interactions, and their emotional responses to these interactions.

Various studies of the Russian family portray the family with husband and wife sharing the breadwinning role in a more or less egalitarian manner, yet holding traditional gender role attitudes. For example, Kiblitckaya (2000) maintained that in today's Russian society, the breadwinner role has ceased to be exclusively male. Moreover, the determination of the status of breadwinner may be influenced by traditional perceptions instilled in the process of socialization concerning the proper function, role, and duties of men and women in the family. In the same vein, Olson and Matkovsky (1994) indicated that Russian wives usually work, and as in other cultures, in addition to working outside the home, they also shoulder most of the burden of housework. While being well aware of the family's financial constraints, wives must also be sensitive to the well-being of the other breadwinner: the husband. It appears, then, that the wives in our sample were for the most part "breadwinners" from the income point of view but traditional from the gender ideology perspective.

Once again, the confluence of forces that emanate from Russian culture in a military social environment results in even greater gender role differentiation, and consequently the effects of social undermining on the spouses' marital dissatisfaction are widely disparate. The social undermining behavior from the husband toward the wife does not affect the wife's marital dissatisfaction, as her social emotional role in the family includes being a shock absorber of her husband's emotional functioning. In contrast, the

wife's social undermining behavior toward her husband can be perceived as serious out-of-role behavior that challenges the husband and results in a marked increase in his marital dissatisfaction.

Our analysis highlights the importance of applying a great deal of caution to conclusions regarding the moderating effects of gender because gender may be confounded with breadwinner role in the family and/or with a traditional gender and power relationship. Future studies should address this issue by collecting more specific information on the breadwinning roles, occupation, and work status of both spouses as well as on the extent to which they hold traditional gender ideologies.

Limitations

There was a very weak relationship in the present Russian sample between distress and marital dissatisfaction across the waves of data gathering. The reliabilities of the measures are similar to those of the same measures in American samples, where they have been found to be reliable and stable (Broman et al., 2001). Therefore, we believe that the viable explanation for the lack of linkage between the waves is the gravity and extent of the extraordinarily rapid economic and societal changes to which these officers and their wives were subjected. Additionally, the external validity of our findings may be limited because of the idiosyncrasy of a military organization (Cameron, 1998). However, many organizational features in our sample, such as job insecurity and demanding stressful jobs, are not unique to the military.

Implications and Directions for Future Research

Experiencing job insecurity, spells of unemployment, and economic hardship are inevitable consequences of today's global economy, and they exact a heavy toll on the well-being of the family. It is therefore important to design preventive intervention programs that will help family members to cope more effectively with stresses that are produced by economic hardship and its uncertainties. Such programs may be targeted at alleviating economic hardship through national and local programs for the unemployed and for their spouses.

Sandler, Wolchik, MacKinnon, Ayers, and Roosa (1997) suggested that the first step in developing interventions for preventing the adverse consequences of stress is to evaluate conceptual models of the explanatory pathways. The findings of the present study are based on a conceptual model with explicit pathways and therefore offer an important direction for the design of future interventions for couples experiencing financial hardship. The findings suggest that such interventions should focus on the reduction of social undermining, as it is found to be a powerful mediator of the adverse impact of financial hardship on marital satisfaction.

Our results suggest that efforts to reduce the stress and strain of employees should also target their spouses. The findings demonstrated that a distressed wife is likely to generate a process of social undermining that will have an adverse effect on the husband, and then later, through the husband, on herself. It appears that if a distressed spouse is not part of the solution, he or she is likely to become a big part of the problem. Thus, what is needed are programs that train and counsel couples in developing skills for reducing negative interactions and enhancing their relationships

such as the one described by Markman, Renick, Floyd, and Stanley (1994). The primary objective of such programs is prevention and ongoing improved functioning, achieved by focusing on techniques designed to help couples manage negative affect and handle conflict situations constructively.

Lastly, whereas *crossover* is usually defined and studied as a transmission of stress, Westman (2001) suggested that the scope of its definition and investigation should be broadened to include the transmission of positive events or feelings as well. Future crossover studies, whether focusing on empathic or reciprocal contagious reactions, should incorporate the crossover processes of positive affect and related experiences. Empathy, for example, is not only the experience of another person's distress; it is also the experience of another person's positive emotions. Positive emotions are not merely the absence of stress, but are qualitatively different experiences (Fredrickson, 2001; Fredrickson & Joiner, 2002). Just as stressful demands or the strain from a bad day at work have a negative impact on the partner's well-being, the effects of positive events may also cross over to the partner and have a positive impact on his or her well-being and interactions with the spouse.

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Call for Nominations

The Publications and Communications (P&C) Board has opened nominations for the editorships of *Clinician's Research Digest*, *Emotion*, *JEP: Learning, Memory, and Cognition*, *Professional Psychology: Research and Practice*, and *Psychology, Public Policy, and Law* for the years 2007–2012. Elizabeth M. Altmaier, PhD; Richard J. Davidson, PhD, and Klaus R. Scherer, PhD; Thomas O. Nelson, PhD; Mary Beth Kenkel, PhD; and Jane Goodman-Delahunty, PhD, respectively, are the incumbent editors.

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