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Relationship of Dyadic Closeness With Work-Related Stress: A Daily Diary Study

We examined the association between work-related stress of both spouses and daily fluctuations in their affective states and dyadic closeness. Daily diary data from 169 Israeli dual-earner couples were analyzed using multilevel modeling. The findings indicate that work stress has no direct effect on dyadic closeness but rather is mediated by the spouses' negative mood. Evidence was found for spillover of stress from work to mood at home, as well as negative crossover among couples with higher marital quality, resulting in greater distance on stressful days. Such increased distance may reflect either a deleterious effect of work stress on marital relationships or a protective mechanism used by couples in times of stress.

In the past two decades, scholarly interest in the nexus between work and family has been steadily growing with the realization that job characteristics and work-family conflicts place many employees under stress, and that stress has a deleterious effect on employees, their spouses, and their families. The rise in women's employment, particularly among mothers, the increase in work hours and job instability, and the introduction of new technologies have augmented the level of stress affecting many employees (Perry-Jenkins, Repetti, & Crouter, 2000), with a resulting impact on couple relationships. The growing cross-national and cross-cultural research on work-related stress and its effect on individuals and their families attests to the universal significance attributed to work (Poelmans et al., 2003; Spector et al., 2004; Stier & Lewin-Epstein, 2003) and to the central role it plays in people's lives (Harpaz & Fu, 2002; Parboteeah & Cullen, 2003). It is within this framework that the present study investigates patterns of couple relationships associated with daily work stress.

Couples Under Stress: Research and Theory

For the past several decades, the study of families under stress has been directed at understanding the conditions under which families manage stressful events and transitions or the conditions under which they become disorganized. Researchers have also examined the effect of stressful situations on family subsystems, such as the marital unit. The majority of these studies have supported the proposition that stress has a deleterious effect on marital relationships (Karney & Bradbury, 1995). The leading theoretical models of family stress and coping, however, have not been particularly useful for studying the stress process in couples. It has been suggested that *interactional* patterns within couples should be examined to better understand what transpires between spouses, how they affect each other, and how the marital relationship is affected by such stressful events (Bodenmann, 1997; Karney & Bradbury; Lavee, 2004).

One approach to achieving a better understanding of what transpires within couples at times of stress is to examine repeated sequences of *emotional transmission* (Larson & Almeida, 1999).

Because stress is a form of emotion (Lazarus, 1991), and because partners in close relationships tend to express and communicate their emotional states both verbally and nonverbally (Kennedy-Moore & Watson, 1999), patterns of emotional transmission in couples may explain how the emotions of one partner influence the emotional and behavioral reactions of the other.

Parallel with the investigation of marital satisfaction, marital quality, and marital stability as long-term outcomes of stress in couples, a study of short-term outcomes can examine changes in the partners' physical and emotional closeness associated with the experience of daily stresses and strains. Although couples tend to reach a certain level of intimacy and closeness that characterizes their relationship, dyadic closeness can fluctuate in response to interpersonal and external events (Ben-Ari & Lavee, in press). In the present article, we refer to *marital quality* as a global evaluation of the way married people feel about their relationship (Glenn, 1990), and to *dyadic closeness* as a shorter term evaluation of the emotional and physical proximity experienced in the relationship (Hess, 2002).

A theoretical link between the partners' stress reactions and changes in dyadic closeness is found in the work of Kantor and Lehr (1975). Kantor and Lehr maintained that information processed by the family system is distance-regulation information: Family members continuously inform other members what constitutes proper or optimal distance in their relationships. The information is processed through acts, sequences of acts, and strategies (i.e., recurrent patterns of interaction sequences) that are meaningful only in the context of interdependent relationships: "[They] function simultaneously as a signal to others, a response to an antecedent signal, and a signal to the self. In other words, the social act is not an isolated event, but a relation taking place in a specific field of shared experience" (Kantor & Lehr, 1975, p. 12). Thus, *distance regulation* refers to the mechanism by which partners negotiate interpersonal proximity or distance in their daily experiences. Dyadic closeness (or distance) is the outcome of this process.

The Effect of Work Stress on Couple Relationships

One of the main sources of stress in the daily lives of couples relates to their experiences in the workplace. Job attributes such as work conditions and physical demands, long working hours, work overload, role ambiguity, and relations with coworkers or supervisors are all potential sources of stress. Studies on the consequences of work-related stress for employees and their families have consistently shown a connection between various sources of occupational stress and diminished psychological and physical well-being of employees. Chronic work stress, daily fluctuations in job demands, and work-to-family conflicts have been found to predict individuals' negative moods, psychological symptoms, and health complaints (Bolger, DeLongis, Kessler, & Wethington, 1989; Jones & Fletcher, 1996; Windle & Dumenci, 1997). Similar harmful effects of work-related stress on individuals' well-being have been identified in studies conducted worldwide (cf., Etzion & Westman, 2001; Kim, Cho, Lee, Marion, & Kim, 2005) and in cross-national research (Spector et al., 2004), suggesting that the effect of work stressors on psychological well-being and physical health is universal (Poelmans et al., 2003).

Substantial evidence has also accumulated pertaining to the effect of work stress on marital relationships. Much of this research was based on standard survey methods, either cross-sectional or longitudinal, and has shown that work-related stress is associated with a decline in marital adjustment and marital satisfaction (Frone, Yardley, & Markel, 1997; Perry-Jenkins et al., 2000). Short-term effects of work-related stress on marital interactions have also been found in research that employed a within-subjects repeated time sampling methodology. For example, high levels of work stress were found to predict increased withdrawal from dyadic interactions (Repetti, 1989, 1992; Roberts & Levenson, 2001; Schulz, Cowan, Pape-Cowan, & Brennan, 2004).

How is stress at work transferred to relationships at home? Within the body of knowledge pertaining to the emotional transmission of stress, two types of stress contagion have been identified: *Spillover*, a process in which stress in one domain (e.g., work) is experienced in another domain (e.g., home); and *crossover*, in which the stress experienced by one spouse leads to stresses experienced by the other (Bolger et al., 1989). There is consistent evidence of a spillover effect of work-related stress to mood at home (Jones & Fletcher, 1996; Windle & Dumenci, 1997), but the findings regarding

crossover are less conclusive. Some studies have shown that elevated stress or strain in one person results in an increase in the stress or strain of significant others (Larson & Gillman, 1999; Roberts & Levenson, 2001; Thompson & Bolger, 1999). Other studies, however, failed to detect crossover of job stressors between partners (Mauno & Kinnunen, 1999; Sears & Galambos, 1992). Westman and Vinokur (1998) suggested that the crossover process may involve two mechanisms: empathic reactions and an interaction process. *Empathic crossover* implies that stress is transmitted from one partner to another as a result of empathic reactions, that is, sharing another's feelings by placing oneself psychologically in that person's circumstances (Lazarus, 1991). *Interactional crossover* is explained by negative interactions, especially social undermining (Westman & Vinokur), directed against the partner.

Although work-related stress may be associated with diminished dyadic closeness, it is possible that this link is mediated by the partners' affective states (Perry-Jenkins et al., 2000). The *mediational model* maintains that work-related stress spills over into emotional distress, a more negative mood at home, and less energy. The resulting negative emotions lead to withdrawal, less approaching, and more avoiding marital behaviors (Barbee & Cunningham, 1995). We therefore expected that if both spillover and crossover effects were operative in the daily lives of couples, the link between a spouse's work stress and dyadic closeness would be mediated by the affective states of both spouses.

The links between work-related stress, partners' emotional states, and dyadic closeness may also be moderated by personality, marital, and contextual factors. The interpersonal context within which social interactions occur is an especially important determinant of the effect of stress, and the nature of the relationship, such as the quality of the marital relationship, can moderate the effect of spousal strain (DeLongis, Capreol, Holtzman, O'Brien, & Campbell, 2004). In their vulnerability-stress-adaptation model, Karney and Bradbury (1995) argued that the couple's adaptive process is shaped by the overall quality of the couple relationship. They also provided evidence for the long-term effect of the adaptive process on marital relationship. Following a comprehensive review of research on work and family in the 1990s, Perry-Jenkins et al. (2000) noted that marital quality may act

as a particularly important moderator. Consistent with this observation, in the current study, we assess the extent to which marital quality moderates the relations between work-related stress, the partners' affective states, and dyadic closeness. Marital quality may have a dual effect in these links. First, the crossover effect from one spouse's work-related stress to the other's emotional state is expected to be stronger in high-quality relationships because empathy is expected to be more pronounced in such dyads. Second, higher marital quality may buffer the deleterious effect of stress and negative mood on dyadic closeness, whereas negative interactional processes leading to increased distance are probably to be found more frequently in low-quality relationships.

Overview of the Present Research

Similar to findings reported in previous studies (Kraus, 2002; Westman, Etzion, & Danon, 2001), we expect work-related stress for Israelis to be associated with the emotional states of employees and their spouses at home and with decreased emotional and physical interpersonal closeness.

We employed a repeated time sampling approach (a daily diary) to study the sequences of associations between the study variables. This method permits the analysis of day-to-day variations within couples' experiences by charting daily fluctuations in emotional experiences (Larson & Almeida, 1999). More specifically, we asked whether the daily experiences of work stress were associated with a change in mood at home and with more or less dyadic closeness, and whether these associations differed in couples with higher and lower marital quality.

Because people in intimate relationships influence each other's cognitions, emotions, and behaviors, we adopted an approach suggested by Laurenceau and Bolger (2005) for the analysis of diary data in the study of marital and family processes. This analytic approach uses the dyad as the unit of analysis and allows researchers to estimate the effects that participants' predictor variables have both on their *own* and their *partners'* outcome variables.

Figure 1 presents our theoretical model of the links between work-related stress, emotional state, and dyadic closeness for both partners. We estimated the extent to which (a) partners' negative mood was related to both their own
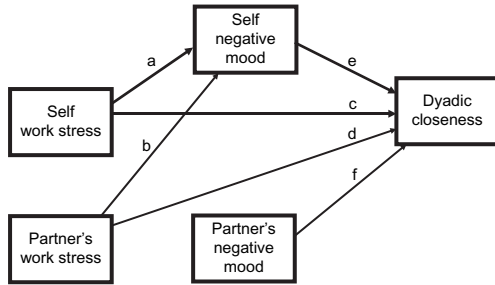
and their partner's work stress (Paths a and b); (b) partners' sense of dyadic closeness was related to both their own and their partner's work-related stress (Paths c and d); and (c) partners' sense of dyadic closeness was related to both their own and their partner's negative mood (Paths e and f). In this model, the mediation hypothesis is supported if an association is found between work stress and the spouses' negative mood (Paths a and b) and if the association between work stress and dyadic closeness (Paths c and d) is null or significantly reduced when the link between negative mood and closeness (Paths e and f) is concurrently estimated (Baron & Kenny, 1986).

In addition, we estimated the moderating effect of the couple's global evaluation of the relationship on each of these paths. Thus, the analysis enabled us to simultaneously estimate the *spillover* effect of individuals' work-related stress on their mood and sense of dyadic closeness; the *crossover* effect of individuals' work-related stress on their spouses' mood and sense of closeness; the *mediating role* of mood in the relation between work-related stress and dyadic closeness; and the *moderating effect* of marital quality on the relation between work stress and mood, as well as the relation between mood and dyadic closeness.

We predicted that: (a) one's mood at home is associated with both one's own work-related stress (*spillover effect*) and the other spouse's work-related stress (*crossover effect*), (b) the association between work-related stress and dyadic closeness is mediated by one's own and the spouse's negative mood, and (c) the lower the marital quality, the stronger the associations between work stress, mood, and dyadic closeness.

METHOD

Participants

The sample for the present study was part of a larger project on emotional transmission in Israeli couples. In the first stage of the project, a representative sample of 1,000 Israeli individuals was drawn by random computerized telephone dialing, and respondents were interviewed by telephone (see Lavee & Ben-Ari, 2003, for details). From the original sample, a random subsample of 300 couples was contacted and invited to participate in subsequent stages of the project, which involved completing self-report questionnaires in one session, followed by maintaining a week-long structured daily diary. Participants were included in the second stage only if both spouses agreed to take part in the research, and were paid $50 in vouchers for their participation in the study. The present study was based on data from 169 dual-earner Hebrew-speaking couples that provided complete data for all variables for both husbands and wives.

Partners had been living together for an average of 15.08 years ($SD = 9.56$). The number of children per couple ranged from 1 to 6, with an overall average of 2.29 ($SD = 1.25$) and an average of 2.01 children living at home ($SD = 1.22$). The age of the women ranged from 19 to 60, with an average age of 37.69 ($Mdn = 37.00$, $SD = 9.21$). The age of the men ranged from 21 to 66, with an average age of 40.68 ($Mdn = 40.00$, $SD = 9.76$). Average educational level was 14.78 years ($SD = 2.75$) for women and 14.44 years ($SD = 3.14$) for men. More than 91% of men and 64.6% of women were employed full time. Participants' occupations included managerial and professional occupations (15% of men and 10% of women); technical, sales, and administrative support occupations (17%, 32%); service occupations (24%, 42%); operators, fabricators, and laborers (34%, 12%); and military service (10%, 4%). Only 4% of men and 14% of women were working between 20 and 30 hours/week.

Analyses of the differences between the subsample ($N = 169$) and the original sample indicated that men in the subsample were slightly older than those in the original sample ($t = 1.96$, $p = .05$) and that couples in the subsample had been married for a slightly longer duration ($t = 2.07$, $p < .05$). No differences were found in any other background variables (i.e.,

women's age, men's and women's educational level, number of children, and family income).

Procedure

Trained graduate research assistants visited the couples in their homes and administered questionnaires to each partner separately. The questionnaires included measures of marital and family relationships, as well as background data. The research assistants remained in the home while the questionnaires were being completed to ensure that the spouses answered the questions independently and to provide instructions for completing the daily diaries. Participants were instructed to start keeping the daily diaries the next day and to continue for seven consecutive days. They were further instructed to record their diary entries at the end of the day. Participants were randomly contacted by telephone during the week to verify that the diaries were being completed as instructed and to answer questions. The research assistants paid a second visit to the participants' homes at the end of the week to collect the diaries.

Instruments

Measures included within-person diary measures (i.e., daily work stress, negative mood, and closeness) and a couple-level variable (marital quality). In addition, background demographic variables were measured, including individual variables (age, educational level, employment status) and couple variables (marital duration, number of children at home, and family income).

The daily diary. The daily diary contained four sections: daily hassles and uplifts, mood, dyadic closeness, and couple activities. Daily hassles and uplifts were measured by an adapted version of the Daily Hassles and Uplifts Scale (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982). The instrument consisted of a list of 12 items (e.g., children, parents, spouse, work, health) that can constitute sources of stress as well as uplift. Respondents were asked to check whether each item had been a source of stress or uplift for them. In the present study, we analyzed *work stress* data from the daily reports to examine whether the participants' jobs, including relationships with coworkers, superiors, or subordinates at work, constituted a source of stress for them (coded 1 if the *workday was experienced as stressful*, 0 if it was *not*).

Negative mood. Negative mood was measured by 10 items from the Positive and Negative Affective Schedule (Watson, Clark, & Tellegen, 1988). The original instrument consists of two 10-item scales (i.e., positive affect and negative affect) that were shown to be internally consistent and stable, with evidence of both convergent and discriminant validity. We used back-translation procedures (Brislin, Lonner, & Thorndike, 1973; Chapman & Carter, 1979) to verify language equivalence. In the present study, the scale included 10 adjectives that identified five positive (e.g., relaxed, happy, excited) and five negative feelings (e.g., frustrated, depressed, irritable). Respondents were asked to report, on a 4-point Likert-type scale (ranging from $1 = not at all$ to $4 = very much$), the extent to which they had experienced each feeling in recent hours (i.e., in the time preceding reporting). Negative mood was computed as a mean score of the items after reversing the coding of positive items. The reliability (α) of the scale ranged between .76 and .79 for men and between .78 and .81 for women across the seven diary days.

Daily closeness. The closeness scale was developed using information obtained from an earlier stage of the project. Qualitative in-depth interviews were conducted with 10 couples (20 interviewees), who were asked to describe their everyday experiences of closeness and distance. Analysis of the data showed that participants alluded to both *physical* and *emotional* closeness, and described closeness both as a *wish for* and as a *sense of* closeness. Consequently, the closeness scale in the current study was composed of four items in which respondents reported the extent to which they *wished* for physical and emotional closeness to their partners (e.g., "To what extent have you felt today a need for physical closeness to your spouse?"), and the extent to which physical and emotional closeness *actually* occurred on that day (e.g., "To what extent was there an emotional closeness between the two of you?"). Each item was measured on a Likert-type scale ranging from $1 = not at all$ to $5 = very much$. A factor analysis indicated that all items loaded on a single factor. Validity for the dyadic closeness scale was established by regressing the scale on daily reports of hassles and uplifts related to the participants' relationship with their spouses, parents, children, and friends. The findings indicated that daily closeness was positively

associated with spouse-related uplifts and nega-tively related to spouse-related hassles. For each day, a closeness score was calculated as a mean of the four item scores. The mean internal con-sistency reliability (α) of the scale across the seven diary days was .90 for both men and women.

Marital quality was measured before starting the daily diary with a modified version of the short ENRICH scale (Fowers & Olson, 1993). The original instrument is a 10-item Likert-type scale that assesses the respondents' perceived quality of their marriage across 10 dimensions of the relationship. Fowers and Olson reported good reliability estimates of the short ENRICH scale, as well as high concurrent and predictive validity. In the modified version (Lavee, 1995), items and response categories were adapted to decrease the response set. Instead of the original Likert scale, in which items are ranked between *fully agree* and *fully disagree*, each item is given two extreme response categories, and the respondent is asked to check a number on a scale ranging between these responses (e.g., When we have conflicts or disagreements—[1] *we always come to an agreement*… [7] *we seldom are able to bridge our differences*). Scales of this type (see, for example, Antonovsky, 1987) are less affected by social desirability than the typical Likert scale. Indeed, the modified ver-sion was found to correlate only modestly ($r = .16$) with a social desirability scale (Lavee, 1995). In the present study, the reliabilities (α) were .82 for husbands and .83 for wives. A paired *t*-test analysis revealed no significant dif-ference between husbands' and wives' evalua-tions of their marital quality ($t = .933$, $p = .32$) and demonstrated high interspouse correlation ($r = .65$, $p < .001$). Therefore, we computed a combined marital quality score for each couple by averaging the scores of the husband and wife.

Demographic variables. Individual demographic variables included *gender* (coded 1 for *men*, 0 for *women*), *age* in years, *educational level* in years of schooling, and *employment status*, coded as 3 for *full time* (40 hours or more per week), 2 for *part time* (20 – 40 hours/week), and 1 for *fewer than 20 hours per week*. Couple variables included number of *children living at home*, *marital duration* in years, and relative family income. *Relative income* was measured by indicating the average monthly family income in Israeli Shekels and asking respond-ents to indicate whether their combined family income was about average, a little above the average, much above the average, a little below average, or much below average.

RESULTS

Analysis Strategy

We analyzed the data in three stages. First, we conducted a descriptive analysis to chart varia-tions in daily experiences of work-related stress for husbands and wives, as well as husbands' and wives' average scores of work-related stress, negative mood, and dyadic closeness across the diary days. Second, we examined the extent to which the daily variables of interest (i.e., work stress, negative mood, and dyadic closeness) could be explained by any individual and couple background variables. Third, we estimated the model of associations between work stress, nega-tive mood, and dyadic closeness, and the moder-ating effect of marital quality.

Descriptive Statistics

Number of days with work stress. Participants varied in the extent of work-related stress they had experienced over the 7 days of the study. Eighty percent of the men and 71% of the women experienced work-related stress on at least 1 day. Among men, about 30% experienced work-related stress during the course of 3 or 4 days and about 25% on 1 or 2 days. A similar number of men experienced stress during most of the week (5 or 6 days). Among the women, about 32% experienced work-related stress on 1 or 2 days, and 18% reported experiencing stress dur-ing most of the week (5 or 6 days). Analysis of the frequencies of reported stress by day of the week indicated that both men and women were less likely to report work-related stress on Fridays and Saturdays (weekend days in Israel) than on weekdays, $F(6, 1,686) = 13.29$ for men and $F(6, 1,686) = 8.87$ for women. A multivariate analysis of variance with repeated measures showed that work-related stress was not ac-counted for by the day of reporting (i.e., the first, second, . . . seventh day of keeping the daily diary) for either men or women.

Husband and wife reports of work stress, mood, and closeness. Table 1 presents the average scores for husbands' and wives' daily reports of

Table 1. *Average Scores for Husbands' and Wives' Daily Work Stress, Negative Mood, and Dyadic Closeness (N = 169 couples)*

| Variable | Husbands | | Wives | | Husband-Wife | Interspouse |
	M	SD	M	SD	Paired *t*	*r*
Work stress	0.40	0.49	0.32	0.47	4.30**	.21**
Negative mood	1.06	0.54	1.10	0.57	−2.16*	.31**
Closeness	3.02	1.08	2.92	1.12	3.11**	.61**

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

work stress, negative mood, and dyadic closeness. On average, men reported a higher frequency of work-related stress and higher scores of dyadic closeness, whereas women reported higher negative mood throughout the seven diary days. The data in Table 1 also indicate a relatively high correlation between the spouses' reports of dyadic closeness ($r = .61$), and modest correlations between their levels of negative mood ($r = .31$) and work-related stress ($r = .21$).

Relations Between Work Stress, Negative Mood, and Dyadic Closeness

Analysis of the research model was conducted using the Hierarchical Linear Model 6 program (Raudenbush, Bryk, & Congdon, 2004) for analyzing repeated measures in couples. In this analytic approach, daily reports of work stress, mood, and dyadic closeness (Level 1) are nested within time-invariant individual and couple variables (i.e., background variables, marital quality) at Level 2. The program allows for the analysis of intercepts and slopes of the associations between Level 1 variables (i.e., within-couple relations between husbands' and wives' work stress and mood) across diary days, as well as interactions between Level 2 variables and Level 1 intercepts and slopes. This latter component of the analysis yields estimates of the effect of individual and couple variables on the associations between daily variables.

In a preliminary analysis, we assessed whether any of the Level 1 variables of interest (i.e., work stress, mood, and dyadic closeness) was associated with individual or couple background variables. We did so to make an informed decision as to whether such variables would need to be controlled for in further analyses.

To assess the effects of person and couple background variables on daily experiences of work stress, negative mood, and dyadic closeness, three models were estimated with similar Level 1 and Level 2 explanatory variables. The models were:

$$\text{Level 1(daily)}: Y_{it} = \pi_{0i} + \pi_1(X1)_{it} + e_{it} \quad (1)$$

$$\text{Level 2(background)}:$$
$$\pi_{0i} = \beta_{00} + \beta_{01}(H1)_i + \beta_{02}(H2)_i + \beta_{03}(H3)_i$$
$$+ \beta_{04}(W1)_i + \beta_{05}(W2)_i + \beta_{04}(W3)_i$$
$$+ \beta_{06}(F1)_i + \beta_{07}(F2)_i + \beta_{08}(F3)_i + r_{0i}$$
$$(2)$$

where *Y* represents daily reports of work stress, negative mood, and dyadic closeness for a spouse in couple *i* on day *t* ($t = 1, 2, \ldots 7$); and X1 is a respondent's workday, coded 1 for *days at work*, 0 for *not at work*. At Level 2, H1 through H3 and W1 through W3 are individual-level background variables (age, educational level, and work status) for husbands and wives; and F1 through F3 are family-level variables (relative income, marital duration, and number of children living at home). With the exception of workday, which was an ordered variable, we grand centered all explanatory variables so that coefficients were based on deviations from sample means.

The findings indicate that all outcome variables were associated with whether respondents were at work on that day. On working days, participants reported greater negative mood and less dyadic closeness. Additionally, respondents who were employed full time reported experiencing work-related stress more frequently than those who were employed part time. A subsequent analysis, however, showed that employment status had not moderated the slope of the relation between work stress and negative mood. No other background variable was significantly related to daily reports of negative mood and dyadic closeness. Therefore, we controlled only for workday in the remaining analyses.

The base model. To test whether negative mood mediated the relation between work stress and dyadic closeness, three models were estimated (see Baron & Kenny, 1986): (a) relation between the independent variable (work stress) and the

mediator (Paths a and b in Figure 1); (b) relation between the independent variable and the outcome variable of interest, dyadic closeness (Paths c and d); and (c) relations between the independent and mediator variables and the outcome variable (Paths c, d, e, and f). Thus, at Level 1 analysis, we examined whether participants' moods on each day were predicted by their own and their partners' work stress, and whether their perceived dyadic closeness was predicted by their own and their partners' work stress and mood. In addition, in Level 1 models, we included a dummy variable designating a respondent's workday.

We used a multilevel multivariate statistical model for matched pairs (Laurenceau & Bolger, 2005; Raudenbush, Brennan, & Barnett, 1995) to assess the prediction of mood ratings by self and partner's work-related stress, and the prediction of dyadic closeness by self and partner's work stress and mood over the 7-day diary period. Variants of the following Level 1 within-couple model were used:

$$
\begin{aligned}
M_{it} = (\text{husband})_{it} &\left[\pi_{\text{h}0i} + \pi_{\text{h}1i}(\text{SS})_{it} \right.\\
&+ \left.\pi_{\text{h}2i}(\text{PS})_{it}\right] + (\text{wife})_{it}\left[\pi_{\text{w}0i}\right.\\
&+ \left.\pi_{\text{w}1i}(\text{SS})_{it} + \pi_{\text{w}2i}(\text{PS})_{it}\right]\\
&+ \pi_{3i}(\text{WD})_{it} + e_{it} \qquad (3)
\end{aligned}
$$

where M_{it} is a rating of negative mood for a spouse in couple i on day t ($t = 1, 2, \ldots 7$ days); (husband)$_{it}$ is a dummy indicator that is 1 for *husbands* and 0 for *wives*; (wife)$_{it}$ is a dummy indicator that is 1 for *wives* and 0 for *husbands*; $\pi_{\text{h}0i}$ and $\pi_{\text{w}0i}$ are the intercepts for husbands and wives; (SS)$_{it}$ is a spouse's self-report of work stress on day t; $\pi_{\text{h}1i}$ and $\pi_{\text{w}1i}$ are the regression coefficients representing the relationship between work stress and ratings of negative mood for husbands and wives in couple i on day t; (PS)$_{it}$ is the partner's report of work stress on day t; $\pi_{\text{h}2i}$ and $\pi_{\text{w}2i}$ are the regression coefficients representing the relationship between the partner's work stress and negative mood for husbands and wives; (WD)$_{it}$ is a dummy indicator that is 1 for a respondent's *working day* and 0 for a *work-free day*; and e_{it} is a within-couple error component. Similar models were used with dyadic closeness as an outcome variable to assess the relationships between ratings of dyadic closeness and self and partner's work stress, and between dyadic closeness and self and partner's rating of work stress and mood.

At this stage of analysis, Level 2 was unconditional, that is, Level 1 was not modeled as a function of a couple-level variable. With the exception of working day, however, which served only as a control variable, we estimated both the fixed and random effects of the Level 1 explanatory variables by allowing random error estimates of these variables at Level 2. In such a model, a fixed effect of a variable is a regression coefficient representing the average effect across all groups (i.e., couples), and the random effect is an estimate of the variance of the intercepts and slopes that may be accounted for by the Level 2 variables.

Table 2 presents the findings of the multilevel model analysis for the three models. The findings in Model 1 show that negative mood over the diary days is predicted by one's own work stress ($B = .23$, $p < .01$ and $B = .22$, $p < .01$, for husband's and wife's work stress) but not by the partner's stress. This finding suggests that one's work stress spills over to mood at home, but no support is provided at this stage for a crossover effect. Analysis of Model 2 reveals that for both husbands' and wives', ratings of dyadic closeness are related to the wife's work-related stress: For wives, less closeness is associated with their own work stress ($B = -.17$. $p < .05$) and for husbands, it is related with their partner's work stress ($B = -.13$. $p < .05$). Analysis of Model 3, however, shows that when spouses' emotional states are considered, dyadic closeness is predicted by the mood of both spouses but not by work stress. For both spouses, ratings of dyadic closeness are negatively related to their own negative mood ($B = -.43$ and $B = -.59$ for husbands and wives) and to their partners' mood ($B = -.25$ and $B = -.21$ for husbands and wives). Taken together, these findings indicate that the relation between work-related stress and dyadic closeness is mediated by the partners' affective states: On days on which one experiences work-related stress, one's spouse reports a more negative mood at home, and the negative moods of both spouses are associated with less dyadic closeness.

Moderating effect of marital quality. The findings in Table 2 also reveal significant random effects for the intercepts and slopes, suggesting between-couples variations in the average levels of husbands' and wives' mood and sense of closeness, as well as between-couples variations in the associations between work stress, negative

Table 2. *Multilevel Models Regressing Dyadic Closeness on Husband and Wife Daily Work Stress and Mood: Base Model (*N = 169 *couples)*

	Model 1				Model 2				Model 3			
	Negative Mood				Dyadic Closeness				Dyadic Closeness			
	Fixed Effect		Random Effect		Fixed Effect		Random Effect		Fixed Effect		Random Effect	
Variable	B	SE	VC	χ^2	B	SE	VC	χ^2	B	SE	VC	χ^2
Husband intercept	1.84**	0.03	0.08	219.46**	3.28**	0.07	0.49	251.27**	3.04**	0.11	0.47	267.58**
Wife intercept	1.92**	0.04	0.12	242.81**	3.19**	0.07	0.47	262.31**	3.19**	0.11	0.51	268.97**
Work day	0.16**	0.03			−0.21**	0.05			−0.12*	0.04		
Husband's work stress	0.23**	0.04	0.14	201.58*	−0.13	0.07	0.18	176.41	−0.02	0.07	0.19	191.14*
Husband's partner's work stress	0.04	0.03	0.12	225.39**	−0.13*	0.06	0.13	191.17*	−0.15	0.08	0.09	157.72
Wife's work stress	0.22**	0.04	0.09	191.61*	−0.17*	0.08	0.20	172.30	−0.07	0.08	0.18	229.35**
Wife's partner's work stress	0.02	0.04	0.14	218.71**	−0.13	0.08	0.34	195.88*	−0.08	0.08	0.26	225.10**
Husband's negative mood									−0.43**	0.09	0.52	195.05*
Husband's partner's mood									−0.25**	0.07	0.25	189.08
Wife's negative mood									−0.59**	0.08	0.44	224.01**
Wife's partner's mood									−0.21**	0.08	0.26	219.52**

Note: VC = variance component.

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

mood, and closeness. To assess the extent to which marital quality moderates the links between work stress, negative mood, and dyadic closeness, we analyzed two multilevel models: (a) a regression of the husband's and wife's negative mood on both spouses' work-related stress and (b) a regression of the husband's and wife's ratings of dyadic closeness on both spouses' mood. The Level 1 models for mood and closeness are identical with those shown above (Equation 3). At Level 2, intercepts and slopes were modeled as a function of the couple's marital quality. Marital quality was grand centered so that coefficients were based on deviations from the sample mean. Thus, analysis of the combined two-level models provided an estimation of the main effect of the couple's marital quality on the spouses' ratings of negative mood and closeness, as well as the moderating effects (i.e., interactions) of the couple's relationship quality on the relations between work stress and mood and between mood and dyadic closeness.

Table 3 shows the results of the multilevel analysis predicting negative mood by both spouses' work-related stress. The findings show a negative relation between marital quality and both spouses' ratings of negative mood, indicating that, on average, husbands and wives with higher relationship quality reported more positive mood at home over the diary days. The findings also show that the mood of both husbands and wives is associated with their own work stress and with an interaction of marital quality and their partner's work stress. This interaction effect is depicted in Figure 2, showing that among couples with higher marital quality (black column), but not among couples with a lower level of marital quality (white column), the partner's work stress predicted a *more* negative mood in the actor. This pattern of effects suggests that a spillover from work stress to mood at home exists for partners of both high and low marital quality, but the crossover effect from one's work stress to one's partner's mood is moderated by the couple's global evaluation of marital quality.

Table 4 shows that the wives' sense of closeness over the diary days was associated with the couple's marital quality (B = .54, p < .01) but no similar effect was found for husbands (B = .19, *ns*). For both spouses, the findings show that ratings of closeness are associated with their own and their partners' negative mood, but

Table 3. *Multilevel Models Regressing Negative Mood on Work Stress:*
Moderating Effect of Marital Quality (N = 169 couples)

	Husbands				Wives			
	Fixed Effect		Random Effect		Fixed Effect		Random Effect	
Variable	*B*	*SE*	VC	χ^2	*B*	*SE*	VC	χ^2
Intercept	1.85**	0.03	0.07	217.31**	1.93**	0.04	0.11	230.94**
MQ	−0.13**	0.04			−0.16**	0.04		
Work stress	0.22**	0.04	0.14	186.55	0.21**	0.04	0.14	188.46
Partner's work stress	0.03	0.03	0.11	172.56	0.02	0.03	0.13	166.21
Work Stress × MQ	0.02	0.06			0.00	0.04		
Partner's Work Stress × MQ	0.09*	0.04			0.08*	0.04		

Note: MQ = marital quality; VC = variance component.
*p < .05. **p < .01.

these associations are not moderated by marital quality. In other words, one's sense of closeness is associated with both one's own and the partner's mood, and this pattern of associations does not differ with the level of marital quality.

DISCUSSION

As part of the increasing scholarly interest in the ramifications of work stress on employees and their families, the current research focused on *daily* experiences at the workplace and at home to examine the short-term effects of work-related stress on couple relationships. In addi-tion, we investigated the extent to which a global perception of relationship quality shapes the transmission of emotions between spouses. We found empirical support for our predictions that the association between work-related stress and dyadic closeness is mediated by spouses' emotional states and that work experiences spill over to one's mood at home. Evidence for a crossover of emotions between one partner's stress at work and the other's mood, however, was found only among couples with high-quality relationships.

The findings suggest that the two types of stress contagion—spillover and crossover—operate in different ways with regard to the

FIGURE 2. EMOTIONAL TRANSMISSION FROM ONE PARTNER'S WORK STRESS TO THE OTHER'S NEGATIVE MOOD
(CROSSOVER EFFECT) AMONG COUPLES WITH HIGH AND LOW LEVELS OF MARITAL QUALITY.

Table 4. *Multilevel Models Regressing Dyadic Closeness on Mood: Moderating Effect of Marital Quality (N = 169 couples)*

	Husbands				Wives			
	Fixed Effect		Random Effect		Fixed Effect		Random Effect	
Variable	B	SE	VC	χ^2	B	SE	VC	χ^2
Intercept	3.04**	0.09	0.43	121.28	3.13**	0.09	0.33	141.31
MQ	0.19	0.12			0.54**	0.11		
Negative mood	−0.44**	0.09	0.51	240.92**	−0.59**	0.08	0.46	218.63**
Partner's negative mood	−0.28**	0.07	0.23	196.39*	−0.23**	0.07	0.26	192.21*
Negative Mood × MQ	0.11	0.11			0.13	0.10		
Partner's Negative Mood × MQ	−0.10	0.09			0.01	0.10		

Note: MQ = marital quality; VC = variance component.

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

relations between work stress, partners' emotional states, and dyadic closeness. Spillover appears to be a stronger mechanism of emotional transmission than crossover in the relation between stress and negative mood, whereas both spillover and crossover mechanisms operate similarly in the links between the partners' emotional states and their perceptions of dyadic closeness. Thus, the study highlights the central role of both partners' emotional states in the link between stressful situations and dyadic closeness, and the significance of processes of emotional transmission in the couple's management of daily stress.

Perhaps, the most intriguing finding of the study relates to the effect of marital quality on the transmission of emotions, particularly on the crossover between one partner's stress and the other's emotional state. Specifically, the study provides evidence for a stronger crossover effect among couples characterized by a high-quality relationship, that is, relationship quality appears to enhance the processes of emotional transmission. This finding supports the notion that empathic reaction is a viable mechanism for emotional crossover (Westman & Vinokur, 1998): The carrying of emotions by the spouse reflects the support and caring performed within couples. Previous studies have resulted in inconclusive findings about the crossover effect in couples. The current study suggests that a crossover effect may be contingent upon the quality of the relationship, with people in high-quality relationships more attuned to their spouses' emotional states and affected by them to a greater extent. This result may also reflect the fact that couples

with higher relationship quality simply have more emotional room for channeling the stress of both partners.

Overall, marital quality appears to have a dual effect on the spouses' negative mood at home: On one hand, couples with higher marital quality generally report less negative mood throughout the week; on the other hand, they are more vulnerable to the transmission of negative emotions from one spouse's work stress to the other's. Because negative crossover is associated with higher levels of marital quality, and because negative moods of both spouses contribute to increased dyadic distance, couples in happy marriages may experience greater dyadic distance on days that either one or both spouses experience stress at work. This process can lead to two alternative outcomes. First, high-quality marriages may be more highly susceptible to the harmful effect of daily stresses because the partners are more attuned to each other's stresses. Over time, such couples may experience greater deterioration of their relationship than partners in lower quality relationships. This expected outcome reflects the commonly held notion that stress has a deleterious effect on the marital relationship and suggests that stress ultimately has a greater negative effect on couples in happy marriages.

An alternative possible outcome is based on the notion that increased dyadic distance in times of stress is not necessarily an expression of relationship deterioration but rather a distance-regulation strategy aimed at protecting the relationship. From this point of view, increased distance on stressful days does not place couple relationships at a risk. Rather, it may be an

expression of a greater sense of sharing and intimacy among partners. The increased distance in response to negative mood serves to protect the relationship from deteriorating as a result of stressful occurrences. This observation corroborates Repetti's (1994) notion of *relationship-oriented coping*, whereby couples attempt to restrict the effect of negative experiences by maintaining greater interpersonal distance.

Methodological Considerations and Limitations

Several methodological considerations and limitations should be noted in evaluating the findings of this study. First, although they are participants' self-reports, daily diary data are believed to provide more reliable and valid information about daily stresses and subsequent marital interactions than traditional measures of stress and marital outcomes because of the shorter time interval between the experiences and their reporting (Tennen, Affleck, Armeli, & Carney, 2000). This approach also allows conceptualizations and operationalizations of stress spillover that attenuate various types of measurement errors (Grzywacz, Almeida, & McDonald, 2002). Second, the data in the current study are based on a global measure of work stress rather than on specific work conditions or job stressors. This measure may be a limitation insofar as we do not know whether respondents reported a stressful day at work because of objective job stressors such as work conditions or because of subjective evaluations of the stressfulness of their workday (Perry-Jenkins et al., 2000). We were not concerned, however, with *what* makes an experience stressful but with the extent to which daily events were experienced as such. In fact, there is evidence that it is how the actors *perceive* the stressful event rather than the event itself (i.e., the specific work-related stressor) that determines whether such experiences prove to be harmful (Eckenrode & Gore, 1990). Research has shown that single-item measures of work satisfaction are just as valid as multiple-item scales (Wanous, Reichers, & Hudy, 1997) and that multiple-item scales do not outperform single-item scales (Gardner, Cummings, Dunham, & Pierce, 1998).

Finally, because the current study was carried out among Israeli couples, the significance of the findings for other countries must be considered. In many respects, family patterns in Israel resemble those in other industrialized countries (Lavee & Katz, 2003), and there is a profound similarity between job-related stressors reported in the United States and in Israel (Stier & Lewin-Epstein, 2003). Indeed, the findings of the current study corroborate, for the most part, those reported in the literature, namely that work-related stress predicts employees' and their partners' mood at home (Marco & Suls, 1993) and affects couple relationship (Repetti, 1989). It may be assumed therefore that findings of the current study, including patterns of distance regulation associated with work stress and the way in which they differ for couples with high and low marital quality, are relevant to understanding family processes in other western countries. Further research is needed, however, to validate these findings.

Conclusions and Implications

The present study contributes to the body of knowledge on couples under stress by highlighting the significance of emotional transmission in the process of stress management in the daily lives of couples. The spillover of stress from work to home and the crossover of emotions from one spouse to the other indicate that the effect of work stress reaches beyond individual workers to affect families. The innovative nature of the current study is manifested in the utilization of an outcome measure—dyadic closeness—that has not been previously studied in the context of family stress research. In some respects, this measure provides a bridge between chronic stress studies (cross-sectional and longitudinal), which focus on marital cohesion, satisfaction, or adjustment, and time-sampling, daily diary approaches used to study repeated sequences of dyadic interactions. The present focus on dyadic closeness was guided by theoretical formulations and empirical studies of distance regulation in general (Kantor & Lehr, 1975) and in times of stress in particular (Barbee, Rowatt, & Cunningham, 1998; Pistole, 1994). Moreover, the study suggests that empathic reaction may serve as a central mechanism of emotional crossover, especially among partners in happy marriages. As a consequence, couples in happy marriages experience greater dyadic distance in times of stress. This observation may be a sign of relationship deterioration, but it may also be interpreted as a protective mechanism of a healthy relationship.

Several lines of future research may be derived from the present study. First, future research

should examine the long-term effects of negative emotional crossover and increased distance, especially among high-quality relationships. In particular, research should be directed to examining marriage quality over time: What happens to empathy and emotional closeness in high-quality marriages over months or even years of exposure to stressful work conditions? Second, although work stress has received ample scholarly attention, it would be useful to examine processes of emotional transmission with regard to other sources of daily stress from both outside and inside families (e.g., health concerns, role strains). Third, although we provided some empirical support for the moderating effect of marital quality, the examination of the moderating effects of additional personality, couple, and contextual variables may be needed to better understand dyadic processes under stress.

NOTE

REFERENCES

Antonovsky, A. (1987). *Unraveling the mystery of health*. San-Francisco: Jossey-Bass.

Barbee, A. P., & Cunningham, M. R. (1995). An experimental approach to social support communications: Interactive coping in close relationships. *Communication Yearbook*, *18*, 381 – 413.

Barbee, A. P., Rowatt, T. L., & Cunningham, M. R. (1998). When a friend is in need: Feelings about seeking, giving, and receiving social support. In P. A. Andersen & L. K. Guerrero (Eds.), *Handbook of communication and emotion: Research, theory, applications, and contexts* (pp. 281 – 301.). San Diego, CA: Academic Press.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173 – 1182.

Ben-Ari, A., & Lavee, Y. (2007). Dyadic closeness in marriage: From the inside story to a conceptual model. *Journal of Social and Personal Relationships*, *24*, 627 – 644.

Bodenmann, G. (1997). Dyadic coping: A systemic-transactional view of stress and coping among couples: Theory and empirical findings. *European Review of Applied Psychology*, *47*, 137 – 141.

Bolger, N., DeLongis, A., Kessler, R. C., & Wethington, E. (1989). The contagion of stress across multiple roles. *Journal of Marriage and the Family*, *51*, 175 – 183.

Brislin, R. W., Lonner, W. J., & Thorndike, R. M. (1973). *Cross-cultural research methods*. New York: Wiley.

Chapman, D. W., & Carter, J. F. (1979). Translation procedures for the cross-cultural use of measurement instruments. *Educational Evaluation and Policy Analysis*, *1*, 71 – 76.

DeLongis, A., Coyne, J. C., Dakof, G., Folkman, S., & Lazarus, R. S. (1982). The relationship of hassles, uplifts, and major life events to health status. *Health Psychology*, *1*, 119 – 136.

DeLongis, A., Capreol, M., Holtzman, S., O'Brien, T., & Campbell, J. (2004). Social support and social strain among husbands and wives: A multilevel analysis. *Journal of Family Psychology*, *18*, 470 – 479.

Eckenrode, J. & Gore, S. (Eds.), (1990). *Stress between work and family*. New York: Plenum.

Etzion, D., & Westman, W. (2001). Job stress, vacation, and the crossover of strain between spouses: Stopping the vicious cycle. *Man and Work*, *11*, 118 – 126.

Fowers, B. J., & Olson, D. H. (1993). ENRICH marital satisfaction scale: A brief research and clinical tool. *Journal of Family Psychology*, *7*, 176 – 185.

Frone, R. F., Yardley, J. K., & Markel, K. S. (1997). Developing and testing an integrative model of the work-family interface. *Journal of Vocational Behavior*, *50*, 145 – 167.

Gardner, D. G., Cummings, L. L., Dunham, R. B., & Pierce, J. L. (1998). Single-item versus multiple-item scales: An empirical comparison. *Educational and Psychological Measurement*, *58*, 898 – 915.

Glenn, N. D. (1990). Quantitative research on marital quality in the 1980s: A critical review. *Journal of Marriage and the Family*, *52*, 818 – 831.

Grzywacz, J. G., Almeida, D. M., & McDonald, D. A. (2002). Work-family spillover and daily reports of work and family stress in the adult labor force. *Family Relations*, *51*, 28 – 36.

Harpaz, I., & Fu, X. (2002). The structure of the meaning of work: A relative stability amidst change. *Human Relations*, *55*, 639 – 667.

Hess, J. A. (2002). Distance regulation in personal relationships: The development of a conceptual model and a test of representational validity. *Journal of Social and Personal Relationships*, *19*, 663 – 683.

Jones, E., & Fletcher, B. (1996). Taking work home: A study of daily fluctuations in work stressors,

effects on mood and impact on marital partners. *Journal of Occupational and Organizational Psychology*, *69*, 89 – 106.

Kantor, D., & Lehr, W. (1975). *Inside the family*. San Francisco: Jossey-Bass.

Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, method, and research. *Psychological Bulletin*, *118*, 3 – 34.

Kennedy-Moore, E., & Watson, J. C. (1999). *Expressing emotion: Myths, realities, and therapeutic strategies*. New York: Guilford Press.

Kim, G. S., Cho, W. J., Lee, C. Y., Marion, L. N., & Kim, M. J. (2005). The relationship of work stress and family stress to the self-rated health of women employed in the industrial sector in Korea. *Public Health Nursing*, *22*, 389 – 397.

Kraus, V. (2002). *Israeli women in the labour force*. Westport, CT: Praeger.

Larson, R. W., & Almeida, D. M. (1999). Emotional transmission in the daily lives of families: A new paradigm for studying family process. *Journal of Marriage and the Family*, *61*, 5 – 20.

Larson, R. W., & Gillman, S. (1999). Transmission of emotions in the daily interactions of single-mother families. *Journal of Marriage and the Family*, *61*, 21 – 37.

Laurenceau, J. P., & Bolger, N. (2005). Using diary methods to study marital and family processes. *Journal of Family Psychology*, *19*, 86 – 97.

Lavee, Y. (1995). *The Israeli marital quality scale: Clinical and research applications* [in Hebrew]. Unpublished manuscript, The Center for Research and Study of the Family, University of Haifa, Israel.

Lavee, Y. (2004). Couples under stress: Studying change in dyadic closeness-distance. In V. Bengtson, A. Acock, K. Allen, P. Dilworth-Anderson, & D. Klein (Eds.), *Sourcebook of family theories and methods* (pp. 281 – 283). Newbury Park, CA: Sage.

Lavee, Y., & Ben-Ari, A. (2003). Daily stresses and uplifts during times of political tension: Jews and Arabs in Israel. *American Journal of Orthopsychiatry*, *73*, 65 – 73.

Lavee, Y., & Katz, R. (2003). The family in Israel: Between tradition and modernity. *Marriage & Family Review*, *34*, 193 – 217.

Lazarus, R. S. (1991). *Emotion & adaptation*. New York: Oxford.

Marco, C. A., & Suls, J. (1993). Daily stress and the trajectory of mood: Spillover, response assimilation, contrast, and chronic negative affectivity. *Journal of Personality and Social Psychology*, *64*, 1053 – 1063.

Mauno, S., & Kinnunen, U. (1999). The effects of job stressors on marital satisfaction in Finnish dual-earner couples. *Journal of Organizational Behavior*, *20*, 879 – 895.

Parboteeah, K. P., & Cullen, J. B. (2003). Social institutions and work centrality: Explorations beyond national culture. *Organization Science*, *14*, 137 – 148.

Perry-Jenkins, M., Repetti, R. L., & Crouter, A. C. (2000). Work and family in the 1990s. *Journal of Marriage and the Family*, *62*, 981 – 998.

Pistole, M. C. (1994). Adult attachment styles: Some thoughts on closeness-distance struggles. *Family Process*, *33*, 147 – 159.

Poelmans, S., Allen, T. D., Spector, P. E., O'Driscoll, M., Cooper, C. L., & Sanchez, J. I. (2003). A cross-national comparative study of work/family demands and resources. *International Journal of Cross Cultural Management*, *3*, 275 – 288.

Raudenbush, S. W., Brennan, R. T., & Barnett, R. C. (1995). A multivariate hierarchical model for studying psychological change within married couples. *Journal of Family Psychology*, *9*, 161 – 174.

Raudenbush, S., Bryk, A., & Congdon, R. (2004). *HLM6: Hierarchical linear and nonlinear modeling*. Lincolnwood, IL: Scientific Software International.

Repetti, R. L. (1989). Effects of daily workload on subsequent behavior during marital interaction: The roles of social withdrawal and spouse support. *Journal of Personality and Social Psychology*, *57*, 651 – 659.

Repetti, R. L. (1992). Social withdrawal as a short-term coping response to daily stressors. In H. S. Friedman (Ed.), *Hostility, coping, & health* (pp. 151 – 165). Washington, DC: American Psychological Association.

Repetti, R. L. (1994). Short-term and long-term processes linking job stressors to father-child interaction. *Social Development*, *3*, 1 – 15.

Roberts, N. A., & Levenson, R. W. (2001). The remains of the workday: Impact of job stress and exhaustion on marital interaction in police couples. *Journal of Marriage and Family*, *63*, 1052 – 1067.

Schulz, M. S., Cowan, P. A., Pape-Cowan, C., & Brennan, R. T. (2004). Coming home upset: Gender, marital satisfaction, and the daily spillover of workday experience into couple interactions. *Journal of Family Psychology*, *18*, 250 – 263.

Sears, H. A., & Galambos, N. L. (1992). Women's work conditions and marital adjustment in two-earner couples: A structural model. *Journal of Marriage and the Family*, *54*, 789 – 797.

Spector, P. E., Cooper, C. L., Poelmans, S., Allen, T. D., O'Driscoll, M., Sanchez, J. I., Siu, O. L.,

Dewe, P., Hart, P., & Lu, L. (2004). A cross-national comparative study of work-family stressors, working hours, and well-being: China and Latin America versus the Anglo world. *Personnel Psychology*, *57*, 119 – 142.

Stier, H., & Lewin-Epstein, N. (2003). Time to work: A comparative analysis of preferences for working hours. *Work and Occupations*, *30*, 302 – 326.

Tennen, H., Affleck, G., Armeli, S., & Carney, M. A. (2000). A daily process approach to coping: Linking theory, research, and practice. *American Psychologist*, *55*, 626 – 636.

Thompson, A., & Bolger, N. (1999). Emotional transmission in couples under stress. *Journal of Marriage and the Family*, *61*, 38 – 48.

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology*, *82*, 247 – 252.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063 – 1070.

Westman, M., Etzion, D., & Danon, E. (2001). Job insecurity and crossover of burnout in married couples. *Journal of Organizational Behavior*, *22*, 467 – 481.

Westman, M., & Vinokur, A. D. (1998). Unraveling the relationship of distress levels within couples: Common stressors, empathic reactions, or crossover via social interaction? *Human Relations*, *5*, 137 – 156.

Windle, M., & Dumenci, L. (1997). Parental and occupational stress as predictors of depressive symptoms among dual-income couples: A multilevel modeling approach. *Journal of Marriage and the Family*, *59*, 625 – 634.