Work Time, Work Interference With Family, and Psychological Distress

Virginia Smith Major, Katherine J. Klein, and Mark G. Ehrhart
University of Maryland

Despite public concern about time pressures experienced by working parents, few scholars have explicitly examined the effects of work time on work–family conflict. The authors developed and tested a model of the predictors of work time and the relationships between time, work interference with family (WIF), and psychological distress. Survey data came from 513 employees in a Fortune 500 company. As predicted, several work and family characteristics were significantly related to work time. In addition, work time was significantly, positively related to WIF, which in turn was significantly, negatively related to distress. The results suggest that work time fully or partially mediates the effects of many work and family characteristics on WIF.

For decades, American workers have appeared content with the length of their work weeks. Since World War II, labor unions in the United States have overwhelmingly chosen to fight for higher wages rather than less work time (Schor, 1991). In the last few years, however, there are growing signs that many Americans are once again yearning for shorter work hours. Articles in the popular media chronicle the difficulties faced by employees who work increasing hours (e.g., Elliott, 2000; Ewell, 1999; Griffith, 2000; Walsh, 2000). Although researchers disagree over whether and for whom work hours are actually increasing (Jacobs & Gerson, 1998; Robinson & Godbey, 1997; Rones, Ilg, & Gardner, 1997), by most accounts, people report feeling more rushed today than they did 30 years ago (Hochschild, 1997; Jacobs & Gerson, 1998; Robinson & Godbey, 1997), and over 60% of American workers report wanting to work fewer hours (Bond, Galinsky, & Swanberg, 1998).

A prominent theme within both the academic and the popular press is that long work hours may have negative consequences for families and for workers who struggle to balance the demands of work and home life (e.g., Evenson, 1997; Hochschild, 1997; Hubbard, 1997; Shapiro, 1997). Work–family researchers have long assumed that time committed to work contributes to conflict between employees' work and nonwork lives (Duxbury, Higgins, & Lee, 1994; Gutek, Searle, & Klepa, 1991). For example, a commonly measured form of work–family conflict is *time-based conflict*, defined as conflict that occurs when the amount of time devoted to one role (e.g., worker) makes it difficult to fulfill the requirements of another role (e.g., father; Carlson, Kacmar, & Williams, 2000; Greenhaus, Parasuraman, Granrose, Rabinowitz,

& Beutell, 1989). Similarly, the *rational model* of work–family conflict holds that conflict increases in proportion to the amount of time spent in the work and family domains (Duxbury & Higgins, 1994; Duxbury et al., 1994; Gutek et al., 1991). Yet despite the common assumption that time plays an important role in work–family conflict, surprisingly few scholars have actually measured work time and its effect on the relations between work and family domains. Well over 130 quantitative studies on work–family conflict have been published in the last 15 years, but we were able to identify only 10 that included work time as a major study variable[1] (Aryee, 1992; Fox & Dwyer, 1999; Frone, Yardley, & Markel, 1997; Greenhaus, Bedeian, & Mossholder, 1987; Gutek et al., 1991; Izraeli, 1993; O'Driscoll, Ilgen, & Hildreth, 1992; Parasuraman, Pruohit, Godshalk, & Beutell, 1996; Wallace, 1997, 1999).

These studies suggest that work time is significantly, positively related to work interference with family (WIF) or general work–family conflict (Aryee, 1992; Frone et al., 1997; Greenhaus et al., 1987; Gutek et al., 1991; O'Driscoll et al., 1992; Parasuraman et al., 1996; Wallace, 1997). However, we know little about why people spend more or less time working. Only 3 of the 10 studies (Frone et al., 1997; Parasuraman et al., 1996; Wallace, 1997) examined predictors of time, with only minor overlap among the study variables. Further, it is not clear whether work time has a simple, direct effect on work–family conflict (as concluded by Wallace, 1997) or whether time mediates the relationships between conflict and other work and family variables (as indicated by Frone et al., 1997, and Parasuraman et al., 1996). Moreover, we know little about whether there are important moderators of the relationship between time and conflict; gender is the only moderator that has been studied, with inconsistent findings (Gutek et al., 1991; Wallace, 1999). Finally, only two of the above studies assessed the relationship between work time and well-being or stress. Parasura-

Virginia Smith Major, Katherine J. Klein, and Mark G. Ehrhart, Department of Psychology, University of Maryland.

Mark G. Ehrhart is now at the Department of Psychology, San Diego State University.

Correspondence concerning this article should be addressed to Virginia Smith Major, 47 Clyde Road, Manchester, Connecticut 06040. E-mail: vsmith886@cs.com

[1] We conducted a simple literature search in the databases PsycINFO and Sociological Abstracts for empirical articles published in 1985–2000. We used the keywords *work–family and conflict* and *work and family and interference*. We identified 132 articles; however, as many of the articles cited in the present article did not appear in the search results, we believe this number is a conservative estimate of the work–family articles actually published.

man et al. (1996) concluded that WIF mediated the effect of time on life stress, whereas O'Driscoll et al. (1992) found that WIF mediated the relationship between time and off-job satisfaction (which in turn was related to psychological strain).

There thus remains much to learn about the role of work time in work–family conflict. Building on past research, we proposed and tested an integrative model depicting relationships among work and family characteristics, work time, WIF, and psychological distress.

The Role of Work Time in Work Interference With Family

Several work-related and family-related characteristics may influence the number of hours an individual works. First, we hypothesize that *career identity salience* is positively related to work hours (Hypothesis 1). Career identity salience, often called job involvement, is defined as the importance and centrality of a role for an individual's self-concept (Frone & Rice, 1987; Lobel, 1991). Several researchers have found that career identity salience is positively related to work–family conflict (e.g., Adams, King, & King, 1996; Beutell & Wittig-Berman, 1999) and have theorized that it leads to conflict by increasing time committed to the work role (Frone & Rice, 1987; Greenhaus & Beutell, 1985). Parasuraman et al. (1996) did not find a significant relationship between job involvement and work time among a sample of entrepreneurs. However, Wallace (1997) did find that work commitment was significantly related to lawyers' hours of work. Further, Lobel and St. Clair (1992) found that career identity salience was positively related to work effort.

Second, we hypothesize that *work role overload* is positively related to work hours (Hypothesis 2). Work role overload occurs when the magnitude of work overwhelms an individual's perceived ability to cope. Overload may increase time invested in work as an individual struggles to manage the duties and responsibilities of his or her job, and, indeed, it has been found to be significantly positively related to work time (Frone et al., 1997; Parasuraman et al., 1996; Wallace, 1997).

Third, we propose that *organizational norms about time spent at work* are related to work time (Hypothesis 3). To the extent that employees perceive that they will garner rewards for time spent working and/or believe that their supervisors expect them to work long hours, they will be likely to spend long hours at work. Although no quantitative research has examined the relationship between organizational norms and work time, some qualitative research suggests that cultural norms for long work hours may inhibit employees' usage of work–family programs (Fried, 1998; Hochschild, 1997; Perlow, 1995). In addition, Thompson, Beauvais, and Lyness (1999) found a significant correlation between organizational time expectations and employee work hours.

As suggested by spillover theory (Zedeck & Mosier, 1990), we propose three family characteristics that might be associated with time. First, the greater individuals' *nonjob responsibilities* are (e.g., house cleaning, child care, elder care), the less time they are likely to spend at work (Hypothesis 4). Frone et al. (1997) concluded that spouse assistance with nonjob duties was negatively related to family time. This suggests that individuals who have help with nonwork responsibilities may spend less time on family duties and may have more time available for work. The relation-

ship between nonjob responsibilities and time at work, however, has not yet been examined.

Second, we hypothesize that *parental demands* are negatively related to work time (Hypothesis 5). Demands are expected to be greatest for individuals with infants or young children. Previous research has concluded that parental demands are related to increased absenteeism and tardiness (see Matsui, Ohsawa, & Onglatco, 1995, for a brief review), increased stress (Brett, Stroh, & Reilly, 1992), and time-based conflict (Carlson, 1999). Further, Wallace (1997) found that having preschool-age children was negatively related to the number of hours worked by lawyers.

Finally, we hypothesize that *perceived financial need* may be positively related to work time (Hypothesis 6). The relationship between work time and pay is most obvious for hourly employees. However, Jenkins, Mitra, Gupta, and Shaw (1998) found that financial incentives were positively related to "performance quantity"; when employees were paid more, they worked more. In addition, research indicates that across all occupations—including salaried positions such as managerial jobs—longer hours at work are associated with higher earnings (Cherry, 1998; Hecker, 1998).

Work time may play one of several roles in time-based WIF. First, work time and the family- and work-related variables may be directly related to WIF. This is the model tested in most studies of work time and work–family conflict, in which time is one of several direct predictors of conflict. Second, work time may partially mediate the effects of work and family characteristics on WIF (Frone et al. 1997; Parasuraman et al., 1996; Wallace, 1997). This model suggests that the six work and family characteristics may have a direct influence on WIF but also may be related to WIF through their role in shaping work time. For example, a woman who is high in career identity salience may experience WIF in part because of the long hours she works but also because her career commitment makes her preoccupied with work regardless of the hours she works. Finally, work time may fully mediate the relationship between the work and family variables described above and WIF. So, for example, perceived financial needs may be associated with time-based WIF only through the time someone spends working to achieve a desired income. Given the centrality of time to the work- and family-related variables in our model and the time-based nature of our WIF construct, we hypothesize, consistent with the third model above, that work time is positively related to time-based WIF and mediates the relationships between WIF and the six work and family variables (Hypothesis 7).

Long work hours may not lead to WIF for everyone, however. We propose that *schedule flexibility* and *nonjob responsibilities* moderate the relationship between work time and conflict (Hypotheses 8 and 9). *Schedule flexibility* refers to the ability to take time off from work during "prime working hours" (between 8 AM and 5 PM) to take care of personal or family responsibilities (Berman, 1997). Schedule flexibility may lessen the degree to which work time interferes with family life. *Nonjob responsibilities* refers to the degree of responsibility an individual bears for family care or housework. Individuals who bear a greater burden may experience more conflict due to long work hours than do people who either have significant assistance or simply have fewer responsibilities. To our knowledge, no studies have investigated the moderating effects of these variables.

Finally, we hypothesize that WIF is positively related to *psychological distress* and that WIF mediates the relationship between

work time and distress (Hypothesis 10). Work–family researchers have found that work–family conflict is positively related to depression and somatic complaints (e.g., Frone, Russell, & Barnes, 1996; Thomas & Ganster, 1995). Further, WIF has been found to mediate the relationship between work time and life stress (Parasuraman et al., 1996) as well as off-job satisfaction (O'Driscoll et al., 1992).

Method

Sample and Procedure

The study participants were employees of a Fortune 500 company. Employees were randomly selected from two units of the company, with the exception of union personnel and employees on international assignment. Of the 1,222 surveys distributed, 513 usable surveys were returned, yielding a response rate of 42%. The sample was 62.1% male, with an average age of 44.31 years ($SD = 9.17$). The sample was predominantly Caucasian (84.3%). Just over half (55.2%) of the sample had children living at home. Approximately 60% of the sample had a personal income over $60,000. The respondents fell into five job categories: 17.5% were managers, 50.8% were exempt technical (e.g., engineers), 18.7% were exempt other (e.g., human resources staff), 5.2% were nonexempt manufacturing, and 7.7% were nonexempt other (e.g., clerical staff). Hours worked per week ranged from 28.5 to 82.5 (including time spent working at additional jobs). The average number of hours worked per week was 47.14 ($SD = 7.29$).

Measures

Except where otherwise noted, each measure described below used a response scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Further, except where noted, we created all scales by averaging the items for each scale. Means, standard deviations, zero-order correlations, and internal consistency reliability estimates for the main variables are provided in Table 1. We used Lobel and St. Clair's (1992) 5-item scale to measure career identity salience. A sample item is "The major satisfactions in my life come from my job." Higher scores indicate greater career identity salience. Work role overload was measured with a 7-item scale adapted from Caplan (1971). Respondents indicated the response that best described the degree of overload they experienced on the job, with responses ranging from (1) *very little* to (5) *very great*. Examples of items include "The quantity of work I am expected to do . . ." (e.g., "is very little") and "The time I have to think and contemplate . . ." (e.g., "is very great"). To measure organizational norms for time spent at work, we developed a 10-item scale. Sample items include "If I work very long hours, I will probably receive a bonus or raise" and "My supervisor always expects me to 'go the extra mile,' even if that means staying late at work." A factor analysis yielded two clearly differentiated factors for this scale: Organizational Rewards (5 items; $\alpha = .86$) and Organizational Expectations (3 items; $\alpha = .67$). We included both factors as separate variables in the analyses.

To measure perceived financial needs, we developed a 7-item scale designed to assess how dependent the respondent and his or her family were on his or her personal income. Items included "If I earned any less money, I would have difficulty paying my bills." We measured nonjob responsibilities with a 22-item scale adapted from Broman (1988), asking participants to indicate who in their household is usually responsible for doing a particular task. Responses were coded so that higher scores indicated greater personal responsibility for tasks (e.g., 1 = *not applicable* and 5 = *mostly you*). We constructed an index of parental demands using Bedeian, Burke, and Moffett's (1988) coding scheme: (1) *no children*; (2) *one or more children older than 22 but none under 22*; (3) *one or more children between 19 and 22 but none under the age of 19*; (4) *one or more*

Table 1
Means, Standard Deviations, Reliability Estimates, and Intercorrelations for Major Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	M	SD
1. Career identity salience	(.75)												0.00	0.70
2. Work overload	-.09	(.88)											3.63	0.70
3. Organizational rewards	.05	-.07	(.86)										2.51	0.85
4. Organizational expectations	-.01	.40**	.08	(.67)									3.13	0.80
5. Nonjob responsibilities	-.16**	.03	-.10*	-.04	(.79)								3.33	0.54
6. Parental demands	-.25**	.14**	.08	.03	.17**								3.68	0.83
7. Perceived financial need	-.05	.02	-.11*	.05	.23**	.16**	(.84)						2.73	1.67
8. Work time	.14**	.28**	-.10*	.27**	-.13**	-.05	.18**						47.14	7.29
9. Work interference with family	-.08	.50**	.05	.44**	.02	.07	.03	.33**	(.94)				3.13	0.87
10. Depression	-.07	.23**	-.07	.22**	.19**	-.01	.19**	.10*	.38**	(.91)			1.60	0.49
11. Somatic complaints	-.11*	.21**	-.02	.16**	.18**	.05	.22**	-.02	.26**	.44**	(.87)		1.97	0.55
12. Schedule flexibility	.06	-.40**	.13**	-.28**	-.08	-.01	-.08	-.25**	-.48**	-.25**	-.22**	(.96)	3.27	1.09

Note. Numbers in parentheses are reliability estimates.
* $p \le .05$. ** $p \le .01$.

children between 6 and 18 but none under 6; and (5) *one or more children under 6 years of age*. The five groups form an ordinal scale representing increasing parental demands.

We measured schedule flexibility using a scale developed by Berman (1997). The 21-item scale asked respondents how easy or difficult it would be for them to do nonwork activities between 9 AM and 5 PM, Monday through Friday. A sample activity is "Leave work early to take a sick relative for whom you are responsible (e.g., child) to the doctor." Responses were made on a 6-point scale ranging from (1) *very difficult* to (6) *very easy*. We used three questions to measure work time: (a) "How many hours do you work in an average week? Include time spent doing job-related work at home." (b) "On your last regular work day at this job, how many hours did you work? Include time spent doing job-related work at home." (c) "Do you have more than one job? If yes, how many hours do you work in an average week at your other job(s)?"[2] The first question allows an individual to describe what is typical for his or her work week. The second is more specific: What happened yesterday (or on the respondent's last regular day)? It is designed to reduce error, as it is more specific and more easily remembered. The third item asks about a second job. We combined items by first taking the mean of (a) the hours in an average week and (b) the hours in the last regular work day multiplied by 5, then adding the number of hours worked in a second job. We did not calculate alpha for the three-item scale, as we did not expect the items to be significantly intercorrelated. For example, hours worked yesterday (Question 2) may well be unrelated to hours worked in a second job (Question 3).

To measure time-based WIF, we used a 6-item scale adapted from Netemeyer, Boles, and McMurrian (1996). Two of the items were written specifically for this study. A sample item is "Things I need to do at home do not get done because of the demands my job puts on me." We measured two indicators of psychological distress: depression and somatic complaints (Frone, Russell, & Cooper, 1991). The 20-item depression scale (Radloff, 1977) asked respondents how frequently they had experienced symptoms (e.g., feeling hopeless) in the last month. Respondents answered using a 4-point response scale ranging from (1) *rarely or none of the time (less than 1 day)* to (4) *most or all of the time (5–7 days)*. The 12-item somatic complaints (or somatization) scale (Derogates, 1977) assessed "psychological distress arising from perception of bodily dysfunction" (Frone et al., 1991, p. 238). Using a 5-point scale ranging from (1) *never* to (5) *very often*, respondents indicated the frequency with which they experienced symptoms in the last month.

We also measured several control variables. Gender was coded 1 for women and 2 for men. For race/ethnicity, respondents classified themselves as White, African American, Hispanic, Asian American, Native American, or other. Age was measured in number of years. For marital status, respondents noted whether they were married or in a long-term romantic relationship. For education, respondents indicated their number of years of formal education. Respondents indicated their job category by choosing from five different job types (e.g., manager, exempt technical). We measured organizational tenure by asking respondents to indicate in years how long they had worked at the organization. We asked respondents to indicate their total personal income and family income by indicating from a number of choices the range in which their income fell (e.g., $65,000 to $74,999).

Results

We first examined correlations among the variables (see Table 1). In general, these results support our hypotheses. Contrary to expectations, however, organizational rewards for time spent at work were significantly, negatively correlated with work time ($r = -.10$, $p \leq .05$), and parental demands were not significantly related to work time ($r = -.05$, $p > .05$). As hypothesized, work time was significantly, positively correlated with WIF ($r = .33$, p

$\leq .01$). Finally, WIF was significantly, positively correlated with depression ($r = .38$, $p \leq .01$) and somatic complaints ($r = .26$, $p \leq .01$).

Tests of Moderators

To test Hypotheses 8 and 9, our predictions that schedule flexibility and nonjob responsibilities would moderate the relationship between work time and WIF, we used hierarchical regression, first entering the control variables and the independent variables in the regression and then adding the interaction of interest. Schedule flexibility was significantly, negatively related to WIF ($\beta = -.31$, $p \leq .01$), but the interaction of schedule flexibility and work time was not a significant predictor of WIF ($\beta = -.06$, $p > .05$; see Table 2). Nonjob responsibilities were not significantly related to WIF ($\beta = .04$, $p > .05$), nor was the interaction between nonjob responsibilities and work time significant ($\beta = -.12$, $p > .05$). Thus, Hypotheses 8 and 9 were not supported.

Structural Equation Models

Structural modeling allowed us to test our overall model simultaneously. We estimated a manifest variable model, adjusting for lack of reliability by setting the error variance of each variable to its variance multiplied by $1 - \alpha$, with the exception of parental demands and work time, which were treated as perfectly reliable manifest variables. The psychological distress factor had two indicators (depression and somatization), so the error variances for those variables were allowed to vary. We ran partial correlations to control for our demographic variables and used the partial correlation matrices for our structural equation modeling analyses. The fit of the data to the hypothesized model was poor, $\chi^2(23, N = 489)^3 = 200.0$, $p \leq .001$, comparative fit index (CFI) = .74, adjusted goodness of fit index (AGFI) = .82, standardized root mean squared residual (SRMR) = .09, root-mean-square error of approximation (RMSEA) = .13; although, as shown in Figure 1, many of the path coefficients were significant and in the hypothesized direction.

As discussed previously, most researchers have examined time as a direct predictor of conflict (i.e., no mediation). But some research (Frone et al., 1997; Parasuraman et al., 1996) suggests that time partially mediates the relationship between antecedent variables and conflict. Given this literature and the poor fit of the fully mediated model, we conducted post hoc analyses, comparing the fit of our model with the fit of a nonmediated and a partially mediated model. Figure 2 shows the direct, nonmediated model, in

---

[2] Robinson and his colleagues (Robinson & Bostrom, 1994; Robinson & Godbey, 1997) have argued that self-reported estimates of time use (such as ours) tend to overestimate actual work time and that time diaries are more reliable measures. We could not use time diaries, as they are extremely labor intensive for both researchers and participants. However, our method was supported by Jacobs (1998), who concluded that most differences between time diaries and self-reported estimates are merely due to random error. In any case, if there were any inflation in our estimates, it would influence respondents' mean values for work time but not the relationships between work time and other variables.

[3] Because of missing data, $N = 489$ for all structural equation modeling analyses.

Table 2

Summary of Moderated Regression Analyses for Interactions With Work Time

Step	Schedule flexibility as moderator		Nonjob responsibilities as moderator	
	β	ΔR^2	β	ΔR^2
Step 1: All main effects		.41**		.34**
Step 2: Interaction	.03	.00	−.15	.00

** $p \le .01$.

which all exogenous variables, including work time, are directly related to WIF. Figure 3 shows the partial mediation model, in which direct paths were added between the exogenous variables and WIF. The partially mediated model had acceptable fit, $\chi^2(16,$ $N = 489) = 62.8, p \le .001$, CFI = .93, AGFI = .91, SRMR = .04, RMSEA = .08, whereas the nonmediated model did not, $\chi^2(23, N = 489) = 148.8, p \le .001$, CFI = .82, AGFI = .86, SRMR = .07, RMSEA = .11. Model comparisons indicated that the fit of the partially mediated model was significantly better than that of the fully mediated model, $\Delta\chi^2(7, N = 489) = 137.2, p \le$ .001, and the nonmediated model, $\Delta\chi^2(7, N = 489) = 86.0, p \le$ .001. Thus, these findings suggest that work time did not function exactly as we had hypothesized—that is, some of the work and family characteristics were related to WIF both directly and indirectly through their relationship with hours worked.

We examined the paths in the partial mediation model to determine which variables had direct relationships with WIF and to assess the support for our specific hypotheses. As predicted in Hypotheses 1, 2, 3, 4, and 6, work time was significantly related to the following variables: career identity salience (.11, $p \le .05$), work role overload (.19, $p \le .01$), organizational expectations for
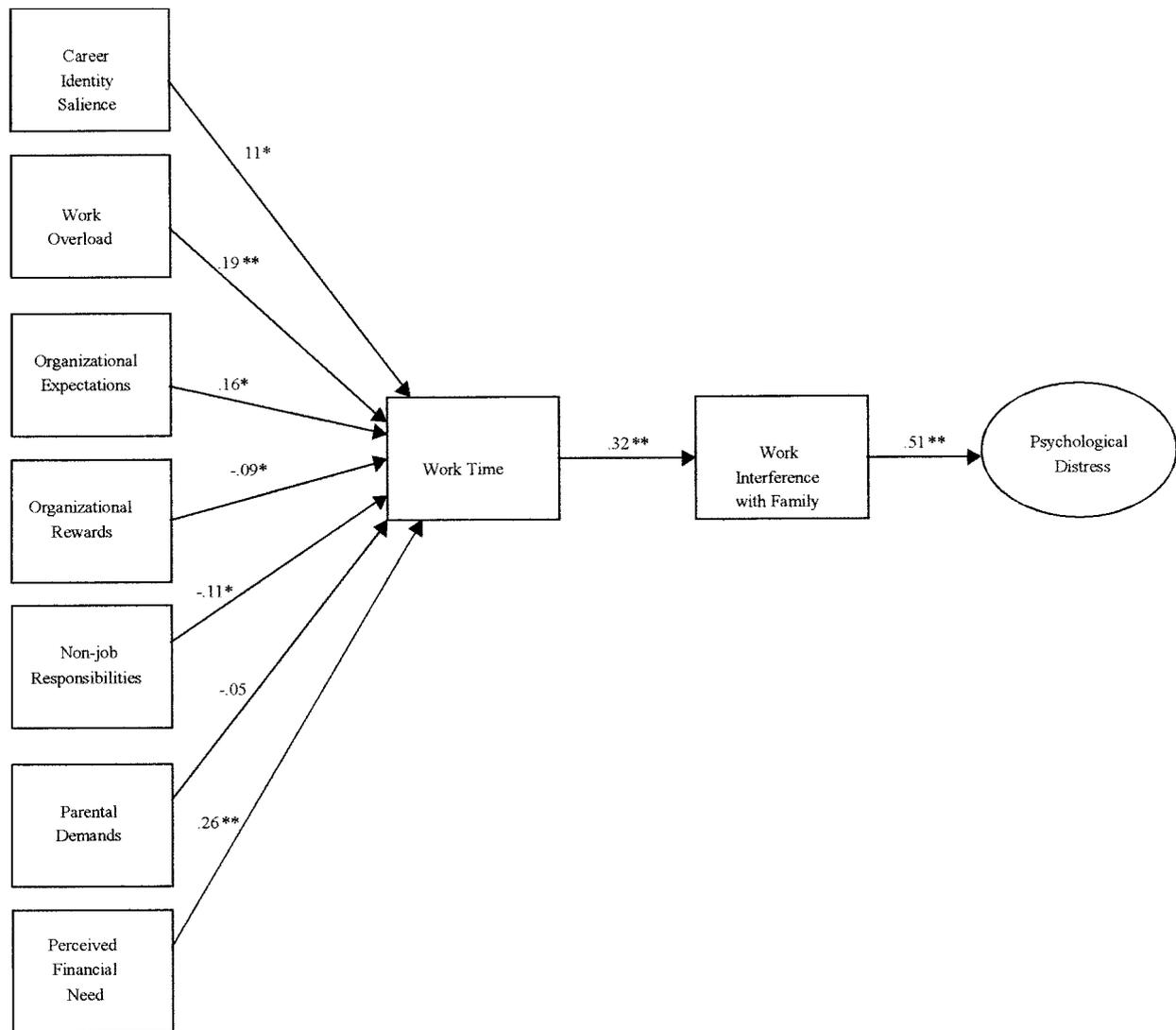
Figure 1. Structural equation modeling results: original model. *$p < .05$. **$p < .01$.
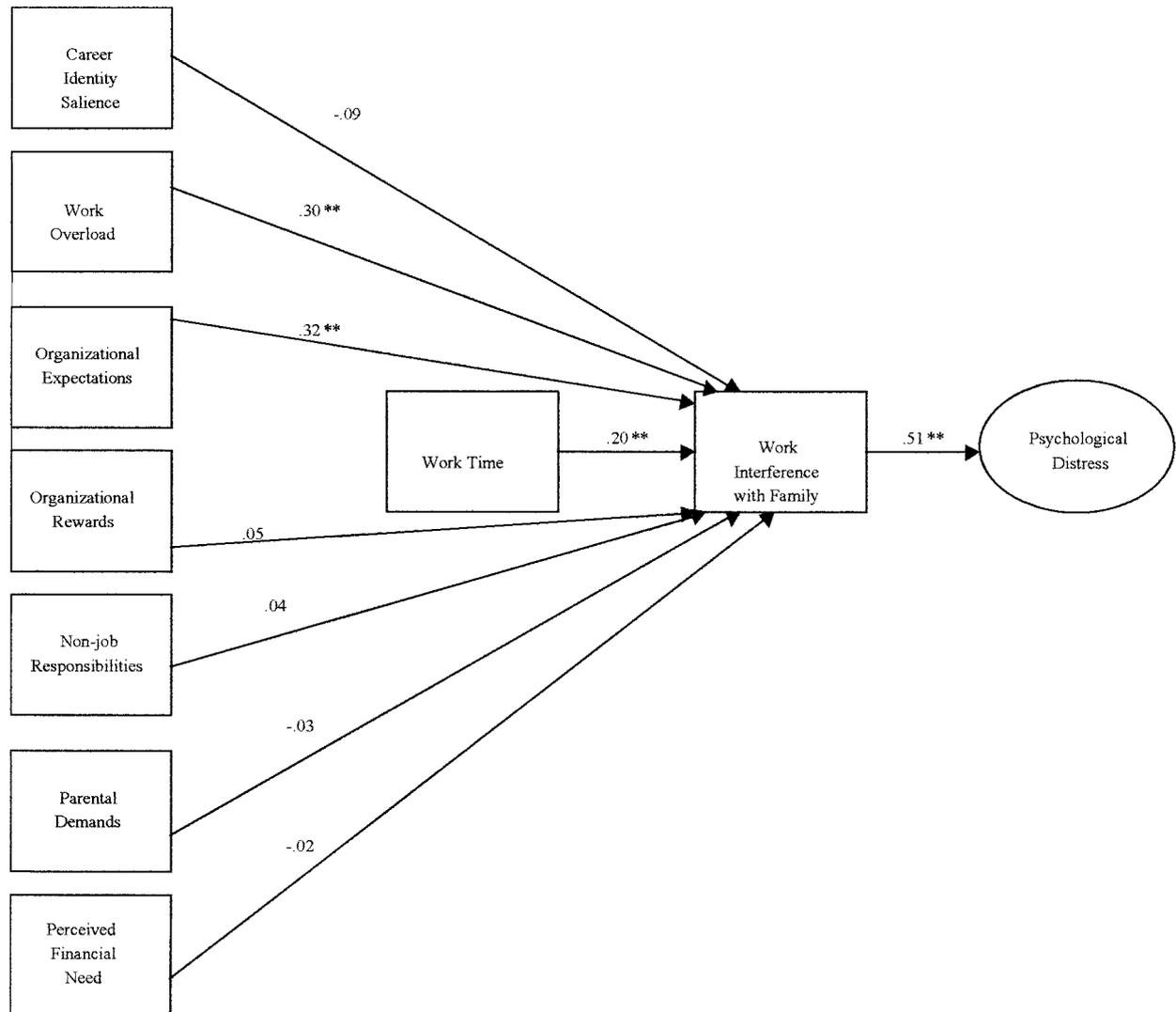
Figure 2. Structural equation modeling results: post hoc direct/nonmediated model. **$p < .01$.

time spent at work (.16, $p \le .05$), nonjob responsibilities ($-.11$, $p \le .05$), and perceived financial need (.26, $p \le .01$). Contrary to our expectations, organizational rewards were significantly, negatively related to work time ($-.09$, $p \le .05$). Thus, Hypothesis 3 was only partially supported. Contradicting Hypothesis 5, parental demands were not significantly related to work time ($-.05$, $p > .05$). Together, the work and family variables explained 19% of the variance in work time.

Some support is given to Hypothesis 7 by our findings that work time was significantly, positively related to WIF (.18, $p \le .01$) and that work time fully mediated the relationships between the following variables and WIF: career identity salience, organizational rewards, nonjob responsibilities, and perceived financial need. Of the significant predictors of work time, only work overload and organizational expectations had significant direct paths to WIF (.30 and .32, respectively, $p < .05$). Together, work time, overload, and expectations explained 39% of the variance in WIF. Finally, consistent with Hypothesis 10, WIF was significantly, positively

related to psychological distress (.52, $p \le .01$) and mediated the relationship between work time and distress.

In sum, although we concluded that our original model did not have adequate fit, we did find support for the majority of our hypotheses. We found that (a) several work and family characteristics were significantly related to work time, (b) work time was significantly, positively related to WIF and fully or partially mediated the relationships between WIF and work and family characteristics, and (c) work time was indirectly related to psychological distress through WIF.

Discussion

Although numerous scholars have proposed, implicitly or explicitly, that work time may foster WIF and psychological distress, the relationship of work time to WIF has been the object of surprisingly little research. Our study offers evidence to support what many scholars, journalists, workers, and families have as-
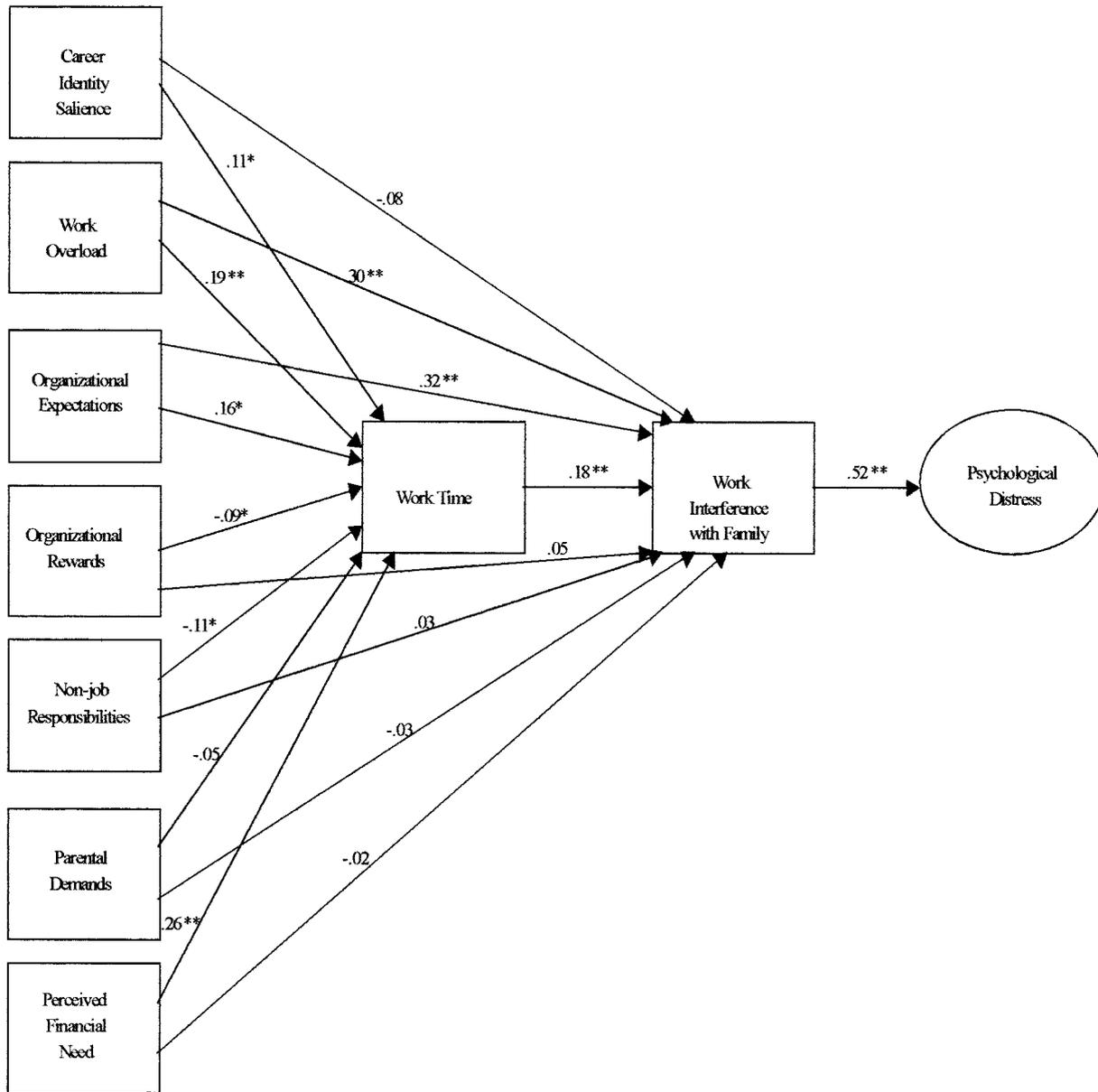
Figure 3. Structural equation modeling results: post hoc partial mediation model. *p < .05. **p < .01.

sumed to be true: Long work hours are associated with increased work–family conflict and, at least indirectly, with psychological distress. We hypothesized that work time would fully mediate the relationship between work and family characteristics and WIF. We found, instead, that a partial mediation model had a significantly better fit. This appears to reflect the relatively strong direct relationships between WIF and just two work variables—work overload and organizational expectations for time spent at work—as no other endogenous variables had significant direct paths to WIF. Perhaps having too much to do on the job and/or experiencing pressure from a supervisor to work long hours creates such tension and stress that individuals are unable to accommodate all of their responsibilities at home regardless of the number of hours they work.

Nonetheless, the results support many of our hypotheses. As predicted, people worked longer hours when they had strong career identities, had too much to do in too little time on the job, perceived that their supervisors expected them to work extra hours as needed, had fewer responsibilities away from work, and believed that they had relatively great financial needs. The significant relationship between work role overload and work time replicates the results of prior research (Frone et al., 1997; Parasuraman et al., 1996; Wallace, 1997), as does the finding regarding career identity salience (Wallace, 1997). No prior research, to our knowledge, has examined work time and the relationship between organizational expectations, responsibilities away from work, or perceived financial needs.

Contrary to our expectations, time spent at work was not related to the number or ages of children people had. Parental demands might affect time in a more indirect fashion. Perhaps, for example, greater demands are related to time spent with family, which in turn may engender family interference with work (FIW; Parasuraman et al., 1996). Also contrary to our expectations, we found that organizational rewards for time spent at work were significantly, negatively related to time. Additional research is needed to clarify this surprising finding. Perhaps people are more likely to notice the availability of rewards if they are not willing or able to put in the hours necessary to earn them.

Long work hours were associated with increased time-based WIF. This relationship was not moderated by schedule flexibility or nonjob responsibilities. Thus, regardless of how flexible employees' schedules were or how much responsibility they bore for home and family duties, the more hours a week they worked, the more WIF they reported. In addition, work time fully mediated the relationship between several variables and WIF. Career identity salience, organizational rewards, nonjob responsibilities, and perceived financial need were all indirectly related to WIF through their association with time. This implies, for example, that an employee who had a highly salient career identity was more likely to experience time-based conflict—not because of his or her career identity in itself but because of the relationship between his or her career commitment and greater work hours.

Finally, our results reveal that WIF was positively and significantly related to employees' psychological distress and mediated the relationship between time and distress. Thus, long work weeks may be associated (through WIF) with increased depression or other stress-related health problems. Given the positive relationships with depression and somatic complaints, it seems likely that work time and WIF may also be related to additional problems at home and at work—such as marital problems, poor job performance, absenteeism, or turnover. Future research should continue to investigate potential outcomes of work time and time-based WIF for employees, their families, and organizations.

This research helps to expand our understanding of the relationships among several work and family characteristics, work time, and WIF. Our findings suggest that the public's concerns over the expanding work week are well-founded. Unfortunately, organizational researchers have found that employers often place a greater premium on "face time" and numbers of hours worked than on actual productivity and that these cultural values and norms enforcing long work weeks are often difficult to change (Fried, 1998; Hochschild, 1997; Perlow, 1995, 1998). The results of this study should provide further impetus for employers to find ways to adopt more efficient work practices that maintain or enhance productivity while reducing unnecessary work hours. In addition, however, as noted by Hochschild (1997), Schor (1991), and others, workers, for various reasons, often choose to work long hours even as they complain about their lack of time. Our study indicates some of the potentially negative consequences of those choices.

Limitations

All research is flawed, and ours is no exception. One limitation of the study is that we did not examine family time or FIW. By examining the effects of both work time and family time on WIF and FIW, future research may shed further light on the complex relationships linking time, conflict, and well-being. In addition, we did not gather data on respondents' work status beyond their specific exempt or nonexempt job category. Some of the relationships we identified might potentially differ for part-time, temporary, and contract employees. We also could not determine whether our sample was representative of the populations in the two units, as our organizational contacts were not able to provide these data. The wide range of types of employees included in our sample, coupled with the response rate of 42%, leads us to hope that our sample was representative.

Two methodological limitations should also be acknowledged. First, the analyses relied on cross-sectional, correlational data. Therefore, we cannot draw conclusions about the causal directions underlying our results. Second, as is typical in research on work–family conflict and stress, we used only self-report data. Our measures of parental demands and work time are both fairly objective. Nonetheless, it is important to consider the threat of same-source bias or common method variance, as it may sometimes inflate the magnitude of relationships between variables. Such inflation could be an alternative explanation for the superior fit of the partially mediated model. We examined correlations between the exogenous self-report variables and WIF in an effort to determine whether same-source bias was an issue. The large number of correlations with small magnitudes (less than .10) in the matrix suggests that there was little if any general inflation of the correlations caused by same source bias. For extra assurance, however, we also conducted factor analyses on all major study variables. If there were sizable inflation caused by same-source bias, then a single-factor solution would explain a substantial amount of variance in the variables. We found that a single-factor solution explained only 25% of the variance in the variables; thus, we do not believe same-source bias accounts for the support we found for the partially mediated model.

Conclusion

Both in academic research and in the popular media, the problem of work–family conflict is commonly assumed to rest fundamentally on the predicament of too much to do in too little time. Yet researchers still know relatively little about how people choose to invest their time and how these choices may ultimately affect individual, family, and organizational outcomes. Too few work–family scholars have actually examined the construct of time. Our assumptions regarding the role of time in work–family conflict need to be replaced by an understanding founded on rich theory and empirical research. In the preceding pages, we have attempted to add to such theory by presenting a model of WIF that has at its center the critical construct of time. We found support for many of the hypothesized relationships. Long hours at work were indeed significantly related to WIF, and WIF, in turn, was related to depression and stress-related health problems. We hope that this study will inspire future research designed to explicate the importance of work time in work–family conflict.

References

Adams, G. A., King, L. A., & King, D. W. (1996). Relationships of job and family involvement, family social support, and work–family conflict with job and life satisfaction. *Journal of Applied Psychology, 81,* 411–420.

Aryee, S. (1992). Antecedents and outcomes of work-family conflict among married professional women: Evidence from Singapore. *Human Relations, 45,* 813–837.

Bedeian, A. G., Burke, B. G., & Moffett, R. G. (1988). Outcomes of work-family conflict among married male and female professionals. *Journal of Management, 14,* 475–491.

Berman, L. (1997). *When flextime "works" and when it "fails": An in-depth analysis of alternatives to the nine-to-five work week.* Unpublished doctoral dissertation, University of Maryland.

Beutell, N. J., & Wittig-Berman, U. (1999). Predictors of work–family conflict and satisfaction with family, job, career, and life. *Psychological Reports, 85,* 893–903.

Bond, J. T., Galinsky, E., & Swanberg, J. E. (1998). *The 1997 National Study of the Changing Workforce.* New York: Families and Work Institute.

Brett, J. M., Stroh, L. K., & Reilly, A. H. (1992). What is it like being a dual-career manager in the 1990s? In S. Zedeck (Ed.), *Work, families, and organizations* (pp. 138–167). San Francisco: Jossey-Bass.

Broman, C. (1988). Household work and family life satisfaction of blacks. *Journal of Marriage and Family, 50,* 743–748.

Caplan, R. (1971). *Organizational stress and individual strain.* Ann Arbor: Institute for Social Research, University of Michigan.

Carlson, D. S. (1999). Personality and role variables as predictors of three forms of work-family conflict. *Journal of Vocational Behavior, 55,* 236–253.

Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and initial validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior, 56,* 249–276.

Cherry, M. D. (1998). *Why employees work long hours when they are not paid for each hour of work.* Unpublished doctoral dissertation, State University of New York at Binghamton.

Derogates, L. R. (1977). *S. L. -90 administration, scoring, and procedures: Manual-I for the revised version and other instruments of the psychopathology rating scale series.* Baltimore: Johns Hopkins University School of Medicine.

Duxbury, L., & Higgins, C. (1994). Interference between work and family: A status report on dual-career and dual-earner mothers and fathers. *Employee Assistance Quarterly, 9*(3/4), 55–80.

Duxbury, L., Higgins, C., & Lee, C. (1994). Work-family conflict: A comparison by gender, family type, and perceived control. *Journal of Family Issues, 15,* 449–466.

Elliott, V. (2000, May 26). Making time for home life: Schwab exec crusades for balanced work, personal life. *San Francisco Chronicle*, p. B1.

Evenson, L. (1997, August 9). It's time: Parents find it's stretched thin by the powerful pulling forces of work and family life. *San Diego Union-Tribune*, p. E-1.

Ewell, M. (1999, September 14). High-tech industry not immune to gender bias, survey finds. *San Jose Mercury News*, p. C1.

Fox, M. L., & Dwyer, D. J. (1999). An investigation of the effects of time and involvement in the relationship between stressors and work-family conflict. *Journal of Occupational Health Psychology, 4,* 164–174.

Fried, M. (1998). *Taking time: Parental leave policy and corporate culture.* Philadelphia: Temple University Press.

Frone, M. R., & Rice, R. W. (1987). Work-family conflict: The effect of job and family involvement. *Journal of Occupational Behaviour, 8,* 45–53.

Frone, M. R., Russell, M., & Barnes, G. M. (1996). Work-family conflict, gender, and health-related outcomes: A study of employed parents in two community samples. *Journal of Occupational Health Psychology, 1,* 57–69.

Frone, M. R., Russell, M., & Cooper, M. L. (1991). Relationship of work and family stressors to psychological distress: The independent moderating influence of social support, mastery, active coping, and self-focused attention. *Journal of Social Behavior and Personality, 6*(7), 227–250.

Frone, M. R., 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.

Greenhaus, J. H., Bedeian, A. G., & Mossholder, K. W. (1987). Work experiences, job performance, and feelings of personal and family well-being. *Journal of Vocational Behavior, 31,* 200–215.

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*(1), 76–88.

Greenhaus, J. H., Parasuraman, S., Granrose, C. S., Rabinowitz, S., & Beutell, N. J. (1989). Sources of work-family conflict among two-career couples. *Journal of Vocational Behavior, 34,* 133–143.

Griffith, V. (2000, August 25). It's a man's new economy: Victoria Griffith finds that old-boy networks and a long-hours culture are excluding women from dotcoms' higher management levels. *Financial Times Limited,* Inside Track, p. 12.

Gutek, B. A., Searle, S., & Klepa, L. (1991). Rational versus gender role explanations for work–family conflict. *Journal of Applied Psychology, 76,* 560–568.

Hecker, D. (1998). How hours of work affect occupational earnings. *Monthly Labor Review, 121*(10), 8–18.

Hochschild, A. R. (1997). *The time bind: When work becomes home and home becomes work.* New York: Metropolitan Books.

Hubbard, M. (1997, May 25). Living to work: Home is no longer a castle, as many parents commit to more on the job. *Denver Rocky Mountain News*, p. 1E.

Izraeli, D. N. (1993). Work/family conflict among women and men managers in dual-career couples in Israel. *Journal of Social Behavior and Personality, 8*(3), 371–388.

Jacobs, J. A. (1998, December). Measuring time at work: Are self reports accurate? *Monthly Labor Review, 121,* 42–53.

Jacobs, J. A., & Gerson, K. (1998). Who are the overworked Americans? *Review of Social Economy, 56,* 442–459.

Jenkins, G. D., Jr., Mitra, A., Gupta, N., & Shaw, J. D. (1998). Are financial incentives related to performance? A meta-analytic review of empirical research. *Journal of Applied Psychology, 83,* 777–787.

Lobel, S. A. (1991). Allocation of investment in work and family roles: Alternative theories and implications for research. *Academy of Management Review, 16,* 507–521.

Lobel, S. A., & St. Clair, L. (1992). Effects of family responsibilities, gender, and career identity salience on performance outcomes. *Academy of Management Journal, 35,* 1057–1069.

Matsui, T., Ohsawa, T., & Onglatco, M.-L. (1995). Work-family conflict and the stress-buffering effects of husband support and coping behavior among Japanese married working women. *Journal of Vocational Behavior, 47,* 178–192.

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict scales. *Journal of Applied Psychology, 81,* 400–410.

O'Driscoll, M. P., Ilgen, D. R., & Hildreth, K. (1992). Time devoted to job and off-job activities, interrole conflict, and affective experiences. *Journal of Applied Psychology, 77,* 272–279.

Parasuraman, S., Pruohit, Y. S., Godshalk, V. M., & Beutell, N. J. (1996). Work and family variables, entrepreneurial career success, and psychological well-being. *Journal of Vocational Behavior, 48,* 275–300.

Perlow, L. A. (1995). Putting the work back into work/family. *Group & Organization Management, 20,* 227–239.

Perlow, L. A. (1998). Boundary control: The social ordering of work and family time in a high-tech corporation. *Administrative Science Quarterly, 43,* 328–357.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1,* 385–501.

Robinson, J. P., & Bostrom, A. (1994, August). The overestimated work-week? What the time diary measure suggests. *Monthly Labor Review, 117,* 11–23.

Robinson, J. P., & Godbey, G. (1997). *Time for life: The surprising ways Americans use their time.* University Park: Pennsylvania State University Press.

Rones, P. L., Ilg, R. E., & Gardner, J. M. (1997). Trends in hours of work since the mid-1970s. *Monthly Labor Review, 120*(4), 3–14.

Schor, J. B. (1991). *The overworked American: The unexpected decline of leisure.* New York: Basic Books.

Shapiro, L. (1997, May 12). The myth of quality time. *Newsweek,* 62–71.

Thomas, L. T., & Ganster, D. C. (1995). Impact of family-supportive work variables on work–family conflict and strain: A control perspective. *Journal of Applied Psychology, 80,* 6–15.

Thompson, C. A., Beauvais, L. L., & Lyness, K. S. (1999). When work-family benefits are not enough: The influence of work-family culture on benefit utilization, organizational attachment, and work-family conflict. *Journal of Vocational Behavior, 54,* 392–415.

Wallace, J. E. (1997). It's about time: A study of hours worked and work spillover among law firm lawyers. *Journal of Vocational Behavior, 50,* 227–248.

Wallace, J. E. (1999). Work-to-nonwork conflict among married male and female lawyers. *Journal of Organizational Behavior, 20,* 797–816.

Walsh, M. W. (2000, September 17). As hot economy pushes up overtime, fatigue becomes a labor issue. *The New York Times,* Section 1, p. 1.

Zedeck, S., & Mosier, K. L. (1990). Work in the family and employing organizations. *American Psychologist, 45,* 240–251.

AMERICAN PSYCHOLOGICAL ASSOCIATION
SUBSCRIPTION CLAIMS INFORMATION

Today's Date:_____

We provide this form to assist members, institutions, and nonmember individuals with any subscription problems. With the appropriate information we can begin a resolution. If you use the services of an agent, please do **NOT** duplicate claims through them and directly to us. **PLEASE PRINT CLEARLY AND IN INK IF POSSIBLE.**

_____
PRINT FULL NAME OR KEY NAME OF INSTITUTION

_____
ADDRESS

_____

_____
CITY   STATE/COUNTRY   ZIP

_____
YOUR NAME AND PHONE NUMBER

TITLE

_____

_____

_____

_____
MEMBER OR CUSTOMER NUMBER (MAY BE FOUND ON ANY PAST ISSUE LABEL)

_____
DATE YOUR ORDER WAS MAILED (OR PHONED)

____ PREPAID ____ CHECK ____ CHARGE
                CHECK/CARD CLEARED DATE:_____

(If possible, send a copy, front and back, of your cancelled check to help us in our research of your claim.)

                    ISSUES: ____ MISSING ____ DAMAGED

VOLUME OR YEAR   **NUMBER OR MONTH**

_____   _____

_____   _____

_____   _____

Thank you. Once a claim is received and resolved, delivery of replacement issues routinely takes 4–6 weeks.

━━━━━━━━ **(TO BE FILLED OUT BY APA STAFF)** ━━━━━━━━

DATE RECEIVED: _____   **DATE OF ACTION:** _____
ACTION TAKEN: _____   **INV. NO. & DATE:** _____
STAFF NAME: _____   **LABEL NO. & DATE:** _____

Send this form to APA Subscription Claims, 750 First Street, NE, Washington, DC 20002-4242

PLEASE DO NOT REMOVE. A PHOTOCOPY MAY BE USED.