In this stratified random sample of 98 married full-time and reduced-hours female physicians with children, the authors tested the hypothesis that the relationship between work hours and marital-role quality would be mediated by the proportion of low-schedule-control household tasks performed by the physicians. The hypothesis was supported. Physicians working longer hours reported higher marital-role quality than those working fewer hours to the extent that they performed fewer low-schedule-control household tasks than did their reduced-hours counterparts. Conversely, reduced-hours physicians, who, on average, performed more low-schedule-control tasks, reported lower marital-role quality.

Full-Time and Reduced-Hours Work Schedules and Marital Quality
A Study of Female Physicians With Young Children

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How effective are reduced-hours work schedules at improving employees' quality of life (QOL)? Do reduced-hours married female physicians with young children report higher marital-role quality (MRQ) than do their full-time employed counterparts? Studies indicate that among professional employees, there is considerable dissatisfaction with the long hours they are expected to work (Boston Bar Association, 1999; Jacobs & Gerson, 1997). Moreover, some studies have found that long work hours are related to high work-family conflict (e.g., Galinsky, Kim, & Bond, 2001; Gutek, Searle, & Klepa, 1991; Moen & Yu, 2000).

In an effort to retain talented employees, especially in such long-hours careers as medicine, law, and management, considerable attention is being paid to initiating and promoting reduced-hours career options (Barnett & Hall, 2001; Boston Bar Association, 1999; Lee, MacDermid, & Buck, 2000). In addition, scholars from several quarters (e.g., Gareis, 1999; Harrington, 1999; Schor, 1991; Williams, 2000), have suggested part-time work might be central to alleviating the problems faced by most full-time-employed mothers (and increasing numbers of fathers) who are simultaneously managing the demands of paid work and care work. Such schedules, it is argued, create more control for employees who, by virtue of limiting their work hours, are better able to fulfill personal or family responsibilities.

Wanting to have more control over nonwork time and the way they practice medicine are major reasons physicians give for cutting back their work time (Lundgren, Gareis, Fleisher-Cooperman, & Fitzgerald, 1998). Research indicates that increased control is associated with lower levels of work-related stress and with better QOL outcomes (Ganster, Sauter, Hurrell, & Cooper, 1989; Karasek, 1979). However, studies relating part-time work to health and well-being outcomes have yielded inconsistent findings (see Barnett, 1998, for a review). For example, in a study of reduced-hours physicians who were in dual-earner couples, number of hours worked per se was not related significantly to any of the study's many outcome variables, including marital-role, parent-role, or job-role quality; life satisfaction; psychological distress; or intention to quit (Barnett & Gareis, 2000a, 2000b; Gareis, Barnett, & Brennan, 1999). Other studies find no relationship between work hours and stress-related physical or mental health symptoms (Herold & Waldron, 1985; Hyde, Klein, Essex, & Clark, 1995; Klein, Hyde, Essex, & Clark, 1998). These unexpected results raise questions about the processes linking work hours to health and well-being outcomes. Specifically, what are the conditions under which reduced hours do or do not have beneficial effects? Possible mediators or moderators that have been suggested include such problems associated with part-time work as limited access to health benefits, low wages, and poor, if any, opportunities for promotion (Kahne, Lundy, & Warme, 1990; Tilly, 1992).

One understudied explanation concerns the nature of the activities in which reduced-hours employees engage during nonwork time. The relationship between different work schedules and well-being outcomes might be mediated by the nature of these undertakings. Stated differently, the benefits of the increased control gained by reducing work hours may be negated by the nature of the activities engages in during nonwork hours. Reduced hours might have beneficial effects on QOL outcomes if the nonwork activities increase control and might have deleterious effects, or at least less beneficial effects, if the activities decrease control. For example, employees' sense of control might be heightened by leisure activities and diminished by activities such as increased housework.
Just as control at work has beneficial health effects, so too does control at home. In a study of married men and women, Sutor (1991) found that satisfaction with the level of responsibility they had for cooking, cleaning, or repairing was moderately related to both husbands’ and wives’ marital quality. Furthermore, among dual-earner couples, partners who performed more household tasks that provided little schedule control (e.g., meal preparation and meal cleanup) reported higher psychological distress than did those who performed fewer such tasks (Barnett & Shen, 1997). If married female reduced-hours physicians perform more such tasks than do their full-time counterparts, then doctors who reduce their hours may fail to reap any significant benefits from their shorter work hours. In this analysis, we estimate the direct relationship between work schedules (i.e., full-time and reduced hours) and MRQ in a random sample of 98 married female doctors in dual-earner couples with at least one child younger than 14 years. We also estimate the mediating effect of the proportion of low-schedule-control household tasks on this relationship.

LITERATURE REVIEW

Several theoretical perspectives suggest that among married female physicians with young children, those working full-time will report lower MRQ than will those working reduced hours. For example, the scarcity hypothesis (e.g., Goode, 1960; Marks, 1977; Sieber, 1974) suggests that a full-time work schedule will deplete individuals’ energy reserves to the point that little energy will be left for meeting the needs of their marital relationship. As a consequence, marital relationships will suffer. Similarly, Hinze (2000) suggested that in dual-physician couples, wives are more likely than are husbands to sacrifice work for family. Reducing their work hours is a form of sacrifice. Such sacrifice might be associated with lower MRQ. Alternatively, reduced-hours physicians will have more time for their relationships, which will, in turn, benefit from the attention they receive. On the other hand, the compensatory hypothesis (Sumer & Knight, 2001; Wilensky, 1960) makes the prediction that when MRQ is poor, women may opt for full-time hours as a means of finding other sources of good feelings outside their marriages. Finally, spillover models posit that strain from the overwork that may be associated with full-time work, particularly in professions with very long normative work hours such as medicine, law, or management, will have negative consequences for family or nonwork life (e.g., Piotrowski, 1979). In sum, several current theories lead to the hypothesis that full-time-employed married female physicians with young children will report lower MRQ than will their counterparts working reduced hours.

In spite of this theoretical consensus, the empirical literature provides inconsistent support for the hypothesis that reduced-hours work is associated with improved QOL. In fact, several studies indicate that, compared with part-time employment, full-time employment is associated with higher levels of general physical and mental health (Bird & Fremont, 1991; Hughes & Galinsky, 1994; Waldron, Weiss, & Hughes, 1998). Other studies show no effects of number of work hours on well-being indicators (Hughes, Galinsky, & Morris, 1992; Menaghan & Parcel, 1991; Parcel & Menaghan, 1990, 1993). Many of these studies, however, have limitations that may compromise their findings.

Typically, reduced-hours employees are grouped together regardless of whether they are working reduced hours voluntarily (e.g., many may be working part-time because they cannot find full-time employment) and regardless of whether they are employed in “bad” or “good” part-time jobs (Tilly, 1992). Bad part-time jobs are dead-end jobs; they are poorly paid, have few if any benefits, and have little or no opportunity for advancement. In contrast, good part-time jobs have prorated or full benefits, prorated salaries, and opportunities for promotion. Good part-time jobs are quite rare and are found almost exclusively in the professions. These limitations are addressed in this study because all of the reduced-hours physicians voluntarily reduced their hours and all of them have “good” part-time jobs.

Moreover, the definitions of full-time and reduced hours vary from occupation to occupation. In the professions, employees working reduced hours are often working more than the standard full-time workweek of 35 hours. Because participants in this study are all doctors, the standard definitions of full-time (i.e., 35 or more hours per week) and part-time (i.e., less than 35 hours per week) do not apply. In addition, many full-time-employed professionals work exceedingly long hours; that is, in excess of 60 hours per week. For example, the median number of hours worked per week by doctors is 50 hours for men and 40 hours for women (Yoon, 1997), exceeding that of the average employee. Moreover, the median number of hours worked by reduced-hours doctors may exceed the average for the general population and may actually approach the standard workweek. In fact, many physicians opt to work reduced hours to limit their workweek to 35 hours. In a previous study of married physicians (Barnett, Gareis, & Brennan, 1999), the reduced-hours doctors worked, on average, 39.3 hours per week (median = 40 hours/week). Moreover, the definition of reduced hours can vary from medical setting to medical setting. Thus, we operationalize full-time and reduced hours by asking each physician whether her employing organization considers her to be employed full-time or working reduced hours.
In this analysis, although the sample was stratified on full-time versus reduced hours, we treat number of work hours per week as a continuous variable based on the fact that there was considerable overlap between the actual number of hours worked by the two groups; that is, some 23.4% of the physicians in our sample who were considered by their employers to be on reduced-hours schedules worked more than 35 hours per week.

Most previous studies linking work schedules to QOL outcomes have focused on direct effects. Increasingly, researchers are going beyond these models and inquiring about indirect (i.e., mediating or moderating) effects. For example, questions are now being asked about what processes (e.g., schedule fit) account for the beneficial or detrimental effects of work hours on QOL outcomes (Barnett, Gareis, et al., 1999).

In this analysis, we estimate the mediating effect of the division of household labor on the relationship between work schedules and MRQ. Previous research suggests that wives’ work schedules affect the division of household tasks (Ferree, 1991). In full-time-employed dual-earner couples, wives did more household tasks than did their husbands, and importantly, they performed more low-schedule-control household tasks than did their husbands (Barnett & Shen, 1997). Low-schedule-control household tasks are those that have to be done at a particular time (e.g., meal preparation and meal cleanup). Moreover, women who worked part-time did significantly more such tasks than did their counterparts who worked full-time (Barnett & Shen, 1997). Proportion of low-schedule-control tasks was a strong predictor of psychological distress, which in turn was a major predictor of MRQ (Barnett, Brennan, Raudenbush, & Marshall, 1994; Kiecolt-Glaser & Newton, 2001). By extension, reduced-hours female physicians may do more low-schedule-control household tasks than do their full-time counterparts. In an alternative formulation, time in low-schedule-control household tasks may be identity discrepant among married female doctors. This discrepancy may be related, in turn, to lower MRQ (Thompson & Bunderson, 2001). Thus, any positive direct effect of reduced-hours work on MRQ might be offset by the added burden of low-schedule-control household tasks that reduced-hours doctors assume. We explore this possible underlying mechanism by estimating the mediating effect of women’s average proportion of low-control household tasks relative to that of their husbands on the relationship between work schedules and MRQ.

ADDITIONAL COVARIATES

Work schedules have been linked to work-family conflict. Arguably, reduced-hours doctors would have less time conflict than would their full-time-employed counterparts. Work-family interference has been related, in turn, to MRQ (Galinsky et al., 2001). Specifically, overworked full-time employees felt less successful in their relationships with their spouses than did reduced-hours employees. For these reasons, we control for work-family interference in all analyses.

In addition, the division of childcare labor has been related to psychological distress, a major correlate of MRQ, and to MRQ directly (Ozer, 1995; Ozer, Barnett, Brennan, & Sperling, 1998; Ross & Mirowsky, 1988). For example, in a within-couples analysis (Ozer et al., 1998), the more child care husbands did relative to their wives, the more favorably wives evaluated their marriages. Thus, we control for satisfaction with the division of childcare labor in all analyses.

Several studies indicate that among married couples, part-time work for one partner is typically only an option when the other partner is working full- or high full-time (i.e., more than the standard workweek) or has a second job (Negrey, 1993). In a previous study (Barnett, Brennan, & Gareis, 1999), 85% of female reduced-hours physicians were married to doctors and other professionals who may be working such demanding work schedules (Jacobs & Gerson, 1997). Thus, we control for husbands’ work hours in this analysis.

Part-time work is also, of course, associated with lower income than is full-time work and may therefore affect total household income. Thus, the household income of full-time-employed female doctors who are also likely to be married to other full-time-employed doctors or other professionals (Tesch, Osborne, Simpson, Murray, & Spiro, 1992) is likely to be higher. Higher household income might be related to MRQ. For these reasons, we control for household income in this analysis.

Finally, we control for negative affectivity, a mood-dispositional trait to view the world negatively, that is thought to account for spuriously high correlations between self-report measures of predictor and outcome variables, especially in cross-sectional analyses (Brennan & Barnett, 1998).

HYPOTHESES

In sum, in this random sample of 98 married female physicians with children younger than 14 who vary in work schedules (i.e., full-time versus reduced hours), we test the following two hypotheses: (1) Long work hours will be related with lower MRO, and (2) the relationship between work schedules and MRQ will be mediated by the average proportion of low-control household tasks performed by physicians relative to their husbands. In other words, doctors who work longer hours will report higher MRQ to the extent that they perform fewer low-schedule-control household tasks than do their reduced-hours counterparts.
METHOD

SAMPLE

The sample was drawn randomly from the registry of the Board of Certification in Medicine, which licenses all doctors practicing in the Commonwealth of Massachusetts. We used a two-stage sampling procedure. First, we identified a subsample of female doctors who worked within a 25-mile radius of Boston. We excluded those younger than 25 years and older than 50 years to maximize the likelihood that they would have children within the age range required for inclusion in the sample. From this pool of potential participants, we drew random subsamples and serially contacted them. We sent letters describing the study and the eligibility criteria; shortly thereafter, trained screeners contacted each physician and did a second screening. Screeners asked questions about marital status, husband's work hours (i.e., whether he worked 20 or more hours per week), parental status, race, age of children, average number of hours per week she worked, how long she had been working that schedule, and whether her employer considered her to be working full-time or reduced hours.

Screeners passed on the names of all participants who met the eligibility requirements to trained interviewers. These interviewers sent a recruitment package to each potential participant indicating that she would be called shortly to set up an interview. The letter described the time commitment and remuneration that participation in the study would entail. The package also included endorsements from the Massachusetts Medical Society and the American Medical Women's Association along with two articles describing our previous project with reduced-hours physicians.

Our goal was to interview physicians until we filled all the cells in the sample design; that is, 50 full-time and 50 reduced-hours doctors, with each group comprising half minority and half White doctors. However, we had difficulty filling some cells because both minority physicians and reduced-hours physicians were harder to locate than were their White and full-time counterparts. Therefore, we expanded our sampling strategy by asking all participants to nominate eligible reduced-hours and/or minority physicians and by asking Partners, an umbrella organization representing doctors from a number of major Boston hospitals, to send out a letter to member physicians asking reduced-hours and/or minority physicians to contact us if they were interested in participating. These efforts resulted in six additional participants. We were still unable to fill the minority reduced-hours physician cell. Based on the literature indicating that after controlling for education, race may not have a main effect (e.g., Kessler & Neighbors, 1986), we filled the minority reduced-hours physician cell with White physicians.

PROCEDURES

Trained interviewers conducted 60-minute face-to-face interviews with each participant at a time and place convenient to the participant. To save time during the interview, interviewers mailed participants a 20-minute self-report questionnaire beforehand to be completed in advance and returned at the time of the interview. The interview and mailed survey covered various objective and subjective aspects of participants' jobs (e.g., salary, number of hours worked, career satisfaction, schedule fit) as well as the quality of their major social roles (partner, parent, employee) and various QOL indicators. Each physician received $25 for her participation.

MEASURES

We measured MRQ using a 15-item brief form (Hyde & Plant, 1996) of the MRQ scale (Barnett, Marshall, Raudenbush, & Brennan, 1993). Respondents indicated on a 4-point scale the degree to which each item was currently rewarding or of concern. For example, participants were asked how rewarding was "having a partner who is a good listener" and how much of a concern was "your partner being critical of you"? Internal consistency is excellent, with Cronbach's alphas of .87 for rewards and .87 for concerns in a previous sample of reduced-hours physicians (Barnett, Garceis, et al., 1999) and .91 for rewards and .89 for concerns in this sample.

We assessed work hours by asking respondents to estimate the number of hours worked in an average workweek.

We assessed proportional time in low-schedule-control household tasks by asking respondents to estimate the number of hours per week, on average, they and their husbands spent on each of 10 different household tasks. Following Barnett and Shen (1997), low-schedule-control tasks were defined as planning and preparing meals, cleaning up after meals, house cleaning, buying groceries and other household needs, and doing laundry (washing, folding, and ironing). We computed the average number of hours per week respondents spent on each of these tasks as a proportion of the total time spent by both respondents and their husbands on the tasks.

We measured satisfaction with division of childcare labor using an item from Ozer et al. (1998) in which respondents were asked to rate on a 7-point
scale their overall satisfaction with the way they shared childcare responsibilities with their husbands.

We assessed work-family interference using selected items from a scale developed by MacDermid et al. (2000). For this study, we selected one item each addressing the energy, strain, and behavioral components of work-family interference along with a fourth, more global item assessing the overall severity of work-family interference. Internal consistency is good, with a Cronbach's alpha of .73 in this sample.

We assessed husbands' work hours by asking respondents to estimate the number of hours their husbands worked in an average workweek. We asked participants to describe their race and/or ethnicity and dichotomized responses into a dummy variable representing minority status (1 = African American, Hispanic or Latina, Asian or Pacific Islander, Native American or Alaskan Native, or other; 0 = White).

We calculated household income per capita by dividing respondents' report of yearly household income by the number of people living in their household. Because the distribution of this variable is highly skewed, we used the natural log of per capita income.

We assessed negative affectivity using the Trait Anxiety Scale (Spielberger, 1983), a 10-item frequency of feelings scale. Test-retest correlations ranged from .73 to .86 in college populations during a 2-year period (Spielberger, 1983) and was .77 during a 1-year period in a sample of full-time-employed dual-earner couples (Barnett, Brennan, Raudenbush, Pleck, & Marshall, 1995). Internal consistency is high, with Cronbach's alphas of .83 and .85 in two administrations of the scale in the same sample of full-time-employed dual-earner couples (.87 for women, .85 for men).

RESULTS

DESCRIPTIVE RESULTS

The final sample consisted of 51 full-time physicians (26 White full-time doctors and 25 minority full-time doctors) and 47 reduced-hours physicians (33 White reduced-hours doctors and 14 minority reduced-hours doctors) (N = 98). The completion rate (participants divided by the sum of participants and refusals) among the 92 physicians obtained via random sampling was 49.5%. Because the refusers were generally unwilling to provide us with demographic data, we are not able to determine whether there was any response bias. An additional six respondents were volunteers or were nominated by other physicians as eligible. On average, the women were 40 years of age (M = 40.2, SD = 5.0), had been practicing for 10 years (M = 10.2, SD = 6.1), had 2 children (median = 2.0, SD = 1.0), and had a median household income of $200,000 (range = $80,000 to $1,000,000, SD = $144,438). t tests indicated no significant differences between the full-time and reduced-hours doctors on any of these demographic variables.

We performed a series of t tests comparing full-time and reduced-hours participants on the main study variables. The two groups did not differ significantly on work-family interference, satisfaction with division of child care, or MRQ. However, reduced-hours doctors did significantly more low-schedule-control household tasks than did full-time doctors, t(96) = −.35, p < .001.

Correlations among the study variables are presented in Table 1. As expected, longer work hours were significantly positively related to work-family interference and negatively related to low-schedule-control household tasks. Also not surprising was that MRQ was positively correlated with satisfaction with the division of childcare labor and negatively correlated with work-family interference.

HYPOTHESIS TESTING

We estimated the relationships specified in Hypotheses 1 and 2 in a series of regression models. In Model 1, MRQ was the outcome variable, work schedule (i.e., average number of hours worked per week) was the predictor, and there were six controls (i.e., logged per capita household income, average
number of hours the husband works per week, satisfaction with the division of childcare labor, work-family interference, negative affectivity, and race; see Table 2, Model 1). The regression model was significant, $F(7, 88) = 5.84$, $R^2 = .32$, $p < .001$. Work hours was significantly but positively related to MRQ ($B = .02$, $p < .05$). Thus, female physicians who worked more hours reported significantly higher MRQ than did their reduced-hours peers. This finding is contrary to the prediction of Hypothesis 1.

We then tested Hypothesis 2, which stated that the proportion of low-schedule-control household tasks performed would mediate the relationship between work hours and MRQ. To this end, we added the potential mediator to the regression model previously described. If proportion of low-schedule-control household tasks was significantly related to MRQ and, at the same time, the unstandardized regression coefficient associated with work schedule was reduced, we would conclude that mediation had occurred. Results confirmed the presence of mediation (see Table 2, Model 2), thereby supporting Hypothesis 2. Thus, among married female physicians with at least one child younger than 14 years of age, the relationship between work schedule and MRQ is a function of the proportion of low-schedule-control household tasks physicians perform. Physicians working fewer hours experience low MRQ to the extent that they do a higher proportion of such household tasks; physicians working more hours experience high MRQ to the extent that they do fewer of such tasks.

This finding was quite robust; it held even after we introduced additional controls for years as a doctor, presence of a pre-school-age child, and presence of a child who was the cause of unusual concern. The finding also held when we added to the model a variable reflecting time in care work; that is, the average number of hours per week spent in household tasks, child care, and elder care (Harrington, 1999; Williams, 2000) and when we replaced work hours in the model with a variable reflecting the total of work hours plus care work.

With respect to covariates, regardless of the number of hours worked per week, the more the physicians experienced work-family interference, the lower was their MRQ ($B = -.36$, $p < .01$). Furthermore, again regardless of work hours, the more physicians reported they were satisfied with the division of childcare labor, the higher was their MRQ ($B = .27$, $p < .05$). It is interesting that per capita household income was negatively related to MRQ ($B = -.23$, $p < .05$).

### DISCUSSION

The two main findings of this study of a random sample of married female physicians with at least one child younger than 14 years of age were that (a) physicians who worked more hours reported higher MRQ than did their counterparts who worked fewer hours and (b) this relationship was mediated by the proportion of low-schedule-control household tasks (e.g., meal preparation and meal cleanup) physicians performed relative to their husbands. Thus, the positive relationship between heavier work schedules and high MRQ is due in part to the fact that physicians who work longer hours do fewer low-schedule-control household tasks than do physicians who work shorter hours.

The findings of this study are in sharp contrast to predictions of most extant theories. Married female physicians who work more hours report higher, not lower, levels of MRQ than do their peers working fewer hours. Apparently, control over work hours, as reflected in reduced-hours work schedules, is not associated directly with better MRQ. Although this finding seems anomalous, it is consistent with two bodies of research. The first strongly suggests that objective indicators, such as the number of hours worked per se, are poor predictors of subjective QOL outcomes (Barnett, Gareis, et al., 1999; Hyde et al., 1995; Klein et al., 1998; Perry-Jenkins, Repetti, & Crouter, 2000). The second supports a growing movement away from focusing on main effects and toward stressing the importance of mediating (or other indirect) effects (Barnett & Hyde, 2001). This movement is consistent with the observation by Bronfenbrenner and Crouter (1982) that the study of main effects alone, which "involve[s] a leap from the very start of the
casual process directly to the outcome, leaving everything in between to the imagination” (p. 71), is inadequate. Specifically, the proportion of low-schedule-control tasks that married female physicians do relative to their husbands mediates the relationship between work hours and MRQ. Thus, control needs to be conceptualized as both a workplace and a nonworkplace factor, both of which act in concert to affect QOL outcomes.

CONCLUSION

The main findings of this study suggest that the success of reduced-hours career options might be contingent on nonwork factors. One implication of these findings is that candidates for reduced hours should be informed about the nonwork risk factors than can mitigate the improvement in QOL that the reduced-hours candidate is hoping to achieve.

Speculatively, the findings suggest that for married female physicians, opting to work a reduced-hours schedule may not be the best way to improve MRQ. A better strategy would be to negotiate with their partners a more equitable distribution of low-schedule-control household tasks and division of childcare labor and to work to reduce work-family interference. Reducing the proportion of low-schedule-control household tasks has at least two benefits: It has a positive effect on MRQ, and it offsets the negative effects of reduced-hours work schedules on MRQ. In other words, to the extent that physicians or other professionals working reduced-hours schedules can avoid using their nonwork time to assume more low-schedule-control household tasks, they increase the likelihood that their MRQ will be positive. It is also important to note that reduced-hours schedules are positively related to such other QOL indicators as lower work-family interference. There are costs and benefits to any work schedule. Thus, full-time and reduced-hours work schedules have different effects on different indicators—no one work schedule is related positively to all QOL outcomes.

REFERENCES


