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Shift Work and Negative Work-to-Family Spillover

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A representative sample of the U.S. workforce from 1997 National Study of the Changing Workforce data (Families & Work Institute, 1999) was examined to study the relationship between shift work and negative work-to-family spillover. Negative spillover was measured by Likert-scale frequency responses to questions concerning mood, energy, and time for family as functions of one's job. Statistical analyses comprised t-tests, ANOVAs, and multiple regressions. Among wage earners with families (n = 2,429), shift work showed a significant, strong, positive relationship to high negative work-to-family spillover when controlling for standard demographic characteristics as well as education and occupation. Distinctions among evening, night, rotating and split shifts revealed the highest negative spillover for rotating shift workers. Additional work-related factors influencing negative spillover included number of work hours, preference for fewer work hours (positive associations), supervisory support, job autonomy, and a family-supportive job culture (negative associations).

Keywords: shift work, wage earners, families, job autonomy, spillover, work-week, dual wage earners, productivity

The area of research recognized as "work-family" began with Kanter's 1977 book in which she dismissed the "myth of separate worlds." The theoretical model of segmentation, claiming that work and family were entirely separate, to explain the relationship between work and family, was no longer relevant. Since Kanter's (1977) seminal work initiated a new perspective on work and family, a variety of theoretical models have developed to explain the relationship between work and family. These include

spillover, compensation, and conflict theories (Young and Kleiner, 1992). Spillover is one focus of this paper.

The nature of work and its impact on family life has been a growing area of interest and concern during the past twenty to thirty years in the industrialized countries as women have entered the labor force at increasing rates. The current study investigated the relationship between negative spillover and shift work. Spillover refers to the transfer of mood, energy, and skills from one sphere to the other. Negative spillover suggests bad moods and low energy resulting from one arena impacting the other. "Shift work" refers to a job schedule in which employees work hours other than the "standard" hours of 8 a.m. to 5 p.m. or other than the standard workweek, Mondays through Fridays in the United States.

Shift work is an important area of study because the percentage of the U.S. labor force engaged in shift work has been rising steadily. Estimates range from 15% (Seward, 1997) to 45% (Presser, 1995), varying due in part to diverse definitions. Among dual-earner families, 51% with children under 15 include at least one parent who works non-standard shifts (Deutsch, 1999).

The study presented here draws on the literature of two related fields, the spillover model of work-family, and shift work, in order to examine an intersecting point of interest. The research question this study addressed was: What association, if any, does shift work have to negative work-to-family spillover (NWFSp)?

Background

Spillover

Much of the work-family research during the last 20 years has concentrated on which model or models best illustrate the connection between work and family. A good deal of literature has focused on positive and negative spillover as operating in both directions, i.e., work affecting family and family affecting work (Zedeck, 1992). Concurrently, much research has concentrated on role conflict in that working family members find their roles as parents or spouses conflicting with their roles as employees in terms of time, energy, and character traits that each arena requires (Bailyn, 1993; Burke & Bradshaw, 1981; Howard, 1992). However, Barnett, Marshall, and Singer (1992) and Barnett and Hyde (2001),

dispute this position and demonstrate that multiple roles enhance well-being. Role quality, not the number of roles, is crucial in determining working parents' welfare.

One aspect of assuming multiple roles is that time spent at a job usually implies time away from family. It is well documented that U.S. workers have longer workweeks than workers from other industrialized countries. A 1999 International Labor Organization report (Hochschild, 2001) found that U.S. workers now are ahead of Japanese workers, the previous "leader" in this role. In their longitudinal study of a representative sample of U.S. workers, the Families and Work Institute (1999) established that the average number of work hours per week increased significantly from 43.1 in 1977 to 47.1 in 1997.

Apart from the amount of time spent away from family is the issue of the worker's mood, energy level, etc., when s/he returns home after a long day at work. A range of literature focuses on job stress and its accompanying problems for families. Chan and Margolin (1994) demonstrated via narrative self-reports that married workers' degree of fatigue correlated negatively with positive home affect and positively with home fatigue. Some studies have compared dual-earner families to single-earner families (Hughes & Galinsky, 1994).

Spillover is not necessarily a negative phenomenon. Talents developed at work such as budgeting or accounting may apply to managing household finances. Organizational skills learned in the context of arranging children's school activities, grocery shopping, cooking, and cleaning might be relevant to time management in the workplace. However, a substantial majority of spillover literature discusses negative spillover, the transfer of bad moods, low energy, and fatigue resulting from the work environment and affecting the family. While studies do examine negative family-to-work spillover, or the phenomenon of family problems interfering with work productivity (Friedman & Galinsky, 1992; Ironson, 1992; Brett et al., 1992), the focus of most work-family research including the current paper is on NWFSp.

The major models competing with spillover are compensation and conflict. Compensation theory claims that work and family are complementary. Employees unfulfilled in their home life seek happiness at work and spouses/parents dissatisfied with their jobs look for enjoyment in their family life. Conflict theory posits

that work and family compete. In order to achieve benefits from one, it is necessary to give up certain objectives in the other. An example would be spending less time with a child in order to obtain promotions (Young & Kleiner, 1992).

While much research claims to support one of the three principal models of spillover, compensation, or conflict, a number of studies suggest that a combination of models plays a role in explaining relationships between work and family. Lambert (1990) views the three major models as overlapping and often simultaneous rather than competing. She classifies spillover into direct spillover, arising from objective aspects of work or family conditions such as wages and number of children and indirect spillover stemming from subjective elements including job or family satisfaction. Other researchers point to different models being prominent under certain circumstances. Spillover and conflict theory proponents claim that demands of work and family, especially on a person's time, are incompatible and that conflict is detrimental to satisfaction with each arena (Burke, 1988; Greenhaus et al., 1989). Much of the empirical research shows that work-family conflict and work-family spillover constitute more of a problem than family-work conflict and family-work spillover (Galinsky et al., 1993). The principal goal of the current study was to examine relationships of work characteristics, especially shift work, with NWFSp.

Bowen (1995) views spillover as consisting of structural and dynamic components, consequences of the corporate work culture. The structural aspects include salaries, benefits, and work hours. The dynamic elements refer to what many researchers label work culture. These comprise job autonomy, opportunity for career advancement, and relationships with supervisors and coworkers (Haley, Perry-Jenkins, & Armenia, 2001). The current study investigates the impact of the structural features of shift work along with the dynamic variables of job autonomy, supervisor support, and an overall family-friendly job culture on NWFSp.

Work Hours and Shift Work

Scholars have documented the changes over time in the normative standards of work and family. For example, Schor (1991) shows how people have increased the number of hours they

work per year during the previous 500 years; and many other writers discuss the more recent phenomenon of women, single, married, and with young children entering and staying in the labor force (Coontz, 1997; Bond, Galinsky, & Swanberg, 1998; Waite & Nielsen, 2001).

One of the most noteworthy consequences of these changes has been the increase in the percentage of U.S. workers performing shift work. Presser (1998), an expert on shift work and families, discusses her contention that the entrance of women into the labor force has led to an increased demand for service-sector jobs after standard work hours resulting in this upsurge. Shift work tends to predominate in certain occupational fields and occur rarely in others. Contemporary shift workers are primarily blue-collar, in jobs as police, and fire fighters (Simon, 1990; Deutsch, 1999), part of the well-paid service sector. The recent increase in shift workers has occurred chiefly in the low-wage service sector, where women are the principal employees.

Most research concerning shift work has focused on its effects on worker health. Shift work, disturbs the sleep patterns of workers, reduces efficiency and productivity, leads to mistakes and accidents, and is associated with higher rates of hypertension (Morikawa et al., 1999), gastrointestinal disorders, depression, and cardiovascular diseases (Costa, 1996). Costa's (1996) literature review refers to evidence that shift work causes hardships in sustaining family relationships and leads to detrimental consequences for marriages and children. Shift-working women encounter more stress than their male peers because of the extra parental and spousal responsibilities women are usually expected to meet. Spillover, thus, appears to be gendered due to differential expectations society has for women and men and a result of conflicting demands on time that both work and family impose.

Research on family and shift work indicates that families of shift workers experience a higher percentage of divorces (White & Keith, 1990; Presser, 2000), lower marital satisfaction (Costa, 1996), lower satisfaction in relationships with children (Rahman & Pal, 1994), and higher stress levels (Simon, 1990) than their non-shift working peers. Because divorce statistics represent indicators of marital dissatisfaction, it is important to pinpoint underlying factors contributing to the dissatisfaction. NWFSp is a measurable

concept and a likely contributor to divorce, hardships for children, and difficulties in working parents' relationships with children.

While there is an abundance of literature on NWFSp, many studies on the impact of shift work on worker health, and research on shift work and family outcomes (Presser, 1998, 2000; Deutsch, 1999), no study has examined shift work and the dependent variable, NWFSp. The present study was an attempt to fill that research gap. Its purpose was to examine a representative sample of U.S. workers to determine if shift work has an association with NWFSp.

Methodology

Hypotheses

The following hypotheses were generated:

1. H_a: Based on a nationally representative sample of workers, the NWFSp of shift workers is significantly higher than the spillover of employees who work standard hours.
2. H_a: More specifically, examining the categories of day, evening, night, rotating, and split shifts, workers exhibit progressively more NWFSp in order from day to split shifts.
3. H_a: Workers with increased number of work hours per week demonstrate higher NWFSp.
4. H_a: Workers who indicate a preference for fewer or more work hours than their current schedules offer, manifest higher NWFSp than do those who prefer their current schedules.
5. H_a: Work characteristics other than shift act as predictors of NWFSp. As job autonomy, supervisory support, and a family-friendly job culture increase, the magnitude of NWFSp decreases.

The definitions presented in the F&WI interview data for different types of shift work follow. No explanation of specific hours for "Evening" or "Night" was offered to participants. In general, evening shifts occur between the hours of 4:00 p.m. and midnight. "Night" shifts generally take place between midnight and 8:00 a.m. The F&WI defined "Rotating" shifts as those that change periodically from day to evening or night, "Split" shifts as

consisting of two distinct periods each workday, and "Flexible" shifts as those with no set hours (F&WI, 1999).

Data

Data from the Families and Work Institute (F&WI) National Study of the Changing Workforce (1999) constituted the basis for the study. The Families and Work Institute is a non-profit research organization in New York City. Every five years, as part of its longitudinal study, it surveys by phone a representative sample of U.S. workers on work and family issues.

Between March 14, 1997 and July 27, 1997 Louis Harris and Associates conducted a survey developed by the F&WI. A total of 3,739 households contacted were eligible. Of these, 3,552 interviews took place, resulting in a response rate of 95%. Of the 3,552 sample subjects, 2,877 were wage and salary workers; the others self-employed. For further details, please see the F&WI (1999) National Study of the Changing Workforce Guide to Public Use Files.

Current Study Sample

The 1997 data containing information about 3,552 U. S. workers were analyzed to test the hypotheses listed above. Because the goal of the study was to investigate family outcomes, analyses included only workers with families. Because many of the work-related variables had missing values for the self-employed part of the sample, only wage earners were kept.

The sample was examined by shift for associations to self-employed and family statuses. While it was conceivable that, for example, people on rotating shifts postponed having families or people with families did not take night jobs, this was not the case for our sample. Most people in each shift (82%–86%) had families and there were no significant differences by shift. The definition of "Have families" was living with a partner/spouse or living with one or more children or any combination of these. Not surprisingly, there was a noticeable difference by shift in that fully 48% of people reporting a flexible schedule were self-employed. Split shifts also were disproportionately high in self-employed status (23%). However, split shifts represented such a minute percentage of the overall sample (1.2%) that it is not possible to

draw conclusions from this concerning the relationship between shifts and self-employed status. In any case, the self-employed and those living alone were left out of further analyses.

The distribution by shift of the resulting sample of wage earners with families ($n = 2,429$) follows. Day workers composed 72.4%. Ten percent reported working flexible shifts. Rotating shift workers constituted 5.9%. Evening, night, and split shift workers comprised 4.5%, 4.2%, and 1.2%, respectively. The 1.7% who did not fit any categories listed was classified as "Other."

Demographic Characteristics

A majority (55%) were between ages 33 and 51, 30.4% were younger than 33, and 14.7% were over 52. The gender distribution was close to half women and half men. A large majority (78.7%) were non-Hispanic whites, 12.4% were African-American, and 8.9% "other." Household income ranged from 0 to \$1 million with a median of \$45,849, and a mean of \$57,355. Most sample participants (71.7%) were living with a spouse or partner. A small percentage (22.3%) resided with their own children under six years old.

Variables and Analyses

The focus of the study was on the dependent variable negative work-to-family spillover (NWFSp). Negative work-to-family spillover was assessed via a five-point Likert scale. It was a continuous variable derived from the mean score of five items, each a Likert scale. The values ranged from a low of 1 to a high of 5. The scale referred to frequency of occurrence of the items as follows: (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always.

Interviewers asked participants to respond to each of the following questions:

"In the past three months, how often have/were you
Not had enough time for yourself
Not had enough time for your family or other important
people in your life
Not had enough energy for family activities
Unable to get everything done at home
Not in a good mood at home
because of your job? Would you say always, often, some-
times, rarely, or never?"

Table 1 lists and defines all independent variables. The Cronbach alpha value was more than 67% for all composite variables. The main independent variable of interest was shift. Additional independent variables of interest included job autonomy, family-friendly job culture, supervisory support, number of work hours per week, and a preference regarding the number of work hours per week. Control variables consisted of demographic (number of children under age six, gender, marital status, household income, age, and race/ethnicity) and work-related variables (education and occupation) likely to have an impact on NWFSp as suggested by the literature.

Analyses included t-tests for multiple comparisons of means, correlations, analyses of variance (ANOVAs), and a multiple regression on NWFSp. Two sets of analyses were run for the t-tests, one with all seven values of shift, the other with shift as a three-value variable. The latter combined all non-standard, non-flexible shifts into one value, leaving day and flexible as the other two shift values. The purpose of using all seven was to note distinctions among shifts. The purpose of using only three was to compensate for the small sample size of the individual non-standard shifts. SPSS Version 11 was the statistical software package used for the analyses.

Results

Hypothesis #1. Tables 2–3 are the results of ANOVAs on NWFSp by shift. There were significant differences in mean NWFSp by shift in the hypothesized direction. Table 2 demonstrates that people who worked one of the non-standard, non-flexible shifts had significantly higher mean negative spillover than those working day shifts. The day and the flexible shift workers did not differ significantly when compared to each other (Table 2). When the category containing all the non-standard, non-flexible shifts was compared to the flexible shift, the mean difference in spillover was also significant at .2256 (not shown in tables). Tables 2–3 support the hypothesis that shift workers experience greater NWFSp than employees who work standard hours. Table 5 shows the full multiple regression for NWFSp. As predicted, shift had a significant impact on spillover, even after controlling for demographic and work variables.

Table 1
Independent Regression Variables on Negative Work-to-Family Spillover

<i>Variables</i>	<i>Values</i>	<i>Meaning</i>	<i>Composite Variable Breakdown</i>
Shift	Day, Eve, Night, Rotating, Split, Flex, Other		
Job Autonomy	Continuous composite. Based on mean value for 4 Likert scale variables. Range: 1 – 4 1 = low job autonomy 4 = high autonomy	Degree of freedom and decision-making on the job:	1) I have freedom to decide what I do on my job 2) I decide how my job gets done 3) I have a lot to say about what happens on my job
Family-Friendly Job Culture	Continuous composite. Based on mean value for 4 Likert scale variables. Range 1 – 4 1 = low or no support for work-family needs 4 = high support for work-family needs	Degree to which workplace supports work-family issues.	1) There is an unwritten rule that you can't care for family needs on company time 2) You must choose between advancement and attention to family 3) Work/Family problems are workers' problems, not the company's 4) Putting family/personal needs ahead of the job is not viewed favorably
Number of Work Hrs./Week	Continuous Range 4–148		

<i>Variables</i>	<i>Values</i>	<i>Meaning</i>	<i>Composite Variable Breakdown</i>
Preference re # Work Hours	Same Fewer More	Prefer same hours currently working Prefer fewer work hours Prefer more work hours	
Supervisory Support	Continuous composite. Based on mean value for 9 Likert-scale values: Range: 1-9 1 = low or no supervisory supportiveness 9 = high supervisory supportiveness	Degree to which supervisor supportive for job-related and family-related issues.	<ol style="list-style-type: none"> 1) My supervisor keeps me informed of things I need to do my job well 2) My supervisor has realistic expectations of my job performance 3) My supervisor recognizes when I do a good job 4) My supervisor is supportive when I have a work problem 5) My supervisor is fair when responding to personal & family needs. 6) My supervisor accommodates me when I have personal business 7) My supervisor is understanding when I talk about personal/family issues. 8) I feel comfortable bringing up family issues w my supervisor. 9) My supervisor cares about work effects on family.
Occupation	Professional/Managerial Everyone else		

Table 1
Continued

Variables	Values	Meaning	Composite Variable Breakdown
Education	Treated as Continuous Range 1–9	Number of years of education: 1) less than a high school diploma or GED. 2) those with a diploma or GED, 3) those with trade or technical school education, 4) participants with some college; 5) a two-year associate degree; 6) those with a bachelor's degree; 7) people with some college after a bachelor's degree but no new degree; 8) those with a professional degree in medicine, law, or dentistry; and 9) respondents with a master's or doctorate.	
Number of Children < 6	Continuous Range 0–3		
Gender	Men, Women		
Marital Status	Living w spouse/partner; Other arrangements		
Household Income	Continuous		
Age	Continuous		
Race/Ethnicity	White, Other		

Table 2
*Multiple Comparisons (t-tests) of Negative Work-to-Family Spillover Means
 Shift in 3 Categories*

(I) SHIFT	(J) SHIFT	MEAN DIFFERENCE (I-J)	SIG	LOWER BOUND	UPPER BOUND
Evening, night, rotating, split, other	Day	.2334*	.000	.1158	.3511
Flexible—no set hours	Day	7.879E-03	(NS).991	-.1407	.1564

Table 3
*Multiple Comparisons (t-tests) of Negative Work-to-Family Spillover Means
 Shift in 7 Categories*

(1) SHIFT	(1) SHIFT	MEAN DIFFERENCE (I-J)	SIG	LOWER BOUND	UPPER BOUND
Evening	Day	7.663E-02	(NS) .962	-.1745	.3277
Night	Day	.2421	(NS) .172	-4.7270E-02	.4756
Rotating—changes each day	Day	.3210*	.001	9.814E-02	.5439
Split—2 distinct periods each workday	Day	.3755	(NS) .228	-.1111	.8621
Flexible—no set hours	Day	7.879E-03	(NS) 1.000	-.1670	.1828
Other	Day	.3014	(NS) .261	-.1022	.7050

t-tests treat one group as a control, and compare all other groups against it. *The mean difference is significant at the .001 level

Hypothesis #2. Table 3 compares each shift to day shifts and shows that only people on rotating shifts differed significantly from day workers in mean NWFSp, with a mean difference of .321, only partially confirming hypothesis #2. Table 5 shows the full multiple regression for NWFSp, confirming the hypothesis for all except evening workers. People working night, rotating, and split shifts experienced significantly higher NWFSp than those working days. Rotating shift workers had the highest t values of any one shift type. However, evening shift workers did not differ significantly from day workers. People with flexible shifts also did not differ significantly from day workers. When the flexible group was the reference category and was compared to each non-standard shift, its NWFSp value was significantly lower than the NWFSp of shift workers (not shown). Shift remained significant in its impact on NWFSp even after adding demographic and work-related controls including education and occupation (Table 5).

Hypothesis #3. Table 4 demonstrates the strong, significant correlation between the number of work hours per week and increased NWFSp ($r = .240, p = .000$). The number of work hours per week did have a strong, positive, significant impact on NWFSp when controlling for demographic and work variables in the full multiple regression (Table 5, $p = .000; t = 8.329$).

Hypothesis #4. Analysis of variance (ANOVA) for the comparison of mean values of NWFSp among workers who preferred the same, fewer, or more work hours than their current schedule imposed (not shown in tables) demonstrated a strong, significant association between preference for fewer hours and increased NWFSp. People who preferred to work fewer hours had significantly higher mean values of NWFSp than those who liked their current schedules ($p = .000$; Mean difference = .5369). People who would have liked to work more hours did not differ significantly from those who preferred the same ($p = .074$). In the full regression (Table 5), preference to work fewer hours was significantly, positively associated ($p = .000; t = 6.081$) with increased NWFSp. Preferring more hours was not related significantly ($p = .13$) to NWFSp.

Hypothesis #5. Work variables other than shift, hours, or hours-preference, had significant associations with NWFSp: job autonomy, family-friendly job culture, and supervisory support.

Table 4

Work and Demographic Variables Correlations to Negative Work-to-Family Spillover

<i>Variable</i>	<i>Significance</i>	<i>Correlation</i>	<i>N</i>
Number of Work Hrs/Week	.000	.240**	2398
Job Autonomy	.000	-.162**	2423
Family-Friendly Job Culture	.000	-.244**	2404
Supervisory Support	.000	-.285**	2155
NumChildren < age 6	.000	.089**	2423
Household Income	.945 (NS)		2274
Age	.000	-.088**	2394

** Correlation significant at the .001 level (N's < 2,429 due to missing values)
Families & Work Institute National Study of the Changing Workforce 1997 Data

Table 4 shows significant ($p = .000$) negative correlations between NWFSp and each of the three continuous variables job autonomy ($-.162$), a family-friendly job culture ($-.244$), and supervisory support ($-.285$). The t values in Table 5 indicate the strength of the associations. The family-friendlier the job culture, the lower the NWFSp ($p = .000$; $t = -8.353$). Similarly, the higher the degree of job autonomy, the lower the NWFSp ($p = .003$; $t = -3.007$). Supervisory support, a composite variable (Table 1) meaning that one's supervisor was supportive concerning both job and family matters, was associated with a decrease in NWFSp ($p = .000$; $t = -6.918$). Note the R^2 showing that the model explains fully 22% of the variation (Table 5).

Discussion

Shift Work, Hours of Work, and Negative Work-to-Family Spillover

This study found that NWFSp was significantly higher for shift workers than for workers on either day or flexible schedules (Tables 2, 3, 5). When examining only mean spillover of each shift with no controls (Table 3), the rotating shift workers were the sole group differing significantly in mean NWFSp from day workers. When looking at the full regression, rotating shift workers had the highest t values (Table 5, $t = 4.675$). It is easy to imagine how

Table 5

Full Multiple Regression Model for Negative Work to Family Spillover

Variable	Unstandard.		Standrd. Coeffs	
	B	Beta	t	Sig
Constant	3.771		22.297	.000
<i>Shifts</i>				
Day				Reference
Evening	1.620E-02	.004	.169 (NS)	.866
Night	.220	.044	2.127	.034
Rotating	.373	.096	4.675	.000
Split	.400	.045	2.233	.026
Flexible - No set hours	-2.796E-02	-.008	-.405 (NS)	.686
Other	.307	.039	1.927	.054
JOB AUTONOMY	-8.773E-02	-.067	-3.007	.003
FAMILY-FRIENDLY CULTURE	-.238	-.191	-8.353	.000
# WORK HRS / WK	1388E-02	.195	8.329	.000
<i>Preference re # Work Hours</i>				
Same				Reference
Prefer fewer hours	.304	.152	6.081	.000
Prefer more hours	.114	.040	1.647 (NS)	.13
SUPERVISORY SUPPORT	-.245	-.161	-6.918	.000
EDUCATION (# yrs of school)	2.843E-02	.067	2.735	.006
<i>Occupation</i>				
Managers/Professionals				Reference
Other	-5.498E-02	-.027	-1.090 (NS)	.276
NUMCHILDREN < AGE 6	8.89E-02	.057	2.638	.008
<i>Gender</i>				
Men				Reference
Women	.264	.138	6.398	.000
<i>Marital Status</i>				
Single/Unmarried				Reference
Living w spouse/partner	.125	.059	2.669	.008
HOUSEHOLD INCOME	-3.418E-07	-.023	-1.047 (NS)	.295
AGE	-5.645E-03	-.067	-3.052	.002
<i>Race/Ethnicity</i>				
White Non-Hispanic				Reference
All others	-.123	-.053	-2.573	.010

Summary ANOVA

R	Adjusted R square	Std Error	Sum of Squares	Df	Mean Square	F	Sig
.477	.228	.220	.8468	Regression	403.371	20	20.169
				Residual	1368.238	1908	28.125
				Total	1771.609	1928	.000

a rotating shift may wreak havoc on home or family life. Merely arranging child care becomes a nightmare if one needs child care at different hours each day. The number of work hours had a strong, significant impact on NWFSp (Table 5, $p = .000$; $t = 8.329$). Two of the factors composing the composite NWFSp variable were "Not had enough time for family" and "Not had enough energy for family activities." Preferring to work fewer hours was a significant correlate to NWFSp.

Control/Autonomy, Support, and Family-Friendliness

The most interesting work variable examined apart from shift was job autonomy in that it was not conceptually tied to family themes and only involved job freedom and decision-making. Nevertheless, the data showed a strong negative relationship between job autonomy and NWFSp. This result is similar to findings of Karasek et al. (1981) who showed that jobs high in demand but low in control lead to poor individual health. The relationship between job autonomy and NWFSp in the current study may parallel Karasek's research on autonomy and worker health.

A recent study by Barnett (1999) found that control over work hours has a mediating effect on the relationship between work hours and burnout. So a higher number of work hours does not correlate directly with an increased chance of burnout. Rather, people who have control over their schedules, whose desired number of work hours matches their actual work time, experience the lowest levels of burnout. The current study supported Barnett's (1999) results if job autonomy serves as a proxy for control over hours. However, the study differs from Barnett's (1999) in that number of work hours showed a strong positive association with NWFSp.

Job autonomy does not confine itself merely to control over work hours. As defined in the study (Table 1), autonomy primarily refers to decision-making concerning how to accomplish particular jobs and determining what those jobs should be. Clearly, the sense of providing input into the work process has a strong association with decreased NWFSp.

Supervisory support for both work issues and family concerns also appear to have a strong negative relationship with NWFSp. A workplace rated high in family-friendliness results in employees with significantly lower NWFSp.

Preference Concerning Number of Work Hours

Evidence exists showing that some Americans, given the option, will choose time over money (Cottle, 1997; Dowd, 1997). These "downshifters" are cutting back on their work commitment and in some cases quitting jobs altogether in order to enjoy families, communities, and other interests (Elgin, 1993). An estimate is that 4% of the 77 million "baby boomers," ages 31–50, have begun living a simpler life so as not to have to earn as much money (Laabs, 1996).

The current study supported existing evidence. Most participants (62.9%) would prefer to work fewer hours. A preference for fewer hours was highly positively associated with NWFSp (Table 5; $p = .000$; $t = 6.081$). Number of work hours had a strong, significant positive correlation with NWFSp (Table 4; $p = .000$; $r = .24$) in contrast to household income, which did not.

Control and Demographic Variables

It was interesting to note that shift continued to show a significant association with NWFSp even when controlling for education and occupation (Table 5). Because so many shift jobs are blue-collar occupations (Deutsch, 1999), one might guess that increases in NWFSp associated with shift work could be the result of the type or nature of the job apart from its schedule. But the data within the current study suggest otherwise.

Occupation itself was not significant whether it was divided into two categories (Table 5) or seven (not shown). Education, however, demonstrated a significant association with NWFSp in that as education increased, so did NWFSp. This may be a

reflection of education accompanying higher expectations and subsequent disappointment with both jobs and families.

As expected, the number of children under six years old living at home had a significant, positive association with NWFSp. Again, consistent with literature (Hochschild & Machung, 1989), women and people living with spouses or partners experienced higher negative spillover than their male and single counterparts, respectively. Age was protective against high negative spillover, once more in agreement with studies showing that as families age, their stress level decreases (Cowan & Cowan, 1997). This may be a reflection of aging leading to lowered expectations or more experience and wisdom in reducing stress with families and other areas of life. But it could also be an indication that young children, often a source of stress, are not as likely to be living with older workers.

While household income had no relationship with NWFSp, surprisingly, race/ethnicity was associated significantly with NWFSp in an unexpected direction. Non-whites experienced lower NWFSp than whites. The same relationship held when the "All others" category was broken down into smaller ethnic groupings. This suggests that being non-white was a protective factor against negative spillover. One speculation as to the reason non-Hispanic whites had a level of negative spillover significantly higher than employees from other ethnic groups is a sample size issue. There was an overwhelming dominance of whites (78.7%) within this sample. But other issues may have played a role in this significant difference. It is possible that non-white workers report differently the same experiences when compared to whites. So, for example, a particular mood might be considered "bad" by whites and "normal" by non-whites. While many factors may be contributing to this particular variation, one reason may be that whites have higher expectations of work, family, and life than do people of color. This may be based on realistic assessments by both groups of the impact of racism on many aspects of life.

Policy Implications and Recommendations

Employee Input into Decision-Making

Results from the study showing the strong associations between supervisory support, job autonomy, and a family-friendly

job culture to reduced NWFSp argue for attention on the part of employers and government to provide a work environment that includes autonomy and is family-friendly. Employers could develop ways to include workers in decision-making. The fact that it is possible to reduce NWFSp by increasing supervisory support suggests that supervisors be evaluated in part on their record of supportive behavior towards employees and that supervisory education include trainings on work-family relationships. Pressures to meet counteracting goals such as production quotas must be alleviated. The only strategy likely to be successful in instituting these changes in supervisory training and incentives is government mandates.

Substantiation exists for this claim as advocates for unpaid family and medical leaves know all too well. Until the Family and Medical Leave Act took effect in 1993, few employers provided workers with a guaranteed job after a 12-week leave for new parenthood or a serious illness of a family member. Studies conducted by Hewitt (1993), and Towers Perrin (1993) found 25% and 15% respectively, of employers surveyed offering family and medical leaves meeting FMLA requirements. Afterwards, while compliance was not 100%, the percentage of employers providing leaves increased dramatically to 67% (Commission on Leave, 1996).

Work Hours

Based on the strong association between number of work hours and NWFSp, the main policy implication is to decrease the number of work hours in a standard week. Although this may sound unrealistic to a U.S. audience, the equivalent is already taking place in European countries. France reduced the 40-hour workweek standard to 35 with no pay cuts in 2000. The main purpose in France is to decrease the unemployment rate (Dahlburg, 1999). However, there are clearly other benefits to this policy, such as being able to spend more time with one's family. In Denmark, half a million workers went on strike a few years ago to call for, among other demands, a 6-hour day for all shift workers (Pollitt, 1998). If the United States would share with its European counterparts the goal of facilitating the quality and quantity of time U.S. employees spend with families, it could develop its own family policy rather than merely pay lip service to so-called

"family values," with no corresponding legislation, as is currently the case.

Although probably not representing the U.S. mainstream viewpoint, several American scholars are calling for a reduced work schedule. Schor (1991) demonstrates how the number of work hours per year has increased by fully one month of work time for U.S. workers during the 50 years between 1940 and 1990. She advocates setting standard time limits for salaried workers so that employers would be obligated to pay them overtime for any hours worked beyond the limit, compensating overtime hours in time rather than money, and increasing hourly wages for workers previously earning wages at overtime rates (Schor, 1991). Jacobs and Gerson (1998), who refute Schor's claim of increased work hours, nevertheless also espouse a reduced work week standard from 40 to 35 hours and inclusion of exempt or salaried workers in the protection guaranteed by the Fair Labor Standards Act. They posit the idea that what has changed during the past 50 years is family structure, rather than job hours. Because there is no longer a person charged with family support work to maintain the male breadwinner, both men and women in the paid labor force need more free time than workers of previous generations. Bailyn (1993) makes the same point in her research. Other U.S. scholars, including Moen (1992), Haas (1992), and Hochschild (1997), to mention a few, point to European models to show that U.S. work-family arrangements are not the only ones imaginable. Moreover, it is possible to create a society in which people have time to spend with family and community while still performing well at jobs.

Shift Scheduling

The sizable differences in NWFS_p for workers on flexible (t-test mean difference = .2256, $p < .001$) or day (t-test mean difference = .2334, $p < .001$, Table 2) shifts compared to workers on non-standard shifts is evidence that flexible work arrangements can substantially decrease NWFS_p. At the same time, non-standard, non-flexible shift work tends to increase NWFS_p. If, as consumers, we benefit from the labor of shift workers, from patronizing restaurants, shopping at all-night supermarkets, and participating in organized, recreational activities during non-

business hours, we must attempt to initiate policy that will sustain the family relationships of shift workers. Policy changes may involve reducing the number of people on shift work at any given time, offering options of shifts to workers, or limiting the number of months or years any one person would work a shift not of her/his choice.

Limitations, Future Research, and Conclusions

One limitation of the study was that only the workers were the participants. A much stronger design would have included the families of these workers. Then it would have been possible to obtain a fuller picture of negative work-to-family spillover. Consistencies and contradictions among family members' statements would contribute to a better understanding of the impact of shift work on the entire family.

It would be useful to do more research in the area of race/ethnicity and work-family conflict and spillover. Research that could verify or explain the results of this study which showed that NWFSp was higher for whites than non-whites could potentially lead to work-family policy that reduced spillover for people of all ethnicities.

The cross-sectional nature of the study was a limiting factor. For example, the survey asked participants only if they were doing shift work at the time of the interview. There was no information as to how long they had been working a given shift. However, those data could make a serious difference in interpreting results. Future research should include longitudinal studies in order to gain a more realistic understanding of the long-term impact of shift work on families.

This study has illustrated that there is a strong, significant relationship between shift work and NWFSp. Working non-standard, non-flexible shifts significantly increases NWFSp even when controlling for education, occupation, and standard demographic variables. Moreover, it has shown that job autonomy, a family-friendly job culture, supervisory support, and fewer work hours all significantly decrease NWFSp. Policy recommendations suggest a concern for protecting shift workers' family relationships. Time and again, social workers relate to clients as family mem-

bers, disenfranchised minorities, members of ethnic groups and of vulnerable populations, but not as workers most of them are. To ignore this major role that clients play is to abandon an important area of advocacy. Social workers must involve themselves in workers' rights movements, labor unions, and living wage campaigns if they wish to offer genuine support to their clients. Social workers and social welfare policymakers are in key positions to advocate for the needs of the rapidly increasing group of shift workers in their overall agenda.

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