Stress Management; Social Health

Work-Family Spillover and Health During Midlife: Is Managing Conflict Everything?

Joseph G. Grzywacz, PhD

Abstract

Purpose. To examine the association between multiple dimensions of work-family spill-over, and physical and mental health among working midlife adults.

Design. Cross-sectional analyses of self-reported data.

Setting. The National Survey of Midlife Development in the United States (MIDUS), 1995

Subjects. Employed adults aged 35–65 years (n = 1547) who participated in the telephone interview and returned the mail-back questionnaires of the MIDUS (overall response rate of 60.8%).

Measures. Independent variables included negative spillover from work to family, positive spillover from work to family, negative spillover from family to work, positive spillover from family to work. Self-rated physical health, chronic conditions, obesity, self-rated mental health, negative psychological well-being, and positive psychological well-being were outcomes.

Results. Independent of negative spillover between work and family, more positive spillover from work to family was associated with better physical health (odds ratio [OR] = 1.17, $p \le .05$) and mental health (OR = 1.28, $p \le .01$). More positive spillover from family to work was associated with less chronic conditions (OR = .85, $p \le .05$), less negative well-being (OR = .67, $p \le .001$), as well as better mental health (OR = 1.45, $p \le .01$) and more positive well-being (OR 1.76, $p \le .001$).

Conclusions. Health promotion or employment programs and policies may need to focus on minimizing negative spillover between work and family and promoting positive spillover between work and family. (Am J Health Promot 2000;14[4]:236–243.)

Key Words: Work-Family Spillover, Physical Health, Mental Health, Ecological Perspective

Joseph G. Grzywacz, PhD, is affiliated with the Department of Psychology and Social Behavior, School of Social Ecology, University of California, Irvine.

Send reprint requests to Joseph G. Grzywacz, PhD, 3325 Social Ecology II, Irvine, CA 92697-7085.

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INTRODUCTION

Negative spillover between work and family, or the extent to which employment obligations intrude upon family life and family obligations interfere with worker productivity,1 is gaining increased attention as greater numbers of women and men are attempting to manage and organize unique work and family arrangements.^{2,3} Negative spillover between work and family and work-family conflict, a related theoretical construct,1 have been found to promote problem drinking,4-7 undermine individual health and well-being,6,8 and negatively influence the well-being of workers' family members.9 Reducing negative spillover between work and family and attenuating feelings of work-family conflict can have farreaching health implications for both the employee and his or her family members; therefore, the work-family interface is a notable leverage point10 for employer-based or community health promotion.

Although it is clear that in some circumstances negative events from one life setting (e.g., work or family) may spill over and undermine functioning in another, theory also suggests that participation in multiple roles generates opportunities and resources that may facilitate growth and functioning across life settings. 11-13 In other words, skills and opportunities gained through employment may make for a better family member, while family experiences and support may make for a better worker; the synergy of this "positive spillover" or 'good fit" 11 between work and family could promote individual and family well-being.11 Empirical reports using a variety of samples consistently indicate, for example, that marital quality is an important buffer for jobrelated stress, particularly among men. 14-20 Similarly occupation of multiple roles (e.g., employee, wife, or mother) has been associated with better physical health and psychological well-being, particularly among women who want to work or who are economically disadvantaged. 12.21-24

Despite evidence suggesting that both positive and negative forms of spillover between work and family can occur, conceptualizations of work-family spillover have remained unidimensional. That is, scholars typically limit work-family spillover to a single continuum ranging from no negative spillover to a high level of negative spillover, or ranging from no positive spillover to a high level of positive spillover. These unidimensional conceptualizations assume that no or low negative spillover is isomorphic with positive spillover and that high levels of positive and negative spillover between work and family cannot coexist. An innovative study by Crouter25 provides a notable exception. Crouter found examples of both positive and negative spillover from family to work when interviewing employees who worked for a large manufacturing plant. A recent population study extended Crouter's work by finding that positive and negative spillover between work and family were orthogonal.26 Indeed, evidence from this study suggests that a four-dimensional model of work-family spillover (i.e., negative spillover from work to family, positive spillover from work to family, negative spillover from family to work, and positive spillover from family to work) best describe the work-family experiences of today's working adults.

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Grzywacz and Marks, ²⁶ using principle axis analysis, found that 14 items assessing work-family spillover loaded clearly on four factors that had low to moderate levels of intercorrelation. Multivariate analyses indicated that negative spillover from work to family, positive spillover from family to work, and positive spillover from family to work shared, but also had unique, work- and family

ly-related correlates. For example, a high level of decision latitude on the job was associated with positive spillover between work and family, but pressure on the job and negative family relationships were associated with negative spillover between work and family and were unrelated to positive spillover. Differences in the correlates of various aspects of workfamily spillover provide further evidence that they are orthogonal experiences. Finally, although only positive spillover from work to family was found to differ between women and men, several gender differences were found in the association between work and family characteristics (e.g., support at work, pressure at work, family criticism, and age of oldest child) and different types of workfamily spillover.

Ecological theory²⁷⁻²⁹ provides a valuable perspective for examining individual health and well-being.30 Briefly, ecological theory suggests that individual and environmental factors, as well as the quality of fit between the individual and his or her environment, work independently and perhaps synergistically in shaping health-related outcomes.31 The multiple dimensions of work-family spillover introduced earlier provide secular examples of "quality-of-fit" indicators that may independently influence individual health and well-being. Work-family spillover also provides a good example of the ecological concept of "mesosystem,"27 or the "interrelations among two or more settings in which the developing person actively participates," which is expected to independently influence individual outcomes above and beyond characteristics from the separate life domains (e.g., work or family).27

Ecological theory also postulates that an individual's developmental context is also relevant for understanding health and well-being. 28 Midlife adults experience more profound changes in both their work and family lives in contrast to younger or older adults; consequently, some scholars have posited that integration, organization, and management of these transitions is a primary concern among midlife adults. 32,33

For example, some evidence suggests that changes in health-related behaviors among midlife adults reflect growing responsibilities and greater priority given to work and family.^{34–36}

This literature suggest that different types of work-family spillover will be particularly important to the health and well-being of midlife adults. Since midlife health is a good indicator of whether old-age morbidity is likely to be compressed or lengthened, ^{37,38} it is important to consider how different types of work-family spillover influence well-being during middle adulthood.

PURPOSE

The goal of this research was to examine the health and well-beingrelated consequences of multiple dimensions of work-family spillover among working midlife adults. Guided by ecological theory and previous research, this study investigated two primary research questions: (1) What is the association between multiple dimensions of work-family spillover, and different dimensions of physical health and psychological well-being? (2) Does the association between work-family spillover and health and well-being differ for women and men?

Hypotheses

My first hypothesis was that more negative spillover from work to family and a high level of negative spillover from family to work would be associated with poorer physical health and psychological well-being.

My second hypothesis was that a higher level of positive spillover from work to family and more positive spillover from family to work would be associated with better physical health and psychological well-being.

METHOD

Design

Cross-sectional data from the National Survey of Midlife Development in the United States (MIDUS) were used in this study. The data were collected in 1995 by the John D. and Catherine T. MacArthur Foundation Network on Successful Midlife Devel-

opment to examine patterns, predictors, and consequences of midlife development in the areas of physical health, psychological well-being, and social responsibility.

Sample

This study included data from employed MIDUS respondents aged 35-65 years who completed the telephone interview and also returned the self-administered mail-back questionnaires (n = 1547). The response rate for the telephone interview and mailback questionnaires were 70% and 86.8%, respectively, yielding an overall response rate of 60.8% for both parts of the survey. Sampling weights correcting for selection probabilities and nonresponse allow this sample to match the composition of the U.S. population on age, sex, race, and education. (For a detailed technical report regarding field procedures, response rates, and weighting, see http://midmac.med.harvard. edu/research.html#tchrpt.) Table 1 provides a description of the analysis variables.

Measures: Dependent Variables

Current conceptualizations of health and health-related quality of life suggest that perceived health, subjective complaints of impairment, and relative fitness level are related yet distinct aspects of physical health.39,40 Perceived physical health was measured with a single-item question asking the individual to rate his or her physical health on a scale of 1 to 5 (1 = poor, 2 = fair, 3 =good, 4 = very good, and 5 = excellent) and operationalized by coding "very good" and "excellent" responses as 1. The presence of chronic health problems is one measure of functional impairment; this was assessed by asking respondents if they had experienced any of 29 conditions within the past 12 months (e.g., asthma, persistent skin trouble, high blood pressure, and sleeping problems). Respondents in the top quartile of chronic health conditions (i.e., those who reported four or more chronic health problems) were coded 1 for high levels of comorbidity; otherwise, respondents were coded 0. Finally, obesity, another measure of

Table 1

Descriptive Statistics for All Analysis Variables

Variable	Mean*	Standard Deviation	Range
Outcomes	-15.0		
Very good or excellent physical health	50%		
Chronic health problems (high quartile)	26%		
Obesity	38%		
Very good or excellent mental health	59%		
Negative well-being (high quartile)	24%		
Positive well-being (high quartile)	27%		
Work-family spillover†			
Negative work to family	2.63	0.74	1-5
Positive work to family	2.64	0.85	1–5
Negative family to work	2.08	0.67	1-5
Positive family to work	3.41	0.84	1-5
Individual microsystem			
Physical health at age 16 years‡	4.43	0.83	1–5
Mental health at age 16 years‡	4.10	1.00	1–5
Extraversion§	3.19	0.58	1-4
Neuroticism§	2.23	0.66	1-4
Demographic characteristics			
Age (years)	46.33	8.08	35-65
Sex (female = 1)	51%		
Race/ethnicity (black = 1)	10%		
Education			
Less than high school education	9%		
High school education or GED	38%		
Some college	25%		
College graduate school	27%		
Household earnings			
Bottom quartile	28%		
2nd quartile	22%		
3rd quartile	26%		
Top quartile	23%		
Marital status (married = 1)	72%		
Parental status (child < 18 = 1)	44%	.227	17 17 12 2
Hours worked per week	43.88	15.04	1-142

Source: National Survey of Midlife Development in the United States, 1995. Descriptive statistics are based on weighted data.

* Means for dichotomous measures are the estimated percent of the population with the specified characteristic.

 \dagger Values for work-family spillover are 5 = all the time, 4 = most of the time, 3 = sometimes, 2 = rarely, 1 = never.

‡ Values for health at age 16 years are 5 = excellent, 4 = very good, 3 = good, 2 = fair, 1 = poor.

§ Values for personality are 4 = a lot like me, 3 = some like me, 2 = a little like me, 1 = not at all like me.

functional impairment, was constructed from self-reported weight and height (kg/m²). Consistent with criteria used to classify overweight status in the Healthy People 2000 objectives,⁴¹ women with a body mass index greater than 27.3 kg/m² and men with a body mass index greater than 27.8 kg/m² were coded 1.

Perceived mental health was measured with a single-item question asking the individual to rate his or her mental health on a scale of 1 to 5 (1 = poor, 2 = fair, 3 = good, 4 = very good, and 5 = excellent), and the responses were again operationalized by coding "very good" and "excellent" responses as 1. A large empiri-

cal literature demonstrates that positive and negative well-being are orthogonal dimensions of psychological well-being,42-44 consequently two aspects of well-being were considered in these analyses. Negative well-being was measured using six indicators of general distress and depression over the past 30 days that were culled from various instruments and validated elsewhere.45 The six items asked, "During the past 30 days, how much of the time did you feel . . . (1) so sad nothing could cheer you up? (2) nervous? (3) restless or fidgety? (4) hopeless? (5) that everything was an effort? and (6) worthless?" Response categories for each of the items included all the time = 5, most of the time = 4, some of the time = 3, a little of the time = 2, and none of the time = 1 (α = .85). Individuals in the high quartile on the negative well-being scale were coded 1. Positive well-being was assessed using 18 items developed for large survey questionnaires to tap six dimensions of positive psychological well-being, including self-acceptance, positive relations with others, environmental mastery, autonomy, purpose in life, and personal growth ($\alpha = .80$).^{44,46} (Detailed descriptions of the dimensions of positive psychological wellbeing are reported elsewhere.)46 Individuals in the high quartile of scores on the positive well-being scale were coded as 1.

Measures: Independent Variables

The four dimensions of work-family spillover were constructed from 14 items that were developed for MI-DUS and elaborated upon elsewhere.26 Negative spillover from work to family measured the respondent's perceived extent that work interfered with functioning at home by calculating the mean response to four items (e.g., "How often does stress at work make you irritable at home?"; α = .82). Conversely, positive spillover from work to family assessed the extent to which the respondent felt that their work promoted better functioning at home (e.g., "How often do the things you do at work help you deal with personal and practical issues at home?"; $\alpha = .73$). Negative spillover from family to

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work assessed the extent to which the respondent felt his or her family life was interfering with success on the job (e.g., "How often does stress at home make you irritable at work?"; $\alpha = .80$). Finally, positive spillover from family to work measured the extent to which respondents felt their family life helped them perform better on the job (e.g., "How often does talking with someone at home help you deal with problems at work?"; $\alpha = .70$). Response categories ranged from never = 1 to all the time = 5.

Respondents' retrospective report of physical health status and mental health status, both at the age of 16 years, were also included in all analyses. Although less reliable than using data collected at an earlier time, controlling for retrospective reports of health status at age 16 years partially lessens the reverse causation hypothesis (i.e., an individual's health status is the source not the consequence of work-family spillover). Additionally, controlling for retrospective health status lessens the plausibility of an alternative hypothesis suggesting that an individual's mood or state at the time of questionnaire completion is influencing responses to both the health and well-being items and the work-family spillover items.

Next, extraversion and neuroticism were controlled, since these facets of personality have been previously demonstrated to influence perceptions of health and well-being^{45,47} and were strongly associated with the spillover items.²⁶ Extraversion and neuroticism were measured using items from personality trait scales that have been reported elsewhere.⁴⁸

Finally, age (continuous), sex (female = 1), race/ethnicity (black = 1), education (categorical), household earnings (quartiles), marital status (married = 1), parental status (child younger than years 18 = 1), and the number of hours worked per week were controlled in all analyses to avoid potential confounding.

Analyses

The research hypotheses were tested using multivariate logistic regression analyses. Each dichotomous health and well-being outcome was regressed, in separate models, on the different dimensions of work-family spillover, previous health status, and personality and other sociodemographic characteristics. Gender by work-family spillover interaction terms were also included in preliminary models to examine if gender moderated the effects of work-family spillover⁴⁹ on health and well-being.

RESULTS

Descriptive data suggest that the (see Table 1) physical health status of respondents in this sample was comparable to the samples used in other national studies. ^{50–52} Although nearly 40% of respondents in this sample are considered obese, half of the respondents reported very good or excellent physical health, and 60% of respondents reported very good or excellent mental health.

The results from multivariate logistic regression analyses support the research hypotheses: a higher level of negative spillover between work and family is associated with poorer physical and mental health, while a higher level of positive spillover between work and family is associated with better physical and mental health. None of the gender-by-work-family spillover interaction terms reached statistical significance in preliminary analyses, indicating that the effects of work-family spillover on health and well-being do not differ between women and men. Additional analyses were therefore undertaken without the gender-by-work-family interaction terms, and these results are reported in Tables 2 and 3.

In terms of self-reported physical health status, for every unit increase in the level of negative spillover from work to family, the odds of reporting very good or excellent physical health decreased by 19% while holding positive spillover and negative spillover from family to work constant. On the other hand, a higher level of positive spillover from work to family was associated with increased odds of being in very good or excellent health. Placing these results in a specific context, individuals reporting the highest level of positive spillover from work to family were

Table 2 Estimated Odds Ratios for the Associations Between Work-Family Spillover and Physical Health Among Working Adults Aged 35-65 Years

	Very Good or Excellent Physical Health	Chronic Health Problems (High Quartile)	Obesity
Work-family spillover	2 (M) 3 p 1		
Negative work to family	0.81*	1.57***	1.32**
Negative family to work	0.81*	1.43**	0.89
Positive work to family	1.17*	1.00	0.99
Positive family to work	1.15†	0.85*	1.04
Individual microsystem (control variables)			
Physical health at age 16 years	1.47***	1.04	0.97
Extraversion	1.32**	0.98	0.94
Neuroticism	0.84†	1.69***	0.95
Age	0.98*	1.04***	1.01
Sex (female = 1)	0.98	1.71***	0.84
Race/ethnicity (black = 1)	0.43***	1.07	1.53†
Education			
Less than high school education	0.33***	2.45***	1.2
High school education or GED	0.54***	1.43*	1.32†
Some college	0.80	1.62**	1.27†
College graduate school	reference	reference	reference
Household earnings			
Bottom quartile	0.70*	1.50†	1.35†
2nd quartile	0.75†	1.26	1.22
3rd quartile	0.84	1.39†	1.22
Top quartile	reference	reference	reference
Marital status (married = 1)	0.93	0.97	1.50*
Parental status (child < 18 = 1)	1.29†	0.66*	0.74*
Hours worked per week	1.00	0.99	1.01
2nd log likelihood	1915.06	1500.30	1974.12
df	1494	1493	1495

Source: Data from the National Survey of Midlife Development in the United States, 1995.

72% more likely to report very good or excellent health, in contrast to individuals reporting the lowest level of this dimension of work-family spillover. The parameter estimate for positive spillover from family to work was .135; therefore, the odds associated with the relative difference between the lowest and highest reports of this type of spillover would be53 $\exp[(.135 \times 5) - (.135 \times 1)] =$ $\exp[.54] = 1.72.$

Analyses examining the association between work-family spillover and functional impairment further support the research hypothesis predicting that both positive and negative aspects of the of the work-family interface would be independently asso-

ciated with chronic health problems reported by working adults. Each unit increase in the level of negative spillover from work to family was associated with a 57% increase in the odds of reporting multiple (i.e., four or more) chronic conditions and a 32% increase in the odds of being obese. Additionally, a higher level of negative spillover from family to work and a lower level of positive spillover from family to work were found to be independently associated with greater odds of reporting multiple chronic health problems.

Logistic models estimating the association between work-family spillover and psychological well-being parallel the results for physical health and provide further support for the research hypotheses (Table 3). Each of the four dimensions of work-family spillover was found to be independently associated with self-reported mental health status; both a higher level of positive and a lower level of negative spillover were associated with greater odds of reporting optimal mental health. A higher level of negative spillover from work to family was associated with a greater likelihood of reporting a high level of negative well-being (i.e., dysphoria), but so was a low level of positive spillover from family to work. That is, for every unit increase in the amount of positive spillover from family to work, the odds of being in the highest quartile of negative well-being (i.e., dysphoria) decreased by 33%. Finally, similar to the results reported for self-reported mental health, each dimension of work-family spillover was found to be significantly associated with greater odds of reporting high levels of positive psychological wellbeing.

DISCUSSION

This study considered the healthrelated implications of different types of work-family spillover and found, consistent with research hypotheses derived from ecological theory, that negative spillover and positive spillover between work and family were independently associated with multiple dimensions of health and well-being. Consistent with previous longitudinal research6 using more limited samples, a higher level of negative spillover between work and family was associated with less than optimal physical health and psychological well-being. Also consistent with some previous research using more limited samples,54 these results indicated that work-family spillover affects women's and men's health equally, reinforcing current arguments that work-family spillover is not just an issue for women.2,24 Results from this study also provide additional evidence of discriminate validity for negative work to family spillover and negative family to work spillover,55 since they were each independently associated with four of the six outcomes. Consistent

 $[\]dagger p \leq .10$ (two-tailed).

^{*} $p \le .05$ (two-tailed).

 $p \leq .01$ (two-tailed) *** $p \leq .001$ (two-tailed).

Table 3 Estimated Odds Ratios for the Associations Between Work-Family Spillover and Psychological Well-being Among Working Adults Aged 35-65 Years

	Very Good or Excellent Mental Health	Negative Well- being (High Quartile)	Positive Well-being (High Quartile)
Work-family spillover			
Negative work to family	0.74**	1.85***	0.71**
Negative family to work	0.66**	1.08	0.59***
Positive work to family	1.28**	1.14	1.15†
Positive family to work	1.45**	0.67***	1.76***
Individual microsystem (control variables)			
Mental health at age 16 years	1.69***	0.83**	1.08
Extraversion	1.32*	0.72**	2.89***
Neuroticism	0.49***	5.80***	0.37***
Age	0.96***	1.00	0.98†
Sex (female = 1)	1.07	0.97	1.12
Race/ethnicity (black = 1) Education	0.66	1.05	1.26
Less than high school education	0.33***	1.33	0.82
High school education or GED	0.49***	1.15	0.69*
Some college	0.75†	1.26	0.82
College graduate school	reference	reference	reference
Household earnings			
Bottom quartile	0.51***	1.96**	0.55**
2nd quartile	0.51***	1.61*	0.67*
3rd quartile	0.67*	1.17	0.61**
Top quartile	reference	reference	reference
Marital status (married = 1)	1.39*	0.98	1.25
Parental status (child < 18 = 1)	1.00	1.01	0.77
Hours worked per week	1.00	0.99	1.00
2nd log likelihood	1610.18	1193.26	1345.97
df	1493	1487	1488

Source: National Survey of Midlife Development in the United States, 1995.

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with the ecological premise that the environment can be conceived as interdependent lower-order "microsystems,"27 future research needs to consider both the family and the workplace as potential sources of conflict that may undermine individual health and well-being.25

Results indicating that different forms of positive spillover between work and family were associated with better physical health and psychological well-being among midlife adults are additions to the work-family and health literature and are consistent with ecological theory. Most important, these results suggest that positive spillover from work to family and

positive spillover from family to work are distinct from their negative spillover counterparts, since they were frequently significant correlates of health and well-being even after adjusting for negative spillover. The relative magnitude of the estimated odds ratios suggest that positive spillover between work and family may be particularly important for mental and psychological well-being, whereas negative spillover between work and family may be particularly detrimental to physical health.

Consistent with reviews suggesting that the vicissitudes of work-family experiences are not reliant solely on the presence or absence of "work-

family conflict,"11 these results suggest that the different contours of the work-nonwork interface may influence employee health and well-being in various ways. For example, in contrast to previous research,6 these results suggest that a low level of positive spillover from family to work rather than a high level of negative spillover from family to work is an important predictor of negative wellbeing. The differential effects of various types of work-family spillover on health are compelling since they are consistent with ecological theory, and they embody the spirit of high level wellness.56,57 That is, these results demonstrate that health and well-being are not characterized by the simple absence of negative experience but rather the ability of individuals to maximize their potential within their environment, given both the obstacles and resources in that environment.

How might work-family spillover influence health and well-being? Previous cross-sectional and longitudinal evidence suggest a behavioral pathway, since negative work-family spillover was associated with a higher level of problem drinking4-7 and less participation in regular physical activity.58 Negative spillover between work and family may affect health by undermining support mechanisms such as marital quality or exacerbating job-related demands,26,55 whereas positive spillover may benefit health by strengthening social ties and buffering negative events. Finally, to the extent that negative spillover between work and family is conceptualized as stress, and positive spillover between work and family is viewed as a psychosocial resource, various psychoneuroimmunological channels are also plausible mechanisms for mediation.⁵⁹ That is, positive and negative spillover may affect health and wellbeing by promoting or undermining immune or hormonal responses that in turn influence susceptibility to various physical and psychological forms of morbidity.47

Although the results of this study are consistent with previous research and the new findings surrounding positive spillover are provocative, it is important to recognize the limita-

 $[\]dagger p \leq .10$ (two-tailed).

 $p \le .05$ (two-tailed).

 $p \leq .01$ (two-tailed).

[&]quot; $p \leq .001$ (two-tailed).

tions of this study. Particularly limiting is the cross-sectional nature of the MIDUS data. Since all the data used in this study were collected at the same time, the reverse-causation hypothesis suggesting that individuals with poorer physical and mental health have more negative and less positive spillover between work and family cannot be ruled out. Although the possibility of reverse causation was averted somewhat through sample selection (e.g., a certain threshold of physical and mental health are required of all working people) and the use of control variables (e.g., health status at age 16 years, extraversion, and neuroticism), prospective research is necessary to identify if positive spillover between work and family promotes better health.

This research also raises several compelling questions regarding the work-family and health linkage that could be addressed in future research. Both overt-direct (e.g., performing paid work out of the home while family is present) and covert-indirect (e.g., stress experienced at work manifests itself at home, such as arguments with spouse or children) types of spillover can be imagined for each of type of work-family spillover-are the health impacts of overt-direct spillover the same as those for covert-indirect spillover? This question is particularly relevant from a number of perspectives. For example, direct forms of spillover will very likely become more common given the large and growing number of small businesses where an individual's home is his or her workplace. If direct forms of spillover have relatively benign effects on health and well-being, current employment trends may not be of concern. However, if the absence of physical separation between work and family responsibilities significantly undermines health, specific health interventions may be warranted for small business owners and telecommuters. Next, the work-family and health linkages for different types of spillover may be important mediating mechanisms explaining health-related differences between different groups. For example, lower levels of positive spillover from work to family

may be one reason why women with lower levels of education are in poorer health. Finally, it is important to understand how work-family and health linkages may be conditioned by individual values (e.g., traditional gender role norms) and goals.

These and other questions highlight the need for additional prospective research examining how multiple dimensions of work-family spillover affect health and well-being. The limitations of self-report and cross-sectional data notwithstanding, the results from this study suggest that work-family spillover is an important determinant of wellness. As new and unique work and family arrangements continue to evolve in the new millennium, policies and programs to enhance the health and well-being of workers may require more than balancing work and family obligations and reducing work-family conflict: high-level wellness may require initiatives that promote a synergistic fit between individuals, their work, and their families.

SO WHAT? Implications for Health Promotion Practitioners and Researchers

Combined with other research, this study lends strong support for the assertion that there is more to the work-family interface than conflict. If this assertion holds true, workplace innovations and health promotion or Employee Assistance Program interventions that promote positive spillover and undermine negative spillover between work and family may result in more pronounced improvements in employee health and well-being than those focusing on managing work-family conflict alone. If positive and negative spillover between work and family are distinct, additional health promotion research is also necessary to explain the associations between work-family spillover and health.

References

 Pleck JH. Work roles, family roles and well-being: current conceptual perspectives. In: Bowen GL, Pittman JF, editors. The Work and Family Interface: Toward a Contextual Effects Perspective. Minneapolis, Minnesota: National Council on Family Relations, 1995:17–22.

 Barnett RC, Rivers C. She Works, He Works: How Two-Income Families are Happy, Healthy, and Thriving. Cambridge, Massachusetts: Harvard University Press, 1996.

 Hochschild AR. The Time Bind: When Work Becomes Home and Home Becomes Work. New York: Metropolitan Books, 1997.

 Bromet EJ, Dew MA, Parkinson DK. Spillover between work and family: a study of blue-collar working wives. In: Eckenrode J, Gore S, editors. Stress Between Work and Family. New York: Plenum Press, 1990:133–52.

 Frone MR, Barnes GM, Farrell MP. Relationship of work-family conflict to substance use among employed mothers: the role of negative affect. J Marriage Fam 1994;56:1019–30.

- Frone MR, Russell M, Cooper ML. Relation of work-family conflict to health outcomes: a four-year longitudinal study of employed parents. J Occupat Organizational Psychol 1997; 70:325–35.
- Grzywacz JG, Marks NF. Family, work, workfamily spillover and problem drinking during midlife. J Marriage Fam. 2000;62;2:336–348.
- Klitzman S, House JS, Israel BA, et al. Work stress, nonwork stress, and health. J Behav Med 1990;13:221–43.
- Repetti RL. Effects of daily workload on subsequent behavior during marital interaction: the roles of social withdrawal and spouse support. J Pers Soc Psychol 1989;57:651–9.
- Stokols D, Pelletier KR, Fielding JE. The ecology of work and health: research and policy directions for the promotion of employee health. Health Educ Q 1996;23:137–58.
- Barnett RC. Toward a Review of the Work/ Family Literature: Work in Progress. Boston: Wellesley College Center for Research on Women, 1996.
- Marks SR. Multiple roles and role strain: Some notes on human energy, time, and commitment. Am Sociological Rev 1977;42: 921–36.
- Sieber SD. Toward a theory of role accumulation. Am Sociological Rev 1974;39:567–78.
- Adams GA, King LA, King DW. Relationships of job and family involvement, family social support and work-family conflict with job and life satisfaction. J Appl Psychol 1996;81:411– 20.
- Barnett RC, Marshall NL, Pleck JH. Men's multiple roles and their relationship to men's psychological distress. J Marriage Fam 1992; 54:358–67.
- Barnett RC, Marshall NL, Raudenbush SW, et al. Gender and the relationship between job experiences and psychological distress: a study of dual-earner couples. J Pers Soc Psychol 1993;64:794–806.
- Bolger N, DeLongis A, Kessler RC, et al. The contagion of stress across multiple roles. J Marriage Fam 1989;51:175–83.
- Gattiker UE, Larwood L. Predictors for career achievement in the corporate hierarchy. Hum Relations 1990:43:703–26.
- O'Neil R, Greenberger E. Patterns of commitment to work and parenting: implications for role strain. J Marriage Fam 1994;56:101–12.
- Weiss RS. Bringing work stress home. In: Eckenrode J. Gore S, editors. Stress Between Work and Family. New York: Plenum Press, 1990:17–37.
- Thoits PA. Multiple identities and psychological well-being: a reformulation and test of the social isolation hypothesis. Am Sociological Rev 1983;48:174–87.
- Waldron I, Jacobs JA. Effects of labor force participation on women's health: new evi-

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dence from a longitudinal study. J Occup Med 1988;30:977-83.

Waldron I, Weiss CC, Hughes ME. Interacting effects of multiple roles on women's health. I Health Soc Behav 1998;39:216-36.

24. Repetti RL, Matthews KA, Waldron I. Employment and women's health: effects of paid employment on women's mental and physical health. Am Psychol 1989;44:1394-401.

Crouter AC. Spillover from family to work: the neglected side of the work-family interface. Hum Relations 1984;37:425-42

26. Grzywacz JG, Marks NF. Reconceptualizing the work-family interface: an ecological perspective on the correlates of positive and negative spillover between work and family. J Occup Health Psychol. 2000;5:111-26.

27. Bronfenbrenner U. The Ecology of Human Development: Experiments by Nature and Design. Cambridge, Massachusetts: Harvard

University Press, 1979.

Bronfenbrenner U. Ecological systems theory. In: Vasta R, editor. Six Theories of Child Development. Annals of Child Development: A Research Annual. Greenwich, Connecticut: JAI Press, 1989;6:187-249.

29. Bronfenbrenner U. Environments in developmental perspective: theoretical and operational models. In: Friedman SL, Wachs TD, editors. Measuring Environment Across the Life Span: Emerging Methods and Concepts. Washington, DC: American Psychological Association, 1999:3-28.

30. Am J Health Promot. 1996;10:244-328.

Stokols D. Translating social ecological theory into guidelines for community health promotion. Am J Health Promot 1996;10:282-98.

Heckhausen J. Developmental regulation across adulthood: primary and secondary control of age-related challenges. Dev Psychol 1997;33:176-87

33. Lachman ME, James JB. Charting the course of midlife development. In: Lachman ME, James JB, editors. Multiple Paths of Midlife Development. Chicago: University of Chicago Press, 1997:1-20.

34. Backett KC, Davison C. Lifecourse and lifestyle: the social and cultural location of health behaviours. Soc Sci Med 1995;40:629-

35. Eyler AA, Baker E, Cromer L, et al. Physical activity and minority women: a qualitative study. Health Educ Behav 1998;25:640-52.

36. Umberson D. Family status and health behaviors: social control as a dimension of social integration. J Health Soc Behav 1987;28:306-

37. Fries JF. Aging, natural death, and the compression of morbidity. N Engl J Med 1980; 303:130-5

38. House JS, Kessler RC, Herzog AR, et al. Age, socioeconomic status, and health. Milbank Q 1990;68:383-411.

39. Patrick DL, Bergner M. Measurement of health status in the 1990's. Annu Rev Public Health 1990;11:165-83.

40. Patrick DL, Erickson P. Health Status and Health Policy: Quality of Life in Health Care Evaluation and Resource Allocation, New York: Oxford University Press, 1993.

41. Public Health Service, Healthy People 2000: National Health Promotion and Disease Prevention Objectives: Summary. Washington, DC: Public Health Service, 1991.

Bradburn N. The Structure of Psychological Well-Being. Chicago: Aldine, 1969.

Lawton MP. The varieties of wellbeing. Exp Aging Res 1983;9:65-72.

44. Ryff CD. Happiness is everything, or is it? Explorations on the meaning of psychological well-being. J Pers Soc Psychol 1989;57:1069-

45. Mroczek DK, Kolarz CM. The effect of age on positive and negative affect: a developmental perspective on happiness. J Pers Soc Psychol 1998;75:1333-49.

46. Ryff CD, Keyes CLM. The structure of psychological well-being revisited. J Pers Soc Psychol 1995;69:719-27.

47. Cohen S, Herbert TB. Health psychology: psychological factors and physical disease from

the perspective of human psychoneuroimmunology. Annu Rev Psychol 1996;47:113-42.

48. Lachman ME, Weaver SL. The Midlife Development Inventory (MIDI) personality scales: scale construction and scoring. Technical report 1. Waltham, Massachusetts: Brandeis University, Department of Psychology, 1997.

49. Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. J Pers Soc Psychol 1986;51: 1173-82

50. US Bureau of the Census. Statistical Abstracts of the United States, Washington, DC: US Government Printing Office, 1998.

National Center for Health Statistics. Health, United States, 1998 with Socioeconomic Status and Health Chartbook. Hyattsville, Maryland: National Center for Health Statistics, 1998

52. McGinnis JM, Lee PR. Healthy People 2000 at mid decade. JAMA 1995;273:1123-9

Kleinbaum DG, Kupper LL, Muller KE, et al. Applied Regression Analyses and Multivariate Methods, 3rd ed. Pacific Grove, California:

Duxbury Press, 1998. 54. Frone MR, Russell M, Cooper ML. Prevalence of work-family conflict: are work and family boundaries asymmetrically permeable? J Or-ganizational Behav 1992;13:723–9.

55. Frone MR, Yardley JK, Markel KS. Developing and testing an integrative model of the work-family interface. J Vocational Behav 1997;50: 145 - 67

56. Dunn HL. High level wellness for man and society. Am J Public Health 1959;49:786–92. Dunn HL. What high-level wellness means.

Can J Public Health 1959;50:447-57.

58. Grzywacz JG. Family, work, and the work-family interface: an ecological perspective on health behaviors during midlife. PhD thesis. University of Wisconsin, Madison, 1998. 59. Hall NRS, Altman F, Blumenthal SJ, editors.

Mind-Body Interactions and Disease and Psychoneuroimmunological Aspects of Health and Disease: Proceedings of a Conference on Stress, Immunity and Health Sponsored by the National Institutes of Health. Tampa, Florida: Health Dateline Press, 1996.