

How time-flexible work policies can reduce stress, improve health, and save money

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Summary

Data from the US National Study of the Changing Workforce (a nationally representative sample of working adults) were used to test the hypothesis that employees with time-flexible work policies reported less stress, higher levels of commitment to their employer, and reduced costs to the organization because of fewer absences, fewer days late, and fewer missed deadlines. The model provides persuasive findings for the hypothesized relationship and offers important suggestions to employers who can translate reduced illness into savings and increased commitment into better employees. Contrary to expectations, there were no gender differences in how employees responded to flexible work policies, showing that gender-neutral work policies make financial sense. By showing that time-flexible work policies provide employer benefits, we can hasten the change to a new worker model—one that is family and employer friendly. The business case for family-friendly work policies may prove to be the best tool we have in changing how we live and work. Copyright © 2005 John Wiley & Sons, Ltd.

Key Words

return-on-investment; flexible-time policies; health-costs; job commitment; stress-work model

Introduction

Time is a valuable resource for all working adults, but for working parents, the constant sense of time urgency (e.g. getting home from work before the sitter has to leave, getting into work in time for an early meeting) is an on-going stress because

the time demands are often competing (Nelson & Burke, 2002). Yet, despite major changes in the composition of the workforce over the last several decades, especially in the number and percentage of mothers of young children who are working, including the fact that a majority of mothers with children less than 1 year old work outside the home, there have been few societal attempts to realign the world of work with the realities of contemporary life. The school day is still structured so that it ends hours before most parents return from work, and the summer breaks that were originally designed so that farm children could help with the planting, harvest, and other farm chores (depending on location) were never

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adjusted for the lives of urban and suburban children, at a time in history when the majority of rural children have never been near a farm.

Most workers believe that work-related stress affects their health (e.g. Ettner & Grzywacz, 2001), but research into the relationship between work and health is difficult because there are many confounding variables that limit the extent to which researchers can establish strong causal claims. Most of the research by psychologists who have addressed the linkages between work and health has been built around a model in which stress intervenes between work and health, and it is stress, in varying amounts and types, that determines health outcomes. Models in which stress intervenes between work and health have at least two causal arrows, with stress affecting health and work and the work-home (or work-life) interface affecting stress. Corporate and public policy-makers often dismiss stress-related complaints as a 'nuisance' and, for the most part, are not convinced that the constant stress of time shortages has important 'bottom line' consequences.

Physiological correlates of job-related stress

Work-related stress occurs when the demands of a job 'are incompatible with mental regulation processes, such as information processing, planning, and movement execution' (Greiner, Krause, Ragland, & Fisher, 1998, p. 132). There are negative health consequences for workers who experience prolonged and intense levels of stress (Quick, 1998). Stressors activate a complex chain of events in which hormones are released that travel through the bloodstream and affect many different organs (Gazzanizga & Heatherton, 2003; Heffner, Loving, Robles, & Kiecolt-Glaser, 2003). Because the travel of hormones is relatively slow, the effects of stress continue to affect organs much longer than the actual stressor. Both the constant stress associated with daily hassles and more intense stressful events combine to create poorer physical and mental health.

Job stress occurs when there is conflict either between two aspects of one's job, such as finishing a large amount of work with unrealistic demands for accuracy or when job demands conflict with the demands of other roles and responsibilities, such as being at work when the employee needs to be at home with a sick child. There are strong indicators that stressed individ-

uals are more prone to a wide variety of illnesses, even the common cold. In a study that used random assignment of participants to conditions to establish strong causal links, Cohen et al. (1998) assigned healthy volunteers to different levels of exposure to the virus that causes colds. Using a prospective experimental design, they found that volunteers who reported the highest levels of chronic or long-term stress had worse cold symptoms and higher viral counts than those volunteers who reported less stress. They also found that interpersonal and work-related stressors (they used the terms under- and over-employment) were mostly responsible for these results. Surprisingly, health practices such as smoking, maintaining a poor diet, and lack of exercise had very small effects on the incidence of colds. We now know that when the underlying physiological basis of the stress response is activated too often or too intensely the function of the immune system is impaired, increasing the probability and severity of ill health (Herbert & Cohen, 1993; McEwen, 2002).

The high cost of stress

Employers who invest in keeping their employees healthy and in providing them the flexibility they need to meet their family obligations should be able to realize savings by reducing health costs, absenteeism, and employee turnover while also having a more committed workforce. When workers are ill, they perform more poorly at work, take more days of sick leave, and drive insurance and other health care costs up. Of course, not every employee who takes sick leave is too ill to work. The decision to miss a day of work is also determined by attitudinal and social factors (Kristensen, 1991). Sometimes, short-term absences may be one way that stressed employees deal with somatic symptoms of stress—the feelings that are associated with burnout (Maslach, 1993). These decisions to 'call in sick' are not the same as malingering: the employee may feel vague body aches and the physical symptoms of depression and exhaustion that accompanies prolonged stress.

Another cost of stress that is often overlooked when employers make 'return-on-investment' decisions about work policies and benefits is the high cost of employee turnover. Often, employees who are leaving their job will reduce their productivity as they prepare to leave. In addition, the

cost of hiring and training new employees can be very high. Hiring well may be the most important decision that employers make and 'bad hires' can create high psychic and financial costs, even when the employee is relatively low in an organization's hierarchy (e.g. the cost of a misfiled document or crashed computer can be high). Yet, employers often do not consider the benefits of providing incentives (other than money) to retain good employees. Workers with many family responsibilities often find that family concerns interfere with their work and what they most need is a work arrangement that would allow them to handle family concerns and perform their job at a high level. In a 6-month prospective study, Kelloway, Gottlieb, and Barham (1999) studied the way family responsibilities exacerbate time pressures at work. They found that turnover rates could be predicted by the amount of time-based strain employees reported 6 months earlier suggesting that the stress of feeling constantly short of time caused employees to change jobs.

Perceived control

The stress of a job does not depend on the nature of the job as much as it depends on whether workers believe that they have the ability to control the stressful aspects of the job. The leading theoretical model in identifying those aspects of work that are stressful is the 'Job Demand Control Model' (Karasek, 1979; Karasek & Theorell, 1990), which emphasizes the importance of 'decision latitude,' which is the ability to make work-related decisions. When employees can make decisions related to the way they work, they are able to devise coping strategies that can mitigate the effects of stress.

Consider, for example, a 5-year, prospective study of the health care costs for 105 nurses at a large medical facility (Ganster, Fox, & Dwyer, 2001). The objective work load for these nurses varied considerably from a relative 'light' work load to a high workload. The nurses described the extent to which they were able to control the demands of their job, for example, by having the authority to make decisions about patient care. The degree of stress was operationalized with measures of cortisol, a type of 'stress' hormone that is secreted by endocrine glands (in this case, adrenal glands) in response to perceived stress. Cortisol levels did not vary with objective measures of work load; instead, they varied in a linear

fashion with the degree to which the nurses believed that they could exert control during stressful situations. The combination of high work loads and little control showed stress increases in cortisol; whereas the same high levels of workload coupled with the ability to control one's work showed little or no elevation in cortisol levels compared to low work load situations. Other researchers have corroborated these findings. For example, in a recent study of police officers, the researchers found that the officers' blood pressure (both diastolic and arterial) was lower under conditions where the officers were able to control their work situation (Bishop et al., 2003). The results regarding perceived control over one's work are clear: stress is not related to the tasks required by one's job as much as it is to the control workers have over how they do their job.

Time-flexible work policies

One way to provide more control to workers is to institute work policies they can use to help them manage their work and family obligations without having to choose between the two. For example, by giving employees some flexibility in their work hours, they can care for family members (e.g. meet with teachers, take a child to the doctor) without missing time from work. If workers have the option to work reduced hours or can take a family-related leave without losing their job, there should be less worker turnover and other tangible, though frequently overlooked benefits to the employer, such as increased loyalty to one's employer. There are many possible ways that work-life and family-life can be made more compatible so that workers will experience less stress and the work will not suffer. Often employers balk at the idea of family-friendly work policies because they are concerned with the financial costs of flexibility, or they cannot imagine how a more flexible work environment will be beneficial to their business. By rejecting the idea of worker flexibility because they assume it will increase costs, employers are not considering the cost associated with stressful working conditions.

Gender and work-family conflict

Although recent reviews of the literature show that men are performing more child care and home care tasks than ever before, especially when

they have wives who are employed outside the home (Barnett & Rivers, 1996), women are still doing more of the 'care' activities—child care, elder care, home care (US Bureau of Labor Statistics, 2004). Thus, it would seem likely that, on average, women who are employed are more stressed because they have increased demands at home. Although this is a likely hypothesis, in general, women who are employed have better mental health, including less depression, and better physical health than women who are not employed (Barnett & Rivers, 1996). The large increase in the number of working mothers, especially among mothers of young children has not changed women's life expectancy, so any doomsday predictions about negative consequences for women who work have not been supported.

A proposed model of the benefits of time-flexible work policies

The large and growing research literature on work-related stress shows several strong relationships, but most of the studies in this area have taken a piecemeal approach to a complex array of interrelated variables or have studied a single company or industry at a time. A more comprehensive model is proposed in which the availability of work policies that provide employees with the ability to plan for and cope with competing time demands will reduce their stress and pay off in benefits for the employer as well as using participants from a broad range of job categories. Structural equation modeling allows researchers to investigate the simultaneous effects of multiple variables and the way health outcomes for employees and financial outcomes for employers are mediated by policies that reduce the perception of time-urgency.

As shown in Figure 1, the following hypotheses were explored:

- (1) The greater the number of time-flexible policies available to employees, the fewer stress-related health problems they will report (because these policies allow employees to plan ways to meet both their obligations at home and work).
- (2) Employees with fewer health problems will reduce costs for their employers because they will miss fewer days from work, have fewer days when they arrive at work late or leave early, and report fewer instances when they

were unable to complete projects at work because of family concerns than those who do not have time-flexible work policies.

- (3) Employees with more time-flexible work policies will report greater commitment to their employer and will be more likely to work harder and more responsibly than those with fewer time-flexible work policies.

Method

Participants were 1901 men and 1651 women who responded to a work-related phone survey for the 1997 National Study of the Changing Workforce, a sample that was designed to be representative of working adults in the US 48 contiguous states (Families and Work Institute, 1999). The overall estimated response rate from potentially available households was 73.4 per cent. The mean age of participants was 40.5 years (standard deviation, $sd = 12.1$). Participants were contacted at their home, using random digit dialing. They responded to an oral survey administered in either English or Spanish. Participants were all employed adults who reported that they were employed at least 20 hours per week. They received US \$20 for their participation, which they could assign to a charity or receive at their home via mail. Participants responded to a large number of questions about their work and family life. A subset of those questions was used in this study to test a model that related the need for time-flexible work policies, the number of these policies offered by employers, stress-related health symptoms, commitment to one's employer, and work attendance, which has direct costs to employers. Questions that corresponded to these constructs are presented later.

As might be expected with 3552 randomly selected employees across the US, a wide variety of job titles and categories were given as primary employment. It is not possible to provide any single summary or 'snapshot' except to reiterate that it was sampled to be as representative of the US population of working adults (with telephones) as possible.

Results

Using AMOS statistical program for structural equation modeling, the following relationships were examined: Need for Time-flexible Policies

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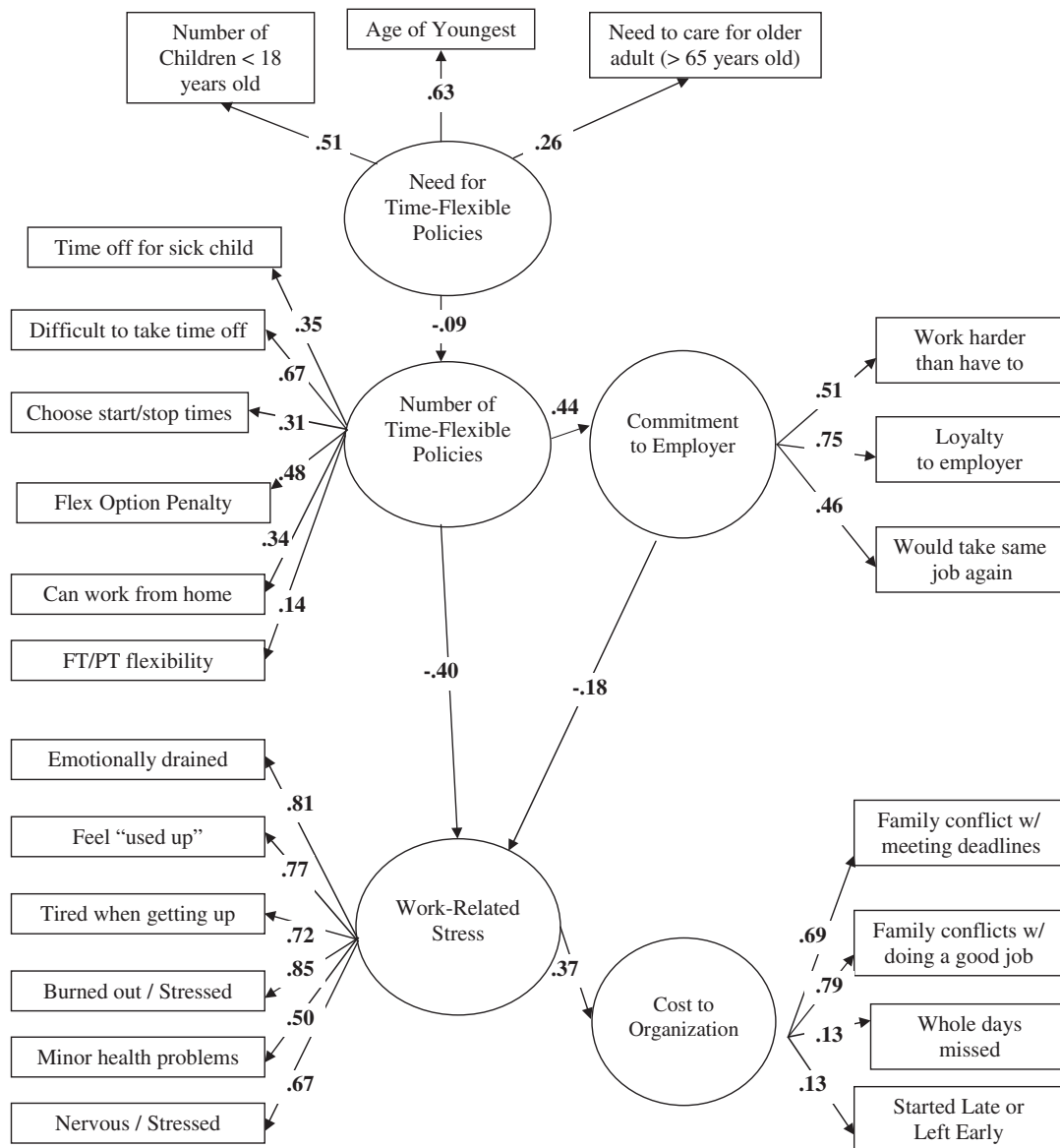


Figure 1. A structural equation model is proposed that relates the need for time-flexible work policies to the number of time-flexible work policies offered by one's employer and the way these policies reduce stress-related health symptoms, increase commitment to one's employer, and reduce costs to organizations for absences, missed deadlines, and other costly work-related behaviors.

with three indicator questions (number of children younger than 18 years old, age of youngest child, and whether or not the employee cares for an older adult, which was defined as anyone over 65 years old), Number of Time-flexible Policies with six indicator questions (can take time off to care for a sick child, how difficult it is to take time off, can choose start/stop times for work, whether

or not there is a penalty for using flexible work options, can work from home, can work full- or part-time as needed), Commitment to Employer with three indicator questions (employee works harder than he or she has to, employee is loyal to employer, and employee would take the same job again), Work-related Stress with six indicator questions [(Frequency in the last 3 months that

the employee felt: (1) emotionally drained; (2) 'used up,' (3) tired when getting up for work in the morning; (4) burned out/stressed; (5) minor health problems; (6) overly nervous]) and Cost to Organization with four indicator questions [(in the last 3 months: (1) employee had family conflicts that caused problems with meeting deadlines at work; (2) family conflicts interfered with employee's ability to do a good job at work; (3) missed whole days at work because of family conflicts; (4) number of times employee started work late or left early because of family conflicts)]. The hypothesized model is presented in Figure 1. Circles represent latent variables, rectangles represent measured variables. Absence of a line connecting variables implies lack of hypothesized direct effect.

Figure 1 illustrates the finding that the Need for Time-flexible Policies had almost no direct effect on the Number of Time-flexible Policies offered by an employer. Note that although this relationship was statistically significant and negative, the size of the effect is very small (-0.09), which means that statistical significance is a reflection of the large sample size, not the size of the relationship. It seems that employees who need time-flexible policies are not more likely to work for employers who offer them than employees who have less need for these policies. In contrast, Number of Time-flexible Policies offered by the employer directly affects Commitment to Employer and Work-related Stress, while indirectly affecting Cost to the Organization.

The greater number of time-flexible policies that employers offer predicts both higher employee commitment and lower work-related stress. The relationship between the Number of Time-flexible Policies and Cost to the Organization is mediated by Commitment to Employer and Work-related Stress. The relationship between the Need for Time-flexible Policies and Cost to the Organization is mediated by all remaining endogenous variables: Number of Time-flexible Policies, Commitment to Employer, and Work-related Stress.

Assumptions: The assumptions of multivariate normality and linearity were evaluated through SPSS. The only variable to show significant departures from normality was 'number of days in the last 3 months that the employee was absent from work.' An examination of the data showed that the departure from normality was due to a few extreme outliers for this variable, therefore data from six outliers (values greater than 90) were

omitted from all analyses. Correlations among all of the measures and latent variables are shown in Table I along with the mean and standard deviation for all variables in the model.

Model estimation

The independence model that tests the hypothesis that the variables were uncorrelated with one another was easily rejected, χ^2 (253, $N = 3552$) = 142,225.95, $p < 0.001$. The hypothesized model was tested next and support was found for the hypothesized model, χ^2 (204, $N = 3552$) = 1402.86, $p < 0.001$, comparative fit index (CFI) = 0.992, normative fit index (NFI) = 0.990, and root mean square error approximation (RMSEA) = 0.041. A chi-square difference test indicated a significant improvement in fit between the independence model and the hypothesized model [$\Delta \chi^2$ ($df = 1$) = 140823.09, $p < 0.0001$]. Based on the fit indices, no model modifications were made.

To test for a gender effect on model fit, the same analysis was conducted separately for female and male respondents. The results suggest that there is no significant gender effect on model fit [$\Delta \chi^2$ ($df = 22$) = 28.05, $p = ns$].

Indirect effects

The relationship between Number of Time-flexible Policies and Cost to the Organization was mediated by Commitment to Employer and Work-related Stress (standardized coefficient for indirect effect = -0.178) suggesting that greater numbers of time-flexible policies offered by one's employer reduced organizational cost incurred by missed time at work and failure to meet deadlines. Number of Time-flexible Policies mediated the relationship between Need for Time-flexible Policies and Commitment to Employer (standardized coefficient for indirect effect = -0.040) as well as Work-related Stress (standardized coefficient for indirect effect = 0.043). These findings suggest that an increase in need for family-friendly policies increases work-related stress and decreases organizational commitment. The relationship between Commitment to Employer and Cost to the Organization is mediated by Work-related Stress (standardized coefficient for indirect effect = -0.068), suggesting that higher employee commitment reduces organizational

cost. Finally, Number of Time-flexible Policies, Commitment to Employer, and Work-related Stress mediated the relationship between Need for Time-flexible Policies and Cost to the Organization (standardized coefficient for indirect effect = 0.016), suggesting that a greater need for family-friendly policies leads to greater organizational cost, although this effect was very small.

Discussion

Data from a large national representative sample of working adults in the US supported the hypothesized relationships between the availability of time flexible work policies, health symptoms of stress, employee commitment to their employer, and measures that reflect direct costs to the employer. As predicted, this random sample of employed respondents from a wide variety of types of employment, showed that the greater the number of time-flexible work policies available to them, the greater their loyalty to their employer, the fewer reported symptoms of stress, and the greater the reduced cost to their employers due to reductions in days late for work (or left early), missed deadlines, and absenteeism. These data send a clear and important message to employers and policy-makers—it is good business to provide employees with flexible work options.

The data also showed that those employees who most needed flexible time policies (measured by number of children under 18 years of age, age of youngest child, and caring for a person over 65 years of age) were not any more likely to have these policies or have more of them than other employees. This finding is not surprising because it is often employees at entry level positions who have young children, and employees at lower grade positions (i.e. low paying) and who have the greatest number of children and are least likely to have the benefits that are available to senior employees. It does not seem that those employees that most need flexible time benefits are in jobs that offer them. Some employers worry that if they offer flexible work arrangements for their employees, they will attract a disproportionate percentage of workers with high family demands. These data do not show that employers with the best program of flexible work options have attracted the 'neediest' employees—fears of being disadvantaged because of offering family-friendly benefits are not supported.

It is also interesting to note that the model fit equally well for working women and men. Despite the fact that women still perform more of the child care and household tasks, both men and women increase their commitment to their employer, report fewer symptoms of stress, and report fewer behaviors that are costly to employers when they have a greater number of time flexible work policies. Recent data show that men are spending more time performing child care than prior generations of men and the participation of women and men in the workforce is almost equal (US Bureau of Labor Statistics, 2004), so it seems that gender-neutral work-policies really do make financial sense. There is also no reason to separate these data as a function of family type—adults without children or other obvious care responsibilities would also be expected to show similar effects, even though the bulk of the discussion and impetus for the study was a focus on working families. Everyone has a life outside of work and the benefits of time-flexible work schedules accrue to employers even when employees have few or no obvious family obligations, although flexibility should offer the greatest benefit for those who need it most—workers with family or other obligations. These are surprising findings, but as both the workforce and family life are changing, it is important to keep these gender neutral findings in mind when thinking about work-life policies.

The research literature on the way in which work stressors affect family relationships and child development provide another set of reasons for social scientists and society at large to be concerned with ways to reduce work-related stress. Although these variables were not directly assessed in this study, stress at work affects one's children's and spouse's health and well-being (e.g. Piotrkowski, 1979; Westman & Piotrkowski, 1999) and children's performance in school and beliefs in the fairness of the world (Barling & Mendelson, 1999). Thus, although only the adult employee served as the participant in this study, the effects of their work-related stress are spread among family members and even more costly than the estimates provided here.

It is also interesting to note that some of the constructs in the proposed model appear as subscores in a shortened stress evaluation called ASSET, although the constructs do not align in exactly the same way as in this model (Faragher, Cooper, & Cartwright, 2004). In the ASSET evaluation of stress, work-related benefits, which pre-

Table I. Means (*m*), standard deviations (SD), and correlations for all measured and latent variables in the model.

	M SD	1	2	3	4	5	6	7	8	9	10	11
1 Number of children under 18 years	1.56 1.069	—	259	—130	—043	—048	147	—009	024	004	016	011
2 Age youngest child	9.368 5.227		—	—126	—003	—008	—031	—025	—001	018	093	<u>054</u>
3 Provide special attention to person 65 years or over	N = 508 ^a			—	—047	—001	—081	018	—027	—006	<u>—034</u>	006
4 Choose starting & quitting times	N = 1280 ^a				—	206	163	153	202	189	—063	—050
5 Difficulty taking time off	2.91 1.029					—	083	322	109	067	—261	—269
6 Allowed days off for sick child w/o pay/vacation loss	N = 637 ^a						—	089	093	048	—004	—028
7 Less likely to advance if use flexible option	2.81 1.017							—	027	050	—159	—151
8 Work at home if asked	N = 211 ^a								—	055	—009	012
9 Arrange full-time/part-time	N = 1061 ^a									—	—024	—051
10 Past 3 months: tired when facing another day at work	3.039 1.237										—	579
11 Past 3 months: felt used up at end of workday	3.107 1.204											—
12 Past 3 months: emotionally drained by job	2.784 1.241											
13 Past 3 months: stress/burned-out by work	2.75 1.229											
14 Minor health problems?	2.307 1.104											
15 Past 3 months: nervous/stressed?	2.633 1.174											
16 Work harder than have to for company?	3.424 0.750											
17 Loyalty	3.982 0.898											
18 Would take the same job or not	2.59 0.698											
19 Family keep from getting work done	1.811 0.885											
20 Family keep from doing good job	1.779 0.856											
21 Missed whole days for any reason: past 3 months	N = 1452 ^a											
22 Number of days start late, stopped early: past 3 months	2.56 6.92											
23 Number of family friendly policies	6.838 2.077											
24 Stress computed	16.626 5.572											
25 Commitment	10.015 1.689											
26 Costs to employer	6.563 7.321											
27 Need for family friendly policies	11.336 5.499											

Note: *n* ranges from 1599 to 3548.

^a Indicates the count of number of respondents answering 'Yes'.

Bold type, $p < 0.001$, two-tailed; figures underlined, $p < 0.005$, two-tailed.

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12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
032	028	028	<u>059</u>	<u>052</u>	—006	—043	102	<u>056</u>	<u>050</u>	084	018	038	—045	103	410
040	<u>052</u>	—001	027	—034	—032	—024	<u>057</u>	<u>055</u>	121	088	—020	<u>057</u>	—044	105	986
—014	001	—005	—007	016	009	<u>035</u>	028	021	—016	000	—010	—012	003	004	—068
—048	—054	—059	—013	<u>046</u>	074	082	—007	025	018	077	475	—060	089	076	—015
—292	—292	—192	—226	075	179	205	—115	—129	—015	081	749	—331	208	<u>047</u>	—010
—007	—022	—012	—009	023	066	081	030	032	<u>040</u>	015	306	—018	077	024	—046
—179	—180	—113	—136	060	206	187	—091	—106	—004	036	717	—200	208	010	—026
013	017	030	<u>038</u>	<u>037</u>	035	021	070	053	008	029	253	021	<u>040</u>	<u>042</u>	—006
—065	—072	005	—006	<u>048</u>	028	046	—066	—028	071	009	306	—044	049	002	016
544	636	377	446	—119	—204	—195	170	190	166	<u>036</u>	—258	777	—244	087	084
660	634	345	493	—097	—179	—166	177	194	109	028	—259	803	—207	078	<u>055</u>
—	688	347	533	<u>040</u>	—162	—201	202	247	111	<u>041</u>	—278	820	—193	099	043
	—	382	566	—093	—206	—262	209	244	125	045	—285	848	—257	103	<u>051</u>
		—	509	—016	—079	—106	146	214	176	030	—178	627	—094	081	003
			—	—032	—116	—159	181	245	149	050	—196	762	—141	107	032
				—	425	158	—028	—022	—063	<u>042</u>	096	—084	732	—050	—036
					—	271	—075	—079	—074	—006	230	—205	826	—029	—029
						—	—077	—068	—032	014	239	—243	604	—003	—041
							—	547	063	104	—082	234	—078	286	072
								—	092	079	—097	289	—078	264	<u>063</u>
									—	088	000	182	—075	170	111
										—	104	049	—012	975	099
											—	—314	257	077	—025
												—	—248	119	<u>058</u>
													—	—035	—049
														—	117
															—

sumably would include time-flexible policies, is grouped with job characteristics along with 'overload' and 'work-life balance,' for example; 'commitment to organization' is grouped with 'commitment from organization' and 'physical health and well-being' are conceptually grouped together. It seems that the interplay among these variables is considered to be important, and other researchers are also conceptualizing models that can describe how people think and act when faced with a multitude of real-world work and family issues that influence how we live our lives and the status of our health.

The psychological underpinnings of time urgency

The constant stress of meeting simultaneous obligations to one's job (e.g. working later into the evening) and one's family (being at home to make dinner and supervise the children) can take a physical and psychological toll on employees. Employees who face these demands with few choices to work through their time problem describe their subjective experiences of intense and prolonged stress as 'burnout' (Maslach & Leiter, 1997; van Dierendonck, Schaufeli, & Buunk, 1998). Burnout has negative effects for the individual, who may suffer from depression, depersonalization, and feelings of failure. In a series of careful studies, Maslach and her colleagues (Maslach & Florian, 1988; Maslach & Leiter, 1997) describe the way work place policies and practices that ignore worker stress can result in hostility in the work place and poor job performance. Burnout is a problem for employers because 'burned-out employees' will have more absences from work, are more likely to leave their job, and will have decreased productivity while on the job than those who are less stressed.

There is a large research literature showing that the multiple health problems associated with chronic stress, including memory impairments, can result when cortisol damages neurons in the hippocampus (a primary area of the brain that underlies memory) and other brain locations (Sapolsky, 1994). Thus, there are known, identifiable physiological mechanisms that underlie cognitive performance that directly link stress to poor job performance. The negative effects of stress caused by time pressures can be alleviated by enhancing employees' ability to control the

way they meet time commitments (Teuchmann, Totterdell, & Parker, 1999). If an employee can start or stop work as needed (assuming a constant number of hours work or amount of work completed), or manage work assignments in a way that is appropriate for the work being performed (e.g. arrange with other responsible employees to 'cover' shifts if appropriate), the employee will have fewer absences and late days and will have less need to perform home-related tasks from work.

Consider the savings

Control is an important work characteristic that influences worker health and job performance. It is important to note that health care costs, absenteeism, and worker turnover are among the largest costs to employers—costs that are often ignored or underestimated when employers are looking for ways to reduce operating expenses. The results of this study suggest that one way to reduce costs is to give employees flexibility in how they manage their time, yet many employers continue to believe that increased work options always result in increased costs, so they immediately reject the idea of increasing worker flexibility and decision latitude as a way of saving money. The result of this cost-savings myopia is that employers rarely consider offering new policies that allow employees to control their time commitments when they are thinking about cost-cutting. Increased worker control over time commitments can be achieved at little or no cost to employers—in fact the present study suggests that this is one work policy that will pay dividends.

The world of work needs to reorganize around new norms that allow more options for flexible work schedules to accommodate the needs of the diverse workforce. There is a large research literature that supports these findings and conclusions. For example, Galinsky and Stein (1990) found that companies who had supportive child care policies had workers who were more loyal, satisfied and took less sick time than companies with out supportive policies. Thomas and Ganster (1995) found that supportive work policies had positive effects on feelings of control over work and family, which was related to lower levels of work to family conflict, job dissatisfaction and certain health complaints. The demographics of the US, Japan, and many other countries around the world clearly show that

older adults are an increasing proportion of the population, with the result that many working adults are now adding elder care to their growing list of care responsibilities. Lee (1997) reported that the strain of care giving to elderly relatives by workers may result in stress symptoms that can negatively affect work performance.

It is difficult to estimate savings to any particular employer because the employees in this study came from a wide range of job categories. If incidental absences, defined as unscheduled absences from work of 1 to 5 days (Business & Health Institute, 2004) cost employers 4.4 per cent of their payroll per year, that translates to US \$1760 for an employee earning US \$40,000 a year. In addition there are indirect costs for lower production and/or decreased customer satisfaction, depending on what job that employee is not performing when absent. Any employer can do the math to determine what it would mean if that figure were reduced by a quarter by the introduction of time-flexible work policies that would also increase employee commitment and have other beneficial effects.

Conclusion

The proposed model provides persuasive findings that translate directly into policy implications for employers and policy-makers. When employees have better health, the cost of health care is reduced; fewer absences and late days translate into higher productivity, and increased commitment to an employer is a hallmark of good employees. By showing that time-flexible work policies provide multiple benefits to employers, we can hasten the change to a new worker model—one that is family and employer friendly. The business case for time-flexible work policies may prove to be the best tool we have in changing how we live and work.

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