

**The intersection between caregiver responsibilities  
And work demands among public sector employees**

A study conducted by

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## **Abstract**

The purpose of this study is to examine the intersection of job demands and life stage responsibilities in relation to changes in societal expectations that may lead to high rates of stress among public sector employees. The authors reasoned that those who have significant personal responsibilities might also feel stresses more acutely in the workplace than those that do not and that the effects of these stressors affect job satisfaction. A statewide random sample of employees were surveyed about elder and child care responsibilities, commuting, telecommuting, effects of technology, and overtime hours worked. Findings confirm recent studies that those with higher family incomes are working longer hours and suggest that an aging workforce is feeling the strain of elder care responsibilities. Respondents also report that dual-earner families, and unmarried or un-partnered single employees endure more job related stress than married or partnered single earner families. Distress, as measured by various dimensions of burnout, is notable among a sub-sample of employees, particularly women, who shoulder additional domestic burdens. This study is important to public managers and policy makers as they confront issues of a dual-earner workforce.

# **The intersection of care-giving and work and the relationship of these factors to job satisfaction**

## **Introduction**

A significant body of research has examined sources of stress for employees in the workplace; however, little exists that explores life stressors that reflect changes in the family-work environment and their potential spill-over effects on job satisfaction. The purpose of this study is to examine the intersection of life stage responsibilities and job demands and their potential relationship to employee satisfaction among public agency employees. The authors are particularly interested in examining this relationship among working women, many of whom are assumed to have two jobs: one at home and one at the office. The authors employed several previously tested job satisfaction scales in this study adding to them items designed to elicit information about child and elder care responsibilities, the extent of overtime worked, the use of technology at home and at work and commuting distance. Information was also elicited about time spent volunteering; however, this information is not reported here.

The addition of women to the full-time workforce in the last three decades has added a dimension to issues related to job satisfaction that has been largely ignored in all but the most recent studies: Worker responsibilities for child and elder care and the stressors associated with those tasks may not only hinder an employee's ability to fully participate in workplace culture, but the added stresses of these responsibilities may have a spill-over effect, adversely affecting an individual's work life. This study explores these and other variables using as our sample state workers who are employed by the Commonwealth of Virginia in a broad spectrum of jobs. This paper briefly discusses the recent studies that consider gender-related

factors that influence the workplace followed by a discussion of the methodology and an analysis of the findings.

## **Determinants of Job Satisfaction**

Two studies that examine job satisfaction indicators found that job characteristics (e.g., task complexity, skill variety, autonomy, feedback from job, and similar constructs), job environment (e.g., family demands, life cycle factors, and demographic factors) and individual characteristics are all potential contributors to occupational stress (Loher & Noe, 1985; Ting, 1997). Occupational stress has been shown to contribute to low motivation, low morale, decreased performance and low job satisfaction.

Tulgan's (2004) ten year study reported that work has become more demanding; employer-employee relationships have become less hierarchical and more transactional; employers are moving away from long-term employment relationships; and, employees are losing confidence in long-term rewards but have higher expectations for short-term rewards. The author predicts a future of increasing stress levels from constant pressure to produce more in less time with fewer employees, a circumstance many professionals may believe is already the norm. The need to learn new technologies and processes, to acquire new knowledge and to adjust to ongoing organizational change have resulted in increased physical and psychological stresses and related problems for the workforce. Employees desire a better work-life balance (Tulgan, 2004). Is such a balance achievable for women who are balancing careers and families?

Research that focuses on the effects of 'women's work', that is, the responsibilities which women traditionally assume in addition to their work outside the home, and its relation to job satisfaction is lacking. (Saltzstein, Ting & Saltzstein, 2001; Hein, 2005; Jacobs & Gerson,

2004) The influx of women as permanent members of the workforce has challenged the notion that home should be separate from the workplace and that women's principal role is to maintain domestic harmony while men make harmony possible through the production of a paycheck. In this idealized division of labor, men are unencumbered by domestic tasks, can fulfill the expectation of overtime work, and rarely miss work to accommodate the family's domestic needs. Women, on the other hand, care for dependents and perform unpaid domestic work, a role that some would suggest befits her 'natural' tendencies to nurture and provide behind-the-scenes support for her husband and children. Current developments in the workplace coupled with the 'work-family dichotomy' experienced by employees today belie this idealized view and increase the strain from 'trying to do it all' (Saltzstein, Ting & Saltzstein, 2001).

Sociologists Jacobs and Gerson (2004) explore various aspects of work-family relations while at the same time suggesting new methods for gaining a more realistic picture of the amount of time women and men actually spend on the job. The authors take up the question of whether Americans are actually working longer hours as is argued by the economist Juliet Schor (1991) or, whether we are seeing an increase in leisure as other researchers suggest. Arlie Hochschild (1997) claims that Americans are working longer hours to escape the stress of family life. The essence of the debate involving these issues raised by Schor and Hochschild are discussed by Jacobs and Gerson who suggest that, although both claims may be partly true, a closer reading of the evidence indicates something more complicated. The authors' analyses reveal a bifurcation in people's preferences that parallels other divisions among working families. For example, well educated professionals are putting in longer hours than in the past, at the same time that others struggle to work enough hours to pay the

bills. Furthermore, individualizing work and pay may be misleading: Both should be viewed as *family* hours both at work and at home, and that *family* income gives a truer picture of today's family/work culture (Jacobs & Gerson 2004, 41).

In a synthesis of the literature and a comparative look at workplace changes in recent years, Hein (2005) notes trends that have led toward later marriage, never marrying, single motherhood and divorce. She examines how these supply side factors have led women to seek independent sources of income. On the demand side, general economic growth, a marked increase in women's educational attainment, and the fact that women can often be hired at cheaper rates and on less secure contracts than men, has encouraged employers to hire women. Hein claims that families are experiencing greater difficulty in hiring help for domestic labor (including child and elder care) and that there is an absence of the traditional non-working female kin-caretakers as these, too, enter the workforce, a phenomenon which appears to have the greatest effect on low-income families (Heyman, 2000, 2004 cited in Hein, 2005). The scarcity of domestic care givers is occurring as the aging population and life expectancy are increasing. Such trends may contribute to stress-induced spill-over effects for primary caregivers in the workplace.

Hein (2005) also notes the 'second shift' phenomenon of working women who must cope with emergencies in dual-worker families. "... If care work was equally shared by men and women then the labour market disadvantage would apply equally to men and women and family responsibilities would not be a source of gender inequality. However, a significant redistribution of family responsibilities does not seem to have occurred" (Hein 2005, 11). The persistence of the "female carer" model, which assumes that caring is done by women, places considerable strain on women employees as it supports the ideal of the male worker

who is unencumbered by family responsibilities (Hein 2005, 59). Other trends that create stress on family-life include increased pressures of work and long working hours brought on by increased competition, restructuring and downsizing, and globalization (Kodz, 2003; Duxbury and Higgins, 2003), as well as increased travel time and longer commutes. The structure and culture of the workplace and the day-to-day realities of caring for children and the elderly make it difficult to avoid work-family conflicts. In this study, we explore the effects if these trends on the public workforce recognizing that public service workers may differ in some aspects of this phenomenon and share similarities in others. This study seeks to learn whether there is a relationship between largely extrinsic factors and job satisfaction, particularly for women in public sector jobs.

## **Method and Procedure**

This study is an exploratory study using a straight-forward cross-sectional survey design that was mailed to a stratified random sample (N=2,519) of state employees using a modified Dillman (1978) method. A sample was drawn from the state's employee database (approximately 72,000 names) using as the strata, eight of the nine pay bands that classify employees into broad salary categories. The ninth pay band was omitted since only a few senior-level medical directors occupy that group. Faculty members at state institutions and political appointees were also omitted since they are not categorized by pay band. Three waves of mailings between April and July 2006 resulted in the return of 1,501 (60 percent) good surveys.

This study tests two hypotheses:

**H1: There is a relationship between worker 'burnout' and job satisfaction and that relationship is affected variously by such factors as family income, child and elder care responsibilities, commuting distance, average hours worked, and advances in technology.**

## **H2: Worker perceptions that the agency is ‘family friendly’ affect overall job satisfaction.**

The instrument designed to elicit the information needed to test these hypotheses was composed of sets of questions from several extant scales with the addition of items specific to this inquiry. There are fifty-five items in all. We sought items that could differentiate job characteristics, and measure job satisfaction and life stressors with the view that these indicators will vary in number and type, controlling for sex, age, and income level. Our first aim in the study was to measure general characteristics of job satisfaction in our sample and to determine whether relationships exist between job satisfaction and the independent variables associated with life style changes described above. Our second aim is to determine whether stress—not the daily stresses that everyone tends to face—but excessive stress that can lead to burnout, is associated with those who shoulder domestic burdens while working full-time. To do so, we explored standard job design characteristics in relation to general indicators of employee burnout.

### **Survey Items**

First, fourteen items from the Job Diagnostic Survey (Hackman & Oldham, 1975, 1976 & 1980) were used to measure job characteristics. Hackman and Oldham’s Job Diagnostic Survey (JDS), which was first developed in 1974, has become a standard assessment tool for measuring job characteristics. The JDS survey items are designed to measure five core job characteristics which are identified as having an influence on critical psychological states affecting work outcomes and are commonly used for measuring job characteristics (Fried & Ferris, 1987; Taber & Taylor, 1990; Loher & Noe, 1985; Fried, 1991).

In addition to job and workplace related items, the survey instrument includes items that measure levels of stress experienced by respondents. Much of the recent literature on job satisfaction has noted that job characteristics (e.g., task complexity, skill variety, autonomy, feedback from job, etc.), job environment (e.g., family demands, life cycle factors, and demographic factors) and individual characteristics are likely contributors to stress (Ting, 1997; Loher & Noe, 1985). Two scales are used to measure the different types of stress today's employees experience. The Pfeiffer Burnout Inventory (PBI) developed by William Randolph Warley (1992) assesses employee burnout in the workplace. Ten PBI items were used in the current study. The Copenhagen Burnout Inventory (CBI), developed by Kristensen, et al (2005) is an alternative to the well-known Maslach Burnout Inventory which focuses principally on assessing burnout among social workers. The CBI is a generic scale (not limited in its use by profession or job type) that is designed to measure personal burnout, work related burnout, and client-related burnout. (Kristensen, et.al. 2005). The CBI was found to have very high reliability in each of the domains it measured; the scales can be used independently in accordance with the populations being studied. Six CBI items were included in the instrument for this study.

In addition to the job characteristics and burnout items, demographic indicators and indicators relating to child care, elder care and the 'family friendly' nature of the workplace were taken from the Survey of Federal Employees (SOFE). The SOFE was designed to provide policymakers with a comprehensive assessment of the factors that influence worker performance. The U.S. Office of Personnel Management administered the survey in November 1991 and February 1992 to over 55,000 employees. The SOFE features questions regarding employees' personal situations, participation in family-friendly programs, and satisfaction with their work-family balance and with their jobs. The comprehensiveness of

the survey is unmatched by more recent public and private workforce studies according to Saltzstein, Ting & Saltzstein (2001) who used the 1991 SOFE to test a theoretical framework regarding relationships between work and family demands. The authors found that “perceived organizational understanding of family duties”, that is, the employees’ perception that their workplace is family friendly is proved to be a strong predictor of overall job satisfaction. Reliability coefficients for each of the item sets used can be found in Table 1.

**Table 1: Reliability coefficients for scales used in the study questionnaire.**

<b>Scale Items</b>	<b>Cronbach’s <math>\alpha</math> reported</b>	<b>Cronbach’s <math>\alpha</math> this study</b>
Job Diagnostic Survey	.32-.71	.885
Pfeiffer Burnout Inventory	unknown	.772
Copenhagen Burnout Inv.	.85-.87	.885

## **Data Analysis**

Data analysis involved cross-tabulations with chi square values and appropriate measures of magnitude, factor analytic techniques to identify factors that could be regressed on our independent variables of interest, multivariate regression and multinomial logistic regression to assess prediction of membership in one or more burnout outcome categories. Our analysis uses burnout as a surrogate for stress, that is, stress that can be debilitating and have an effect on one’s ability to cope. The analysis that follows first describes the characteristics of the study sample, and then discusses potential associations among workers’ job satisfaction and their levels of burnout as differentiated between categories of caregivers and non-caregivers. We then explore burnout outcome categories and whether they are mediated by perceptions of working for a family friendly agency. We complete our analysis by examining relationships, where present, between job satisfaction indicators and other potential stressors, including family income, daily commute, and technology.

## Characteristics of the Sample

The demographic characteristics of the sample are described in Table 2. Whites are represented in far greater numbers than African American or other races and ethnic groups; however, the proportion of women to men in the workforce is nearly equal. Although seemingly ancillary to this analysis, it is interesting to note that our sample has a large proportion of older workers: The mean and median ages calculated from grouped data are forty-nine years and fifty-one years, respectively. This finding confirms a trend towards an aging workforce. It also may suggest why a larger proportion of employees in this sample have families without children than with children. Only a small sub-sample care for elderly relatives or friends.

The average number of years employed in state government is fifteen, with a median of thirteen years (calculated from grouped data and rounded up). It appears that a sizeable number of employees in this sample have worked elsewhere prior to becoming state employees; some indicated that they had begun second careers with the state. Although it is possible that women workers began their careers later than men, or left the workforce to have children, this is not born out in this sample. Women and men are equally represented in the number of years employed by state government.

Almost half of our respondents report *family* incomes equal to or greater than \$76,000 annually. For the large proportion of employees who are married or with partners, the income distribution across race and gender are remarkably similar and without statistical significance. However, for those with unemployed spouses, there are significantly more men

than women in each income category except the two lowest categories ( $n=269$ ,  $\chi^2 =14.80$ , d.f. 4,  $p=0.005$ ,  $\gamma=0.254$ ). In this sample, 898 (62.1 percent) of those responding ( $n=1,445$ ) indicate that their spouse is employed; the remainder have an unemployed spouse (284, 19.7 percent) or are single (263, 18.2 percent).

**Table 2: Respondent Characteristics (N=1501)**

Variables and their attributes	Female n (%)	Male n (%)	Total n (%)
<b>Race/Ethnicity</b>			
African-American	158 (22.5)	118(15.0)	276(18.6)
White	495(70.5)	615(78.1)	1110(74.9)
Other	43(6.2)	52(6.6)	95(6.4)
Total	702(100.0)	787(100.0)	1489(100.0)
<b>Age</b>			
18-29	45(6.4)	32(4.1)	77(5.2)
30-39	86(12.3)	109(13.9)	195(13.1)
40-49	102(14.6)	100(12.7)	202(13.6)
50-59	271(38.8)	267(34.0)	538(36.3)
60+	195(27.9)	277(35.3)	472(31.8)
Total	699(100.0)	785(100.0)	1484(100.0)
<b>Family Income</b>			
25,999 or less	90(13.6)	46(6.1)	136(9.6)
26,000-50,999	186(28.1)	160(21.3)	346(24.5)
51,000-75,999	119(18.0)	134(17.8)	253(17.9)
76,000-100,000	125(18.9)	186(24.7)	311(22.0)
100,000 +	142(21.5)	226(30.1)	368(26.0)
Total	662(100.0)	752(100.0)	1414(100.0)
<b>Education</b>			
High School or less	134(19.2)	146(18.6)	280(18.9)
Some College	259(37.1)	181(23.1)	440(29.7)
College Degree	170(24.3)	229(29.2)	399(26.9)
Grad. or Prof Degree	136(19.5)	227(29.0)	363(24.5)
Total	699(100.0)	783(100.0)	1482(100.0)
<b>Years Employed State Govt.</b>			
5 or fewer years	186(26.5)	189(24.0)	375(25.2)
6-10 years	128(18.3)	138(17.5)	266(17.9)
11-15 years	79(11.3)	83(10.5)	162(10.9)
16-20 years	107(15.3)	125(15.9)	232(15.6)
21-25 years	79(11.3)	75(9.5)	154(10.3)
26-30 years	74(10.6)	79(10.0)	153(10.3)
>30 years	48(6.8)	98(12.5)	146(9.8)
Total	701(100.0)	787(100.0)	1488(100.0)
<b>Marital Status</b>			
Married	418(59.5)	631(80.2)	1049(70.4)
Separated/Divorced/ Widowed	176(26.5)	83(11.6)	277(18.6)
Never Married	98(14.0)	65(8.3)	163(10.9)
Total	702(100.0)	787(100.0)	1489(100.0)
<b>Spouse Employed</b>			
Yes	400(60.2)	495(64.0)	895(62.3)
No	86(13.0)	196(25.4)	282(19.6)
No Spouse/Partner	178(26.8)	82(10.6)	260(18.1)
Total	664(100.0)	773(100.0)	1437(100.0)
<b>Have Children</b>			
Yes	313(44.6)	349(44.3)	662(44.5)
No	389(55.4)	438(55.7)	827(55.5)
Total	702(100.0)	787(100.0)	1489(100.0)
<b>Care for Elderly</b>			
Yes	213(44.6)	225(19.1)	438(21.2)
No	488(76.5)	576(80.9)	1064(78.8)
Total	638(100.0)	712(100.0)	1350(100.0)

## **Satisfaction with work**

Frequency distributions of respondent answers to questions regarding their satisfaction with their work were uniformly positive. For example, to the general question, 'Are you satisfied with your job?' 1,116 (75%) responded that they are satisfied. To the more value-specific question, 'Is your job meaningful?', 1,254 (84%) agreed that it is. To the task-oriented question, 'I am satisfied with the work I do,' 1,261 (85%) responded that they are satisfied. Responses to these questions were remarkably similar between women and men respondents. However, to the question, 'I'm thinking of quitting my job,' 845 (56%) respondents, more than half of the sample, responded that they are thinking of doing so. Men were slightly more likely to respond affirmatively to this question than women ( $\chi^2 9.108$ ,  $df 4$ ,  $p=.058$ ). Overall, responses to questions regarding job satisfaction correlate with public service worker motivation in contrast with the private sector: people who work in the public sector tend to be motivated to serve. Respondents' desire to quit their jobs may suggest the presence of various stress factors that have not been adequately explored. In the next section of this paper, we examine the general job satisfaction variable in relation to the burnout factors used as a surrogate for extreme life style stress.

### **Employee stress and job satisfaction.**

The six burnout indicators were indexed into a multinomial variable that measures minimal, moderate and significant levels of burnout (stress). This new variable was then cross-tabulated with the variable 'satisfied with one's job'. The outcome of this analysis found that of those who indicated that they are not satisfied with their jobs, 159 (90%) also report a moderate to significant level of burnout. In part, our hypothesis states that the demands of caregiving increase levels of stress that may affect other aspects of one's life, including work.

The next section identifies the sub-sample of respondents who have caregiver responsibilities.

**Caring for children and the elderly.** Of the 1,361 respondents that answered, 667 (44.4 percent) reported that they have children, 445 (30.5 percent) are caring for elderly relatives, and 206 (14.1 percent) are caring for both. A cross-tabulation using the chi square test of respondents who care for children and elders controlling for the factors, 'I am satisfied with my job', 'My job is meaningful to me', and 'I am satisfied with the work I do', found no statistically significant relationships. However, there were significant relationships between those caring for children and certain 'burnout' factors.

Our analyses raise the question of incongruence between reported high levels of over-all job satisfaction and reports of lifestyle stress (burnout) as indicated by the responses to items on the Copenhagen Burnout Inventory (Kristensen, et.al. 2005). To address this question, the scores on the CBI were indexed and categorized into an ordinal variable. When cross-tabulated with gender a significant relationship was shown between gender and life stress levels ( $\chi^2=51.003$ ; d.f. 2;  $\gamma = -.355$ ) in the general response population (n=1483). Responses indicated that 64.7 percent (n=508) of the male respondents and 80.4 percent (n=561) of the female respondents reported moderate to significant life stress levels. Although levels of stress appear to be elevated for a significant portion of public employees, clearly, female employees are reporting higher levels of burnout, possibly lending support to the persistence of the female caregiver model proposed by Hein (2005). Important to our analysis is establishing the difference between those that are two-earner families and those that are single-earner families.

In our analysis, we follow the work of Jacob and Gerson (2004) who claim that the number of hours worked and income should be calculated by family rather than by individual to more accurately assess the affects on the family of two-earner households. Their study found that dual-earner families in the higher income brackets are putting in longer hours, a finding confirmed in this study. In this study, there is a statistically significant relationship between dual-earner families and the average number of weekly overtime hours worked, a relationship that does not hold for single-earner families. Dual-earner families in the highest income bracket are working longer hours than families with lower incomes (table 3).

**Table 3: Comparison of Working/Non-working Spouse by Hours overtime**

		Value	df	Asymp. Sig. (2-sided)
<b>Spouse does not work</b>				
	Pearson Chi-Square	1.550	3	.671
	Gamma	.079		
	N of Valid Cases	271		
<b>Spouse does work</b>				
	Pearson Chi-Square	19.258	3	.000
	Gamma	.249		
	N of Valid Cases	875		
<b>Spouse works by Income</b>				
25,999 and below	Pearson Chi-Square	.039	2	.981
	Gamma	.020		
	N of Valid Cases	30		
26,000—50,000	Pearson Chi-Square	.372	3	.946
	Gamma	.064		
	N of Valid Cases	142		
51,000—75,999	Pearson Chi-Square	1.273	3	.736
	Gamma	.155		
	N of Valid Cases	169		
76,000—100,000	Pearson Chi-Square	2.230	3	.526
	Gamma	.160		
	N of Valid Cases	211		
100,000 and over	Pearson Chi-Square	13.884	3	.003
	Gamma	.309		
	N of Valid Cases	288		

The next analysis, a multinomial regression, attempts to predict whether the sub-sample of workers who have been identified as dual-earners are over-stressed to the point of burnout.

Multinomial logistic regression (SPSS NOMREG) was conducted to assess prediction of membership in one of the burnout outcome categories. The exogenous variables of interest included gender, age, income, care demands (0=none, 1=child *or* elder, 2=child *and* elder). In addition the interaction effects of “care demands” by respondents’ perception that they work in a “family friendly agency” were included. We have hypothesized in accordance with the

literature, that working for a family friendly agency can mitigate the effects of caregiver stress. We next distinguish patterns of relationships among respondents' group by marital and caregiver status, their perceived burnout levels, and whether these factors are mediated by working for a family friendly agency.

We identified dual-earner households, single-earner with spouse or partner households, and single households. Selecting responses based on the question "Is your spouse or partner employed" (1=yes, 2=no, 3=no spouse or partner) allowed the comparisons of those who reported being the only one employed in a household with those who reported being in dual-earner households. The results of the regression analyses are summarized in Table 4.

In each model goodness-of-fit statistics (comparing observed with expected frequencies) with all the predictors in the equation show an excellent fit by the Pearson and Deviance criteria. The odds ratio (Exp(B)) is reported for each significant predictor variable (non-significant predictors are not reported). The odds ratio indicates the magnitude of change in the likelihood of experiencing stress (e.g. moderate, significant) by a one-unit change in the predictor. For instance, in the general population group being moderately stressed is 83 percent more likely for those whose age is in the 30-39 years category (Exp(B) = 1.830). Examination of Table 9 shows that female employees are likely to be more stressed in each population group. The age predictor shows a pattern consistent with earlier analysis that indicates the category 50-59 years is significantly related to stress level for both the general and dual-earner households, however, when households have a single-earner (indicating the other spouse/partner is available to share domestic burdens) this predictor is no longer significant. There is a consistently significant relationship, although small, in the interaction

between working for a “family friendly” agency and care demands. The odds ratio for each of the interactions is less than 1, indicating a *decrease* in the odds of being in either the significant or moderate stress level. This result suggests that the stress of care demands are indeed mitigated by the effects of working in an agency that has “family friendly” policies.

**Table 4. Multinomial Logistic Regression of Life Stress (Burnout) as a Function of Exogenous Predictors**

<b>Measure of Burnout by Stress Level</b>			
<b>Population Group</b>	<b>Predictor Variable</b>	<b>Significant</b>	<b>Moderate</b>
<b>General</b>		Exp(B) (p values) <sup>a</sup>	Exp(B) (p values) <sup>a</sup>
N=1374	Gender (female)	3.392 (0.000)	2.277 (0.000)
Nagelkerke R <sup>2</sup> = 0.137	Age (30-39)	2.311 (0.039)	1.830 (0.008)
Goodness-of-Fit:	Age (50-59)	2.567 (0.002)	1.406 (0.033)
Pearson p=0.371	Family friendly*Care demands (0)	.673 (0.041)	.802 (0.036)
	Family friendly*Care demands (1)	.416 (0.000)	.806 (0.034)
	Family friendly*Care demands (2)	.525 (0.016)	.636 (0.024)
<b>Dual-Earners</b>			
N=836	Gender (female)	3.698 (0.000)	2.444 (0.000)
Nagelkerke R <sup>2</sup> = 0.142	Age (30-39)		1.826 (0.033)
Goodness-of-Fit:	Age (50-59)	3.342 (0.007)	
Pearson p=0.313	Family friendly*Care demands (0)		
Deviance p=0.994	Family friendly*Care demands (1)	.395 (0.000)	.745 (0.021)
	Family friendly*Care demands (2)	.447 (0.015)	
<b>Single-Earner</b>			
N=262	Gender (female)	3.352 (0.081)	4.367 (0.001)
Nagelkerke R <sup>2</sup> = 0.258	Age (30-39)		
Goodness-of-Fit:	Age (50-59)		
Pearson p=0.240	Family friendly*Care demands (0)		
Deviance p=0.996	Family friendly*Care demands (1)	.403 (0.014)	
	Family friendly*Care demands (2)	.043 (0.012)	

a. p<0.05

	Gamma	.155		
	N of Valid Cases	169		
76,000—100,000	Pearson Chi-Square	2.230	3	.526
	Gamma	.160		
	N of Valid Cases	211		
100,000 and over	Pearson Chi-Square	13.884	3	.003
	Gamma	.309		
	N of Valid Cases	288		

There were no statistically significant relationships in a regression of variables associated with care-giving roles (children and elderly) and the factor associated with “job stress” when controlling for gender. The six burnout variables in table 5 loaded on one factor which was subsequently regressed on the variables ‘social support system’ and a dichotomous variable, have/do not have children ( $R^2$  0.049 d.f. 3 F 24.056  $p=0.0001$ ). The result suggests that as the social support system declines, burnout increases ( $\beta$  -.175,  $t$  -6.698  $p=0.0001$ ) and that burnout is positively associated with having children ( $\beta$  .116,  $t$  4.456  $p=0.0001$ ) and with caring for elderly ( $\beta$  .057,  $t$  2.034  $p=0.0001$ ).

**Table 5: Relationship of burnout factors to the lack of a strong social support network.**

Burnout factors	Chi square	DF	P value	Gamma
Often feel tired	25.53	4	.000	.222
Emotionally exhausted	55.05	4	.000	.289
Feel worn out	15.14	4	.004	.158
Weak susceptible to illness	18.108	4	.001	.196
Can't take it any more	28.76	4	.000	.265

### **Other Factors Related to Worker Stress**

Exploratory factor analysis of the responses to twenty-four survey items related to work and the workplace was conducted using oblique (Oblimin) rotations. The Oblimin rotation was warranted since the assumption that the extracted factors were uncorrelated was questionable. The correlations exceed .32 on two factors, indicating that there is ten percent (or more) overlap in variance among factors, which is enough variance to warrant the oblique rotation which is reported here (table 6).

**Table 6: Component Correlation Matrix - Oblimin Rotation**

Component	1	2	3	4
1	1.000	-.399	.347	.250
2	-.399	1.000	-.214	-.290
3	.347	-.214	1.000	.097
4	.250	-.290	.097	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

Four factors were chosen based on the Monte Carlo Parallel Analysis method of factor selection.<sup>1</sup> Loadings on the first factor were clearly related to organizational culture, the second to job satisfaction, the third to employee benefits, and the fourth appears to be related on-the-job stress (table 7). These factors were subsequently used in analyses discussed below.

**Table 7: Oblimin Rotation Pattern Matrix<sup>a</sup> for Selection of Job Satisfaction Factors**

	Component			
	1	2	3	4
confidence in leadership of my agency	.840			
philosophy of org creates positive work environment	.776			
understand long term strategy of agency	.731			
supervisor treats me fairly	.610			
my job is secure	.573			
has enough authority to do the job	.564			
work load is about right	.435			
like the type of work I do		-.875		
job very meaningful to me		-.845		
satisfied with work I do		-.791		
work brings enjoyment satisfaction		-.694		
work (isn't) boring		-.672		
committed to my work		-.621		
satisfied with my job	.428	-.518		
goals of work (are) important (don't) think of quitting		-.497		
benefits package fair			.911	
satisfied with health insurance			.860	
vacation fair for my responsibilities			.591	
salary is fair for my responsibilities			.550	
(have) inner drive to work effectively				.745
have (little) association with colleagues at work				.646
have sufficient authority in current position				.530
communicating with key people (isn't) difficult				.434

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 9 iterations.

In addition to caregiver variables, other variables included in our hypothesis included the value, as a stress-related factor—either help or hindrance—included the uses of technology, and commuting. Technology was defined for our purposes as the use of work-related email

from home, telecommuting and variants of the latter. Commuting was thought to be a potential issue judging mainly from news reports that ‘extreme’ commutes were not uncommon for people who could not afford to live in the city where they work.

**Technology at work and at home.** Regression of the factors with variables related to characteristics of the job found that, as might be expected, those who are satisfied with their work feel they have the skills to do their jobs and that technology improves their ability to do their work; the reverse also appears to be the case (table 8). Similar results are noted when the factor related to organizational culture is regressed on questions related to technology and, in particular, email. Technology is thought to improve one’s ability to do one’s work and email makes the job easier; however, it appears that responding to email from home is not part of the state agency culture and is statistically insignificant. Scaled questions as to one’s preference for and the effectiveness of telecommuting are not significantly related to either the factor related to job satisfaction or organizational culture. However, those who commute long distances would prefer to telecommute, as will be discussed below.

**Table 8: Regression of Job Characteristics on Job Satisfaction Factors**

	Standardized Coefficients	t	Sig.
	Beta		
<b>Factor 1 – Agency Culture <sup>a</sup></b>			
have skills required to do job effectively	-.046	-1.324	.186
have received adequate training for job	.287	7.948	.000
tech improved ability to do job	.175	4.383	.000
email has made my job easier	.162	4.221	.000
R Square	.201		
<b>Factor 2 – Job Satisfaction <sup>b</sup></b>			
have skills required to do job effectively	-.129	-3.575	.000
have received adequate training for job	-.132	-3.551	.000
tech improved ability to do job	-.228	-5.557	.000
email has made my job easier	-.057	-1.436	.151
R Square	.154		

a Dependent Variable: Agency Culture Oblimin

b Dependent Variable: Job Satisfaction Oblimin

**Daily commuting distance.** Most of our respondents commute round-trip ten miles or less. There is a linear relationship indicating that commuting distance increases as one's annual family income increases ( $\chi^2 = 58.292$  d.f. 20,  $p = .0001$ ,  $\gamma = 0.152$ ). About 20 percent of our respondents might be what has euphemistically been called extreme commuters, averaging greater than 40 miles a day round trip. Five percent commute 75 miles round trip or more a day. Using the chi square test, we find that there is no statistically significant relationship between the variables job satisfaction and commuting distance. As to our long-distance commuters 37.2 percent of those whose round-trip commute is greater than 40 miles indicated a preference for telecommuting. Although 50 percent of respondents indicated that they would prefer to work a flexible schedule (flextime), only 22 percent indicate that they already do so. This may be due in part to the lack of a uniform flextime policy for state workers.

**Worker Benefits Package.** Although not considered in our initial hypotheses, the fairness of the state benefits package and satisfaction with health insurance were shown to be significantly related when cross-tabulated with those who care for children and elderly. In this sample, employees with these responsibilities are more likely to be dissatisfied with their health insurance and benefits than those who do not have these responsibilities. This may foreshadow a problem that workers will have as more take on the responsibility for parental care, particularly if they must shoulder financial responsibilities for care as well as catastrophic medical costs (see table 9).

**Table 9: Satisfaction with State Benefits factored by Care-giving Responsibilities**

		Value	df	Asymp. Sig. (2-sided)
<b>Have Children</b>				
Fairness of State Benefits	Pearson Chi-Square	11.845	4	.019
	Gamma	-.129		
	N of Valid Cases	1482		
Satisfied with Health Insurance	Pearson Chi-Square	14.19	4	.007
	Gamma	-.123		
	N of Valid Cases	1479		
<b>Care for Elderly</b>				
Fairness of State Benefits	Pearson Chi-Square	14.095	4	.007
	Gamma	-.167		
	N of Valid Cases	1448		
Satisfied with Health Insurance	Pearson Chi-Square	17.536	4	.002
	Gamma	-.172		
	N of Valid Cases	1443		

Finally, responses to an open-ended question that asked about other factors that affect one's work can be classified into the personal health, both physical and mental, of the respondent and the health of the physical work environment. Those who complained of personal health problems cited chronic pain, chronic illness and depression (stress, often associated with depression, was a frequent response). Environmental problems included poor working conditions (old buildings, too much or too little heat or air conditioning). Principal among other factors related to working conditions were too few staff for the work required, incompetent staff, and incompetent supervision. Responses (N=383) to the open ended questions were matched with the respondent's answers to each of the six burnout factors. The comparisons revealed that women suffer burnout in greater proportion to men in all age groups except the youngest (18-21) in which men claim slightly greater emotional exhaustion than women and the oldest (60 and above) where a greater proportion of men claim physical exhaustion. The chi square tests were significant across age groups between men and women along all six dimensions of burnout.

## Conclusion

The principal aim of this study was to learn more about the intersection of care giving and the workplace using as the principal measure of caregiver-related stress, a respected ‘burnout’ scale in conjunction with scales related to characteristics of the job that have been used to measure job satisfaction. Recognizing that pressures of caregiving may be either exacerbated or mitigated by such lifestyle factors as commuting distances, working at home, presence of support systems, and the use of technology, these variables are included in the study. The limited research that has been conducted to date suggests that women, in particular, are affected by the dual nature of their roles as both permanent full-time employees and principal domestic partners. This assertion would suggest that women are also, and as a result, less happy with their lives in this potentially stressful, dichotomous role. At first blush, overall job satisfaction is apparent in the study sample. Whether unique to state workers, or to state workers in Virginia, the sample respondents are remarkably satisfied with their work. However, there is also an undercurrent of distress among a sub-sample of employees, particularly women, who shoulder additional domestic burdens. Clearly a minority on several counts, women employees with children and women employees who care for elderly persons are more likely than their married non-caregiver peers and men to suffer from factors associated with burn out. Furthermore, it is interesting to note that dual earner and single, unmarried employees are more likely to report job-related stress than married or partnered single earner employees. We might assume that the caregiver burden for single-earner couples is absorbed by the spouse or partner who is not working outside the home. Stress also appears to be less common for those that work in a “family friendly” agency, a finding that suggests that the prudent administrator assess her agency’s policies in that regard.

Potential options such as telecommuting and flexible work schedules are popular among those employees whose agencies offer them; however, these options are used by a minority in this sample, a likely result of state policy that permits optional use by agencies. Distress among those who are caring for elderly persons (although currently a small and statistically insignificant sub-sample in this study) may foreshadow the need to examine employee benefits packages such that workers who will find it necessary to assist the growing elderly demographic will have flexible leave options and case management opportunities to assist them.

Further study is needed to examine more closely the problems that workers who are also caregivers experience, particularly regarding employee benefits, flex-time arrangements and policies that use technology to alleviate worker stressors; in-person interviews would be enlightening. Furthermore, comparisons with employees in other states would help establish whether or not employees in this sample are in some way unique among state employees—particularly their average age, length of time on the job, family composition and the use of employee benefits and technology to mitigate life style stress.

## **Note**

1. Parallel analysis involves comparing the size of the PCA eigenvalues with those obtained from a randomly generated data set of the same size. Only those eigenvalues that exceed the corresponding values from the random data set are retained. This approach to identifying the correct number of components to retain has been shown to be the most accurate, with both Kaiser's criterion and Catell's scree test tending to overestimate the number of components. (Hubbard & Allen, 1987; Zwick & Velicer, 1986)

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