Overworked and Isolated?
Predicting the Effect of Work-family Conflict, Autonomy, and Workload on Organizational Commitment and Turnover of Virtual Workers

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Abstract

The study proposes that work-family conflict, autonomy, and workload influence work exhaustion and job satisfaction. Exhaustion is also thought to influence satisfaction. The model further proposes that work exhaustion and job satisfaction will affect organizational commitment, which, in turn, will influence turnover intention. The study was conducted at a company in the computer and software services industry. Overall, good support for the proposed model was found. Work-family conflict, job autonomy, and workload were found to be associated with work exhaustion and job satisfaction. Exhaustion was negatively related to job satisfaction, as predicted, and job satisfaction was positively related to organizational commitment and negatively related to turnover intention, as predicted in both cases. Organizational commitment was found to be negatively associated with turnover intention. Implications for management are offered.

1. Introduction

Through the past several decades of research in organizational behavior and related fields, we have learned a great deal about the antecedents of turnover intention in work organizations, such as low levels of job satisfaction and organizational commitment. Almost all of this research, however, has been conducted in work organizations in which people are physically co-located. Little is known about turnover intention antecedents in organizations where many people work remotely and where interactions with their co-workers is mediated through the telephone, e-mail, and Internet.

Being a member of a virtual team is becoming more and more common [26]. The number of Americans who work remotely at least one day per week is already estimated at 20 million and growing [34]. Given the large numbers of employees involved in remote work, it becomes important for businesses to determine whether turnover results from the same or different factors for remote workers compared to their traditional counterparts. Once managers understand the relevant factors, they can craft remedies. In areas experiencing large shortages of trained workers, as is the case for information technology workers, determining the antecedents of turnover intention becomes more than just an academic exercise.

This paper focuses on an investigation of organizational factors related to turnover intention for information technology workers in a large software services company. The next section of the paper introduces our research model, along with the relevant literature for each factor being studied. The hypotheses are presented as part of the model review and explanation. This is followed by sections on research methods, model testing, presentation of results, and a discussion of the findings.

2.0 Model

Most research on turnover has examined co-located instead of virtual or geographically distributed work environments. In virtual work environments, the employee's clients, supervisors, and many coworkers are physically separated from one another. In this paper, we utilize the existing research on turnover and its sources within co-located work environments to make some predictions about these relationships in virtual work environments.

Specifically, this paper seeks to examine how one situational factor (work-family conflict) and two organizational factors (autonomy and workload) influence turnover intention among virtual workers. The model (Figure 1) proposes that work-family conflict, autonomy, and workload influence work exhaustion and job satisfaction. Exhaustion is also thought to influence job satisfaction. The model further proposes that work exhaustion and job satisfaction will affect organizational commitment, which, in turn, will influence turnover intention.

Figure 1: Research Model

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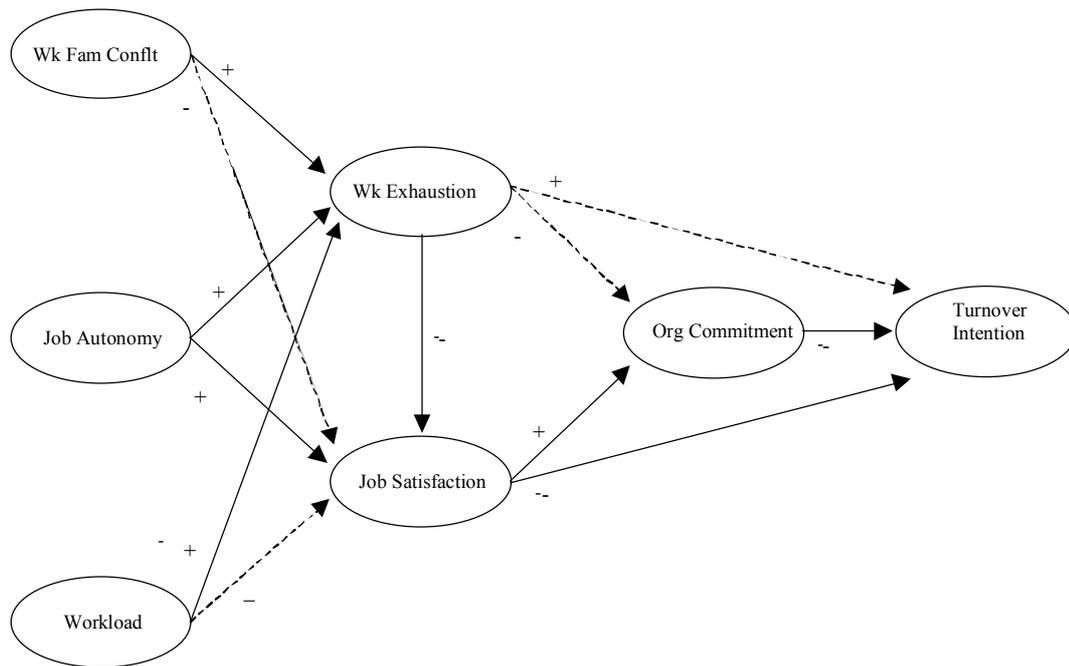
2.1 Organizational Commitment

When employees feel committed to an organization, they are likely to stay with the organization. Therefore, organizational commitment is a natural factor that should relate negatively to turnover. Organizational commitment means the extent to which one is involved in, and identifies with, one's organization [44]. Being committed to an organization generally means one feels proud of the organization and one's affiliation with it and is therefore glad to be a member of it. Those with high organizational commitment tend to be willing to put in extra effort for the organization [56].

Meyer and Allen [40] developed a model of organizational commitment with three components: affective, continuance, and normative. Affective commitment means one has an emotional attachment to, and involvement with, the organization. Continuance commitment means one is aware of the costs of leaving an organization, a rational orientation. Normative commitment refers to feelings of obligation to an organization. This paper uses affective commitment as an antecedent of turnover intention.

A number of researchers besides Mowday, et al., have proposed and found links between organizational commitment and turnover intention. Igbaria and Greenhaus [18] found that organizational commitment was a strong predictor of turnover intentions (= .38), second only to job satisfaction. Mobley, et al. [41], reviewed several studies that showed that commitment was related to either turnover intention or turnover itself. Meta-analysis has also confirmed the link between

commitment and turnover intention [7]. Among information systems employees, turnover is encouraged by the widespread availability of alternative jobs, which has led systems professionals to develop, in some cases, as much loyalty to their profession as to their organization. Still, it makes sense that affective commitment to the organization would mitigate the job availability-driven turnover of IS employees by encouraging them to stay with the organization.

H1: Organizational commitment will be negatively associated with turnover intention.

2.2 Work Exhaustion

IT workers frequently face long hours, excessive travel, and stress associated with project deadlines [12], making them susceptible to work exhaustion. Work exhaustion and its predecessor construct, tedium, have long been studied in human service workers, but it is only recently that the constructs have been conceptualized to apply to corporate settings [43]. Building on Moore's work, we use Schaufeli et al.'s [48] definition of work exhaustion as the depletion of mental resources that an individual brings to a job.

Work exhaustion has been addressed in the literature through research in the areas of tedium and job burnout [42,43]. Tedium is defined as a state of physical, emotional, and mental exhaustion caused by long-term involvement in demanding situations [47]. Tedium has been said to result from factors such as too many pressures, conflicts, and demands, combined with too few rewards, acknowledgments, and successes [24]. Job burnout refers to the emotional exhaustion dimension of

tedium and has been defined as a response to the chronic emotional strain of dealing extensively with other people [35].

The domain of work exhaustion in this paper is consistent with that utilized by Moore [42]. Moore included in her conceptualization, emotional exhaustion and mental exhaustion but not the physical exhaustion, because physical exhaustion is likely to have a different set of causes and consequences and may be experienced in quite a different way than emotional and mental exhaustion.

Consequences of work exhaustion include reduced job satisfaction [5,6,36,42,58], reduced organizational commitment [22,29,30,31,51], and higher turnover and turnover intention [9,21,22,27,36,37,51].

H2: Work exhaustion will be negatively associated to job satisfaction.

H3: Work exhaustion will be negatively associated to commitment.

H4: Work exhaustion will be positively associated to turnover intention.

2.3 Job Satisfaction

It makes sense that one who is satisfied with the job will be more committed to the organization than one who is dissatisfied. Having a job one likes usually means one is happy with things at work generally. The good feelings one has towards the job probably rub off on perceptions about the organization because the organization has a role in assigning one to a job. On the other hand, if one does not feel satisfied with the job, it would be easy to blame the organization for this problem, reflecting lower affective organizational commitment.

A number of researchers have found that those satisfied with their jobs are more likely to be highly committed to the organization. Mathieu & Hamel [38] found evidence that job satisfaction influences affective commitment, as did Williams & Hazer [57], in turnover models. Using meta-analytic methods and structural equation modeling, Eby, et al. [8], found that job satisfaction affected affective organizational commitment even in the presence of intrinsic motivation. That is, job satisfaction partially mediated the effects of intrinsic motivation on affective organizational commitment. Among IS employees, Igbaria and Greenhaus [18] found that job satisfaction was much more predictive of organizational commitment than were age, tenure, education, role ambiguity, role conflict, salary, promotability, or career opportunities.

H5: Job satisfaction will be positively associated to organizational commitment.

Those who are satisfied with their job should also be less likely to turnover. When one moves to a new job, considerable difficulty is involved and much learning about the new environment must take place. Thus, most people do not turnover lightly -- usually some

dissatisfaction with the job exists. A general feeling of satisfaction with one's job would be consistent with the idea that it is a pretty decent place to work and that one's role is acceptable, making it hard to reconcile leaving for a new job unless other strong factors are at work, such as geographical preferences or family situations. Hence, job satisfaction is probably a key factor in turnover intent.

Empirical research has found that job satisfaction is usually strongly negatively associated with turnover intent. Walsh, et al. [54] found job satisfaction and turnover intent to be correlated at -0.53. Mobley, et al. [41] found that among seven studies, all seven showed a significant correlation between job satisfaction and actual turnover, with correlations ranging from -0.13; $p<.05$ to -0.37; $p<.01$. Eby, et al. [8] found that, across several studies, general job satisfaction was negatively related to turnover behavior ($p<.05$), even though affective organizational commitment was not. Igbaria and Greenhaus [18] found job satisfaction to be a stronger direct antecedent of turnover than was organizational commitment.

H6: Job satisfaction will be negatively associated to turnover intention.

2.4 Work-family Conflict

Work-family conflict can be a source of occupational stress, especially in the modern age of the "electronic briefcase." In many IT-related jobs (e.g., consulting), workers are expected to work late, be on-call to solve technical problems, and travel. Work-family conflict has been defined as "a form of inter-role conflict that occurs when the demands of work and family are mutually incompatible in some respects for career oriented men" [17]. Models of work-family conflict suggest that conflict arises when demands of participation in one domain of life are incompatible with demands of participation in another domain and that this conflict can have an important effect on the quality of both work and family life [14,15,45].

Research on work-family conflict has been examined in organizational studies in the context of several different fields (e.g., police officers, health care workers, engineers, workers in the construction industry, etc.), but, to date, no research has been specifically conducted with IT workers. There is a need for such an examination in the context of IT workers because IT careers, more than most other fields, demand long-hours, travel, and constant updating of skills. All these factors are likely to lead to work-family conflict for both men and women.

Work-family conflict has been negatively linked with several organizational outcomes, including job-satisfaction and organizational commitment [11,52,55]. Although work-family conflict has not been directly linked with retention, it will probably directly affect work exhaustion and job satisfaction of virtual workers, which, in turn, affect turnover intentions among IT workers.

H7: Work-family conflict will be positively associated with work exhaustion in virtual workers.

H8: Work-family conflict will be negatively associated with job satisfaction in virtual workers.

2.5 Work Autonomy

Work Autonomy has been considered a job characteristic embedded in an employee's position [25] and the surrounding organizational environment [49]. Work autonomy (WA) has been defined as "the degree to which the job provides substantial freedom, independence and discretion in scheduling the work and in determining the procedures to be used in carrying it out" [16, p. 162]. In its most general form, WA influences employees' perceptions of their authority to initiate, perform, and complete tasks [59].

Autonomy has been widely considered as positively associated with worker performance [19]. Research suggests that when workers have less autonomy, worker performance is likely to decline due to task monotony or perceived lack of skills [13,39]. However, when they perceive a fit between their autonomy level and task environment, individuals perform at higher levels [59].

Jackson, et al. [21], as well as Pines, et al. [47], have suggested that one outcome of lack of autonomy is work exhaustion. Research suggests autonomy influences individual perceptions of the workplace and beliefs about the consequences of behavior [46]. Based on the above, we suggest that in virtual work environments, autonomy will lead to lower work exhaustion and higher job satisfaction.

H9: Perceptions of autonomy will be negatively associated with work exhaustion.

H10: Perceptions of autonomy will be positively associated with job satisfaction.

2.6 Workload

One of the antecedents to emotional exhaustion and tedium identified by researchers is workload [43,32,48]. Lee and Ashforth [28] conducted a meta-analysis that provides support for the relationship of emotional exhaustion with work overload, lack of autonomy, and turnover intention and reduced organizational commitment.

Moore [43] has provided empirical evidence that work overload is the strongest contributor to work exhaustion in information technology professionals. Likewise, Bartol and Martin [2] and Ivancevich, et al. [20], reported that unreasonable workloads and deadlines were commonly imposed on IS professionals. Further, Li and Shani [33] and Fischer [10] provided evidence of work overload and frequent work in deadline and crisis mode among IT professionals. It seems reasonable to expect that workload will have a direct negative effect on job satisfaction in addition to a mediated effect through work exhaustion (see H2).

H11: Workload will be positively related to work exhaustion.

H12: Workload will be negatively related to job satisfaction.

3.0 Method

The study was conducted at Alpha Corp, a company in the computer and software services industry. Alpha Corp has over 3000 employees, with most residing at company headquarters located in a large midwestern city. About 700 employees are virtual associates (VA) who work at client sites to install and maintain the information management systems developed at company headquarters. VA engagements range from several days to more than a year, with most assignments lasting three to six months.

Background data were gathered during six, 1-hour telephone interviews with human resource representatives who supported VAs. Next, three researchers visited two client sites and conducted 12 interviews with VAs. The semi-structured interviews lasted 45-60 minutes. VAs were asked to describe the positive and negative characteristics of their jobs; provide feedback on seven topics gleaned from the telephone interviews including technical infrastructure, project teams, employee/manager relationship, ability to maintain a sense of community, and compensation; and to complete a series of ranking exercises around the theme, "What really frustrates me at Alpha Corp is …." All telephone and face-to-face interviews were conducted during the summer and fall of 2000 and tape-recorded.

In spring 2001, Alpha Corp management sent an email to the 700 VAs and asked them to complete a web-based questionnaire, hosted on a server at the researchers' university, as part of the company's effort to understand and enhance the work environment for VAs. A second email was sent 10 days after the first, encouraging VAs to complete the survey. 172 VAs completed the instrument for a 24.6% response rate. Demographics of the sample are shown in Table 1.

Table 1: Demographics of sample

Total responses	172	
Gender	Female	54%
	Male	46
Age	22-30	27%
	31-40	28
	41-50	33
	>50	13
Marital status	Single	41%
	Married	59
Responsible for dependents?	Yes	36%
	No	64
Time with Alpha Corp	<= 2 years	34%
	2-5 years	48
	>5 years	18

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3.1 Measures

Indicators for each construct were distributed throughout a larger survey that examined turnover in virtual work environments. Items may be found in the Appendix. Items for job autonomy, work-family conflict, job satisfaction, and organizational commitment used Likert scales ranging from 1 = strongly disagree to 7 = strongly agree. Work exhaustion used a scale that measured frequency, ranging from 0 = never to 6 = daily, with the midpoint of 4 representing "Once a week, rather often." Perceived workload items also used a scale that measured frequency, although it was slightly different than that used for Work exhaustion. It ranged from 1 = Daily to 7 = Once a year or less. The midpoint of 4 represented "2 or 3 times a month." Note that this scaling means that higher values are associated with a lower perceived workload. Turnover intention items used three different scales. Two items used a 5-point scale, ranging from 1 = Very Unlikely and 5 = Very Likely. Three items used a 7-point scale that ranged from 1 = Very Unlikely to 7 = Very Likely. One item used a 7-point scale with anchors at 1, 4, and 7 for "Doing nothing," "Keeping eyes open," and "Actively looking." Some of these items had to be reverse coded so that higher values for Turnover Intention indicated a stronger intention to leave.

All scales used in this study had been developed and validated by other researchers, as shown in the Appendix. Drawing on organization behavior and social psychology literature [3,4,16], four items were developed to assess individual perceptions of autonomy. Work-Family Conflict was measured using the scales proposed by Adams and his colleagues [1].

4.0 Results

Structural equations modeling was used to test the hypothesized model. This approach provides for an examination of the fit of a model on the sample with consideration of error during the analysis. Scale values were computed in SPSS 9.0 as the mean of the items within each scale. The scale averages served as single indicators for the latent variables being tested and were used to create a covariance matrix that served as input to

Lisrel 8.3. To account and adjust for measurement error in the individual scales, each path from the latent variable to its corresponding indicator variable was set equal to the square root of the scale reliability; the error variance was set equal to the variance of the scale multiplied by one minus the reliability [23].

The completely standardized solution is shown in Figure 2. Results indicate that the model fit very well. The chi-square value was 16.33 with 6 degrees of freedom (p = 0.012). The fit statistics also were strong: goodness-of-fit index (GFI), 0.97; adjusted goodness-of-fit (AGFI), 0.88; normed-fit index (NFI), 0.97; comparative fit index (CFI), 0.98; root mean square of approximation (RMSEA), 0.099; and root mean square residual (RMR), 0.043. With respect to the specific paths estimated, 8 of the 12 (67%) were significant. An examination of the modification indices indicated that the model fit would not be substantially improved by including any additional paths.

Overall, we found good support for the proposed model. Work-family conflict was found to be positively associated with work exhaustion (H7). Job autonomy was found to be negatively associated with work exhaustion (H9) and positively associated with job satisfaction (H10). Workload was negatively associated with exhaustion, but given that workload is scaled such that higher values mean lower workload, this relationship is in the direction predicted: A higher workload is associated with greater work exhaustion (H11). Exhaustion was negatively related to job satisfaction (H2), as predicted, and job satisfaction was positively related to organizational commitment (H5) and negatively related to turnover intention (H6), as predicted in both cases. Organizational commitment was found to be negatively associated with turnover intention (H1). The paths from work-family conflict to job satisfaction (H8), from workload to job satisfaction (H12), from exhaustion to organizational commitment (H3), and from exhaustion to turnover (H4) were not statistically significant.

Figure 2: Evaluated Model

N=172
* p<0.05
**p<0.01
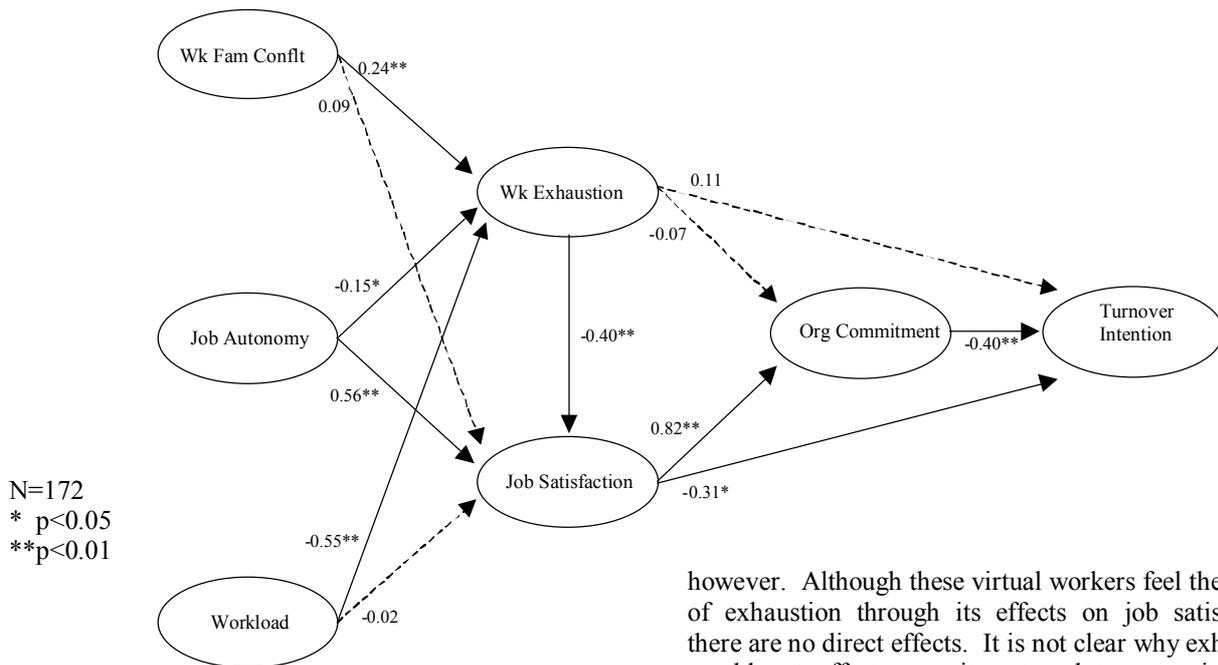
5.0 Discussion

Many of the same factors that have been associated with turnover intention in traditional organizations were also found, in our study, to be related to turnover intention for virtual workers. These include direct antecedents, such as low levels of job satisfaction and organizational commitment. Job satisfaction was also found to have an indirect effect on turnover intention through organizational commitment. The relationship between satisfaction and commitment was found to be a strong one.

Four antecedent factors were predicted to affect job satisfaction, but only two, job autonomy and work exhaustion, were found to be related. Neither work-family conflicts nor workload had statistically significant relationships with job satisfaction. It may be that virtual workers are better able to control work-family conflict and workload and that these factors, therefore, have no appreciable impact on job satisfaction for them. All three antecedent factors predicted to have an impact on work exhaustion were found to be relevant. The more a virtual worker has to deal with work-family conflict, the less autonomy he or she has in the job, and the higher the workload, the more work exhaustion the virtual worker feels. These findings do not differ from expectations for workers in traditional work organizations, and hence pose issues for most managers trying to deal with turnover intention.

Work exhaustion was expected to have an impact on both organizational commitment and turnover intention. Neither relationship was supported in our sample, however. Although these virtual workers feel the impact of exhaustion through its effects on job satisfaction, there are no direct effects. It is not clear why exhaustion would not affect commitment and turnover intention. The findings may be peculiar to this sample, as we investigated virtual workers in only one organization, and the levels of work exhaustion reported by respondents seems to be relatively low.

Should these findings be generalizable to other IT service organizations, managers dealing with potential turnover can take comfort in our findings that job satisfaction and organizational commitment are as important to virtual workers as they are to traditional workers. Managers can rely on remedies they are familiar with to promote both commitment and satisfaction. According to our findings from testing this particular model, the most important factor managers can address to increase organizational commitment is job satisfaction. Job satisfaction for virtual workers in turn can be affected through attention to work exhaustion and job autonomy. Work exhaustion itself can be limited through attention to work-family conflict, job autonomy, and workload.

6.0 References

[1] Adams, G.A., King L.A., and King D.W. (1996) "Relationships of Job and Family Involvement, Family Social Support, and Work-Family Conflict With Job and Life Satisfaction," *Journal of Applied Psychology*, 81(4), 411-420.
[2] Bartol, K. and Martin, D. (1982) "Managing Information Systems Personnel: A Review of the Literature and Managerial Implications," *MIS Quarterly*, 6, 49-70.
[3] Breaugh, J. A. (1985) "The Work Autonomy Scales: Validity Evidence," *Human Relations*, 42, 1033-1056.
[4] Breaugh, J. A. (1989) "The Measurement of Work Autonomy," *Human Relations*, 38, 551-570.

[5] Burke, R. J. and Greenglass, E. (1989) "Correlates of Psychological Burnout Phases Among Teachers," *Journal of Health and Human Resources Administration*, 12(1), 46-62.

[6] Burke, R. J. and Greenglass, E. (1995) "A Longitudinal Study of Psychological Burnout in Teachers," *Human Relations*, 48(2), 187-202.

[7] Cotton, J. L. and Tuttle, J. M. (1986) "Employee Turnover: A Meta-Analysis and Review with Implications for Research," *Academy of Management Review*, 11(1), 55-70.

[8] Eby, L. T., Freeman, D. M., Rush, M. C. and Lance, C. E. (1999) "Motivational Bases of Affective Organizational Commitment: A Partial Test of an Integrative Theoretical Model," *Journal of Occupational and Organizational Psychology*, 72, 463-483.

[9] Firth, H. and Britton, P. (1989) "Burnout: Absence and Turnover Amongst British Nursing Staff," *Journal of Occupational Psychology*, 62, 55-60.

[10] Fischer, A. (1998) "Data Communications Stress Survey: Is Your Career Killing You?" *Data Communications*, February, 53-64.

[11] Frone, M.R., Russell, M., and Cooper, M.L (1992) "Antecedents and Outcomes of Work-Family Conflict: Testing a Model of the Work-Family Interface," *Journal of Applied Psychology*, 77, 65-78.

[12] Goff, L. J. (2001) "Balancing Acts," *Computerworld*, May 7, 49.

[13] Grayson, J. P. (1993) "Skill, Autonomy and Technological Change in Canada," *Work and Occupations*, 20(1), 23-45.

[14] Greenhaus, J.H. (1988) "The Intersection of Work and Family Roles: Individual, Interpersonal, and Organizational Issues," *Journal of Social Behavior and Personality*, 3, 23-44.

[15] Greenhaus, J.H., and Beutell, N.J. (1985) "Sources of Conflict Between Work and Family Roles," *Academy of Management Review*, 10, 76-88.

[16] Hackman, J. & Oldham, G. (1975) *Work Redesign*, Reading, MA: Addison-Wesley.

[17] Higgins, C.A., and Duxbury, L.E. (1992) "Work-Family Conflict: A Comparison of Dual-Career and Traditional-Career Men," *Journal of Organizations Behavior*, 13, 389-411.

[18] Igbaria, M. and Greenhaus, J. H. (1992) "Determinants of MIS Employees' Turnover Intentions: A Structural Equation Model." *Communications of the ACM*, 35(2), 35-49.

[19] Ilgen, D. R., & Hollenbeck, J. R. "The Structure of Work: Job Design and Roles," (1991) In M. D. Dunnette, & L. M. Hough (Eds.), *Handbook Of Industrial And Organizational Psychology*, Volume 2, 165-207. Palo Alto, CA: Consulting Psychologists Press.

[20] Ivancevich, J. M., Napier, A. H., and Wetherbe, J. C. (1983) "Occupational Stress, Agtitudes, and Health Problems in the Information Systems Professional," *Communications of the ACM*, 26(10), 800-806.

[21] Jackson, S. E., Schwab, R. L., and Schuler, R. S. "Toward an Understanding of the Burnout

Phenomenon," (1986) *Journal of Applied Psychology*, 71, 630-640.

[22] Jackson, S. E., Turner, J. A., and Brief, A. P. (1987) "Correlates of Burnout Among Public Service Lawyers," *Journal of Occupational Behavior*, 8, 339-349.

[23] Joreskog, K. and Sorbom, D. (1996) *Lisrel 8: Structural Equation Modeling with the SIMPLIS Command Language*, Hillsdale, NJ: Lawrence Erlbaum and Associates.

[24] Kanner, A. D., Kafry, D., and Pines, A. (1978) "Conspicuous in its Absence: The Lack of Positive Conditions as a Source of Stress," *Journal of Human Stress*, 4(4), 33-39.

[25] Karasek, R. A. (1979) "Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign," *Administrative Science Quarterly*, 24, 285-308.

[26] Katzenbach, J. and Smith, D. (2001) "Virtual Teaming." *Forbes*, May 21, 48, 50-51.

[27] Lee, R. T. and Ashforth, B.E. (1993) "A Further Examination of Managerial Burnout: Toward an Integrated Model," *Journal of Organizational Behavior*, 14(1), 3-21.

[28] Lee, R. T. and Ashforth, B. E. (1996) "A Meta-analytic Examination of the Correlates of the Three Dimensions of Burnout," *Journal of Applied Psychology*, 81(2), 123-133.

[29] Leiter, M. P. (1991) "Coping Patterns as Predictors of Burnout: The Function of Control and Escapist Coping," *Journal of Occupational Behavior*, 12, 123-144.

[30] Leiter, M. P., Clark, D., and Durup, J. (1994) "Distinct Models of Burnout and Commitment Among Men and Women in the Military," *Journal of Applied Behavioral Science*, 30, 63-82.

[31] Leiter, M. P. and Maslach, C. (1988) "The Impact of Interpersonal Environment on Burnout and Organizational Commitment," *Journal of Occupational Behavior*, 8, 297-308.

[32] Leiter, M. P. and Schaufeli, W. B. (1996) "Consistency of the Burnout Construct Across Occupations," *Anxiety, Stress, and Coping*, 9, 229-243.

[33] Li, E. Y. and Shani, A. B. (1993) "Stress Dynamics of Information Systems Managers: A Contingency Model," *Journal of Management Information Systems*, 7(4), 107-130.

[34] Marx, C.R. (2001) "Telecommuting Incentives Considered." *Yahoo! News*, 5/23/2001.

[35] Maslach, C. (1982) Burnout: The Cost of Caring, Englewood Cliffs, NJ: Prentice-Hall.

[36] Maslach, C. and Jackson, S. E. (1984a) "Burnout in Organizational Settings," in *Applied Social Psychology Annual: Applications in Organizational Settings* (5), Beverly Hills, CA: Sage, 133-153.

[37] Maslach, C. and Jackson, S. E. (1984b) "Patterns of Burnout Among a National Sample of Public Contact Workers," *Journal of Health and Human Resource Administration*, 7, 189-212.

[38] Mathieu, J. E. and Hamel, K. (1989) "A Causal Model of the Antecedents of Organizational Commitment among Professionals and Non-Professionals," *Journal of Vocational Behavior*, 34, 299-317.

[39] Melamed, S., Ben-Avi, I., Luz, J. and Green, M.S. (1995) "Objective and Subjective Work Monotony: Effects on Job Satisfaction, Psychological Distress, and Absenteeism in Blue-Collar Workers," *Journal of Applied Psychology*, 80(1), 29-42.

[40] Meyer, J. P. and Allen, N. J. (1991) *Commitment in the Workplace: Theory, Research, and Application*, Thousand Oaks, CA: Sage.

[41] Mobley, W. H., Griffeth, R. W., Hand, H. H and Meglino, B. M. (1979) "Review and Conceptual Analysis of the Employee Turnover Process." *Psychological Bulletin*, 86, 493-522.

[42] Moore, J. E. (2000a) "Why is This Happening? A Causal Attribution Approach to Work Exhaustion Consequences," *Academy of Management Review*, 25(2), 335-349.

[43] Moore, J. E. (2000b) "One Road to Turnover: An Examination of Work Exhaustion in Technology Professionals," *MIS Quarterly*, 24(1), 141-168.

[44] Mowday, R. T., Porter, L. W. and Steers, R. M. (1982) *Employee-Organization Linkages: The Psychology of Commitment, Absenteeism, and Turnover.* New York, NY: Academic Press.

[45] Netemeyer, R.G., Boles, J.S., and McMurrian, R (1996) "Development and Validation of Work-Family Conflict and Family-Work Conflict Scales,"*Journal of Applied Psychology*, 81(4), 400-410.

[46] Perrewe, P. L. & Ganster, D. C. (1989) "The Impact of Job Demands and Behavioral Control on Experience Job Stress," *Journal of Organizational Behavior*, 10(3), 213-229.

[47] Pines, A., Aronson, E., and Kafry, D. (1981) *Burnout: From Tedium to Personal Growth*, New York, NY: The Free Press: New York.

[48] Schaufeli, W. B., Leiter, M. P., and Kalimo, R. (1995) "The General Burnout Inventory: A Self-report Questionnaire to Assess Burnout at the Workplace," paper presented at *Work, Stress and Health '95: Creating Healthier Workplaces*, Washington, DC, September 1995.

[49] Sparks, K. & Cooper, C. L. (1999) "Occupational Differences in the Work-Strain Relationship: Towards the Use of Situation Specific Models," *Journal of Occupational and Organizational Psychology*, 72, 219-229.

[50] Thatcher, J. and Ahuja, M. (2001) "Intention to Explore Information Technology: An Examination of the Effects of Task Environment and Differences Across Genders," working paper.

[51] Thomas, K. M. and Williams, K. L. (1995) "The Role of Burnout on organizational Attachment and Career Mobility," paper presented at *Work, Stress and Health '95: Creating Healthier Workplaces*, Washington, DC, September 1995.

[52] Thomas, L.T., and Ganster, D.C. (1995) "Impact of Family-Supportive Work Variables on Work-Family Conflict and Strain: A Control Perspective," *Journal of Applied Psychology*, 80, 6-15.

[53] Tsui, A., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997) "Alternative Approaches to the Employee-Organization Relationship: Does Investment in Employees Pay Off?" *Academy of Management Journal*, 40(5), 1089-1121.

[54] Walsh, J. P., Ashford, S. J. & Hill, T. E. (1985) "Feedback Obstruction: The Influence of the Information Environment on Employee Turnover Intentions." *Human Relations*, 38, 23-46.

[55] Wiley, D.L. (1987) "The Relationship Between Work/Nonwork Role Conflict and Job-Related Outcomes: Some Unanticipated Findings," *Journal of Management*, 13, 467-472.

[56] Williams, L. J. & Anderson, S. E. (1991) "Job Satisfaction and Organizational Commitment as Predictors of Organizational Citizenship and In-Role Behaviors," *Journal of Management*, 17, 601-617.

[57] Williams, L. J. and Hazer, J. T. (1986) "Antecedents and Consequences of Satisfaction and Commitment in Turnover Models: A Reanalysis Using Latent Variable Structural Equations Methods," *Journal of Applied Psychology*, 71, 219-231.

[58] Wolpin, J., Burke, R. J., and Greenglass, E. R. (1991) "Is Job Satisfaction an Antecedent or a Consequence of Psychological Burnout?" *Human Relations*, 44, 193-209.

[59] Xie, J.L. and Johns, G. (1995) "Job Scope and Stress: Can Job Scope be too High?" *Academy of Management Journal*, 38(5),1288-1309.