Occupational Stress in FPSE Staff

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Introduction

Academic staff in post-secondary institutions appear to suffer from occupational stress. Recent national surveys in the United Kingdom (Tytherleigh, Webb, Cooper & Ricketts, 2005) and Australia (Winefield, Gillespie, Stough, Dua & Hapuararchchi, 2002) reported a serious and growing problem of academic work stress with several deleterious consequences; including decreased job satisfaction, reduced morale and ill health for academic staff. These issues are aggravated by restructuring, use of short-term contracts, external scrutiny and accountability, and major reductions in funding. These factors have also affected Canadian post-secondary institutions over the last decade. Since different political cultures may modulate generally observed phenomena, it is important to examine the incidence of work stress and its strain related outcomes among Canadian academics. Recently, the Canadian Association of University Teachers conducted a similar national study among Canadian university professors and librarians.

In brief, the CAUT study concluded that Academic Staff employed in Canadian Universities are not immune to the effects of stress. Although the majority of Academic Staff was satisfied with their jobs and emotionally committed to their institutions, the reported incidence of strain was high with 13% of respondents exhibiting signs of psychological distress and 22% reporting relatively high rates of physical health symptoms; these rates appear to be higher than those found among Canadian white-collar workers. The groups of academic staff that appeared most at risk of stress and strain were women and individuals between the ages of 30 and 59, and faculty in tenure-track positions. Gender was the most consistent demographic predictor of work and health outcomes. Work-life Conflict (aka work-life balance) was the most consistent stress measure predicting work and health outcomes. There was a direct relationship between both academic rank and employment status and job satisfaction. As both rank and job security increase, so did job satisfaction. The complete report from the CAUT University Stress Study can be obtained at http://www.caut.ca/uploads/CAUTStressStudy.pdf

Study Objectives.

At present, there is no reliable information from Canadian non-University, post-secondary institutions with respect to occupational stress. We sought to redress this through an examination of stress and strain among FPSE members in a study paralleling the CAUT University study. The purpose of our study was to characterise occupational stress by:

1. determining stress levels among FPSE members
2. determining variability in stress demographic variables.
3. determining the work related predictors of health outcomes
4. determining the work related predictors of job satisfaction and other outcome variables among FPSE members

Method

All FPSE members were invited to participate in an online survey by emails directed to the entire FPSE membership. 648 members accepted the invitation and completed the online survey; the demographic breakdown of the participants is provided in Table 1 along with the

demographic data from the University survey. As can be seen in Table 1, approximately 5% of the FPSE respondents did not provide demographic information on any of the demographic variables. As well, the number of participants in several categories of Academic Rank, Employment Status and Language were so small as to make comparisons within those categories meaningless. Nonetheless, for information we present the mean responses for those groups as part of the following analyses.

Table 1.
Sample Demographics

	FPSE Sample		***University Sample***	
Gender	***N***	***Percent***	***N***	***Percent***
Male	188	30.6%	716	50.2%
Female	427	69.4%	709	49.8%
Total Reporting Gender	615	94.9%	1425	95.9%
Age Group				
20-29	10	1.5%	11	0.8%
30-39	86	13.3%	270	18.9%
40-49	187	28.9%	466	32.6%
50-59	246	38.0%	496	34.7%
60+	88	14.3%	188	13.1%
Total Reporting Age	617	95.2%	1431	97.3%
Rank				
Instructor	329	53.8%	60	4%
Lect/Ast/Asoc/Full Professor	128	19.8%	1224	90.1%
Other (Librarians, Counselors and Other)	155	23.9%	63	4.7%
Total Reporting Rank	612	94.4%	1347	91.6%
Employment Status				
Regular/Continuing	517	79.8%	---	---
Non-Regular	36	5.6%	---	---
Term	46	7.1%	---	---
Probationary	13	2.0%	---	---
Total Reporting Employment Status	612	94.4%	1348	91.7%
First Language				
English	563	86.9%	1161	82.4%
French	7	1.1%	12	8.6%
Other	41	6.3%	127	9.0%
Total Reporting First Language	611	94.3%	1409	95.8%

The survey consisted of several scales which were known to be reliable and valid and that are typically used to assess stress and stress outcomes. The ten work-related stressors and the seven stress outcome measures are defined below.

Stressor Measures.

Job Control is a stressor present when one has a lack of authority to make decisions about one's job. We created three items to assess this variable; e.g., I have the authority to make decisions about content and methods in the courses I teach. Internal consistency for the scale was $\alpha = .63$. We coded this variable such that high values indicate high control and low stress.

Skill Use is a stressor present when a job does not use the worker's skills and abilities to their fullest potential. We used five items to measure Skill Use; e.g., "I've had to acquire new skills to keep up with my job." Internal consistency for the scale was $\alpha = .78$. We coded this variable such that high values indicate high skill use and low stress.

Workload is a stressor present when one has too much work to do and too little time in which to do it. We used five items to measure Work Load; e.g., "There is never enough time to finish all of my work." Internal consistency for the scale was $\alpha =. 94$. We coded this variable such that high values indicate high workload and high stress.

Work Scheduling is a stressor related to work on evenings or weekends, or at irregular times. We used four items to measure Work Scheduling; e.g., "I often have to work extra hours without advance notice." Internal consistency for the scale was $\alpha =.80$. We coded this variable such that high values indicate high levels of irregular work and high stress.

Role Conflict is a stressor created by conflicting work demands and expectations. We used four items to measure Role Conflict; e.g., "To do my job well I have to do different things for different people at the same time." Internal consistency for the scale was $\alpha =.88$. We coded this variable such that high values indicate high levels of role conflict and high stress.

Role Ambiguity/Clarity is a stressor created by a lack of clarity in directions, performance standards and expectations at work. We used four items to measure Role Ambiguity/Clarity; e.g., "I usually know what is expected of me at work." Internal consistency for the scale was $\alpha =.87$. We coded this variable such that high values indicate high levels of ambiguity and high stress.

Work-Life Balance is a stressor created by an imbalance between work and family life; we assessed the spillover of work into non-work areas of life with six items; e.g., "My work takes up time that I'd like to spend with family/friends." Internal consistency for the scale was $\alpha =.95$. We coded this variable such that high values indicate high levels of work imbalance (work-life conflict) and high stress.

We also measured perceptions of procedural and distributive justice, variables that were linked to stress in other university stress studies:

Unfair-Administration is a stressor created by senior administration acting in a procedurally unfair manner, such as acting on inaccurate information or not hearing the concerns of all affected by a decision. We adapted seven items from Moorman's (1991) procedural and interactional justice scale to assess this stressor; e.g., "When making

decisions, administrators at your university hear the concerns of all those affected by the decision." Internal consistency for the scale was α =.95. We coded this variable such that high values indicate high levels of unfairness and high stress.

Unfair-Chairperson is a stressor created by a Chairperson acting in a procedurally unfair manner such as not considering all viewpoints or dealing with others in a truthful manner. We adapted seven other items from Moorman's (1991) procedural and interactional justice scale to assess this stressor; e.g., "If you approached your chairperson (or the administrator to whom you report) with a concern or request for help, she/he would deal with you in a truthful manner." Internal consistency for the scale was α =.96. We coded this variable such that high values indicate high levels of unfairness and high stress.

Unfair-Rewards is a stressor created by perceptions that the distribution of rewards is unfair, for example, that rewards do not match effort, responsibilities, or experience. We adapted five items from Price and Mueller's (1986) distributive justice scale to assess this stressor; e.g., "In my workplace I am fairly rewarded in view of the amount of experience I have." Internal consistency for the scale was α =.96. We coded this variable such that high values indicate high levels of unfairness and high stress.

Main Outcome Measures.

We asked respondents to tell us about their beliefs with respect to seven psychological and physical health measures that are often influenced by stress. These variables were:

Job Satisfaction is the degree to which the respondents were satisfied with different aspects of their jobs at their institutions. This measure asked seven questions developed for a study of faculty job satisfaction (US Dept. of Education, 1999). It included questions about satisfaction with workload, job security, advancement, and salary and benefits, among others. Participants responded using a five-point scale that ranged from 1= Very Dissatisfied to 5=Very Satisfied. Internal consistency for the scale was α =.84. We coded this variable such that high values indicate high levels of job satisfaction.

Affective Commitment is the degree to which the respondents feel emotionally attached to their institutions; e.g. "I would be very happy to spend the rest of my career at this institution." We used eight items developed by Allan and Meyer (1990) to measure affective commitment. Internal consistency for the scale was α =.86. We coded this variable such that high values indicate high levels of affective commitment.

Health and Safety at Work is the degree to which the respondents believed that their health had been affected by the environment in which they work along with the commitment of their institutions to the health and safety of employees. We developed a composite of six items taken from Barling, Loughlin, & Kelloway, (2002) and Mendelsohn, Catano, & Kelloway (2000) to assess this variable; e.g., "The health and safety problems at this institution are serious." Internal consistency for the scale was α =.83. We coded this variable such that high values indicate a high degree to which their health had been negatively affected by their work environment.

The following three scales were measured with a 7-point scale where 1=Not at All, 2-Rarely, 3=Once in a while, 4=Some of the time, 5=Fairly often, 6=Often, and 7=All of the time. The scale for Medication was also a 7-point scale but ranged from 1=1 time to 7=7 times or more.

Positive Well-Being is the degree to which respondents felt they experienced positive emotional states over the previous twelve-month period; that is the degree to which they were cheerful, enthusiastic, etc. (Hess, Kelloway & Francis, 2005). Internal consistency for this six-item scale was α =.96. High values of this variable indicate a high degree of a positive emotional state.

Physical Health Questionnaire (PHQ). Stress is often related to physical symptoms of minor illness. This eight-item measure assessed the degree to which respondents experienced minor physical health symptoms; e.g., "During the last 12 months have you gotten a headache when there was a lot of pressure on you to get things done?" (Schat, Kelloway, & Desmarais, 2006). Internal consistency for the scale was α =.74. We coded this variable such that high values indicate a high degree to which their physical health had been negatively affected by their work environment.

General Health Questionnaire (GHQ) is a standardized measure of health that is used to assess the degree of psychological strain, that is, the effects of stress on an individual's mental health in occupational settings; e.g., "During the last 12 months have you lost much sleep from worry?" (Banks, Clegg, Jackson, Kemp, Stafford, & Wall, 1980). Internal consistency for this 12-item scale was α =.88. We coded this variable such that high values indicate a high degree to which their psychological health had been negatively affected by their work environment.

Medication - We asked respondents the degree to which they had taken medication for stress-related illness or had seen a medical practitioner. Internal consistency for this three-item scale was α =.62. High values of this variable indicate a high use of medicine.

Data Analysis.

All data were analyzed using standard statistical procedures, such as t-tests, Multivariate Analysis of Variance (MANOVA) and multiple regressions. Within demographic groups, comparisons were all carried out using multivariate procedures to protect the probability of falsely concluding that there were significant differences between groups. We relied on effect sizes to help identify meaningful results since the large sample size has the potential for finding trivial differences to be statistically significant. We report both the significance level and the effect size for all comparisons. In all of the significant comparisons the effect sizes for the most part tended to be small. (Note: We have consciously reduced the amount of statistical data to the most essential information).

Major Findings

Stressors.

Table 2 presents the results for the ten variables assessed as potential stressors in an academic work environment. All ten were measured on a 7-point scale. Table 2 presents the mean score obtained from the FPSE participants for each variable. All of the means for the ten variables differed significantly from the neutral point, 4.0, on the each measure. We compared the FPSE

results with those from the CAUT University Stress Study. With the exception of Job Control, Work Scheduling, Role Ambiguity and the perceived fairness of the chairperson, the reported stress levels on the other variables were no different than those reported by university academic staff, which on the whole were high and, with the exception of Job Control and Skill Use, indicate high levels of stress. In the case of Job Control, FPSE members reported that they had, on average, lower control of their work than university colleagues. Similarly they reported more stress related to lack of clarity in the expectations associated with their role. On the other hand, FPSE members reported having less irregular work schedules than university staff and had significantly less stress arising from having to deal with a Chairperson who was perceived to be unfair.

Table 2. Results for Stressors: FPSE Compared to University.

Variable	College Sample Mean	University Sample Mean	t-test[1]	Cohen's d Effect Size	p-value
Job Control	4.90	5.13	-4.22	.18	.000
Skill Use	6.09	6.02	2.01	.08	n.s.
Work Load	5.44	5.59	-2.42	.10	n.s.
Work Scheduling	4.76	4.99	-3.48	.15	.001
Role Conflict	5.21	5.27	-0.91	.04	n.s.
Role Ambiguity	4.96	4.74	3.64	.15	.000
Work-Life Balance	5.21	5.13	1.19	.05	n.s.
Unfair-Administration	4.54	4.44	1.68	.07	n.s.
Unfair-Chairperson	2.73	2.91	-2.84	.11	.005
Unfair-Rewards	4.31	4.13	2.53	.10	n.s.

[1] Comparison of FPSE with mean response of University sample; degrees of freedom range from 552 to 617.
* $p < .005$ for family-wise $p<.05$.

Table 2 also show that FPSE members' perceptions of senior administrative staff unit chairpersons and their rewards are very similar to those of university academics. Senior administrators are perceived to act unfairly to a much greater degree than unit chairpersons. Academic staff see their immediate supervisor as more supportive and trustworthy than senior administrators. In the case of FPSE, as noted above, this perception was more positive than that for university chairs. In part this may reflect the fact at both college and university, chairpersons are members of the same bargaining unit as other academic staff and subject to the same work conditions. The chair is not ordinarily someone who has significantly more authority than other academic staff in the unit.

Demographic Factors Related to Stressors.

Gender. Table 3 presents a comparison between male and female FPSE members. Unlike their university counterparts where women reported higher levels than men on seven of the ten stressors, there were no significant differences between FPSE men and women on any of the stressors. The strongest effect, and largest difference, occurred on the Work-Life Balance measure; however, the difference was not significant. This lack of significance is likely due to a loss of statistical power due to the imbalance in the number of male and female respondents. The significantly different mean scores of males and females in the CAUT University study were 4.91 and 5.35, respectively; they were lower for men and higher for women. On the whole, as noted above, there was no difference

between FPSE and University respondents on this variable. In both cases the level of work-life imbalance is high and must be considered a stressor.

Table 3. Comparison of Male and Female Responses on Stress-Related Variables			
Mean Scores and Effect Sizes			
	Means		
Measure	Males	Females	Effect Size, partial η^2
Job Control	4.88	4.89	.00
Skill Use	6.11	6.07	.00
Work Load	5.29	5.51	.01
Work Scheduling	4.82	4.74	.00
Role Conflict	5.13	5.24	.00
Role Ambiguity	4.90	4.97	.00
Work-Life Balance	5.06	5.27	.02
Fairness-Administration	4.49	4.56	.00
Fairness-Chairperson	2.68	2.79	.01
Fairness-Rewards	4.32	4.32	.00
Note: None of the mean comparisons were significantly different for gender.			

Age. Table 4 presents the results according to age categories. On the whole, FPSE respondents between 30 and 59 years of age seemed to perceive the job stressors similarly to each other and to their university colleagues in the same age groups. They had significantly higher levels of stress on Work Load and Work-Life Balance than those

Table 4. Mean Response on Stressors by Age Categories							
Measure	Total Sample Mean	20-29	30-39	40-49	50-59	60+	Effect Size, partial η^2
Job Control	4.90	5.22	4.80	4.92	5.01	4.63	.01
Skill Use	6.09	5.82	5.94	6.06	6.17	6.13	.01
*Work Load**	5.44	5.30	5.50	5.55	5.49	5.00	.01
Work Scheduling	4.76	4.34	4.74	4.86	4.84	4.36	.02
Role Conflict	5.21	5.06	5.00	5.21	5.34	4.99	.02
Role Ambiguity	4.96	5.50	4.88	4.89	4.90	5.19	.00
*Work-Life Balance**	5.21	4.31	5.30	5.42	5.11	4.93	.03
Unfairness-Administration	4.54	3.46	4.32	4.52	4.61	4.69	.00
*Unfairness-Chairperson**	2.73	1.89	2.91	2.57	2.80	2.89	.01
Unfairness-Rewards	4.31	3.74	4.59	4.34	4.23	4.30	.01
* $p < .05$							

in the younger and older age groups. The results for perception of the fairness of the Chair differed with those less than 29 years old and those between 40-49 years having more trust in the Chair than the other groups; although all cases perceived the Chair to be fair.

Rank. The vast majority of respondents held the Instructor rank. There were too few respondents in the Lecturer, Assistant, Associate and Full professor ranks to provide any meaningful analysis; therefore they were grouped together. Likewise, there were very few Librarian respondents in the four Librarian ranks; these members were grouped with Counselors and respondents who did not fit into any of the categories. Table 5 shows that with the exception of the Role Conflict stressor, there were no significant differences across the different academic ranks. Instructors had less stress caused by Role Conflict than those in the other two categories; nonetheless, it still was above the neutral point on the scale. Those holding the traditional academic ranks and those in the Other category had very high levels of Role Conflict stress.

Table 5 Mean Stressor Levels for Ranks					
Measure	Total Sample Mean	Instructor	Lect/Asst/ Assoc/Full Professor	Other	Effect Size, partial η^2
Job Control	4.90	4.83	5.04	4.89	.03
Skill Use	6.09	6.08	6.09	6.10	.00
Work Load	5.44	5.35	5.62	5.52	.01
Work Scheduling	4.76	4.79	4.98	4.48	.00
*Role Conflict**	5.21	4.99	5.28	5.57	.02
Role Ambiguity	4.96	4.96	4.96	4.88	.00
Work-Life Balance	5.21	5.29	5.44	4.84	.01
Unfairness-Administration	4.54	4.43	4.65	4.69	.01

Unfairness-Chairperson	2.73	2.68	2.77	2.87	.00
Unfairness-Rewards	4.31	4.23	4.56	4.34	.01
* $p < .05$					

Employment Status. Because of the relatively small number of respondents in the Non-Regular, Term and Probationary categories, these three groups were combined into an "Other" group to allow for more meaningful comparisons. Not surprisingly, Regular/Continuing members had more control over their teaching and research than did those in the Other positions. What was surprising was that the Other group expressed less concern about their workloads, and reported less role conflict and work-life imbalance than members in Regular/Continuing positions. Respondents in the Other group also perceived administrators and their rewards to be fairer than did those Regular/Continuing members. With the exception of the fairness perceptions, these results parallel those found in the university stress study between those in tenured/tenure track positions and contract academic staff.

Language. Given the very small number of non-English speakers who responded, it was not possible to make any comparisons between the different groups on the basis of language.

Table 6. Mean Stressor Levels for Employment Status

Measure	Total Sample Mean	Regular/ Continuing	Other	Effect Size, partial η^2
*Job Control**	4.90	4.99	4.55	.06
Skill Use	6.09	6.08	6.12	.01
*Work Load***	5.44	5.56	4.99	.05
Work Scheduling	4.76	4.79	4.67	.01
*Role Conflict**	5.21	5.31	4.78	.04
Role Ambiguity	4.96	4.95	4.97	.00
*Work-Life Balance**	5.21	5.28	4.89	.03

*Unfairness-Administration***	4.54	4.66	4.02	.04
Unfairness-Chairperson	2.73	2.79	2.50	.02
*Unfairness-Rewards**	4.31	4.39	3.98	.02
* p < .05; ** p<.001				

Work and Health-Related Outcomes

Table 7 presents the major stress-related outcomes from FPSE respondents compared to the same outcomes for university faculty. There are some notable differences. First, FPSE members reported significantly more satisfaction with their jobs and commitment to their institutions than university faculty did regarding their schools. FPSE members expressed having had significantly more physical symptoms of illness in the past year and a significantly greater use of medication than their university colleagues.

On the other hand, FPSE members reported significantly fewer psychological symptoms than university academic staff. Respondents were asked to score each item in the GHQ measure on a seven-point scale where 1= Not at All, 2-Rarely, 3=Once in a While, 4= Some of the Time, 5=Fairly Often, 6=Often, and 7= All of the Time. These response categories were grouped into three based on the possible severity of distress related to the reported occurrence of the GHQ symptoms. Mean scores greater than 4.5 indicate that respondents experienced the symptoms fairly often or greater. The severity of the psychological symptoms reported by FPSE members was considerably less with no FPSE members falling into the most severe category. Table 8 presents a comparison between FPSE and university staff with respect to psychological symptom severity.

Table 7. Work and Health Outcomes

Variable	College Sample Mean	University Sample Mean	t-test[1]	Cohen's d Effect Size	p-value
Job Satisfaction (3.0 is neutral point on this scale.)	3.20	3.37	-3.86	.21	.000
Affective Commitment	4.45	4.17	5.34	.22	.000
Health & Safety at Work	3.62	3.56	.98	.04	n.s.
Positive Well-Being	4.71	4.63	1.67	.07	n.s.
PHQ	3.35	3.18	3.56	.15	.000
GHQ	1.91	3.30	-50.23	2.14	.000
Medication	3.44	2.74	8.41	.34	.000

[1] Comparison of FPSE with mean response of University sample; degrees of freedom range from 552 to 617.
* p < .005 for family-wise p<.05.

Table 8. Mean GHQ Scores by Severity of Clinical Concerns Based on Symptoms			
	No Concern Mean ≤ 3.5	Some Concern 3.5<Mean ≤4.5	Major Concern Mean >4.5
FPSE	98.7%	1.3%	0%
University Sample	62.6%	24.5%	12.9%

Demographic Factors Related to Outcomes

Gender. Table 9 shows that the only gender-related difference was with respect to use of medication. Women FPSE respondents used significantly more medication than men.

Table 9. Comparison of Males and Females on Work and Health Outcome Measures			
	Means		
Measure	Males	Females	Effect Size, partial η^2
Job Satisfaction	3.20	3.22	.00
Affective Commitment	4.45	4.48	.01
Health & Safety at Work	3.62	3.68	.00
Positive Well-Being	4.71	4.73	.01
PHQ	3.35	3.41	.00
GHQ	1.91	1.89	.01
Medication**	3.44	3.62	.02
** p<.001			

Age. Table 10 shows that there were significant differences on the outcome measures of physical and psychological health symptoms across the age categories. Those members in the 30-59 age groups reported a greater occurrence of these symptoms than either younger or older members. It is not surprising that the youngest members would have fewer symptoms but, what was surprising was a drop off in symptoms for those 60+. As well, the use of medication remained fairly constant across all age groups.

Table 10. Work and Health Outcomes by Age Category							
Measure	Total Sample Mean	20-29	30-39	40-49	50-59	60+	Effect Size, partial η^2
Job Satisfaction	3.20	3.45	3.11	3.19	3.24	3.13	.01
Affective Commitment	4.45	4.97	4.43	4.28	4.3	4.48	.02

Health & Safety at Work	3.62	3.80	3.44	3.77	3.60	3.49	.01
Positive Well-Being	4.71	5.09	4.66	4.57	4.72	5.01	.03
PHQ **	3.35	2.78	3.51	5.52	3.42	2.68	.04
GHQ **	1.91	1.71	2.01	2.02	1.88	1.67	.03
Medication	3.44	2.80	3.06	3.55	3.51	3.37	.01
** p<.001							

Rank. Table 11 shows that the only outcome where there was a difference across Rank was with respect to Health & Safety issues at work. Those FPSE members holding traditional academic ranks as well as those in the Other category believed that their work environments were less safe than FPSE Instructors. In all cases there ratings for health and safety were below the neutral point on the scale suggesting that on the whole they believed their work environment to be a safe place. The Instructors believed this to a greater extent than the other two groups.

Table 11. Work and Health Outcomes by Academic Rank

Measure	Total Sample Mean	Instructor	Lecturer/ Asst/Assoc/ Full Prof	Other	Effect Size, partial η^2
Job Satisfaction	3.20	3.23	3.16	3.14	.00
Affective Commitment	4.45	4.46	4.31	4.51	.00
Health & Safety at Work **	3.62	3.39	3.90	3.87	.03
Positive Well-Being	4.71	4.77	4.65	4.64	.00
PHQ	3.35	3.35	3.38	3.36	.00
GHQ	1.91	1.86	2.02	1.91	.00
Medication	3.44	3.35	3.30	3.69	.00
** p < .001					

Employment Status. Table 12 presents the outcome data according to the two employment groups. Significant differences occurred only for the outcomes of Job satisfaction and Health and Safety at Work. Regular/Continuing FPSE members had higher levels of job satisfaction than those in the Other category. FPSE members in the Other category had a more positive view of the health and safety of their work environment than Regular/Continuing members but in both cases the views on health and safety were positive.

Table 12. Comparison of Work and Health Outcomes by Employment Status

Measure	Total Sample Mean	Regular/ Continuing	Non-Regular	Effect Size, partial η^2
Job Satisfaction *	3.20	3.25	2.95	.04
Affective Commitment	4.45	4.45	4.45	.01
*Health & Safety at Work**	3.62	3.70	3.24	.02
Positive Well-Being	4.71	4.67	4.93	.01

PHQ	3.35	3.41	3.08	.00
GHQ	1.91	1.92	1.84	.01
Medication	3.44	3.54	2.94	.01
* p < .05				

Language. Given the very small number of non-English speakers who responded, it was not possible to make any comparisons between the different groups on the outcome measures on the basis of language.

Predicting Job and Health Outcomes:

Table 13 presents the results for our regression analyses by outcome measure. All beta weights (standardized coefficients) are based on the final regression model after the entry of the demographic variables on Step 1 and the stressors on Step 2 of the regression. Only the significant beta weights are presented for each outcome variable. The beta weights within a given outcome measure indicate the strength of that variable relative to others as a predictor of the outcome measure. Comparisons of beta weights across outcome variables do not give an indication of their relative value in predicting the different outcome measures. No conclusions can be made from differences in beta weights across the outcome measures. Interpretation of the sign of the beta weight depends on the direction of the scale used to measure the demographic or stressor and the scale used to measure the outcome variable. As seen in Table 13, the set of significant predictors, as indicated by the beta weights, changes according to the specific outcome measure. There are, however, some commonalities that deserve discussion.

Compared to stressors, demographic variables are poor predictors of the outcome measures except for age, gender and employment status. Age predicted positive well-being and physical and psychological health. In the first case, there was a positive relationship with older age predicting positive well-being while in the last two cases younger ages predicted both physical and psychological symptoms. Employment status only predicted job satisfaction with those FPSE members on regular or continuing contracts associated with a higher level of job satisfaction. The only outcome that was predicted by gender was the use of medication with women associated with a greater use of medicine. This last result was surprising since gender had been the most consistent demographic predictor in the University Stress study, which used the same outcome measures. In that study, gender did predict use of stress-related medicines as it did here.

Table 13. Significant predictors of Work and Health Outcomes [1]

	Outcome Variables						
Predictors	Job Satisfaction	Affective Commitment	Health& Safety	Well-Being	PHQ	GHQ	Meds
Gender							.16
Age				.10	-.16	-.18	
Rank							
Employment Status	-.20						
Job Control	.16			.12	-.17	-.11	
Skill Use		.19		.14			

Work Load			.15		.16		
Work Scheduling							
Role Conflict	.14						
Role Ambiguity		.22					
Work-Life Balance	-.24		.16	-.15	.33	.21	.29
Unfair-Administration	-.10	-.15	.18				
Unfair-Chairperson		-.14	.15	-.26		.20	
Unfair-Rewards	-.38						
R^2 (Final model)	.63**	.35**	.27**	.25**	.31**	.35**	.14**

[1]Beta weights (standardized coefficients) for significant predictors ($p<.05$) for the dependent variable listed in the column. Beta weights are from the final regression model.
** $p<.0001$

With respect to the stress measures, Work-Life Balance significantly predicted six of the seven outcome measures just as it had done in the university stress study. The only variable it did not predict was Affective Commitment to the FPSE members' institutions; this was the same measure it did not predict for university academics. Work-Life Balance was the only stress-related measures that predicted use of medicine, which it also predicted for university academics. The two procedural justice variables, Unfair-Administration and Unfair-Chairperson, individually or jointly, predicted five of the outcome measures; the only two in which they did not play a role were Job Satisfaction and Use of Medicine. Job Control predicted four outcome measures; Work Scheduling did not predict any with the remaining four stressors predicting one or two outcomes. The predictors relevant to the different outcome measures are discussed in the following sections.

Job Satisfaction. The significant predictors of job satisfaction, in order of its beta weights, were Unfair-Rewards, Work-Life Balance, Employment Status, Job Control, Role Conflict and Unfair- Administration. In effect, members who are working on a regular/continuing contract and believes that they are being rewarded fairly by an administration perceived to be fair in a work environment where they have control of their work, experience balance between work and life events, and have little conflict regarding what they are expected to do are likely to express the greatest levels of satisfaction with their jobs.

Affective Commitment. The significant predictors of affective commitment, in order of its beta weights, were Role Ambiguity, Skill Use, Unfair-Administration, and Unfair-Chairperson. In effect members who are not likely committed emotionally to their institutions are those who perceive both their administration and chairperson to act unfairly in a work environment where there is lack of clarity concerning their job performance and little opportunity to make use of their skills.

Health and Safety at Work. The significant predictors of Health and Safety at Work, in order of its beta weights, were Unfair-Administration, Work-Life Balance, Work Load, and Unfair-Chairperson. In effect, members who perceive their workplace to be an unhealthy or unsafe place in which to work are those who perceive both their administration and

chairperson to act unfairly in a work environment where there is a heavy work load and a lack of balance between work and life events.

Positive Affective Well-Being. The significant predictors of Positive Affective Well-Being, in order of its beta weights, were Unfair-Chairperson, Work-Life Balance, Skill Use, Job Control, and Age. In effect, members who have positive emotional states tend to be older and have control of their work, which makes use of their skills under supervision of a chairperson who is seen as a fair person in an environment that allows them to balance their work and life needs.

Physical Health Symptoms (PHQ). The significant predictors of Physical Health Symptoms, in order of its beta weights, were Work-Life Balance, Job Control, Work Load, and Age. In effect, members who expressed more physical health symptoms tended to be younger with less control of their work and a heavy work load to the extent of major imbalance between life and work events.

Psychological Health Symptoms (GHQ). The significant predictors of Psychological Health Symptoms, in order of its beta weights, were Work-Life Balance, Unfair-Chair, Age and Job Control. In effect, members who expressed more psychological health symptoms tended to be younger with less control of their work who were supervised by a Chairperson perceived as being unfair to the extent of major imbalance between life and work events.

Use of Medicine. The significant predictors of Use of Medicine, in order of its beta weights, were Work-Life Balance and Gender. In effect, members who tended to use more medications tended to be women who were experiencing a major imbalance between life and work events.

Conclusion

This study shows that FPSE members, like academic staff working in Canadian universities, those in Australia and in the U.K., are stressed to a high degree. In most cases a large majority of respondents reported high levels on seven of ten stressors: Work Load, Work Scheduling, Role Conflict, Role Ambiguity, Work-Life Balance, Fair-Administration, and Fair-Rewards. Job Control, Skill Use, and Fair-Chairperson were not sources of stress for FPSE members. These were the same factors that were deemed to be stressors in the Canadian university sample; however, there were some significant differences between the two samples with respect to the degree at which the members perceived the stressor. Most notably the FPSE members expressed less control of their work, better work scheduling, less clarity in their roles, and more trust in their chairperson.

Overall study participants were satisfied with their jobs, but less so than their university colleagues, and committed to their institutions emotionally, but more so than those in the university sample.

The FPSE members in this study expressed significantly more physical symptoms and use of medication than Canadian university academic staff, but fewer psychological symptoms over the past twelve month period. In fact, the psychological health of FPSE members, based on the degree of symptoms, was of no concern while about a third of the university sample expressed symptoms that warranted some or major concern about their psychological well-being.

Consideration should be given to the following points:

1. The overall level of stress in FPSE members is high and for the most part comparable to stress levels found in Canadian University academic staff as well as those in Australia and the UK.

2. FPSE members perceive senior administrative staff to act unfairly to a much greater degree than chairpersons.

3. FPSE members are satisfied with their jobs and emotionally committed to their institutions.

4. The reported incidence of physical health symptoms associated with stress and the use of stress-related medicine was higher than in Canadian Universities.

5. There was no evidence of psychological distress among FPSE members.

6. Age was the most consistent predictor of stress and strain with individuals between the ages of 30 and 59, appearing to be most at risk.

7. Unlike their University colleagues, gender did not predict stress or strain except for the use of medication.

8. Work-life balance was the most consistent stress measure predicting work and health outcomes.

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