

**The Balancing Act: The Impact of University Professors' Juggling
Research, Teaching, and Service**

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Abstract

Anxiety levels in university professors are high relative to other occupations. Typically, professors have reported a lack of time to perform their duties and the inability to stay current as stressors that may lead to anxiety. These stressors may force trade-offs among time devoted to research, teaching, and service which may be linked to burnout. For this study, the trade-offs were evaluated in terms of the importance of research, teaching, and service; actual workload (i.e., actual time spent on research, teaching, and service); and self-reported anxiety in fulltime university professors. While the most time was spent on teaching, research was rated as the most important. In addition, self-reported anxiety was higher for research than for either teaching or service. These results are discussed in terms of the need for greater job control and/or changes in guidelines for tenure and promotion as well, as suggestions for future research.

Key Words: Teaching, Research, Service, Tenure, Promotion

Introduction

The effects of occupational stress are devastating to both employees and employers (e.g., McDonald & Korabik, 1991). High levels of chronic stress can result in job dissatisfaction and aggression, as well as lead to the thickening and hardening of the heart muscle, resulting in cardiovascular disease (Rozanski, Blumenthal, & Kaplan, 1999). University professors tend to experience higher than normal levels of stress, and these high levels of stress have increased over the last 6 years (Canadian Association of University Teachers, 2007; Kinman, Jones, & Kinman, 2006). The overall stress level of professors is now second only to the recently unemployed, when compared to other professions (Kinman, et al., 2006). Professors generally report feeling overwhelmed, finding it difficult to complete the tasks expected of them, and feeling that they do not have the time necessary to remain current in their field. Moreover, very few professors take their full leave entitlement, and the majority works 14 hours more than the norm each week (Hogan, Carlson, & Dua, 2002; Jacobs & Winslow, 2004a, 2004b; Kinman & Jones, 2004). The job descriptions of university professors are entrenched in the requirements for renewal, tenure and promotion prescribed by each university. However, the day-to-day demands for excellence

in teaching, research, and service are, at times, perceived as unattainable. Stress and anxiety may result from a perceived discrepancy between standards for renewal, promotion, and tenure, and the day-to-day pressures to excel in each of these areas. For instance, in order to excel in teaching, more time must be devoted to class preparation, thereby leaving less time available for research. As a result, anxiety may develop due to the difference between the importance placed on job activities, such as research, in the standards for renewal, tenure, and promotion and the actual amount of time available to devote to each of these activities. The imbalance between requirements for tenure and promotion and day-to-day job performance may lead to an increase in overall stress.

The word “stress” has been used to describe both the source of the stress and the reaction to an anxiety-producing situation, which has led to some confusion (Cooper & Dewe, 2004). In order to clarify the concept, the word *stressors* has been used to refer to the trigger and the word *strains* the reaction to the trigger (Kinman, 2001). *Stressors* therefore, are the sources of pressure (e.g., time constraints) that exist in an individual’s life, or specific characteristics of their environment (Melamed, Shirom, Toker, & Shapira, 2006). Strains on the other hand, are the outcome of stressors (e.g., hypertension, anxiety), and can vary from person to person. Strains can manifest themselves both psychologically and physically (Melamed, et al., 2006).

Strains can be manifested in various ways, including depression, high blood pressure, metabolic system dysfunction, blood coagulation, as well as impaired immunity (Melamed, et al., 2006). An important outcome of continuous strain is *burnout*, which can result from chronic work stress or conflict. Burnout is typically characterized by emotional exhaustion (e.g., fatigue), depersonalization (e.g., *Students are lazy*), and diminished personal accomplishments on the job (e.g., not making a difference; see: Maslach, 2003). These reactions can lead to several negative

outcomes such as: turnover; reduced job performance; low morale; disruptions of normal operations; industrial accidents; lowered productivity; and absenteeism. Burnout can cost a company millions of dollars in lost time, training, and effort (Benedict & Fimian, 1989; Gibson, McGrath, & Reid, 1989; Hobson, Delunas, & Kesic, 2001).

Stress and the University Professor

The effects of stress on university professors have not been extensively studied until very recently. Ground breaking studies in Britain, Australia, and Canada have demonstrated that university professors experience levels of stress that are unparalleled in any other employed group of individuals (Canadian Association of University Teachers, 2007; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Kinman, et al., 2006). Corroborating evidence suggests that professors not only experience high levels of anxiety (Fish & Fraser, 2001; Fraser, Houlihan, Fenwick, Fish, & Möller, 2007; Gardner & Leak, 1994), but use maladaptive avoidant coping strategies in order to counteract the effects of stress (Fraser, et al., 2007). For example, professors experiencing high levels of teaching anxiety engaged in avoidant coping strategies such as failing to deal with disruptive students, and handing back tests and assignments outside of the classroom, without in-class performance feedback (Fraser, et al., 2007). These strategies, which are often adopted to reduce anxiety, will limit the professor's ability to fulfill the teaching component of the job requirements.

Anxiety is not only specific to the classroom. While teaching has been reported to produce the greatest strains, research and service in the university community also contribute (Gmelch, Lovrich, & Wilke, 1984). The most salient stressors leading to the development of strains are time constraints and the lack of adequate resources (Byrne, 1991; Gmelch, et al., 1984). The very nature of the profession is such that professors are required to achieve

excellence in teaching, research, and service. However, the reality is that within a normal workweek, excellence in all three areas is difficult to achieve. Therefore, the time pressures result in trade-offs among the three aspects of the profession. Insufficient time to devote to all aspects of the profession will inevitably be stressful (Kinman, et al., 2006). This problem will be exacerbated by the discrepancy between the time available to complete each component and its relative importance in terms of meeting the standards for tenure and promotion.

The current ethos in the university setting has changed from a research focus to a greater demand on teaching. For instance, Harvard University has a long history of research strength and priority, but has recently declared teaching to be of equal value to that of research (Biewener, et al., 2007). Harvard recently released a report from a task force "to consider ways as of supporting, encouraging and rewarding to ensure that our students receive the best education we can provide" (Harvard University Gazette, 2006). In Canada, Smith (1991) published a report on the commission of inquiry on Canadian university education in which he advocated a greater emphasis on the teaching role of university professors. However, by 1995 there was little evidence that the situation had changed, advertisements for new professors still emphasized research over teaching (Samad, Fraser, Fish, & Fraser, 1995).

The present study will investigate the relative importance of each aspect of a professor's job as is typically described in university-based standards for renewal, promotion, and tenure (i.e., perceived duties), as well as the amount of time devoted to each aspect and the degree of associated anxiety. It was predicted that greater imbalances between job demands and time spent in teaching, service, and research will result in greater anxiety.

Method

Participants

The sample consisted of 97 university instructors from various universities on the east coast of Canada who agreed to participate in an online survey. The sample consisted of approximately an equal number of men ($n = 56$) and women ($n = 41$) with the majority having completed doctorate degrees ($n = 74$). Forty-nine participants indicated that they were tenured, 26 held tenure-track appointments, and 22 were employed in limited-term contract positions.

For the purpose of the present study, part-time faculty were not included. In addition, data were not included if the total percentage of time reported was less than 90% or more than 110%. The remaining sample consisted of 74 university instructors (29 female), with majority having completed a PhD ($n = 61$). Forty-two participants indicated that they were tenured. Thirty-four participants reported teaching more than 10 years, 20 reported teaching between five and 10 years and 20 reported teaching less than five years.

Measures

All participants responded to a 37-item online questionnaire related to job perceptions (see Fraser & Palameta, 1996). There were six parts to the questionnaire:

(1) *Basic Demographics*. The first set of items included four basic demographic questions related to teaching position, gender, educational background, and years of post-secondary teaching experience.

(2) *Workload*. Participants were also requested to indicate the approximate percentage of time allotted to seven teaching, service, and research related activities in a typical calendar year.

An *Other* category was also presented for academic activities not listed. An example item is

Modifying existing courses.

(3) *Academic Anxiety*. Based on the activities listed in (2), participants were requested to

rate the degree of anxiety experienced on a five-point scale ranging from 1 = No Anxiety to 5 = Extreme Anxiety. An *Other* category was also listed.

(4) *Perceived Importance of University Work Activities*. Participants were asked to rate the degree of importance (1 = No Importance to 5 = Extreme Importance) of the previously mentioned items from (2) using the following question: *What importance do you believe the committee(s) at your institution responsible for renewal, promotion, and tenure places on each of the following activities?* An *Other* category was also included as a response option.

(5) *Assessment of Professional Duties*. To explore participants' beliefs about their professional duties, the following item was included: *To what extent do the standards used by the committee(s) responsible for renewal, promotion, and tenure reflect your professional duties?* Participants responded to this question using a five-point scale ranging from 1 = No Reflection to 5 = Complete Reflection. This question was not used in any of the analyses.

(6) *Feedback Question about Standards*. The last question asked participants to provide open-ended feedback about the standards for renewal, promotion, and tenure. Participants were asked, *What do you like/dislike about these standards?*

Procedure

In order to recruit participants for this online survey, both part- and full-time faculty were sent an introductory letter via e-mail requesting their participation in a study concerned with faculty members' job perceptions. A brief description of the types of questions to be asked was also provided. Those agreeing to participate were then provided with a link to complete the survey. While there has been some discussion and concern surrounding the validity of online surveys, generally, this methodology has been found to be comparable with paper-and-pencil test situations (e.g., Gosling, Vazire, Srivastava, & John, 2004). The findings we report below appear

to support this tendency.

Prior to data analysis, items for time, anxiety, and importance were summed into categories separately for research, teaching, and service (2, 3, and 4 above).

Results

Descriptive Analyses

The means and standard deviations for each of the variables can be found in Table 1. Results clearly indicated that most time was devoted to teaching ($M = 53.05$), with time spent on research and service being substantially lower ($M = 24.78$; $M = 22.50$ respectively). Despite the fact that most time was devoted to teaching, anxiety and the relative importance of research was higher than that of teaching and service.

Insert Table 1 about here

Correlations

Correlations among research, teaching, and service with the amount of time devoted to each major area of job requirements indicated that there are significant trade-offs among all categories. In particular, the correlation between time spent on research and teaching ($r = -0.65$) is very large. For self-perceived anxiety, significant correlations were observed between research and teaching as well as between teaching and service but not between research and service. These positive correlations indicate that if anxiety is felt in one category it is also higher in the other. For the ratings of perceived importance, there was a significant positive correlation between teaching and service indicating that if one area was ranked highly, then the other one was also ranked highly. Interestingly, a negative correlation was observed between importance

for research and teaching. While the magnitude of this correlation is low, it indicates that if the importance for teaching is high the importance of research is low, another indication that there is a trade-off between research and teaching, as is observed for the amount of time devoted to each task (see Table 2).

Insert Table 2 about here

Open-Ended Comments

The open-ended comments were reviewed and examined for themes. Two major themes were observed, one reflecting the emphasis on teaching and the other reflecting dissatisfaction with the process used by the relevant committee in reviewing applications for tenure and promotion. The following quotes were taken from these open-ended comments. For teaching, many professors expressed that teaching was highly emphasized although good teaching was unrewarded especially when compared to research activity. For example, the following three quotes typify this class of comment:

- “The institution claims to place an emphasis on teaching but when it comes time for P&T review, research is clearly more important”
- “I dislike the 'double standard' - weaker performance in research is punished heavily, even if classroom performance is excellent”
- “Lack of attention given to teaching, despite the rhetoric that comes out of the administration.”
- “The focus is on the published research, and the talk of equalizing/increasing the stature of teaching and the work associated with teaching is deafening yet empty.”

The reflection of dissatisfaction with the committee’s interpretation of the standards for tenure and promotion was also prominent among the open-ended comments. According to several respondents, the problem is not the established

standards and workload, but rather the main concern is that the committee makes decisions that are inappropriate in light of the established standards for promotion and tenure. For example, the following comment explicates this rather directly:

- “...promoted based on personal views rather than the established standards”
- “...the time and competency required by that role are probably not recognized by most members of the committee...”
- “The committee's interpretation of acceptable scholarly activity is not well defined or consistently weighted. It can vary from year to year based on the personnel mix within the committee.”

Discussion

The aim of this paper was to extend Kinman’s (Kinman, 2001; Kinman, et al., 2006) initial assertion that among university professors there would be trade-offs in the amount of time devoted to teaching, research, and service. The findings of this study support this idea in that on average more time is devoted to teaching than to research or service. In addition, correlations among the time devoted to each of these activities support the conclusion that a trade-off exists between teaching and research and to a lesser extent service. With a rejuvenated call to emphasize the teaching component in a professor’s duties (cf., Biewener, et al., 2007), this imbalance will only lead to greater trade-offs and a further reduction in time spent on research and service.

The trade-off in time between research, teaching, and service may lead to an increase in anxiety. In this study, while most time was spent on teaching, most anxiety was related to research. This is indicative of a general lack of control in the profession which has been shown to lead to burnout. In addition, more importance was placed on research than on teaching despite teaching occupying the major portion of time. Gmelch et al. (1984) suggests that discrepancies between one’s perceived beliefs concerning various professorial role requirements and actual

workload, results in heightened levels of anxiety, specifically in the areas of teaching and service. This outcome has indeed been observed in the present study.

This research partially supports various stress-related research paradigms, in particular the industrial psychology literature, which suggests that role conflict impacts both health status and wellness levels (Cooper & Dewe, 2004). These results are congruent with studies on person-environment fit, value-congruence, and life balance (e.g., Harms, Roberts, & Winter, 2006) in that given a wide gap between, for example, family life and workload, greater anxiety levels will result. The greater anxiety related to the lack of congruence between job importance and time devoted to various job activities was found in university faculty. These findings suggest that researchers should consider the role of the person-environment fit construct in future stress-related research conducted within university settings.

Implications and Suggestions for Future Research

Though suggestive and subject to replication, the implications of our findings are intriguing. As we alluded to, the *misfit* between the perceived importance of different aspects of the job and the actual time spent on the different components, along with associated anxiety, implies that modifications to either or both the person and environment are necessary in order to achieve workload balance (e.g., Quick, Nelson, Quick, & Orman, 2001). For example, alterations to the guidelines for hiring, renewal, tenure, and promotion should result in clear and unambiguous job expectations, and a minimization of the gap between expectations and job demands. By implication, such changes should lead to subsequent improvements in various cognitive, affective, behavioural, and physical indices of health status. From the perspective of an administrator, the clarity of expectations and job demands will have an enormous impact in

areas such as turnover, sick days, employee satisfaction, morale, absenteeism, and productivity (Cooper & Dewe, 2004).

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Table 1

Means and standard deviations for each variable

	Time		Anxiety		Importance	
	Mean	SD	Mean	SD	Mean	SD
Research	24.78	14.49	3.51	1.25	4.50	0.83
Teaching	53.05	16.61	2.54	0.74	2.16	0.81
Service	22.50	12.89	2.13	0.66	2.26	0.69

Table 2

Correlations among research teaching and service for the amount of time devoted, self-reported anxiety and perceived importance

	Time			Anxiety			Importance		
	Research	Teaching	Service	Research	Teaching	Service	Research	Teaching	Service
Research	-	-	-	-	-	-	-	-	-
Teaching	-0.652	-	-	0.373	-	-	-0.271*	-	-
Service	-0.323	-0.492	-	NS	0.400	-	NS	0.569	-

* $p = .06$; all other correlations are significant $p < .05$