DOCUMENT RESUME

ED 245 648 HE 017 415

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TITLE Factorial Dimensions of Faculty Stress.
PUB DATE Apr 84
NOTE 35p.; Paper presented at the Annual Meeting of the American Educational Research Association (68th, New Orleans, LA, April 23-27, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Rank (Professional); *College Faculty; *Departments; Factor Analysis; Faculty Workload; Higher Education; Individual Characteristics; Intellectual Disciplines; Recognition (Achievement); *Stress Variables; Teacher Characteristics; *Tenure; Working Hours

ABSTRACT

Clusters of faculty stressors were investigated with attention to how clustered stressors are associated with the professional characteristics of intellectual discipline, rank, and tenure. The relationship of the stressors to the key personal characteristics of age, gender, and marital status was also examined. A total of 80 universities, 40 public and 40 private, were sampled, and 1,221 faculty members (67 percent) responded to the survey questionnaire, the Faculty Stress Index (FSI). Factor analysis revealed that a collection of stressful circumstances subdivided into five areas: reward and recognition, time constraints, department influence, professional identity, and student interaction. With regard to professional characteristics of academics, findings indicated that higher stress levels are associated with lower rank, untenured status, and particular disciplinary clusters. Time constraints and professional identity were affected by age and marital status. To relieve some of the stress experienced by younger, nontenured faculty, and particularly female faculty, it is suggested that attention be devoted to the time constraints and professional identity factors. (SW)

Factorial Dimensions of Faculty Stress

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Paper Presented at the Annual Meeting of the
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FACTORIAL DIMENSIONS OF FACULTY STRESS

Background

The proliferation of job-related stress publications, research, and workshops underscores the importance of understanding stress and its impact on the performance of all professionals. Despite this evident recognition for understanding in this area, a dearth of information exists about stress in academe. We as academicians and researchers willingly study other groups, yet seldom take time to look at our own profession. As John Gardner once remarked: "Professors are to education as goldfish are to water; they swim in the water but never think to study it."

What is known about stress among faculty is limited to a few studies which have investigated specific items or stressors. From these studies the following stressors can be identified as potentially salient dimensions of the academic workplace: administrative bureaucracy and red tape (Fahrer, 1978; Koester & Clark, 1980); too high a level of self-expectation and self-imposed pressures for achievement (Gmelch, Lovrich & Wilke, 1984; Szplier & Alexander, 1982); insufficient income (Gmelch et al., 1984; Koester & Clark, 1980; Fahrer, 1978;) and excessive time pressures and insufficient resources (Clark, 1974; Gmelch, Lovrich, & Wilke, 1984; Koester & Clark, 1980).

One of the conclusions that can be drawn from these and other empirical studies about the professoriate is that the role of the professor is not only pluralistic in terms of multiple objectives and goals, but it is also fractionated in terms of task behaviors (Shull, 1972). The plethora of roles (e.g., teacher, adviser, researcher, university citizen, departmental colleague) and

the existence of numerous factions demanding attention produce a multifaceted complex of strains on faculty in the academic role. Cognizant of this, what--in general terms--is the nature of faculty stress? Are there identifiable patterns of stress which can help both individuals and institutions systematically address the issue of faculty stress?

In most research on job-related stress, either a wide ranging assemblage of diverse workplace stressors have been identified, or dimensions of stress have been generalized to academics from studies of other occupational groups and professions. Notwithstanding this duality of approaches, however, some patterns of academic stress seem to be emerging in the literature. The top three stressors in Clark's (1974) study, as well as that of Gmelch et al. (1984), related to excessive time constraints and inadequate resources. Some studies have also identified personal capacity of faculty members, inadequate organizational resources, and serious time constraints as major sources of academic stress (Shull, 1972; Hunter, 1980). Another common finding is that the general absence of clear and standardized guidelines for judging faculty performance causes a good deal of faculty stress vis-a-vis pay, promotion, and career advancement. In this regard, much literature on the academic profession also points to faculty reward structures as a source of considerable tension (Wilke, 1983).

While many researchers have hypothesized the existence of general sources of occupational stress (Kahn et al., 1964; McGrath, 1976; Gmelch, 1982), most such generalized measures of job-related stress fail to reflect the full character of profession-specific stress--neither its multidimensionality nor its uniqueness from other occupations. This study is advanced as a means of overcoming these limitations in existing literature. By investigating the multidimensionality of faculty stress, and by exploring the possible uniqueness

of the professorial role, a remediable weakness in past research in this area can be overcome. In addition, this study investigates the relationship between identifiable dimensions of faculty stress and faculty members' professional characteristics (discipline, tenure, and rank) and personal attributes (age, gender, and marital status). Should faculty stress of particular types prove to be related to specific professional and/or personal characteristics, the initial clues as to the high risk population become available to both individual faculty and university administrators.

In summary, then, the three objectives of this study are: 1) to identify interpretable clusters of faculty stressors; 2) to determine how such clustered stressors are associated with the professional characteristics of discipline, rank, and tenure; and 3) to describe how the stressor clusters relate to the key personal characteristics of age, gender, and marital status.

Professional and Personal Concomitants of Stress

A number of researchers have examined differences in response to stress based upon the demographic variables of age, gender, and marital status. Early studies of stress, including the Indik, et al. (1964) classic, and a number of more recent studies report "the single most consistent finding seems to be that younger age groups experience higher degrees of stress than their older peers" (Alexander, Adams & Martray, 1984).

Unlike the age results, however, findings relating to gender and marital status have not exhibited great consistency. In a study reported by Tung (1980), women educational administrators experienced significantly less stress then men in three of four areas of professional work--task-based, role-based, boundary spanning, and conflict mediating. Only in the task-based (time) area was there no significant difference between men and women. Koester and Clark (1980) found that married women and single men in academe reported higher levels

of stress-related symptoms than their respective single and married counterparts. Some research indicate women generally experience lower levels of stress (Burke & Weir, 1976; Golembiewski, 1977) than men in comparable roles, while Boyenga (1978) found evidence to suggest that females experience greater stress.

While some research has been focused upon demographic concomitants of stress, little research has been directed toward the investigation of professional characteristics which could prove to be significantly related to faculty stress. The travail of tenure review and the strains of promotion through the ranks lend a prima facie credence to the salience of these factors, and the work of Biglan (1973b) with respect to the categorization of academic disciplines suggests the potential utility of investigating disciplinary relationship with faculty stress. The following analysis sets forth a multidimensional, occupation-specific measure of faculty stress and investigates how that measure relates to the personal and professional characteristics identified here.

Theoretical Construct

Stress is a complicated phenomenon, subject to a range of definitions. In this study, stress reflects a four-stage process. This process begins with a set of specific demands. Whether a particular demand produces stress depends on stage two--the individual's perception of the demand. If the individual does not have the physical and/or mental resources to meet the demand, he or she perceives that demand as a stressor. The stress created by this discrepancy between demand and personal resources results in a stress response (stage three) taking the form of psychological, physiological or behavioral reactions. The fourth and final stage, termed consequences, pertains to the intensity and long-range effects of stress.

This study focuses on the first and second stages of the stress process, identifying faculty members' perceptions of the demands (or stressors) placed on them. Consistent with the hypothesized stress process, this study employs the following definition of stress: One's anticipation of his/her inability to respond adequately to a perceived demand, accompanied by the anticipation of negative consequence(s) for an inadequate response. The perceptual core of the stress concept used here is a key feature of analysis. As Wolff (1953) has stated, "the stress accruing from a situation is based in large part on the way the affected subject perceives it" (p. 133). Kahn et al. (1964) similarly maintained that there is considerable variation in individual response to stressful conditions, one person viewing an experience as stressful while another sees it as a neutral or even enjoyable occurrence. Given this high degree of variation in the perception of meeting demands, it becomes likely that a multidimensional measure of stress will produce a wide variety of associations between particular dimensions of stress and specific personal and professional characteristics.

Instrument Development

The questionnaire developed to measure sources of faculty stress evolved through a series of iterations designed to insure that all potentially relevant facets of job-related strain were explored. The thirty-item Administrative Stress Index (Gmelch, 1982) comprised the initial questionnaire core. This index was supplemented by items culled from a review of previous research and by items suggested from stress logs which were kept by twenty faculty members for a period of one week. Those participating in this initial phase of item development were asked to keep a diary of work-related stress. On a daily basis they reported both the most stressful single incident occurring that day (e.g., conflict with colleague) and the most stressful series of related incidents

(e.g., recurring telephone interruptions). At the end of the week, they were asked to identify other common sources of stress that might not have occurred during the week in which stress logs were kept.

A pilot instrument composed of a list of demands upon faculty was field-tested for content validity and clarity with faculty members. After revision and a second pilot test, the final Faculty Stress Index (FSI) comprised 45 items. An item reliability assessment conducted by test/retest (with two-weeks interval) produced a mean item reliability coefficient of .83.

Sample

The universe identified for this study was the faculty of all doctorate-granting institutions in the United States. From among the 184 eligible universities, a sample of 40 public and 40 private universities was randomly selected. Faculty were stratified by eight clusters of academic disciplines (Biglan, 1973b) and by academic rank (assistant, associate, and full professor). From this stratification, a sample of 1,920 individuals was subsequently selected from college catalogs. Consequently, the sample was composed of an equal number of faculty at public and private universities, equal proportions of assistant, associate and full professors, and equal proportions of faculty from each of the eight Biglan disciplinary clusters.

After a series of three mailings, it was determined that 109 faculty were unreachable (e.g., deceased, retired, moved to other universities). Of the remaining 1,812 respondents, 1,221 (67 percent) returned usable questionnaires for analysis. With an appropriate adjustment for faculty members away from campus (e.g., on sabbatical leave, on field research, on temporary service abroad) during the three-month period of the survey (Spring of 1982), an effective response rate of 75 percent can be estimated. The respondents answering the survey across the several dimensions of stratification (rank,

discipline, public/private institutions) responded in very similar proportions, thereby inspiring confidence that the data gathered were largely representative of the universe sampled. Although the employment of a stratified sampling design makes the generalization of descriptive statistics to the actual world of the professoriate inappropriate, the analytical power provided by the focused sampling design allowed the testing of the important propositions identified above.

Results and Discussion

Factor Analysis

The multidimensionality of the 45-item FSI was investigated through the use of a principal components, varimax solution (rotation) factor analysis. The results of the factor analysis indicated the presence of five distinct dimensions of perceived stressful conditions and situations. Of the original pool of 45 items, some 31 specific stress statements loaded highly (.40+) on one of the five factors produced by the factor analysis. These five factors in combination account for 86% of the common variance.

Table 1 about here

The first factor, accounting for slightly over 55% of the common variance, addresses the area of faculty reward and recognition. All 8 of the items loading on this first factor pertain to the question of professional recognition or rewards, with inadequate rewards, unclear expectations, and insufficient recognition being highlighted. In addition, the items appear in all three areas of traditional faculty responsibility--teaching, research and service.

The emergence of this factor, and the primary position accorded to it among the several dimensions of stress identified, is somewhat to be anticipated in

light of numerous studies which have documented the large discrepancy obtaining between the relative weight given to teaching, research, and service activities in faculty evaluation versus the amount of time faculty spend in these same activities (Baldridge et al., 1978; Borland, 1974; Hind et al., 1974). Related studies indicate that faculty generally prefer relative weightings at variance to those they perceive to be in force in their institutions (Cross, 1977; Dornbusch & Scott, 1975; Fenker, 1977; Gaff & Wilson, 1974; Ladd & Lipsett, 1975; Parson & Platt, 1968; Wilke, 1983). This "profession-specific" dimension of stress, then, stands out as the primary element of concern for faculty. A notable aspect of the identification of this factor is that it does not appear in other studies of occupational stress.

The second factor, accounting for about 12% of the common variance, reflects the dimension of time constraints which confront the faculty member. General duties (e.g., paperwork, meetings, telephone and visitor interruptions) which load on this factor make reference to time constraints. This factor represents a logical extension of the task-based stress hypothesized by McGrath (1976) and confirmed by the research of Koch, Tung, Gmelch & Swent (1982). Of all stress problems, this factor seems to be most generic to all professionals. Though noted for working long hours, university professors have also been characterized as being adept in controlling their time effectively, keeping extra curricular activities to a minimum (Phillips, 1982). The emergence of the time constraints factor appears to be in conflict with Phillips' finding. It is noteworthy that none of the specific stressors loading on this factor relates directly to the central teaching, research or service functions of faculty. Rather than the ends of academic responsibility, it appears that the means of goal accomplishment are the targets of concern. The paperwork, meetings, and

interruptions which constrain faculty contribute to the sum and substance of faculty distress.

The third factor, accounting for some 7% of the common variance, clearly reflects the area of departmental influence exercised by the individual. Three of the four heavily loading items pertain to one's departmental chairperson (resolving differences, knowing evaluative criteria, influencing decisions), and the remaining item deals with the matter of having influence in departmental/institutional decision-making. The emergence of this factor in this dataset lends credence to the argument that department-level influences are among the most important features of faculty life (Nance, 1981; Cares and Blackburn 1978).

The fourth factor, accounting for some 6% of the common variance, reflects the area of professional identity. One's reputation as a scholar is established on the basis of one's publications, presentations at professional meetings, and successful securing of research grant support. All three of these concerns appear on this fourth factor, along with a fourth and final item pertaining to applying "excessively high self-expectations." Taken together, these separate items convey a unified dimension of concern for professional reputation which has considerable importance to faculty members (Nance, 1981; Webster & Sobiezzek, 1974). In a previous analysis of the data presented here, it was shown that the item pertaining to self-expectations was the single most highly designated source of stress among all disciplines and among the full range of 45 original stress elements (Gmelch et al., 1983). The work of others postulates that the sense of success or failure is not dependent upon the absolute amount of achievement but rather on the relationship between achievement and the level of aspiration (Cyert & March, 1963; Lewin, 1944; March & Smith, 1958). Along these lines, Riesman (1977) has identified the potential for stress arising from

entertaining high self-expectations, observing that one of the most characteristic aspects of work of the college professor is that he/she sets their own goals. Riesman observed that "No one should underestimate the miseries of having to set one's own goals" (p. 159).

Finally, the fifth factor--accounting for about 6% of the common variance--pertains to student interaction. All five of the items which load on this dimension contain a reference to students--including their instruction, evaluation, advising, etc. Included on this factor along with faculty responsibilities to students as learners is an item which pertains to students as evaluators of faculty teaching performance.

Literature on higher education abounds with commentary on the perennial complexities of interpersonal relationships between students and faculty. It would be natural to expect, then, that this interaction would be reflected in one of the academic stress factors. The ambiguous and sometimes subjective evaluation process of student performance, and in turn students' evaluation of faculty teaching, represents a common concern among faculty (Glasman, Killait & Gmelch, 1974; Wilson, 1962). The client-professional relationship in other professions gives rise to similar kinds of strains due to the inherent mutual evaluative component of the relationship.

An alternative phenomenon which this factor may reflect is suggested in a study by McCabe (1981). McCabe's study of faculty concern indicates a noteworthy degree of dissatisfaction regarding the relative lack of influence assigned to faculty-student interaction in the evaluation process for faculty advancement in rank. It could be that this factor is not reflecting stress emanating from that interaction, but that instead stress is a result of the dissatisfaction over the time and energy expended in student interaction which is not reflected in faculty evaluation.

Demographics

Having identified these dimensions of faculty stress, it now becomes possible to investigate the degree to which the personal and professional characteristics discussed above are related to these factor analysis-based dimensions. Factor analysis-based scale scores in each of the five dimensions can be calculated for individual respondents, thereby allowing a comparison of mean dimensional scores for differing professional and personal subgroups in the sample. Table 2 sets forth the first such comparison with respect to the professional characteristic of tenured/nontenured status. As might be expected, untenured faculty perceive a higher level of stress than do their tenured colleagues. What is particularly noteworthy is the fact that statistically significant differences between tenured and untenured faculty obtain in each of the five dimensions investigated. The often commented-upon purgatory of untenured status in the contemporary university setting is vividly evidenced in these particular results.

Table 2 about here

A second professional characteristic is presented in Table 3--that of academic rank. Once again one's reasonable expectations that higher ranks are associated with lower levels of stress are confirmed. A monotonic decline in perception of stress occurs in all five dimensions investigated, and the size of the decline is sufficiently marked in each area to produce differences at the .001 level of statistical confidence or better.

Table 3 about here

The third area of professional characteristics investigated is that of disciplinary background. Each of the faculty respondents was questioned as to his or her academic discipline, and subsequently each discipline was categorized into one of the eight Biglan categories reflecting 'hard' and 'soft' sciences, 'pure' and 'applied' orientations, and 'life' and 'nonlife' subject matter. Table 4 sets forth the results of mean dimension comparisons across disciplinary categories.

Table 4 about here

Previous research supports the findings reported here that significant differences can be found in faculty responses by discipline in two of the five factors--those pertaining to rewards and recognition and student interaction. Studies by Biglan (1973a) and Wilke (1983) indicated that faculty in different disciplines reported differing levels of commitment, preference for, and amount of time spent on teaching, research, and service activities. Fenker's (1977) research revealed that faculty in different disciplines will express a preference for different incentives. Hind, Dornbusch, and Scott (1974) found that faculty in disciplines with a central body of theory (i.e., disciplinary paradigm in Biglan's (1973b) terminology) are more satisfied with academic evaluation processes than those who are not in such disciplines. McCabe's (1981) study similarly revealed disciplinary differences in faculty preferences for the relative weight of criteria for faculty-student interactions in the evaluation of faculty for promotion.

In the area of personal characteristics, the trait of age is the first subject to receive scrutiny. The findings displayed in Table 5 reveal that not all areas of faculty stress decline with age; instead, only the areas of time

constraints and professional identity bear witness to this age effect. Perhaps the conventional belief that stress reactions universally decline with age should be modified, with respect to faculty in doctoral universities at least, to recognize that some dimensions of stress do decline while others do not. While it is curious that stress emanating from the factors of rewards and research, departmental influence, and student interaction do not decline with age, it seems reasonable that with age faculty begin to securely establish their professional identity and possibly learn to better control their time constraints, or at least put them in proper perspective.

Table 5 about here

The final area of personal characteristics to be considered is the combined phenomena of gender and marital status. It has been suggested that single women and married men would perceive less stress in their professional environments than their respective married and single counterparts (Koester & Clark, 1982). The data displayed in Table 6 casts some doubt on this generalization. It can be seen that in most within-gender comparisons of married and unmarried persons there is no difference in the level of perceived stress except in the area of professional identity. Married women are more likely to perceive stresses emanating from professional identity than their single counterparts and from married and single men. While these findings suggest support of the Koester and Clark (1982) arguments pertaining to the differential effect of marriage for males and females in the professions, the findings also indicate that the separate dimensions of stress are differentially affected by marital status.

Traditional role expectations might explain the greater stress for women. Females bear a greater responsibility than men for family tasks which restricts

the time (factor 2) to devote to professional activities. In addition, male professionals can usually call upon female companions to assist with clerical

Table 6 about here

and routine tasks required in professional responsibilities, and in the preparation of grant proposals and professional presentations. The same is seldom true for female professionals. Similarly, there is evidence to suggest that female faculty are often assigned heavier teaching loads (more often at the undergraduate level) than their male counterparts. Women faculty are thereby limited in the contact with graduate students engaged in research. Some evidence is available that faculty women are also provided with less support to gain professional recognition than males (Tuckman & Tuckman, 1976).

Finally, social mores in many settings still restrict female faculty from interaction with male colleagues, interactions which typically provide professional support, intellectual stimulation, and collaboration for research projects and professional activities.

Conclusion

While teaching, research and service represent the traditional areas of faculty responsibility, factor analysis reveals that a collection of stressful circumstances subdivide into five areas: reward and recognition, time constraints, department influence, professional identity, and student interaction. While four of the five factors could have been predicted from other stress studies, the emergence of the reward and recognition factor appears to be unique to academe. Because this factor spans the three activities of teaching, research, and service, redesign of the reward structure or a consensus upon its

application should alleviate a considerable amount of stress which faculty experience.

With regard to professional characteristics of academics, findings indicate that higher stress levels are associated with lower rank, untenured status, and particular disciplinary clusters. The higher levels of stress experienced by the lower ranks and nontenured faculty might be tempered by addressing the dissatisfaction of the reward factor and by faculty realistically assessing goals and expectations. Institutional recognition of the demands upon faculty, accompanied by providing resources to assist the accomplishment of tasks, should relieve excessive stress.

While professional characteristics of tenure and rank reflected significant differences in all five factors, in the areas of personal traits significant differences were found in only two factors, time constraints and professional identity. The effects of age, in contrast, impact faculty member's time constraints and professional identity. Similarly, with regard to the effects of marriage among professional men and women, some evidence of a differential gender effect is present.

In summary, to relieve some of the stress which younger, nontenured faculty--and even more particularly female faculty--experience, attention devoted to the time problems of constraints and professional identity factors should produce the most noticeable positive results. Faculty can be assisted to selectively devote energies to those activities which are most professionally rewarding and which will help to attain realistic goals. These findings present useful information to both universities and to individual faculty. Universities are warned to take heed of high risk groups among their faculty, and individual faculty are warned to take note of the dimensions they and their colleagues identify as the major causes of strain of professional life in academe.

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Table 1

Varimax Rotated Factor Matrix
(n = 1,222)

Items and Factor Labels	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
			Factor Loadings		
Reward and Recognition					
1. Receiving inadequate university recognition for community service	.63	.09	.05	.07	.09
2. Having insufficient reward for institutional/departmental service	.74	.16	.24	.11	.11
3. Receiving insufficient recognition for teaching performance	.71	.12	.20	.11	.24
4. Not having clear criteria for evaluating service activities	.55	.19	.28	.06	.08
5. Lacking congruency in institutional, departmental, and personal goals	.45	.18	.29	.13	.12
6. Receiving insufficient institutional recognition for research performance	.45	.05	.30	.31	.26
7. Receiving inadequate salary to meet financial needs	.47	.11	.17	.22	.08
8. Not having clear criteria for evaluation of research and publication activities	.56	.05	.32	.31	.02
Time Constraints					
9. Participating in the work of departmental or university committees	.09	.42	.06	.00	.13
10. Having insufficient time to keep abreast with current developments in my field	.14	.49	.04	.25	.12
11. Assignment of duties which takes me away from my office	.14	.46	.14	.12	.08
12. Being interrupted frequently by telephone calls and drop-in visitors	.03	.63	.07	.16	.05
13. Having inadequate time for teaching preparation	.24	.49	.01	.10	.27
14. Writing letters and memos and responding to other paper work	.06	.60	.10	.07	.11
15. Having insufficient time for performing the service function	.35	.42	.10	.01	.12
16. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	.11	.67	.06	.22	.01
17. Attending meetings which take up too much time	.19	.63	.04	.03	.11
Having job demands which interfere with other personal activities (recreation, family, and other interests)	.14	.53	.04	.31	.03

Table 1 (continued)

Items and Factor Labels	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
			Factor Loadings		
Departmental Influence					
19. Trying to influence my chair's actions and decisions which affect me	.27	.16	.78	.13	.16
20. Resolving differences with my chair	.22	.12	.81	.09	.09
21. Lacking personal impact on department/institutional decision-making	.38	.10	.52	.11	.13
22. Not knowing how my chair evaluates my performance	.36	.04	.61	.11	.04
Professional/Identity					
23. Making presentations at professional conferences and meetings	.01	.09	.04	.52	.30
24. Imposing excessively high self-expectations	.06	.21	.11	.50	.14
25. Securing financial support for my research	.18	.25	.11	.48	.00
26. Preparing a manuscript for publication	.20	.15	.05	.62	.14
Student Interaction					
27. Evaluating the performance of students	.10	.12	-.01	.10	.62
28. Having students evaluate my teaching performance	.12	-.01	.10	.22	.54
29. Teaching/advising inadequately prepared students	.28	.21	.06	.05	.44
30. Resolving differences with students	.05	.13	.11	.07	.55
31. Making class presentations	.05	.10	.10	.27	.40

Table 2

A Comparison of Tenured and Untenured Faculty Mean Dimensional Scores

Variable	Reward and Recognition	Time Constraints	Departmental Influence	Professional Identity	Student Interaction
Tenure Status					
1. Tenured	2.35	2.57	2.03	3.00	2.23
2. Not Tenured	2.53	2.70	2.21	3.36	2.45
F - ratio	7.27**	5.41*	5.64*	36.19****	15.06****

*p < .05

**p < .01

***p < .001

****p < .0001

NOTE: Statistical significance of differences in mean scores estimated on the basis of analysis of covariance tests contained in the general linear models (GLM) procedures of the Statistical Analysis System (SAS) package. This same test is applied in each of the tables which follows.

Table 3

A Comparison of Mean Dimensional Scores by Academic Ranks

Variable	Reward and Recognition	Time Constraints	Departmental Influence	Professional Identity	Student Interaction
Rank					
1. Assistant Professor	2.62	2.67	2.23	3.37	2.44
2. Associate Professor	2.48	2.67	2.09	3.14	2.27
3. Professor	2.12	2.46	1.92	2.83	2.16
F - Ratio	27.69****	9.15****	7.77***	36.93****	10.56****

***p < .001

****p < .0001

Table 4

A Comparison of Mean Dimensional Scores by Biglan Disciplinary Categories

Variable	Reward and Recognition	Time Constraints	Departmental Influence	Professional Identity	Student Interaction
Discipline Cluster					
HPN	2.32	2.53	2.12	3.13	2.28
HPL	2.41	2.63	2.16	3.24	2.12
HAN	2.38	2.74	2.07	3.16	2.39
HAL	2.20	2.66	2.07	3.05	2.10
SPN	2.58	2.54	2.09	3.00	2.26
SPL	2.42	2.59	1.97	3.19	2.40
SAN	2.31	2.56	2.05	3.06	2.34
SAL	2.51	2.60	2.08	2.95	2.37
F - ratio	2.03*	.98	.38	1.87	3.10**

*p < .05

**p < .01

HPN = Hard Pure, Nonlife (e.g., chemistry, mathematics); HPL = Hard, Pure, Life (e.g., botany, entomology); HAN = Hard, Applied, Nonlife; (e.g., engineering, computer science); HAL = Hard, Applied, Life (e.g., agriculture, veterinary medicine); SPN = Soft, Pure, Nonlife (e.g., English, history); SPL = Soft, Pure, Life (e.g., political science, sociology); SAN = Soft, Applied, Nonlife (e.g., accounting, economics); SAL = Soft, Applied, Life (e.g., education).

Table 5

A Comparison of Mean Dimensional Scores by Age Categories

Variable	Reward and Recognition	Time Constraints	Departmental Influence	Professional Identity	Student Interaction
Age					
2. Under 30	2.19	2.72	2.03	3.31	2.77
3. 31-35	2.46	2.71	2.19	3.36	2.38
4. 36-40	2.35	2.70	2.02	3.22	2.26
5. 41-45	2.49	2.64	2.06	3.16	2.33
6. 46-50	2.39	2.55	1.91	2.98	2.17
7. 51-55	2.34	2.60	2.15	2.95	2.15
8. 56-60	2.31	2.37	2.15	2.77	2.31
9. 61-65	2.33	2.24	2.08	2.63	2.33
10. Over 65	2.43	2.43	2.04	2.73	2.33
F - ratio	.86	4.27****	.94	9.21****	1.38

****$p < .0001$

Table 6

A Comparison of Gender and Marital Status Mean Dimensional Scores

Variable	Reward and Recognition	Time Constraints	Departmental Influence	Professional Identity	Student Interaction
Gender and Marital Status					
Female Single	2.40	2.82	2.12	3.18	2.35
Female Married	2.51	2.81	2.14	3.37	2.34
Male Single	2.42	2.50	2.21	3.03	2.33
Male Married	2.36	2.55	2.03	3.04	2.25
F-ratio	.82	7.30***	1.29	5.23***	

***$p < .0001$.