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ABSTRACT

Professional competence involves the professional's ability to function effectively in the tasks and proficiencies considered essential within a given profession. For mid-career professionals, the maintenance of professional competence becomes a major concern. This study examined the personal and institutional characteristics that are associated with being professionally competent and up-to-date in certain academic fields and the salience of certain personality characteristics in differentiating between mid-career college faculty members who are more versus less up-to-date with regard to their academic field. Subjects were faculty members (N=105) at 2- and 4-year colleges. The primary responsibility of these faculty members was teaching rather than research. They represented the fields of engineering (N=28) and English (N=77). Subjects participated in a 1-hour interview and completed a personality questionnaire and a professional currency measure. Results showed professional competence was most directly related to the activities of the faculty members, rather than to personal and institutional characteristics. Reading of professional journals was a major mechanism for maintaining professional currency for both English and engineering faculty. Involvement in professional organizations was associated with being more professionally current. Time spent in research and publishing was positively related to professional currency in teaching responsibilities. Current faculty members perceived achievement to be a more salient characteristic or need than less current subjects. (ABL)

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Professional Competence in Mid-career College Faculty Members: Antecedents and Correlates

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Professional Competence in Mid-career College Faculty:

Antecedents and Correlates

There has been considerable discussion in higher education regarding the possible impact of the new federal retirement laws on the age structure of college faculty. These laws will remove mandatory retirement requirements for faculty members after January 1, 1994. Some have predicted that enactment of these laws will mean an increase in age at retirement, resulting in an overaged faculty and little opportunity for the introduction of "new blood" into the higher educational system.

However, findings from recent surveys suggest that the greater problem facing higher education may be a wave of retirements in the mid-to-late 1990s and insufficient replacements from the pool of new Ph.D.'s. In a study of retirement patterns of faculty members in major research universities, Lozier and Dooris (1989) estimate that 20 to 30 percent of current faculty will retire by the year 200. These faculty members will require replacement from the pool of new Ph.D's ; however, the number of Ph.D s granted per year has been stable since 1978, and 40 percent of these Ph.D's are entering nonacademic positions, raising the issue of whether there are sufficient competent new Ph.D's to replace the number of faculty projected to retire.

Whatever scenerio occurs, the decade of the 1990s will be an important one in higher education. During the next few decades, a large number of faculty will be in the later stages of their careers, whether or not they seek early retirement. Thus, a major concern of universities in the coming decade should be the maintenance of professional competence in mid-to-late career faculty members. Professional competence involves the professional's ability to function effectively in the tasks and proficiencies considered essential within a given profession. For mid-career professionals, the maintenance of professional competence becomes a major concern. In order to perform competently, mid-career professionals must exhibit the knowledge base and skills considered to be professionally current or up-to-date in their disciplines. Our research has focused on the personal and situational factors that are associated with mid-career faculty members being professionally competent.

Figure 1 presents a model that has guided our research on factors associated with the maintenance of professional competence in mid-career faculty. At the far left of the figure are two domains representing the personal characteristics of the faculty member and institutional (e.g., college) characteristics. The personal characteristic domain includes general demographic variables, such as the faculty member's age and gender, and more job-relevant characteristics, such as the terminal degree (Ph.D., M.S.) attained by the faculty member, academic rank (e.g., instructor, assistant professor), and tenure status. Variables such as age and years since terminal degree are of interest, since they reflect the length of time since completion of formal education and hence the number of years during which the faculty member needed to engage in some form of continuing professional development and updating. The terminal degree reflects the level of formal education attained; it may impact maintenance of

professional competence indirectly by influencing the type of position acquired following graduate training, with job responsibilities that may facilitate or limit the updating process. For example, a research-oriented position may provide more incentives and opportunities for activities, such as publishing, that foster the maintenance of professional competence.

We were also interested in whether there were personality characteristics that were associated with being professionally up-to-date and competent in mid-career. Research in other professions indicates that there are personality dimensions that characterize highly competent professionals in mid-career. For example, the longitudinal research on AT&T managers, who were studied over a 21-year period indicated that very competent, productive managers were higher on personality traits, such as achievement and dominance (Bray & Howard, 1983).

The institutional characteristics domain is concerned with factors in the work environment that are associated with maintenance of professional competence in mid-career professionals. The impact of the work environment on professional competence has been the focus of several lines of research and study. The research of Kohn and Schooler (1983) indicates that more complex work environments that require professionals to engage in decision making and problem solving and that allow self-regulation of work tasks foster intellectual functioning. The findings from research on professional obsolescence in high tech professions also indicates that certain work environment characteristics foster maintenance of professional competence. Farr's research on professional updating among engineers indicates that effective work environments provide professionals with a diversity of job assignments and involve a number of colleagues who can serve as informational resources (Farr, Enscore, Steiner & Kozlowski, 1984). Similar work environment characteristics were found to be associated with maintenance of professional competence in emergency room personnel (Reinhart & Keefe, in press).

Finally, we were interested in the types of professional activities associated with professional competence. The research in higher education has suggested a number of activities related to professional competence and productivity. These activities include involvement in professional organizations, activities (e.g., journal reading) that facilitate familiarity with the primary literature, conduction of research, and publishing.

Note that in Figure 1 personal and institutional characteristics may influence level of professional competence directly. Alternatively, the influence of personal and institutional characteristics may be indirect through professional activities. In this paper, we will focus on the direct influence of personal and institutional characteristics and professional activities on professional competence. In future research, indirect influences will be examined.

In summary, two major questions will be addressed in this paper: 1) What are the personal and institutional characteristics that are associated with being professionally competent and up-to-date in certain academic fields? 2) Does the salience of certain personality characteristics differ for mid-career faculty members who are more versus less up-to-date with

regard to their academic field? These questions will be examined with regard to English and Engineering faculty. These two disciplines were selected, since they differ in the rapidity of the impact of technological change on the discipline, and hence the demands on the mid-career faculty member for updating and the maintenance of professional competence.

Methods

Subjects.

Subjects were 105 faculty members (M = 74; F = 31) at two- and four-year colleges in Pennsylvania and Ohio. The primary responsibility of these faculty members was teaching, rather than research. These were senior faculty members in that 75.2 percent were tenured, and had worked at their current institutions for 14.34 years (SD = 6.07), on average. Mean age of the faculty members was 47.57 years (SD = 7.81). Mean years since receipt of the terminal degree was 15.02 years (SD = 7.23). The faculty members represented two disciplines: English and Engineering.

English. Of the 77 English faculty members, 46 were male and 31 were female. There were 72.7 percent tenured; 48 had the Ph.D and 28 had the M.S. Mean years since receipt of the terminal degree was 14.64 years (SD = 6.66). Faculty members had worked at their current institution for 13.83 years (SD = 6.46), on average. Mean age was 46.36 years (SD = 7.41).

Engineering. The 28 Engineering faculty members were male; there were no senior female Engineering faculty members at the colleges studied. There were 90.5 percent tenured; 6 had B.S. degrees; 19 had M.S. degrees; 3 had Ph.D. degrees. The high number of M.S. degrees is characteristic of teaching-oriented engineering faculty, since the Ph.D. is considered primarily a research-oriented degree. Mean years since receipt of the terminal degree was 16.07 (SD = 8.37). Faculty members had worked at their current institution for 15.75 years (SD = 4.62), on average. Mean age was 50.89 years (SD = 8.03).

Procedure.

Sample selection and recruitment. The study focused on senior faculty members who taught the introductory course in their discipline as a major part of their faculty responsibilities. Faculty were selected for participation in the study who, on average, were tenured, had received their terminal degree at least five years previously, had taught the introductory course for at least two years, and who had been employed at the current institution for a minimum of two years. All faculty members who met these criteria were contacted via a letter that explained the study and were invited to participate.

Interview procedure. Subjects participated in a one-hour interview, conducted by the second author. Subjects were asked to complete the personality questionnaire after the interview. Most faculty members were interviewed in their campus office.

Measures.

Professional currency measure. A professional currency measure was developed for each discipline to assess faculty members' knowledge of changes that had occured in the material taught in the introductory course in that discipline over the past ten years. Development of the professional currency scale involve two phases. First, a text analysis was performed on the key textbooks used in the basic course in each discipline in 1974 and in 1984 to identify major changes occuring in subject matter over this ten year interval. Second, interviews were conducted with the "expert" faculty in each discipline who had responsibility for developing and revising the basic course in that discipline. These faculty were asked to identify changes occuring over the past ten years in the content of the basic course; they were then shown the items identified via the text analyses and asked to rate the significance of these changes.

Professional currency scales were developed for each discipline, based on the text analyses and interviews with "expert" faculty. The English Professional Currency Scale is a 12-item measure focusing on changes related to writing composition; item-total correlations range from .26 to .60. The alpha reliability is .74. The Engineering Professional Currency Scale is a 38-item measure focusing on microcomputer knowledge and usage (e.g., programming skill, familiarity with software packages for various functions). At the time this research was conducted, use of computer graphics was being introducted into the basic engineering graphics course, and hence computer literacy represented a major professional currency issue. The item-total correlations range from .10 to .83; alpha reliability is .91. Raw scores within each discipline were converted to t-scores ($\bar{X}$ = 50; SD = 10).

Interview schedule. The interview schedule, developed by the authors,included the following topics: personal and work environment characteristics; changes in content of the basic course (i.e., professional currency scale); and professional activities and scholarly behavior; limitors and facilitators of professional updating; and retirement plans.

Edwards Personal Preference Schedule (EPPS). This personality measure (Edwards, 1959) assesses the relative strength of the subject's responses to 15 need scales, derived from Murray's manifest need system (Murray, 1938). The ipsative scale provides information on the rank ordering of needs at the intraindividual level. The subject is presented with pairs of statements drawn from the need scales and must choose one statement as more characteristic of himself/herself. For example, subjects must indicate which of the following statements is more characteristic of themselves: 1) Being supportive of friends is very important to me; 2) I like to be independent and make my own decisions. Ipsative scores for each subject were computed for each need scale. Internal consistency coefficients for the scales range from .60 to .84 (Edwards, 1959). Only 13 of the 15 need scales were administered in this study; the Heterosexuality and Aggression scales were omitted. Brief descriptions of the scales are presented below.

Edwards Need Scales

Achievement: To do one's best; to accomplish tasks requiring skill/effort

Abasement: To feel guilt; to accept blame; to feel inferior to others

Affiliation: To be form many friendships; to be loyal to friends

Autonomy: To feel free to do what one whats; to be independent of others

Change: To do new & different things; to experiment with the new

Deference: To get suggestions from others; to accept leadership of others

Dominance: To be a group leader; to argue for one's view point

Endurance: To keep at a job until it is finished

Exhibition: To be the center of attention; to say witty & clever things

Intraception: To analyze one's motives/feelings; to try to understand others

Nurturance: To help friends in trouble; to treat others with kindness

Order: To be planful; to be neat & organized

Succorance: To seek the help of others; to receive much affection from others

Scholarly publications. The publications score represented the number of books, chapters, articles, and lay publications written by subjects during 1980-84.

Results

Professional currency criterion.

A major objective of the study was to identify characteristics and behaviors that differentiate college faculty members who are most up-to-date from those least up-to-date with regard to the current knowledge base for the introductory course in their discipline. A subject's level of up-datedness was defined by their score on the Professional Currency scale. A statistical criterion was employed to define relative degree of updatedness. Subjects with scale scores $\geq$ .5 standard deviation above the mean (i.e., score $\geq$ 55) were defined as being most current with regard to material covered in the introductory course. Subjects with scale scores $\leq$ .5 standard deviation below the mean (i.e., score $\leq$ 45) were defined as being less current. Given this criterion 19 English faculty members were classified as current (25% of sample), and 19 were classified as less current. Seven of the Engineering faculty (25%) were classified as current, and 9 (32%) as less current.

Characteristics differentiating current and less current faculty members.

Discriminate function analyses were conducted to identify those personal and institional characteristics that differentiate between current and less current faculty members, as defined by the above criterion. The exogenous variables were personal characteristics, institutional characteristics, and professional activity variables. The score on the Professional Currency scale was the dependent variable. The Edwards need scales were not included in the analysis.

English. The variables that reliably discriminate between current and less current English faculty are shown in Table 1. The average canonical correlation indicates that 58% of the variance in professional currency scores was accounted for by these variables (average^2 canonical r = .5772). The most salient correlate was the number of journals read; current English faculty members reported reading an average of 6.05 journals (SD = 3.62), compared to a mean of 3.32 (SD = 2.26) for less current subjects. Current English faculty members belonged to more national and regional professional organizations than less current faculty members. However, less current faculty members reported attending more regional conferences. Current faculty members had more publications, and reported working more hours per week than less current faculty members.

Engineering. The only variable that reliably differentiated between current and less current Engineering faculty members was chronological age. Less current faculty members were older ($\bar{X}$ = 56.44 years) than more current faculty members ($\bar{X}$ = 46.86 years). Chronological age is highly related to years since terminal degree; less current Engineering faculty members had received their terminal degree 18.56 years ago, on average, compared to 11.71 years for more current faculty members (Table 2). Although only one significant predictor was found, almost one-third of the variance in professional currency scores was accounted for by chronological age (average^2 canonical r = .32).

Sample characteristics for English and Engineering faculty classified as current versus less current are shown in Table 3. Several findings in Table 3 need clarification. Table 3 indicates that a greater proportion of less current English faculty were male and also a greater percent of less current English faculty had Ph.Ds. Fifteen of the 19 less current English faculty members were male; 7 of the 15 less current male faculty had Ph.D's. Note that the rank variable also was salient in the discriminate analysis for English faculty (Table 1).

Insert Tables 1, 2, 3 about here

Edwards need scales and current versus less current faculty members.

Two questions were examined regarding the Edwards need scales: 1) Do the Edwards need scales differentiate between current and less current faculty members? and 2) Is the rank ordering of personal needs significantly different for current versus less current faculty members?

English. The Edwards needs scales that differentiate between current and less current English faculty were examined via discriminate function analysis. The exogenous variables were scores on the 13 need scales described above. The needs reliably discriminating between the two groups are shown in Table 4. More current faculty members scored higher on the Achievement scale. Less current faculty members scores higher on the Autonomy and Endurance scales. Approximately 24% of the variance in the professional currency scores was accounted for by these three need scales (average^2 canonical r = .237). The mean scale scores for the total sample, and the current and less current English groups is shown in Figure 2.

Whether the rank ordering of personal needs differed significantly for current and less current English faculty members was examined via Kendall's Coefficient of Concordance (Siegel, 1956). The rank orderings for the two groups were found to be reliably different (w = .805, Q (12) = 19.31, p < .10); a nonsignificant p value indicates different rank orderings. The rank ordering of personal needs is shown in Figure 2.

Insert Table 4 and Figure 2 about here

Engineering. A discriminate function analysis on the Edwards need scores for current versus less current Engineering faculty indicate no reliable discriminators. However, Kendall's Coefficient of Concordance indicated that the rank orderings for the two groups differed reliably (w = .808, Q (12) = 19.38, p < .10). Figure 3 presents the mean scale scores for the total sample, and the current and less current Engineering groups; the rank ordering of personal needs is also shown.

Insert Figure 3 about here

Discussion

A reexamination of Figure 1 indicates that most of the variables found to be associated with professional competence fall within the Professional Activities domain. Professional competence was most directly related to the activities of the faculty members, rather than to personal and institutional characteristics. As we suggested in our introduction, the personal and institutional characteristics studied may impact professional competence indirectly via their influence on professional activities. The one exception is that the personal variables represented by the Edwards needs scales were also found to be associated with professional competence.

Professional activities and professional currency.

What professional activities were salient in differentiating professionally current versus less professionally current faculty members? It appears that reading of professional journals is a major mechanism for maintaining professional currency, for both English and Engineering faculty. Reading of professional periodicals may be particularly important

for faculty members involved primarily in teaching responsibilities in small colleges, as represented in this sample. These faculty members may have more limited access to other potential sources of information, such as fellow colleagues. For example, in a department having a large number of faculty members, with expertise in a variety of areas, the faculty member seeking information on a particular topic might first contact a colleague before consulting the library. Although the faculty reported having a number of departmental and off-campus colleagues, the size of this network was not related to professional currency in courses taught. Our further discussion with the subjects suggested that these colleagial relationships were often social or focused on other professional issues (e.g., committee assignments), rather than teaching responsibilities.

Involvement in professional organizations at both the national and regional level (e.g., number of memberships) was associated with being more professionally current. Membership in multiple professional organizations may be related to professional competence in several ways. First, membership may reflect a greater commitment and investment (at least financially) in one's career. Alternatively, the professional journals and newsletters received as part of one's membership dues may facilitate maintenance of professional currency. In addition, membership may reflect greater involvement in the profession, such as attendance of conferences, networking, and committe assignments, all of which may foster the maintenance of professional competence, indirectly or directly.

The higher attendance of less professional current faculty members at regional meetings appears, at first glance, incongruent. In particular, less current Engineering faculty members attend a high number of local meetings. Again, further discussion with the Engineering faculty members indicated that many attended a monthly meeting of a local chapter of an engineering society. These meetings often involved a shared meal and appeared to be primarily social in nature. Nevertheless, the fact that less current faculty members regularly attend regional or local professional meetings indicates the potential value of such meetings for continuing professional education.

Some have argued that research and publishing activities have little positive benefit on teaching. However, our data suggest otherwise. Time spend in research and number of publications was positively related to professional currency in teaching responsibilities. The research and publishing activities of a number of faculty members interviewed appeared to complement and support their teaching duties. For example, several faculty had written or planned to write a textbook related to the topic of their major teaching responsibilities. Other faculty members reported doing research on a topic that was the focus of a seminar for selected students.

The types of professional activities examined in this study were better predictors of professional currency for English than for Engineering faculty members. The most parsimonious explanation is that the small sample size for engineers limited the power of the analyses. Since English is a requirement of all college students, there were more senior English faculty members available at an institution than engineering faculty. Alternatively, the nonsignificant results may be due to the fact that the

professional activities studied are less appropriate for engineering. However, these types of variables have been shown to be relevant in Farr's research with engineers in industry.

Personal needs hierarchy and professional currency.

Of particular interest to us was the finding that approximately 24% of the variance in the professional currency scores among English faculty could be accounted for by three needs scales from the Edwards Personal Preference Survey. Current faculty members perceived Achievement to be a more salient characteristic or need than did less current subjects. On the other hand, less current faculty members reported Autonomy and Endurance to be more salient characteristics or needs than did more current subjects. Figure 3 indicates that less current Engineering faculty members also scored higher on the Autonomy scale.

The relationship between achievement and professional currency is self-evident. Achievement reflects the need to do well and accomplish challenging tasks. However, the rationale for the higher saliency of Autonomy for less current English and Engineering faculty is less obvious. Autonomy involves the need to make one's own decisions and chart one's own course of action. Autonomy may reflect less current faculty members' increasing reluctance to continue to "play the academic game," and to engage in those professional activities (e.g., attending workshops, going to the library) that are associated with maintaining professional currency. Autonomy may reflect these faculty members' increasing disengagement and disaffection from their profession.

Longitudinal research suggests that there is some age-related increase in Achievement and Autonomy across adulthood (Stevens & Truss, 1985). The cross-sectional nature of our data does not permit us to determine whether the group differences in needs reflect stable characteristics or reflect changes, that may be reciprocally related to one's career path. On the one hand, achievement and autonomy may represent stable personality characteristics. However, their status as predictor variables may increase in mid-career, as faculty members are increasingly vulnerable to becoming professionally obsolete and the need for activities to maintain professional competence becomes more evident. For example, level of achievement motivation may not change significantly across adulthood; however, a high level of achievement motivation may become increasingly important in mid-career in maintaining professional competence. On the other hand, there may be a reciprocal relationship between certain personality characteristics and professional competence across the faculty member's career. In the case of achievement, recognition or success in career pursuits may maintain or even increase the faculty member's achievement motivation.

In summary, this research suggests three implications for those concerned with faculty development during the next few decades. First, the data indicate that there are wide individual differences in level of professional competency among mid-career faculty members. Decisions need to be made on an individual basis regarding either the offering of retirement incentives or efforts to retain older faculty in academia. Second, those in higher education charged with planning and implementing

faculty development programs will need to take into account the personal needs and motivations of the faculty member, as well as institutional demands and characteristics. Third, institutions will need to give particular attention to those resouces and activities that have been shown to be effective in maintaining professional competence in mid-career. Faculty development activities have traditionally focused on younger members of the faculty. However, as the age-structure of the faculty increases for the next few decades, particular attention must be given to the maintenance of professional competence.

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FIGURE 1

Maintenance of Professional Competence

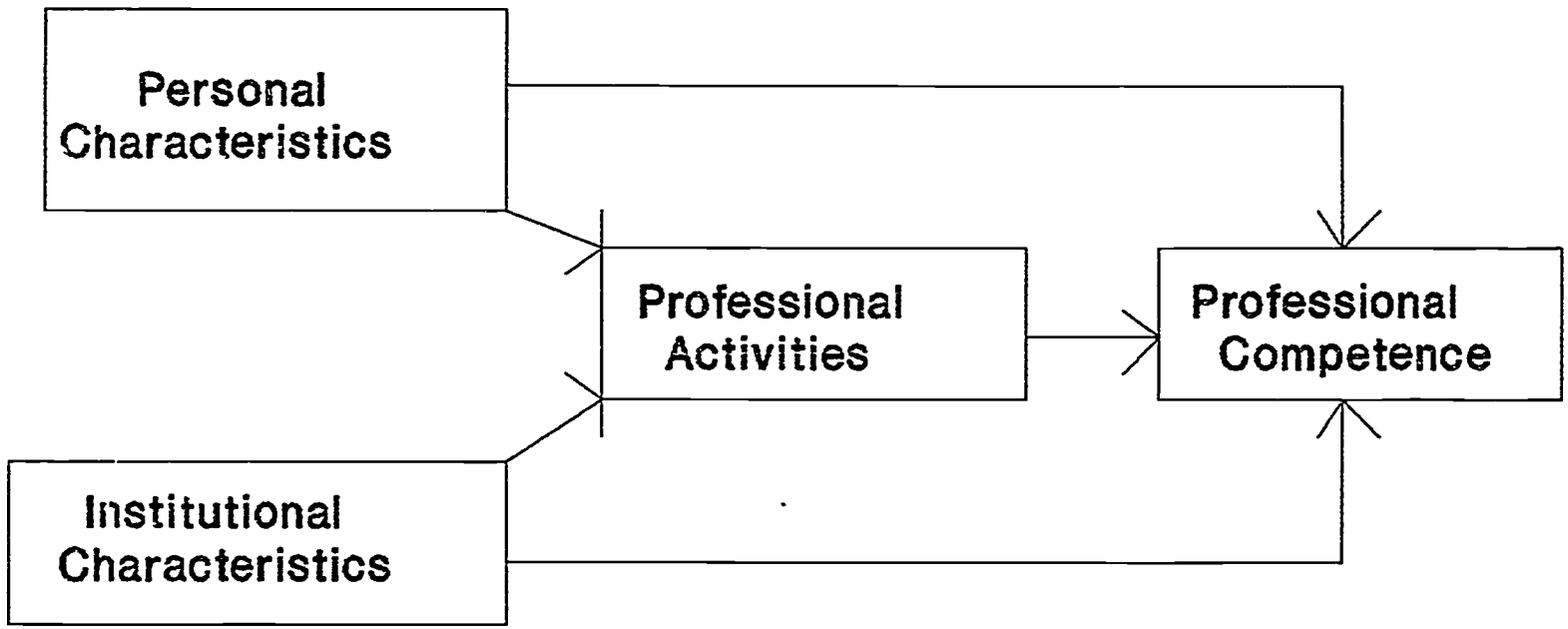


TABLE 1

Discriminant Function Analysis
Current vs. Less Current English Faculty

Variable	F(1,30)	Partial R2	Who Scored Higher?
# Journal Read	13.35***	0.3079	Current
# Regional Membership	7.29*	0.1955	Current
# Publications	6.04*	0.1675	Current
Work Time (hrs/Week)	5.89*	0.1641	Current
# National Membership	4.22*	0.1234	Current
Degree(Highest=Ph.D.)	3.88	0.1146	Less Current
# Regional Conference	3.48	0.1040	Less Current

Average Squared Canonical Correlation = 0.5772

Wilks' Lambda = 0.4228

$F(7,30) = 5.85$; $p < .0002$

Work Roles

TABLE 2

Discriminant Function Analysis
Current vs. Less Current Engineering Faculty

Variable	F(1,30)	Partial R2	Who Scored Higher?
Age	6.59*	0.3200	Less Current

Average Squared Canonical Correlation = 0.3200

Wilks' Lambda = 0.6800

F(1,14) = 6.59; p < .0224

Personal/Work Roles

ERIC

Table 3. Sample Characteristics.

Variable	Discipline			
	English		Engineering	
	Current z≥55 (n=19)	Less Current z≤45 (n=19)	Current z≥55 (n=7)	Less Current z≤45 (n=9)
Personal Characteristics				
Age	47.79	47.16	46.86	56.44
Gender				
% Male	47.4	78.9*	100.0	100.0
% Female	52.6	21.1	0.0	0.0
Yrs Since Terminal Degree	15.21	15.42	11.71	18.56
Tenure				
% Tenured	68.4	68.4	85.7	77.8
% Non-Tenured	26.3	31.6	14.3	11.1
Unknown	5.3	0.0	0.0	11.1
Terminal Degree				
% B.S.	0.0	0.0	14.3	22.2
% M.S.	52.6	26.3	57.1	66.7
% Ph.D.	47.4	73.7	28.6	11.1
Rank				
% Instructor	5.3	0.0	0.0	0.0
% Asst. Prof.	42.1	36.8	14.3	33.3
% Assoc. Prof.	36.8	26.3	85.7	33.3
% Full Prof.	15.8	36.8	0.0	33.3
Work Satisfaction	26.63	22.47T	26.29	27.78
Needs Hierarchy				
Achievement	15.68	14.79	13.71	14.89
Intraception	15.84	13.84T	11.43	11.67
Autonomy	12.11	14.63T	12.14	14.33
Change	12.74	13.58	11.86	13.00
Dominance	13.63	11.84	16.57	13.44
Affiliation	13.26	11.89	12.29	13.33
Endurance	9.63	12.21	12.57	11.00
Nurturance	12.89	11.84	14.57	12.89
Deference	11.63	10.89	11.43	12.00
Abasement	9.95	11.26	12.14	10.67
Exhibition	10.05	9.37	11.14	9.89
Order	8.63	9.58	10.00	11.33
Succorance	9.11	7.26	8.14	7.33
Institutional Characteristics				
Type of Institution				
% Two-Year	68.4	63.2	85.7	100.0
% Four-Year	31.6	36.8	14.3	0.0
# Dept Colleagues	8.47	13.47	11.86	7.22
# Off-Campus Colleagues	4.74	2.63	2.00	4.22
Student-Faculty Ratio	53.89	49.42	42.71	52.89
Professional Activities				
# Journals Read	6.05	3.32**	3.29	2.44
Member-Professional Organ.				
# National	2.21	2.11	2.14	2.11
# Local/Regional	1.79	1.11T	1.57	0.89
Conference Attendance	1.37	1.58	9.00	12.56
Total Work Time (hrs/wk)	63.21	54.31T	48.86	52.89
Research Time	7.58	5.23	4.29	0.44
# Publications	2.00	0.79T	2.43	0.44

T = $p < .10$; * = $p < .05$; ** = $p < .01$.

TABLE 4

Discriminant Function Analysis
Current vs. Less Current English Faculty

Variable	F(1,30)	Partial R2	Who Scored Higher?
Endurance	5.87*	0.1472	Less Current
Autonomy	5.73*	0.1442	Less Current
Achievement	3.86	0.1019	Current

Average Squared Canonical Correlation = 0.2379

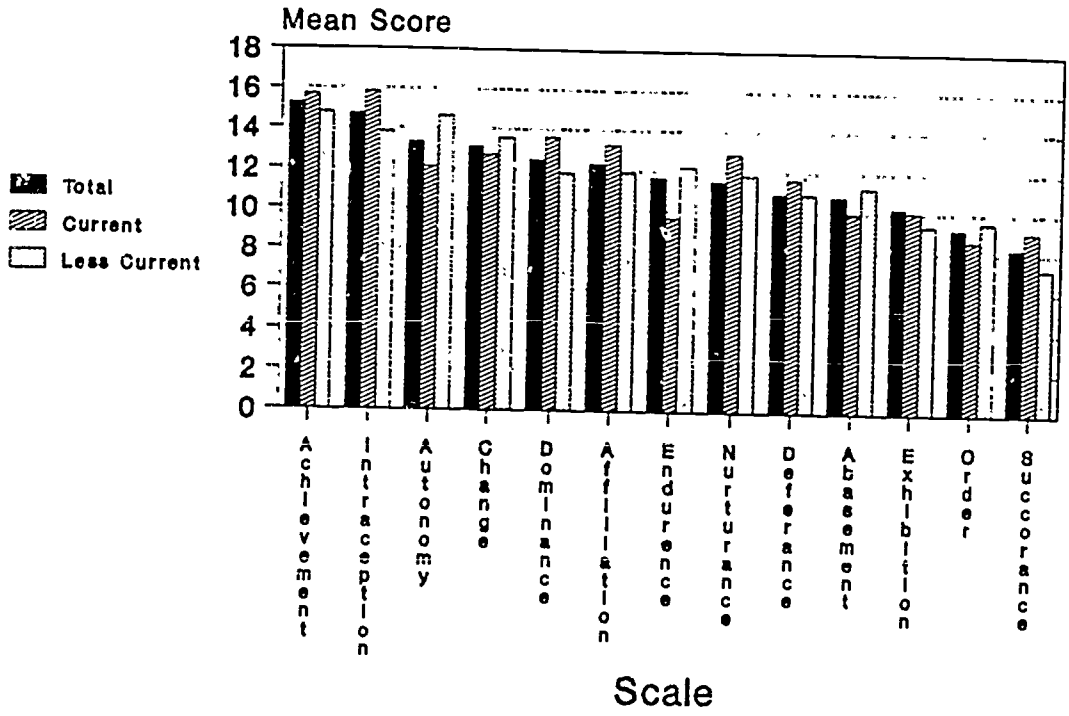
Wilks' Lambda = 0.7621

$F(3,34) = 3.539$; $p < .0248$

Edwards

FIGURE 2

Means of Edwards Personality Scales for Total, Current, & Less Current English



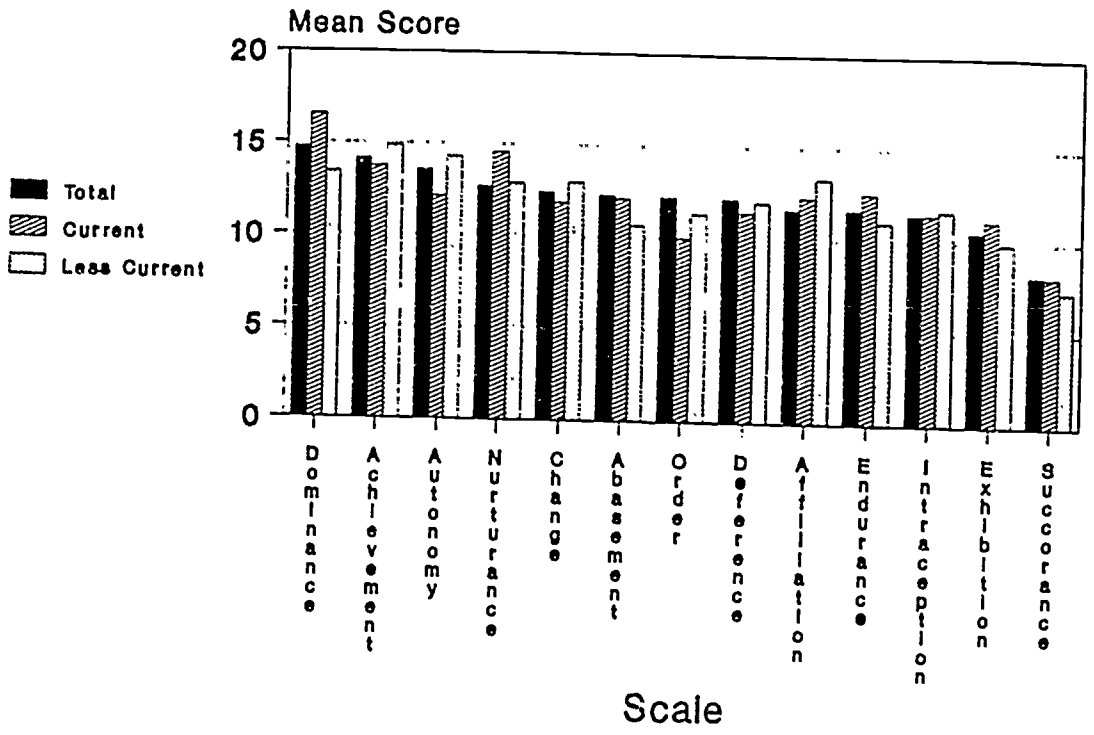
Rankings of Edwards Personality Scales for Current and Less Current English Faculty

Current Sample	Less Current Sample
Intraception	Achievement
Achievement	Autonomy
Dominance	Intraception
Affiliation	Change
Nurturance	Endurance
Change	Affiliation
Autonomy	Dominance (Tie)
Deference	Nurturance (Tie)
Exhibition	Abasement
Abasement	Deference
Endurance	Order
Succorance	Exhibition
Order	Succorance

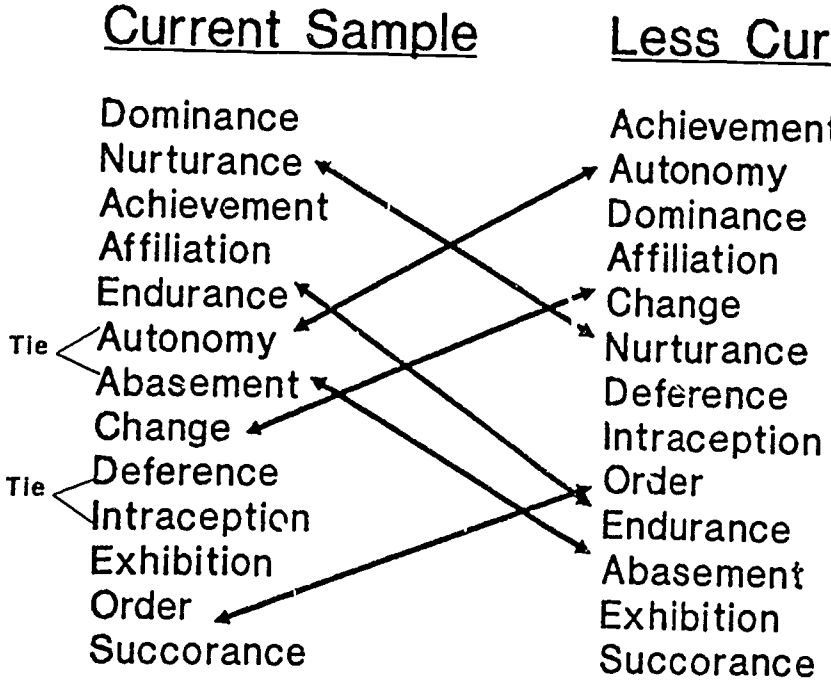
W = 0.8046; Q(12) = 19.31; p < .10

FIGURE 3

Means of Edwards Personality Scales for Total, Current, & Less Current Engineers



Rankings of Edwards Personality Scales for Current and Less Current Engineering Faculty



$W = 0.8077$; $Q(12) = 19.38$; $p < .10$