

National survey data of department chairs in comprehensive colleges and universities demonstrate the high value placed on teaching and institutional service at these institutions, and the relatively unimportant role of research productivity. These findings are consistent with the undergraduate and masters-level professional education for which comprehensives are known. National survey data of full-time, tenure-track faculty salaries in comprehensives, however, indicate that the values reinforced through compensation are research and publishing, not teaching. The article discusses consequences of this contradiction, particularly for administrators who make decisions about faculty pay.

Faculty Rewards:

The Comprehensive College and University Story

Since 1960, change has been the hallmark of the collection of colleges and universities called “comprehensive” by the Carnegie Foundation for the Advancement of Teaching. Although these institutions share a common emphasis on baccalaureate and master’s levels education, their origins and histories are diverse. As both E. A. Dunham (1969) and later R. E. Birnbaum (1983) have described, the enrollment growth in this sector of academe coupled with the diversity of origins has created substantial turmoil in defining missions and in relating faculty rewards to mission. D. E. Finnegan (1992) has found that for comprehensives, the tension between research and teaching missions in particular is directly reflected to the period during which faculty were hired. Faculty hired during more recent times were socialized during graduate training in the research model and find little conflict when institutions seek to enhance research productivity. More conflict is found for faculty who were hired and promoted primarily as teachers.

The typical assessment of faculty rewards, such as the Carnegie Foundation survey of 1989, focuses on promotion and tenure, and on faculty attitudes about the relative importance of teaching, research, and service. Less often studied is the role administrators play in reinforcing internal norms through compensation. Most studies of faculty pay are descriptive, such as the annual reports on faculty salaries prepared by the American Association of University Professors. The focus is on whether or not faculty salaries have kept pace with inflation, differences between disciplines, and evidence of discrimination based on gender and ethnicity.

In contrast, work by H. M. Levin (1991) indicates that pay also acts as an incentive for faculty behavior by making clear the type of activities most valued by an aca-

democratic institution. The few studies, such as those by O. Fulton and M. Trow (1974) and by K. L. Kasten (1984), adopting Levin's perspective have found a consistent positive relationship between faculty pay and research productivity. But the relationship between teaching — a central function at all comprehensives — and pay is ambiguous. Teaching has been found positively related to pay by T. A. Salthouse and co-workers (1978), unrelated to pay by H. P. Tuckman and R. P. Hagemann (1976), and negatively related to pay by H. W. Marsh and K. E. Dillon (1980). None of the previous studies of faculty pay have considered comprehensive colleges and universities directly.

Given the extent of change in many comprehensives, a portrait of the beliefs of administrators about the importance of teaching and research in these institutions is crucial. The consistency between these beliefs and administrative behavior, particularly through compensation, is important to understand the messages conveyed to faculty about acceptable norms for behavior. In this article, I examine the beliefs of a national sample of department chairs in comprehensive and liberal arts colleges to determine the stated norms for faculty behavior. I compare these stated norms with administrative behavior in comprehensive colleges and universities by examining the relationships between faculty behavior and pay.

The Data

Data for this paper were gathered from the 1987-88 National Survey of Postsecondary Faculty (NSOPF). One component of NSOPF surveyed department chairs from all types of disciplines in 424 institutions covering the full range of the Carnegie classification and obtained a 80 percent response rate. Of these, 904 department chairs responded from 109 comprehensive colleges and universities. I used data on department chair beliefs about the relative importance of various faculty activities and productivity in achieving promotion and tenure. I then used NSOPF data reported by 1,649 full-time, tenure-track faculty in 109 comprehensive colleges and universities (76 percent faculty response rate) to study the relationships between pay and faculty behavior.

Beliefs about Faculty Norms

The NSOPF survey asked department chairs to rate the relative importance of 13 factors in granting promotion and tenure, including measures of teaching, research, and service. Table 1 shows the ranking of criteria based on the percentage of department chairs in comprehensive and liberal arts colleges claiming a criterion was "very important" in granting tenure and promotion. The results indicate that teaching behaviors, particularly teaching quality and fit with students, are much more highly valued by department chairs in comprehensive institutions than measures of research productivity. Research quality and quality of publications are rated only sixth and seventh in importance, for example, whereas teaching quality is the highest rated criterion by department chairs. Publishing productivity is rated near the bottom: eleventh out of thirteen criteria.

If compensation follows the stated beliefs of administrators, we should see positive relationships between pay and teaching-related indicators for faculty in comprehensive colleges and universities. Also, administrative or institutional service activities should be positively related to pay. In contrast, measures of research productivity should be only modestly related to pay, if at all.

Table 1***Department Chair Rankings of Criteria for Promotion and Tenure, Comprehensive and Liberal Arts Colleges***

<u>Criteria</u>	<u>Rank</u>
Teaching Quality	1
Highest Degree	2
Fit with Department	3
Institutional Service	4
Fit with Students	5
Research Quality	6
Quality of Publications	7
Affirmative Action	8
Professional Reputation	9.5
Community/Public Service	9.5
Number of Publications	11
Reputation of Individual's Graduate School	12
Ability to Obtain Outside Research Funding	13

Source: Russell, S.H., R.C. Cox, and J.M. Boismier. 1990. *A descriptive report of academic departments in higher education institutions*. Washington, D.C.: U.S. Department of Education.

Faculty Pay***Variables***

In the study of faculty pay, the measure of compensation was *basic salary*. To control for the importance of length of service, discipline, and other types of faculty characteristics, I included *age*, *gender*, *ethnic/racial minority status* (defined as Hispanic, American Indian, Asian/Pacific Islander, or Black), *highest degree awarded* (doctorate or not), *time in current rank* (the number of years since achieving the rank held during fall term, 1987), *number of years in the current institution*, *program area* (including agriculture/home economics, business, education, engineering, fine arts, health sciences, humanities, natural sciences, social sciences, and other fields), and whether or not the institution had a *collective bargaining agreement*. For multivariate analyses, I categorized primary field of study into *high paying field* based on the national average basic salary for faculty. Engineering and health sciences were significantly above average in pay; agriculture/home economics, business, and natural sciences at the average; education, fine arts, humanities, social sciences, and other fields were below the national average.

Data on faculty measures were collected according to the categories of teaching and instruction, research, public service, and institutional governance and operation (i.e., administration). Measures related to faculty teaching included *percent of time spent on teaching and instruction* (including time spent working with student organizations; teaching, advising, and supervising students; and grading papers, preparing courses, and developing new curricula), *hours spent in the classroom per week*, *type of student taught* (undergraduates only, graduate students only, or both undergraduate and graduate students), and *total student contact hours generated* during Fall term, 1987 (the sum across all courses taught of the number of hours per week times the number of students enrolled in the class). The study is

limited in the lack of measures of teaching quality.

Research-related indicators included *percent of time spent on research and scholarship* (including time spent conducting research, preparing or reviewing articles or books, attending or preparing to attend professional conferences, giving performances if in the fine arts, and seeking outside funding), *total refereed publications during the career* (including refereed articles, chapters in edited volumes, textbooks, other books, monographs, and book reviews), and whether or not the respondent was a *principal investigator* on a funded research project during 1987-88. Finally, estimates of the *percent of time spent on administration and the percent of time spent on public or community service* were included.

Prior to proceeding with multivariate analyses, I used a principal components analysis to form scales from two groups of highly correlated indicators. One scale, *seniority*, combined three highly and positively correlated indicators: age, time in rank, and years at current institution (correlations ranging from .65 to .69). The other scale reflected the negative relationship between percent of time spent on research and on teaching (-.62). Labeled *more research/less teaching*, this composite reflected the exchange relationship between teaching and research: the more time a faculty member spends on one activity, the less she or he spends on the other.

Results

I first used cross tabulations to study the relationships between pay and various measures of faculty activity, workload, and productivity, broken into quartiles. All differences between means or proportions described as “significant” are statistically significant at the .05 level (two-tailed test). Next, I regressed basic salary on faculty demographics, length of service, and behavior. I carried out the regression analyses for faculty in all comprehensives (public and private). I also carried out regressions by program area. The latter included arts and humanities, natural science, social science, and professional fields (agriculture, business, education, engineering, health sciences).

Crosstabulations

Faculty in comprehensive colleges and universities who spend the least time on teaching — less than 35 percent of their work week — are paid more than their peers who spend a greater proportion of their time on teaching and instruction. This relationship holds true regardless of source of control (public or private). Hours spent in the classroom also are negatively related to pay, overall and by source of control. Faculty overall and in public comprehensives who generate the least student contact hours (less than 110) are paid the most; the relationship between student contact hours and pay is not significant for faculty in private comprehensives.

In contrast, measures of research activity and productivity are positively related to pay (see Table 2). Faculty in public comprehensives who spend the most time on research — more than 1/3 of their work week — are paid substantially more than their colleagues who spend their time differently; the relationship is not significant at private comprehensives. Number of career publications is positively related to pay in both public and private comprehensives. Obtaining and managing a research grant is positively related to pay in public comprehensives and overall, but not in private institutions.

Spending more time on administrative activities is positively related to pay at both public and private comprehensives (see Table 3). Time spent on public service is not related to pay.

Regression Analyses

Table 4 summarizes the regression results for all faculty in comprehensive colleges and universities and by program area. Only statistically significant relationships (.05 level of significance) are shown. The variance explained ranges from 53 percent to 60 percent by program area; it is 47 percent overall for faculty in comprehensive institutions.

Not surprisingly, for faculty in comprehensives seniority, gender (i.e., male), holding the doctorate, working in a high paying field, and being in an institution with a collective bargaining agreement are positive indicators of pay. Minority faculty also receive slightly higher pay than their non-minority colleagues, although the relationship is very modest. Seniority and holding the doctorate are also positively related to pay in each program area. Being in an institution with collective bargaining is related to higher pay in all fields except the professions; being male is positively related to pay in the professions and in the arts and humanities, but not in the natural or social sciences.

None of the indicators of teaching workload or productivity is related to pay for faculty in comprehensives. The only teaching-related indicator related to pay is teaching only graduate students. By program area, spending more hours in class is positively related to pay in professional fields but not in the others. Generating more student contact hours is negatively related to pay in the natural sciences. Teaching only graduate students is positively related to pay in professional fields, negatively related to pay in the social sciences.

In contrast, spending more time on research and less on teaching, and publishing are positively related to pay for faculty in comprehensive colleges and universities. Spending more time on research and less on teaching is positively related to pay in all fields except the natural sciences; publishing is positively related to pay in all fields except the social sciences. Being a principal investigator is positively related to pay in the natural sciences.

Spending more time on administration is positively related to pay for faculty in comprehensives. This relationship also holds true for faculty in the arts and humanities, and in professional fields. It does not hold true for faculty in the natural or social sciences. Time spent on service is unrelated to pay, overall and by program area.

Discussion

Department chair beliefs about the importance of teaching in promotion and tenure are consistent with the teaching and masters-level professional training for which comprehensive colleges and universities are known. According to the values expressed by department chairs, research quality is at most a modestly important behavior; quantity of publishing is unimportant. Pay, however, contradicts these norms. Research behavior — spending more time on research and less on teaching, publishing — is strongly, positively related to pay. No measure of teaching workload and productivity is related to pay. Consistent with department chair norms, time spent on administration is positively related to pay.

If, as Levin suggests, compensation is a form of incentive which reinforces particular norms, then the message sent to faculty by administrators in comprehensive colleges and universities is clear: spend more time on research and publishing, less on teaching. These implicit norms are similar to those we found in research universities, and contradict most of the values cited by department chairs.

Table 3
*Basic Salary for Comprehensive Colleges and Universities
 by Research-related Variables*

	Mean(\$)		
	<u>All</u>	<u>Public</u>	<u>Private</u>
Percent of Time Spent on Research/Scholarship			
< 5.0%	35,805	36,414	34,052
5.0-15.9%	36,974	38,042	33,757
16.0-33.9%	36,711	38,512	31,458
34.0% or more	40,044	40,657	37,360
Number of Refereed Publications (Career)			
< 2	33,312	34,419	30,233
2-10	35,679	36,515	32,989
11-29	40,466	41,920	35,805
30 or more	47,058	47,940	44,460
Status as Principal Investigator on Research Project			
Not principal investigator	36,273	37,283	33,331
Principal investigator	41,364	42,525	36,288

Source: NSOPF 1988

Table 4
*Basic Salary for Comprehensive Colleges and Universities
 by Administrative- and Service-related Variables*

	Mean(\$)		
	<u>All</u>	<u>Public</u>	<u>Private</u>
Percent of Time Spent on Administration			
< 5.0%	35,137	35,985	31,964
5.0-9.9%	34,154	34,788	32,127
10.0-19.9%	35,522	37,210	30,954
20% or more	42,315	43,558	38,956
Percent of Time Committed to Public Service			
< 5%	36,952	37,932	33,872
5% or more	35,768	37,548	31,634

Source: NSOPF 1988

The lesson is clear. If the norms reflected in faculty pay are the ones which leaders in comprehensive institutions actually wish to follow, namely research and publishing, then the current system is reinforcing the correct values. If the beliefs expressed by department chairs, however, are more indicative of the values held by faculty and staff in the comprehensives, then administrators can benefit from reexamining compensation policies and the values embedded in them.

Table 4*Summary of Significant Predictors of Basic Salary
Comprehensive Colleges and Universities*

Demographics						
	Seniority	Male	Minority Degree-- Doctorate	Highest Paying Field	High	Union
All Comprehensives	+	+	+	+	+	+
Arts/Humanities	+	+		+		+
Natural Science	+			+		+
Social Science	+			+		+
Professional	+	+		+		
Teaching						
	Class Hours/ Week	Student Contact Hours/ Semester	Taught only Undergraduates	Taught only Grad. Students		
All Comprehensives			+			
Arts/Humanities						
Natural Science		-				
Social Science				-		
Professional	+			+		
Research						
	More Research/ Less Teaching	Publications (career)	Principal Investigator			
All Comprehensives	+	+				
Arts/Humanities	+	+				
Natural Science		+	+			
Social Science	+					
Professional	+	+				
Other						
	Percent Time, Administration	Percent Time, Public Service				
All Comprehensives	+					
Arts/Humanities	+					
Natural Science						
Social Science						
Professional	+					
<p>+ = Significant positive relationship with basic salary ($p < .05$). - = Significant negative relationship with basic salary ($p < .05$). Source: NSOPF 1988</p>						

Note: Analyses for this study were supported by OERI, U.S. Department of Education, as part of the National Center on Postsecondary Teaching, Learning and Assessment. The views expressed in this paper are solely those of the author.

Suggested Readings

Birnbaum, R. 1983. *Maintaining diversity in higher education*. San Francisco: Jossey-Bass.

Carnegie Foundation for the Advancement of Teaching. 1989. *The condition of the professoriate: Attitudes and trends, 1989*. Princeton, N.J.: Carnegie Foundation for the Advancement of Teaching.

Dunham, E.A. 1969. *Colleges of the forgotten Americans: A profile of state colleges and regional universities*. New York: Carnegie Commission on Higher Education and McGraw-Hill.

Fairweather, J.S. Forthcoming. "Faculty reward structures: Toward institutional and professional homogeneity." *Research in Higher Education*.

Fairweather, J.S. 1993. *Teaching, research, and faculty rewards*. University Park, Pa.: National Center on Postsecondary Teaching, Learning and Assessment.

Finnegan, D.E. 1992. *Academic career lines: A case study of faculty in two comprehensive universities*. Unpublished Ph.D. dissertation, Penn State University, University Park, Pa.

Fulton, O., and M. Trow. 1974. "Research activity in American higher education." *Sociology of Education* 47:29-73.

Kasten, K.L. 1984. "Tenure and merit pay as rewards for research, teaching, and service at a research university." *Journal of Higher Education* 55:500-14.

Levin, H.M. 1991. "Raising productivity in higher education." *Journal of Higher Education* 62:241-262.

Marsh, H.W., and Dillon, K.E. 1980. "Academic productivity and faculty supplemental income." *Journal of Higher Education* 51:546-55.

Salthouse, T.A., W.J. McKeachie, and Y. Lin. 1978. "An experimental investigation of factors affecting university promotion decisions." *Journal of Higher Education* 49:177-83.

Tuckman, H.P., and R.P. Hagemann. 1976. "An analysis of the reward structure in two disciplines." *Journal of Higher Education* 47:447-64.