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Full Length Research Paper

Job satisfaction characteristics of higher education faculty by race

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The primary goal of this study was to investigate, at a national level, the job satisfaction characteristics of higher education faculty of 5 different races. Data for this quantitative secondary analysis study were taken from the national study of postsecondary faculty (NSOPF) collected in the year 2004. The study used chi-square, one-way-ANOVA, and multiple regression analysis. The faculty's job satisfaction was examined by applying Herzberg's job satisfaction theory. The results of this study indicated some similarities and differences in job satisfaction characteristics of faculty by race. The analyses indicate that where achievement, recognition and responsibility are measured in terms of publications, funded research and number of committees served, Asian/Pacific Islander faculty members performed better than other races in this study. These factors significantly contribute to faculty's intrinsic job satisfaction. It also appears from the analysis that the majority of faculty of all races was deriving satisfaction from extrinsic factors measured in terms of institutional policies, work climate and benefits.

Key Words: Job satisfaction, higher education faculty, race, national study of postsecondary faculty.

INTRODUCTION

In the current context of increasing demographic student diversity in campuses, institutions of higher education face the challenge of improving the status of minority faculty across different academic disciplines. A diverse group of faculty in higher education will bring in different ideas and experiences which, in turn, will enhance the ability of universities to meet the challenges of the 21st century. Moreover, faculty diversity leads to significant educational and social benefits for all college students. As such, there is a need to recruit and retain minority faculty. It is crucial to investigate, particularly for those institutions seeking to diversify their faculty, what factors contribute to minority faculty job satisfaction which in turn increases their retention. The purpose of this study was to reveal, at a national level, factors influencing the job satisfaction of postsecondary faculty in US colleges and universities for 5 different races.

Theoretical framework

Job satisfaction can be defined as the positive emotional feeling resulting from attaining what one wants or values from a job (Olsen, 1993). Although job satisfaction is a major factor for faculty's productivity and retention, there are a several different theoretical models to explain, predict, or understand it. Furthermore, job satisfaction is measured subjectively, depending on an individual's personal preferences and values (Hagedorn, 2000). Job satisfaction influences many factors in an individual's job performance, including work commitment, motivation, productivity, stress level and turnover. Moreover, some research suggests that the early years of an individual's career are very important in determining an individual's overall job satisfaction throughout his or her career, as those early years are formative in terms of socialization into the culture of an institution (Olsen, 1993). Also, levels of job satisfaction differ between men and women (August and Waltman, 2004).

The analysis of this present research is based on the Herzberg's Motivation versus hygiene theory. Herzberg's original study of job satisfaction included interviews of engineers and accountants to provide information about job attitudes. According to his theory, there are some factors labeled as motivators which work to increase job satisfaction. Also, there are other factors labeled as hygienes which work to decrease dissatisfaction (Herzberg et al., 1993; Hagedorn, 2000). The motivators take account of job content issues, such as achievement, recognition, the work itself, responsibility, growth and opportunity for advancement. The hygienes are job environmental issues,

such as company policies, relations with supervisor, peer relations and working conditions (Blevins, 2002; Herzberg et al., 1993). The motivators are essential for improving the performance of workers. Herzberg uses the term "hygienes" as dissatisfiers in the sense that they are considered maintenance factors that are necessary to avoid dissatisfaction, analogous to the concept of preventive medicine. Hygiene factors do not provide satisfaction (Herzberg et al., 1993; Ilacqua et al., 2001). Herzberg et al. (1993) classify the causes of job satisfaction as intrinsic factors and causes of dissatisfaction as extrinsic factors. Extrinsic factors less immediately affect the daily job, but they are always in the background. When these factors deteriorate to a certain level they serve to foster poor job attitudes which in turn cause job dissatisfaction. This theory suggests that a faculty member may experience both job satisfaction and job dissatisfaction at the same time. For example, a faculty member could be very happy with his or her professional work but may be extremely unhappy with the work environment (Ilacqua et al., 2001) "Hertzberg believed that the causes of satisfaction and dissatisfaction were distinct and hence the theory has been labeled the two-factor theory of job satisfaction" (Hagedorn, 2000).

Herzberg also ultimately found salary to be influential in either increasing job satisfaction or decreasing job dissatisfaction (Hagedorn, 2000). When money earned is considered a direct reward for individual performance it becomes a reinforcement of the motivators of recognition and achievement (Herzberg et al., 1993). Since the cost of living is a significant issue and academic institutions are facing financial challenges, salary has become a major issue for job satisfaction (Olsen, 1993). Disparity in salary between peers may affect a faculty member's job satisfaction (Daly and Dee, 2006; Hagedorn, 2000). Hagedorn (1996) argued that salary serves as a substitute for importance, indispensability, achievement and future potential.

Sample

This study utilized secondary data from the national study of postsecondary faculty (NSOPF) conducted by the national center of education statistics and sponsored by the U.S department of education in 2004 and included only full or part time instructional faculty. The institutional sample was stratified by source of control (public or independent) and type of institution based on the Carnegie foundation's classification system. In the Carnegie classification institutions range from research universities, doctorral-granting universities, comprehensive colleges and universities, liberal arts colleges, other 4 year institutions and 2 year colleges (U.S. department of education, 1997).

Faculty members were grouped into 5 strata based on their demographic characteristics:

i) Hispanic white or Hispanic black
ii) African-American
iii) Asian or Pacific Islander
iv) American Indian/Alaska Naïve
v) White non-Hispanic (U.S. Department of Education, 2006).

Research question and methodology

The following research question was addresses in this study: What are the characteristics of faculty members' job satisfaction and to what extend do they differ across different races? The quantitative analysis procedures used in this study are descriptive statistics including chi-square, one-way ANOVA and regression analysis. In this study, the chi-square statistical test examines the categorical data and one-way ANOVA involves the analysis of one independent variable with two or more levels. One-way ANOVA compares the means of three or more unmatched groups. The regression analysis in this study provides a more flexible and precise prediction of the affects of various independent variables on overall job satisfaction.

The NSOPF used a 2 stage stratified random sample design. In the first stage of the data collection, the postsecondary institutions offering at least 2 year degrees or higher were taken from the integrated postsecondary education data system (IPEDS). The IPEDS is a data system that collects data from all postsecondary institutions and is maintained by the national center for education statistics. In the first stage, institutions drawn from IPEDS included all public, private and non-profit secondary institutions that are located in the United States. The institutional sample was stratified by source of control (public or independent) and type of institution based on the Carnegie foundation's classification system (U.S. department of education, 2006). In the second stage of sampling, faculty and staff were selected from the institutions sampled in stage 1. Also, within each institution and stratum, faculty members were sorted by race and their academic discipline. The purpose of this stratification was to allow for the over sampling of relatively small subpopulations, such as minority group faculty members. Consequently, any calculation based on the raw unweighted sample is biased in favor of the populations that were over sampled within particular strata (Thomas and Heck, 2001). However, this difficulty can be avoided with a simple correction to the raw weight. The analytic strategy to preserve the effective sample size, while still adjusting for over-sampling, is to create relative weights by dividing raw weight by its mean. Therefore:

Relative weight = faculty weight / mean of faculty weight

All analyses in this study were based on this relative weight. The use of relative weight in this study compensated for unequal probabilities of selection and also adjusted for the effects of non-responses. The weighted sample in this study was 25, 320 and it consisted of 351 American Indian/Alaska native, 1690 Asian/Pacific Islander, 1500 African-American, 869 Hispanic and 20,910 White. The % of American Indian/Alaska Native was 1.4%, Asian/Pacific Islander was 6.7%, African-American was 5.9%, Hispanic was 3.4% and white was 82.6%.

Variables selected for this study

The intrinsic job satisfaction variables examined in this study were: number of publications in referred journals (achievement), any funded research (recognition), satisfaction with workload, satisfaction with the job overall and satisfaction with autonomy to make decisions (work itself), tenure and rank (advancement), number of committees served (responsibility) and satisfaction with salary (re

Table 1. Summary of the basic salary, research and service characteristics of higher education faculty by race.

	American Indian/Alaska native		Asian/ Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic		F
	n = 351		n = 1690		n = 1500		n = 869		n = 20910		
	M	SD	M	SD	M	SD	M	SD	M	SD	
Basic salary($)	33932	33975	58098	41755	38012	35126	40247	37594	41762	40773	74.22***
Recent articles In referred journals	1.01	2.44	3.10	5.12	0.87	2.34	1.13	2.71	1.33	3.19	128.00***
Hours/week thesis or dissertation committees	0.75	2.52	1.09	2.54	0.93	2.60	0.73	2.22	0.57	1.68	42.02***
Hours/week Administrative committees	2.64	4.77	2.33	4.19	2.28	4.49	2.13	4.30	2.47	4.87	1.98

Note. *p < 0.05, **p < 0.01, ***p < 0.001.
F = determines probability or significance level, p = significance, n = sample size, M = mean, SD = standard deviation.

Table 2. Engagement of funded scholarly activities of higher education faculty by race.

Engaged In funded research	American Indian/Alaska native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
No	301	86.0	1092	64.6	1256	83.7	704	81.0	17003	81.3
Yes	49	14.0	598	35.4	244	16.3	165	19.0	3906	18.7
Total		100		100		100		100		100
χ^2					296.17***					

Note. *p < 0.05, **p < 0.01, ***p < 0.001.
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

ward). The extrinsic job satisfaction variables examined were: opinion about teaching as promotion criteria (policy), opinion about choosing academic careers again (work climate or conditions), and satisfaction with benefits.

Data analysis

The intrinsic job satisfaction variable achievement was determined in this study by analyzing the total number of publications in refereed journals faculty of different races produced within 2 years. The statistical analysis indicates that there were differences among faculty of different races with respect to their mean values for publiccations in refereed journals, F = 128.00 and p = 0.000. The data revealed that Asian/Pacific Islander faculty published the most (3.10) and African-American faculty published the least (0.87) compared to faculty of other races (Table 1). The mean number of journal articles for the American Indian/Alaska native, the Hispanic and the white faculty in this survey were: 1.01, 1.13 and 1.33, respectively.

Recognition of faculty was examined in terms of the variable engagement in funded research. Higher education faculty of different races differed significantly in engagement in funded research, χ^2 = 296.17 and p = 0.00 (Table 2). The analysis indicates that a comparatively higher % of the Asian/Pacific Islander (35.4%) faculty members were engaged in funded research than the other races. The % of other races in this category was: 14% for American Indian/Alaska native, the 16.3% for African-American, 19% for the Hispanic and 18.7% for white faculty.

The intrinsic motivation that faculty may derive from their work was also examined in terms of the variables: satisfaction with autonomy to make decisions, satisfaction with workload and satisfaction with the job overall.

The autonomy of higher education faculty was tested by analyzing the satisfaction of faculty with their authority to make decisions about the content and methods of the courses they taught. Faculty expressed their satisfaction with autonomy to make decisions by responding “very satisfied”, “somewhat satisfied”, “somewhat dissatisfied” and “very dissatisfied”. Again, higher education faculty of different races differed significantly in terms of their satisfaction with autonomy, χ^2 = 256.24 and p = 0.00 (Table 3). The analysis reveals that a large number of faculty members of all races were very satisfied with their autonomy.

Table 3. Satisfaction to make decision of higher education faculty by race.

Satisfaction with authority to make decisions	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Very dissatisfied	2	0.6	30	1.8	22	1.5	19	2.2	195	0.9
Somewhat dissatisfied	16	4.6	92	5.5	61	4.1	29	3.3	634	3.0
Somewhat satisfied	59	16.9	511	30.3	356	23.8	220	25.4	3851	18.5
Very satisfied	273	78.0	1052	62.4	1054	70.6	598	69.1	16154	77.5
Total		100		100		100		100		100.0
χ^2						256.24***				

Note. *p < 0.05, **p < 0.01, ***p < 0.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

Table 4. Satisfaction with workload of higher education faculty by race.

Satisfaction with workload	American Indian/Alaska native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic WHITE or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Very dissatisfied	143	40.7	486	28.8	614	40.9	368	42.3	9117	43.6
Somewhat dissatisfied	124	35.3	815	48.2	609	40.6	308	35.4	7748	37.1
Somewhat satisfied	65	18.5	291	17.2	189	12.6	123	14.2	2940	14.1
Very satisfied	19	5.4	98	5.8	88	5.9	70	8.1	1104	5.3
Total		100		100		100		100		100
χ^2						169.79***				

Note. *p < 0.05, **p < 0.01, ***p < 0.001.
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

The proportion was very high for American Indian/Alaska native and the white faculty (78%) and comparatively low for Asian/Pacific Islander (62%). The % of African-American and Hispanic faculty in this category was about 70%. In contrast, a larger proportion of the Asian/Pacific Islander faculty (30%) and a smaller proportion of the American Indian/Alaska native faculty (17%) were "somewhat" satisfied with their autonomy in this survey. The data indicate that faculty of different races differ significantly with regard to their satisfaction with workload, χ^2 = 169.79 and p = 0.00 (Table 4). In terms of workload, a very low % of faculty from all races were "very satisfied" with their workload. Among all races, the proportion of the Hispanic faculty was slightly higher than the faculty of other races (8%). The proportion of other races in this category was about 5 to 6%. Also, the proportion of faculty in the category of "somewhat satisfied" was not very high (less than 20%).

The analysis indicates that there were statistically significant differences among faculty of different races with regard to their satisfaction with job overall, χ^2 = 221.21 and p = 0.00 (Table 5). The data indicates that about 50% of the American Indian/Alaska native and the white faculty, 44% of the African-American, 47% of the Hispanic and 32% of the Asian/Pacific Islander faculty were "very satisfied" with their job overall. It appears from the analysis that the proportion in this category was the lowest for the Asian/Pacific Islander faculty. However, in the category of "somewhat satisfied" their proportion was the highest (52%) and the proportion for the other races was about 40%. Overall, a majority of faculty of all the races (above 80%) in the 2004 survey reported that they were "very satis-fied" or "somewhat satisfied" with their job overall in higher education institutions.

Faculty members' advancement in academia was investigated by examining the variables of tenure and rank. This study reveals that about 30% of the Asian/Pacific Islander and the white faculty were tenured in 2004 survey (32.2 and 28.3%). Slightly over 20% of faculty members of other races were tenured in this study. The analysis also indicates that comparatively higher % of the Asian/Pacific Islander (22.1%) and the Hispanic faculty (17.3%) was on tenure track in 2004. The % of the American Indian/Alaska native, the African-American and the white faculty who were on tenure track positions were 10.8, 15.7 and 11.2%, respectively.

The statistical analysis also indicates that slightly more than 50% of the American Indian/Alaska native, the African-American, the Hispanic and the white faculty members in postsecondary institutions were not in tenure track positions. The % of the Asian/Pacific Islander faculty who were not in tenure track position was about 40%. Also, a comparatively higher proportion of the American Indian/Alaska native (14.0%) and a lower proportion of the Asian/Pacific Islander (5.4%) faculty were employed in institutions which did not offer any tenure system for their faculty. The % of the African-American and the Hispanic faculty in this category was about 8 - 9%. The data indicate that there were statistically significant differences between races with respect to their tenure status, χ^2 = 288.85, p = 0.000 (Table 6).

Table 5. Satisfaction with job overall of higher education faculty by race.

Satisfaction with job overall	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Very dissatisfied	5	1.4	48	2.8	34	2.3	26	3.0	436	2.1
Somewhat dissatisfied	31	8.9	227	13.4	157	10.5	77	8.9	1669	8.0
Somewhat satisfied	137	39.1	871	51.5	650	43.3	359	41.3	8453	40.4
Very satisfied	177	50.6	545	32.2	659	43.9	407	46.8	10351	49.5
Total		100		100		100		100		100
χ^2					221.21***					

Note. *p < 0.05, **p < 0.01, ***p < 0.001.
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

Table 6. Summary of tenure status of postsecondary faculty by race.

Tenure status	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Tenured	76	21.7	545	32.2	361	24.1	207	23.8	5927	28.3
Tenure track	38	10.8	374	22.1	235	15.7	150	17.3	2342	11.2
Not on tenure track	188	53.6	680	40.2	781	52.0	439	50.5	10736	51.3
No tenure system	49	14.0	91	5.4	124	8.3	73	8.4	1905	9.1
Total		100		100		100		100		100
χ^2					288.85***					

Note. *p < 0.05, **p < 0.01, ***p < 0.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

Table 7. Summary of rank distribution of postsecondary faculty by race.

Academic rank	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Professor	55	15.7	303	17.9	195	13.0	109	12.6	3904	18.7
Associate professor	43	12.3	339	20.0	195	13.0	99	11.4	2751	13.2
Assistant professor	39	11.1	468	27.7	256	17.1	145	16.7	2790	13.3
Instructor or lecturer	109	31.1	327	19.3	457	30.5	290	33.4	5894	28.2
Other	104	29.7	254	15.0	397	26.5	225	25.9	5571	26.6
Total		100		100		100		100		100
χ^2					475.61***					

Note. *p<.05, **p<.01, ***p<.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.
Please note the category other means having other titles (e.g., Administrative, Adjunct, Emeritus, other).

The academic rank of higher education faculty members was examined to determine differences in the distribution of these ranks among different races. There were statistically significant differences among races of postsecondary faculty in terms of their academic rank, χ^2 = 475.61, p = 0.000 (Table 7). The data indicate that there were more white faculty members with the rank of full professor (18.7%). The % of the Asian/Pacific Islander and the American Indian/Alaska native with the rank of full professor was 17.9 and 15.7%, respectively. Also, the % of the African-American and the Hispanic faculty in this category was about 13.0%. For the rank of associate professor, the % of the Asian/Pacific Islander faculty was 20.0% and the % of the other races was slightly over 10%. There was also a higher proportion of the Asian/Pacific Islander faculty (27.7%) and a lower proportion of the American Indian/Alaska

Table 8. Satisfaction with salary of higher education faculty by race.

Satisfaction with salary	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic white or Hispanic black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Very dissatisfied	59	16.8	267	15.8	240	16.0	115	13.2	2733	13.1
Somewhat dissatisfied	76	21.7	496	29.3	348	23.2	184	21.2	4632	22.2
Somewhat satisfied	142	40.5	694	41.1	604	40.3	376	43.3	8567	41.0
Very satisfied	74	21.1	233	13.8	308	20.5	194	22.3	4978	23.8
Total		100		100		100		100		100
χ^2						130.82***				

Note. *p<.05, **p<.01, ***p<.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

with the rank of assistant professor. The % of the African-American and the Hispanic faculty in this category was about 17% while the % of white faculty was 13.3%. In contrast, there were fewer Asian/ Pacific Islander faculty (19.3%) compared to the other races (about 30%) holding instructor or lecturer positions.

Faculty's responsibility in academia was tested against the variable number of committees served. In this survey, there are 2 variables to reveal the faculty members' service in committees, hours per week the faculty spent on thesis/dissertation committees and hours per week the faculty spent on administrative committees. The statistical analysis indicates that there were significant differences among faculty of the various races in terms of their hours per week spent on thesis/dissertation committees, F = 42.02, p = 0.000 (Table 1). The Asian/Pacific Islander faculty and the African-American faculty spent about an hour per week for thesis/dissertation committees (1.09 and 0.93). The other races spent less than an hour in these committees (0.75 for the American Indian/Alaska native, 0.73 for the Hispanic and 0.57 for the white). The data indicate that there were no significant differences among faculty of various races on mean values of hours spent per week on administrative committees, F = 1.98, p = 0.094. Faculty of all races in this study spent over 2 h per week on administrative committees (Table 1).

In this study, salary is considered an intrinsic variable since it is a direct measure of recognition and achievement. The average basic annual salary was tested with respect to the gross compensation they received from institutions where they were currently employed. There were statistically significant differences in the gross salary of faculty by their races, F = 74.22, p = 0.000. The average basic salary of the Asian/Pacific Islander was highest ($58,098) and the average basic salary of the American Indian/Alaska native was the lowest ($33,932) among the other races in this study. The average basic salary of the white, African-American and the Hispanic faculty was 41,762, 38,012 and $40,247, respectively (Table 1). Faculty's job satisfaction with respect to salary was also tested. The data indicate that faculty of different races differ significantly with regard to their satisfaction with salary, χ^2 = 130.82, p = 0.00 (Table 8). The analysis indicates that slightly over 20% of faculty members of all races except the Asian/Pacific Islander (14%) were "very satisfied" with their salary in this 2004 survey. Also, a slightly over 40% of faculty of all the races were "somewhat satisfied" with their salary.

This study also examined extrinsic job satisfaction variables which are opinion about whether their institution valued teaching as promotion criteria (policy), opinion about choosing academic career again (work climate or conditions) and satisfaction with benefits.

Teaching as a reward structure was tested using a faculty member's agreement with statements as "disagree strongly", "disagree somewhat", "agree somewhat" and "agree strongly". The analysis indicates that there were significant differences in the distributions of faculty of different races in terms of their opinion that teaching was used as promotion criteria in their institutions, χ^2 = 74.94, p = 0.00 (Table 9). About one-fourth of the Asian/Pacific Islander and about one-third of the other races "strongly agreed" that teaching is used as promotion criteria. The data also revealed that about 40% to 43% of the African-American, the American Indian/Alaska native and the Hispanic faculty "somewhat" believed that teaching is rewarded as promotion criteria in their institutions. The % of the Asian /Pacific Islander and the white faculty were slightly higher in this category (48 and 46%).

The institutional climate for faculty in higher education institutions was examined in terms of whether they would choose an academic career again. The analysis indicates that there were no significant differences among races in choosing academic careers again, χ^2 = 5.45, p = 0.24 (Table 10). The survey indicates that about 90% of faculty of all races in this study agreed to choose an academic career again as their career choices.

The analysis of job satisfaction characteristics with regard to benefits indicates that there were statistically significant differences among faculty of different races, χ^2 = 116.54, p = 0.00 (Table 11). About 23% of the American Indian/Alaska native and the Asian/Pacific Islander faculty and about 30% of the other races responded that they were "very satisfied" with their benefits. In the category of "somewhat satisfied", these % were: 31% for the American Indian/ Alaska native, 45% for the Asian/Pacific Islander, and about 30% for the other races. It appears from this analysis that the majority of faculty members were "very satisfied" or "somewhat satisfied" with their benefits. However, the % was lowest for the American Indian/ Alaska native faculty.

At the conclusion of this study, the NSOPF data were statistically treated to regression analysis. Tables 12 through 16 display the information for the multiple regression analysis of the dependent variable "satisfaction with the job overall". This analysis determines the influence of all other variables used in this study on faculty's overall job satisfaction. In addition, this study also includes the independent variables: highest degree earned, gender, years faculty held the current job and type of institutions where subjects were employed, to find out whether these variables have any impact on faculty's overall job satisfaction.

As shown in Tables 12 through 16, the independent variables

Table 9. Opinion about teaching as promotion criteria by race.

Teaching is Rewarded as promotion criteria	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic White or Hispanic Black		White non -Hispanic	
	N	%	N	%	N	%	N	%	N	%
Strongly agree	122	34.9	440	26.0	525	35.0	314	36.1	6768	32.4
Somewhat agree	150	42.9	806	47.7	601	40.1	369	42.5	9533	45.6
Somewhat disagree	48	13.7	304	18.0	247	16.5	116	13.3	3298	15.8
Strongly disagree	30	8.6	140	8.3	126	8.4	70	8.1	1310	6.3
Total		100		100		100		100		100
χ^2						74.94***				

Note. *p < 0.05, **p < 0.01, ***p < 0.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

Table 10. Opinion about choosing academic career again by race.

Choosing an academic career again	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic White or Hispanic Black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Disagree	35	10.0	160	9.5	164	10.9	87	10.0	1928	9.2
Agree	316	90.0	1530	90.5	1336	89.1	782	90.0	18981	90.8
Total		100		100		100		100		100
χ^2						5.4				

Note. *p < 0.05, **p < 0.01, ***p < 0.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

Table 11. Satisfaction with benefits of higher education faculty by race.

Satisfaction with benefit	American Indian/Alaska Native		Asian/Pacific Islander		Black/African American non-Hispanic		Hispanic White or Hispanic Black		White non-Hispanic	
	N	%	N	%	N	%	N	%	N	%
Very dissatisfied	84	23.9	187	11.1	230	15.3	121	13.9	2873	13.7
Somewhat dissatisfied	80	22.8	358	21.2	231	15.4	154	17.7	3843	18.4
Somewhat satisfied	107	30.5	762	45.1	615	41.0	341	39.2	7970	38.1
Very satisfied	80	22.8	383	22.7	424	28.3	254	29.2	6224	29.8
Total		100		100		100		100		100
χ^2						116.54***				

Note. *p < 0.05, **p < 0.01, ***p < 0.001
p = significance level, N = sample size, % = percentage, χ^2 = Pearson Chi-square.

"satisfaction with workload", "teaching is rewarded in their institutions", "satisfaction with authority to make decision", "satisfaction with salary", "satisfaction with benefits" and "opinion about they choose academic career again", are the most influential variables on "overall job satisfaction" of faculty of all races in this study (p = 0.00). Also, individuals' "rank", "tenure status", "highest degree earned", "gender", "years held current job" and "type of institution" in where they were employed, have significant impact on their "overall job satisfaction" (less than the probability level of 0.05). Interestingly, the achievement variable "recent articles in refereed journals" and recognition variable "funded research" have no significant effect on "overall job satisfaction". Moreover, the numbers of committees served which determines responsibility also have no significant effect on overall job satisfaction for faculty of all races. Race has a significant effect on overall job satisfaction for faculty of all races except for Hispanic faculty (p = 0.00 for white and Asian/ Pacific Islander, p = 0.02 for the African American, p = 0.01 for American Indian/ Alaska native and p = 0.58 for Hispanic).

Limitations of the study

Although the national study of postsecondary (NSOPF) provides high quality data about higher education faculty, this study has limi-

Table 12. Multiple regression analysis of overall job satisfaction (white and other).

Variables in Equation	B	Std. Error	Beta	t	Sig. (p)
Constant	1.47	0.03		45.24	0.00
Rank	-0.01	0.00	-0.02	-2.24	0.03
Tenure	-0.01	0.01	-0.02	-2.36	0.02
Highest degree	-0.02	0.01	-0.02	-3.17	0.00
Recent articles, refereed journals	0.00	0.00	0.01	1.73	0.08
Funded scholarly activity	0.00	0.01	0.00	0.27	0.79
Satisfaction with autonomy to make decisions	0.25	0.01	0.20	40.65	0.00
Satisfaction with workload	-0.21	0.00	-0.26	-47.80	0.00
Satisfaction with salary	0.14	0.00	0.19	33.21	0.00
Satisfaction with benefits	0.09	0.00	0.13	24.10	0.00
Gender	-0.03	0.01	-0.02	-3.87	0.00
Years held current job	0.00	0.00	-0.02	-3.11	0.00
Institutional strata	-0.01	0.00	-0.03	-5.72	0.00
Hours per week, thesis/ dissertation committees	0.00	0.00	0.00	0.22	0.82
Hours per week, administrative committees	0.00	0.00	0.01	1.85	0.06
Opinion about choosing an academic career again	-0.18	0.01	-0.07	-15.53	0.00
Opinion about teaching is rewarded	0.20	0.00	0.23	44.66	0.00
White and other	-0.04	0.01	-0.02	-4.09	0.00

Note. *p < 0.05, **p < 0.01, ***p < 0.001, n = 25,228 (sample size), R^2 = 0.48, R^2 = 0.48

tations. The number of survey questions about issues regarding faculty job satisfaction is limited. Therefore, the selection of variables for analysis is restricted by the available information from the surveys. Also, the NSOPF data from the faculty questionnaire is self-reported. Faculty responded to the survey in the spring semester, but the survey asked questions about the previous fall semester. There may be some measurement errors because the survey required respondents to recall information and accurately answer questions on a rate-based measurement (Porter, 2007). Furthermore, this study included all types of institutions as classified by Carnegie, and this might influence some of the findings.

Discussion and Conclusion

The analyses indicate that a higher proportion of the Asian/Pacific Islander faculty had achievement, recognition and responsibility measured in terms of their publications, funded research and number of committees served compared to other races in this study. According to this NSOPF:04 data a significantly higher proportion (70%) of the Asian/Pacific Islander faculty were engaged in research activities compared to about 50% of the other races in this study. Asian/Pacific Islander faculty also held a higher % of doctoral or first professional degrees. Moreover, there was a higher proportion of Asian/Pacific Islander faculty in the disciplines of natural sciences, engineering and the health sciences. These disciplines have higher expectations for publications. This study also reveals that a substantially higher proportion of the Asian/Pacific Islander faculty were employed in research or doctoral granting institutions and that Asian/Pacific Islander faculty spent more time in dissertation or thesis committees than did other races. However, the multiple regression analyses indicate that publications, funded research and committees served have no statistically significant effect on overall job satisfaction of faculty of any race. In terms of autonomy, above 90% faculty of all races were “very satisfied” or “somewhat satisfied” with their autonomy in their institutions. There was a statistically significant positive relationship between overall job satisfaction and autonomy.

The variables “tenure” and “rank” were examined to test faculty members’ advancement in academia. This study reveals that more of the Asian/Pacific Islander and the white faculty were tenured in the 2004 survey. The tenure process and tenure status are most likely important factors for job satisfaction and retention of minority faculty. The data indicate that there were more white faculty with the rank of full professor. Also, the % of the African-American and the Hispanic faculty in this category was lowest. For the rank of associate professor, the percentage of the Asian/Pacific Islander faculty was 20% and the percentage of the other races was slightly over 10%. There was also a higher proportion of the Asian/Pacific Islander faculty and a lower proportion of the American

Table 13. Multiple regression analysis of overall job satisfaction (Asian/Pacific Islander and other).

Variables in Equation	B	Std. Error	Beta	t	Sig. (p)
Constant	1.43	0.03		45.17	0.00
Rank	-0.01	0.00	-0.02	-2.21	0.03
Tenure	-0.01	0.01	-0.02	-2.42	0.02
Highest degree	-0.02	0.01	-0.02	-3.04	0.00
Recent articles, refereed journals	0.00	0.00	0.01	1.49	0.14
Funded scholarly activity	0.00	0.01	0.00	0.21	0.83
Satisfaction with autonomy to make decisions	0.25	0.01	0.20	40.62	0.00
Satisfaction with workload	-0.21	0.00	-0.26	-47.79	0.00
Satisfaction with salary	0.14	0.00	0.19	33.21	0.00
Satisfaction with benefits	0.09	0.00	0.13	24.08	0.00
Gender	-0.03	0.01	-0.02	-3.75	0.00
Years held current job	0.00	0.00	-0.02	-3.18	0.00
Institutional strata	-0.01	0.00	-0.03	-5.45	0.00
Hours per week, thesis/ dissertation committees	0.00	0.00	0.00	0.36	0.72
Hours per week, administrative committees	0.00	0.00	0.01	1.91	0.06
Opinion about choosing an academic career again	-0.18	0.01	-0.07	-15.58	0.00
Opinion about teaching is rewarded	0.20	0.00	0.23	44.66	0.00
Asian/Pacific Islander and other	0.06	0.01	0.02	4.74	0.00

Note. *p < 0.05, **p < 0.01, ***p < 0.001, n = 25,228 (sample size), $R^2 = 0.48$

Table 14. Multiple regression analysis of overall job satisfaction (African American and other).

Variables in Equation	B	Std. Error	Beta	t	Sig. (p)
Constant	1.44	0.03		45.42	0.00
Rank	-0.01	0.00	-0.02	-2.25	0.02
Tenure	-0.01	0.01	-0.02	-2.42	0.02
Highest degree	-0.02	0.01	-0.02	-3.25	0.00
Recent articles, refereed journals	0.00	0.00	0.01	1.89	0.06
Funded scholarly activity	0.00	0.01	0.00	0.37	0.71
Satisfaction with autonomy to make decisions	0.25	0.01	0.20	40.97	0.00
Satisfaction with workload	-0.21	0.00	-0.26	-47.84	0.00
Satisfaction with salary	0.14	0.00	0.19	33.27	0.00
Satisfaction with benefits	0.09	0.00	0.13	24.11	0.00
Gender	-0.03	0.01	-0.02	-3.93	0.00
Years held current job	0.00	0.00	-0.02	-3.38	0.00
Institutional strata	-0.01	0.00	-0.03	-5.77	0.00
Hours per week, thesis/ dissertation committees	0.00	0.00	0.00	0.35	0.73
Hours per week, administrative committees	0.00	0.00	0.01	1.75	0.08

Table 14. continues

Opinion about choosing an academic career again	-0.18	0.01	-0.07	-15.49	0.00
Opinion about teaching is rewarded	0.20	0.00	0.23	44.61	0.00
African American and other	0.03	0.01	0.01	2.40	0.02

Note. *p < 0.05, **p < 0.01, ***p < 0.001, n = 25,228 (sample size), R^2 = 0.48

Table 15. Multiple regression analysis of overall job satisfaction (Hispanic and other).

Variables in Equation	B	Std. Error	Beta	t	Sig. (p)
Constant	1.44	0.03		45.41	0.00
Rank	-0.01	0.00	-0.02	-2.24	0.03
Tenure	-0.01	0.01	-0.02	-2.45	0.02
Highest degree	-0.02	0.01	-0.02	-3.30	0.00
Recent articles, refereed journals	0.00	0.00	0.01	1.83	0.07
Funded scholarly activity	0.00	0.01	0.00	0.36	0.72
Satisfaction with autonomy to make decisions	0.25	0.01	0.20	41.00	0.00
Satisfaction with workload	-0.21	0.00	-0.26	-47.80	0.00
Satisfaction with salary	0.14	0.00	0.19	33.33	0.00
Satisfaction with benefits	0.09	0.00	0.13	24.07	0.00
Gender	-0.03	0.01	-0.02	-3.87	0.00
Years held current job	0.00	0.00	-0.02	-3.44	0.00
Institutional strata	-0.01	0.00	-0.03	-5.67	0.00
Hours per week, thesis/ dissertation committees	0.00	0.00	0.00	0.47	0.64
Hours per week, administrative committees	0.00	0.00	0.01	1.74	0.08
Opinion about choosing an academic career again	-0.18	0.01	-0.07	-15.51	0.00
Opinion about teaching is rewarded	0.20	0.00	0.23	44.62	0.00
Hispanic and other	0.01	0.02	0.00	0.55	0.58

Note. *p <0.05, **p < 0.01, ***p < 0.001, n = 25,228 (sample size), R^2 = 0.48.

Indian/Alaskan faculty with the rank of assistant professor. In contrast, there were fewer Asian/Pacific Islander faculty compared to other races holding instructor or lecturer positions. Multiple regression analyses indicate that ”tenure” and “rank” have a significant relationship (negative) with overall job satisfaction of faculty of all races. In terms of advancement in academia, the Asian/Pacific Islander and the white faculty, especially Asian/Pacific Islanders, are in more advantageous positions then the other races. In contrast, African-American faculty members were underrepresented. The tenure and ranks are among the most visible and valued signs of accomplishment for faculty (Perna, 2001). However, a smaller proportion of races other than white and Asian/Pacific Islander have received this advancement. It is also evident from other studies that there are limited opportunities for advancement through the ranks for every minority, racial, or ethnic group except for the Asian/Pacific/ Islander faculty (Laden and Hagedorn, 2000). Promotion has a motivational effect on faculty research productivity, and research productivity rises with rank (Tien and Blackman, 1996).

Salary measures achievement and recognition and contributes to job satisfaction. Faculty’s salary measures not only status and equity in the workplace but also affects faculty’s morale positively or negatively ((Laden and Hagedorn, 2000). The analysis in this study indicates that a very high positive correlation exists between satisfaction with salary and overall job satisfaction. The average basic salary of the Asian/Pacific Islander was highest ($58,098) and the average basic salary of the American Indian/Alaska native was the lowest ($33,932)

Table 16. Multiple regression analysis of overall job satisfaction (American Indian/Alaska native and other).

Variables in Equation	B	Std. Error	Beta	t	Sig. (p)
Constant	1.44	0.03		45.45	0.00
Rank	-0.01	0.00	-0.02	-2.25	0.02
Tenure	-0.01	0.01	-0.02	-2.42	0.02
Highest degree	-0.02	0.01	-0.02	-3.26	0.00
Recent articles, refereed journals	0.00	0.00	0.01	1.82	0.07
Funded scholarly activity	0.00	0.01	0.00	0.35	0.72
Satisfaction with autonomy to make decisions	0.25	0.01	0.20	41.01	0.00
Satisfaction with workload	-0.21	0.00	-0.26	-47.84	0.00
Satisfaction with salary	0.14	0.00	0.19	33.33	0.00
Satisfaction with benefits	0.09	0.00	0.13	24.13	0.00
Gender	-0.03	0.01	-0.02	-3.88	0.00
Years held current job	0.00	0.00	-0.02	-3.45	0.00
Institutional strata	-0.01	0.00	-0.03	-5.63	0.00
Hours per week, thesis/ dissertation committees	0.00	0.00	0.00	0.52	0.61
Hours per week, administrative committees	0.00	0.00	0.01	1.77	0.08
Opinion about choosing an academic career again	-0.18	0.01	-0.07	-15.52	0.00
Opinion about teaching is rewarded	0.20	0.00	0.23	44.61	0.00
American Indian/Alaska native and other	-0.07	0.03	-0.01	-2.47	0.01

Note. *p<.05, **p<.01, ***p<.001, n = 25,228 (sample size), R^2 = 0.48.

among all other races in this study.

Research also suggests that Asian American/Pacific Islander earn the highest salary among ethnic groups (Turner et al., 1999).

The analysis indicates that very low % of faculty of different races were “very satisfied” with their workload and this is a significant (positive) predictor of overall job satisfaction. There is a growing concern about the quality of teaching for undergraduate students in higher education (Fairweather, 2002). Faculty members are spending more time on undergraduate teaching which may explain faculty members’ dissatisfaction with workload.

The extrinsic job satisfaction variables, or hygienes, which are necessary to avoid dissatisfaction are “opinion about whether teaching is used as promotion criteria” (policy), “opinion about choosing academic careers again” (work climate or conditions) and “satisfaction with benefits” (policy). Above 70% of all races believed that teaching is considered as a promotion criteria in their institutions. This extrinsic job satisfaction variable has significant (positive) relationship with overall job satisfaction of faculty of all races. The extrinsic variables “opinion about choosing academic career again” and “satisfaction with benefits” was statistically significant predictors of faculty’s overall job satisfaction in this study as indicated by multiple regression analysis. The chi-square analysis indicates that about 90% of faculty of all races in this study would chose an academic career again as their career choice, indicating that faculty of all races enjoy their job. Also, the majority of faculty of all races were satisfied with their benefits. It appears from the analysis that the majority of faculty members in where they were employed were deriving satisfaction from extrinsic factors or conditions under which work is done.

The present study further included the independent variables” highest degree earned by faculty”, “gender”, “years faculty held their current jobs” and “institution type” where faculty were employed, for multiple regression analysis to find out their influence on “overall job satisfaction”. The statistical analysis indicates that they all have significant relationships with overall job satisfaction for faculty of all races.

Despite the previously mentioned limitations, the current study provides valuable information to higher education institutions about faculty members’ job satisfaction. The study suggests that some minority faculty, especially Asian/Pacific Islanders, derive substantial intrinsic satisfaction from their academic careers. Moreover, faculty

members of all races were satisfied with their work conditions (extrinsic rewards). However, more research is needed to explore and revise tenure and promotion practices and policies of U.S colleges and universities to ensure equity towards all races of faculty members. This in turn will increase the intrinsic factors that contribute to job satisfaction and retention of faculty of all races which in turn will help institutions meet the challenge of diversity in the 21st century.

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