Asian Faculty's (Dis)Satisfaction: Workload and Compensation

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Abstract: *This study sought to investigate the characteristics and satisfaction at work among faculty of Asian descent in the United States. Asian faculty's satisfaction was low regarding workload and salary compensation compared with other racial groups, controlling for other background characteristics. Multiple regression models revealed that the negative effect of being Asian diminished when the faculty opinion or campus climate indicators on fairness were controlled, suggesting the connection between Asian faculty's (dis)satisfaction and faculty's opinion on fair treatment for women and for racial minorities. This study also discussed low satisfaction issues for Asian faculty and other faculty groups (female, foreign-born, and tenured professors). Herzberg's job satisfaction model (motivation and hygiene factors) was applied to discuss some implications of faculty (dis)satisfaction.*

Keywords: Asian-faculty, (dis)satisfaction, salary-compensation, workload, fairness

Diverse faculty members bring multiple viewpoints and approaches to research, teaching, and decision-making, which ultimately benefit student development and outcomes, as well as organizational innovation and development (Ogbu, 1995; Piercy et al., 2005). Growing international mobility and globalization, the demand for expertise, and a labor shortage in science, technology, engineering, and mathematics (STEM) fields over the past few decades have increased the proportion of Asians in academia. The 2021 Digest of Education Statistics shows

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that Asian American or Asian-descent students make up approximately 7.2% of the 2020 total enrollments at degree-granting institutions (Table 306.50 in the National Center for Education Statistics [NCES], 2021). As Kezar and Maxey (2014) and Kim (2011) noted, college faculty's role in providing education in- and out-of-classroom cannot be overemphasized, and faculty time and interactions with students of color are critical for the students' confidence, learning, and career outcomes. According to the National Study of Postsecondary Faculty (NSOPF) in 2004, 6.4% of all faculty were Asian and Pacific Islanders. The availability of Asian faculty would provide more culturally relevant mentoring or role model opportunities for undergraduate and graduate Asian students' academic success (Jayakumar et al., 2009). The number of faculty of Asian descent has increased dramatically, rendering them the largest non-White group in U.S. academia. Because of the disproportionate academic success among some East Asian and Asian faculty's productivity patterns, some people consider Asians to be a model minority, but the Asian student and faculty group in the U.S. is diverse and complex.

Faculty or employee satisfaction affects numerous aspects of organizational performance, productivity, climate, and employee morale (Bess & Dee, 2012). Workload and compensation also tend to be the central discussion points among faculty and staff in higher education institutions. Seifert and Umbach (2007) used faculty job satisfaction as a predictor of faculty's intentions to remain at or to leave their jobs. Limited previous studies reported that minority faculty members are more likely to see academia as "chilly" (Samimy, 2006; Seifert & Umbach, 2007) and tend to have less job satisfaction, but those studies seldom examined faculty satisfaction as an outcome or being Asian as a key independent variable. Asian faculty tend to be perceived as content as White faculty or that minority faculty are fairly treated in academia (Ogbu, 1983; Kim et al., 2013; Tapia, 2010). Thus, it is necessary to investigate Asian faculty group's satisfaction and opinion about fair treatment, using national data (Jayakumar et al., 2009).

Faculty Work and Related Literature

Faculty work is proportionally distributed among instruction, research, and service or departmental administration. Workloads vary depending on employment contracts, academic disciplines, and institutional types

(Fairweather, 1996). When faculty's workload allows a reasonable work-life balance, and faculty are well rewarded, faculty are naturally more satisfied with their work and are more motivated (Finkelstein et al., 2016).

Pay or salary can function in various ways in a higher education setting (Fairweather, 1996). Pay not only reflects and reinforces market segmentation among academic fields, but it can also affect faculty behaviors and motivation for work. Salary or pay is also indicative of institutional incentives to pursue particular activities (Fairweather). Administrators use differential salaries to reinforce faculty's behavioral norms or to achieve certain goals, just as they do with other business firm employees.

Tenure status and academic discipline can influence faculty satisfaction (Schuster & Finkelstein, 2008). Above all, tenure is considered a factor affecting job satisfaction (Blackburn & Lawrence, 2002; Zhou &Volkwein, 2004). Foreign-born or women scholars are less likely to hold tenure than their White counterparts or male counterparts, respectively, leading to the logical conjecture that they will be less satisfied with their employment status (Lin et al., 2009; Niemann & Dovidio, 2005) and ultimately more likely to leave academia. Statistically, there are fewer minority faculty with tenure, and there are fewer minority faculty in higher levels of the professoriate (Niemann & Dovidio, 2005). Further complicating the issue of satisfaction is the faculty's discipline (Lin et al., 2009). Faculty in science (behavioral and physical sciences), mathematics, and education have been found to be less satisfied with their jobs than those in law, architecture, medicine, and engineering (Lin et al., 2009). Almost half of Asian faculty in higher education are in mathematics, engineering, or natural sciences (Lee, 2002; NCES, 2002), and as is true generally, males tend to predominate in the STEM fields. Studies have found that salaries in engineering or the natural sciences tend to be more highly correlated with productivity, as measured by publications and grants, than salaries in other disciplines, and Asian faculty tend to have higher productivity and higher salaries (Lee, 2002; NCES, 2002). So the relatively higher salaries of Asian male faculty in these fields could complicate the interpretation of salary comparisons and job satisfaction comparisons in relation to salary levels of Asian females or Asian faculty in non-STEM fields.

There is a certain parallel trend regarding job satisfaction between faculty who are female and faculty from non-White backgrounds. Female and non-White faculty have consistently shown lower job satisfaction when compared with White male faculty (Jayakumar et al., 2009; Mamiseishvili & Rosser, 2010; Seifert & Umbach, 2007). Non-White faculty tend to be assigned more labor-intensive teaching and service tasks (Markus, 2011); non-White female faculty are also less satisfied with their academic careers (Seifert & Umbach, 2007).

Despite more awareness brought to gender equity issues, women in general still face numerous barriers in academia. O'Meara et al. (2019) conducted a study on departmental conditions and practices associated with faculty workload satisfaction and equity. They reported that faculty satisfaction with workload distribution was positively associated with the perceived level of equitable work conditions and practices (divisions of labor) in their departments. The study also found that minority women were significantly lower in satisfaction with teaching and service activities than white faculty and minority men, but this study combined all racial minority groups into one category. Regarding the effects and roles of the organizational climate and policies, O'Meara and Campbell (2011) and Campbell and O'Meara (2014) found that certain types of departmental contexts are critically important in faculty careers and that supportive work-life climate and role models in departments can promote faculty members' well-being, productivity, and career advancement, especially a greater number of women faculty.

Women from Asia have a particularly difficult time due to their multiple and contrasting roles and cultural expectations (Li, 2006; Loo & Ho, 2006; Yook, 2013). In addition, Asian women could experience the same types of "cultural taxation" or subtly imposed taxation because of their ethnic and cultural backgrounds that other faculty of color have experienced as barriers to their career advancement such as tenure or promotion (Guillaume & Apodaca, 2022, p. 547). However, this topic has been underexamined in scholarship to date, as the Asian faculty group has collapsed with other racial minorities or explained simply in the context of foreign-born or international faculty status in spite of its atypical cultural and employment patterns.

According to Kim et al. (2013), being both female and Asian is negatively associated with faculty overall job satisfaction. Moreover, a

high proportion of Asian faculty are foreign-born and -educated (Li & Beckett, 2006; Yook, 2013). Foreign-born status is critical and should be further investigated in the analysis of Asian faculty. In spite of the importance of understanding Asian faculty, studies about Asian faculty or their satisfaction are scarce, and the few studies that are available often report results without considering Asian faculty's foreign-born status barrier and employment contexts.

Job Satisfaction Model

The concepts related to job satisfaction were drawn from the work of Herzberg et al., (1959) and Herzberg (1974). Herzberg et al., (1959) and Herzberg (1974) identified a simple two-dimensional model of job satisfaction consisting of motivating (intrinsic) factors and hygiene (extrinsic) factors. According to Herzberg's (1974) two-factor model, motivating factors are most responsible for job satisfaction, while hygiene factors are most responsible for job dissatisfaction. When a motivation factor is absent, the outcome is no satisfaction, but when a hygiene factor is absent, the outcome is dissatisfaction. When a motivation factor is present, the condition of satisfaction presents, but when a hygiene factor is present, the condition of no dissatisfaction presents among organizational members. An example of Herzberg's motivation factors can be faculty's work itself (teaching or research) or intrinsic rewards, pleasure, and/or self-actualization from the work that leads to a positive attitude toward the job. An example of Herzberg's hygiene factors can be organizational policies and practices—more specifically, Asian faculty's "glass ceiling" in tenure or promotion, defined as "barriers based on attitudinal or organizational bias that prevents qualified individuals from advancing upward in the organization" (US Department of Labor's definition in Sabharwal & Varma, 2017, p. 1).

According to Herzberg's (1974) model regarding motivating factors and job (dis)satisfaction, if Asian faculty (or other faculty) are sufficiently motivated, have their professional needs met, and are fully connected to the institution, then these faculty members should feel valued and gain satisfaction from being seen as well-regarded contributors to their organizations. Alternatively, if Asians or minority female scholars are unfairly compensated, or their career opportunities are blocked by any organizational bias or prejudice (in short, if they are unsatisfied), some

faculty may consider leaving their institution, academy, or the U.S., resulting in critical losses of experts and resources for the higher education system. Due to the limitation of the secondary data, one should interpret the faculty's satisfaction data and the application of Herzberg's job satisfaction model with caution. In addition, Herzberg's job satisfaction model cannot cover or explain the implications of embedded phenomena of race- and gender-based unfair treatment or barriers in colleges and universities.

Research Questions

This study investigated the satisfaction of Asian faculty, compared with that of non-Asian, faculty concerning their work in the United States. In particular, this research focused on workload and salary as elements of participants' job satisfaction. The following questions were investigated using NCES data and statistical methods:

> Research Question 1: How do the characteristics of Asian faculty differ from those of non-Asian (White and/or other non-Asian) faculty?

> Research Question 2: Do the levels of workload satisfaction of Asian faculty differ from those of non-Asian (White and/or other non-Asian) faculty?

>> Research Question 2.a: How are Asian faculty in general satisfied with their workload?

> Research Question 3: Do the levels of salary satisfaction of Asian faculty differ from those of non-Asian (White and/or other non-Asian) faculty?

>> Research Question 3.a: How are Asian faculty in general satisfied with their salary compensation?

Research questions 2 and 3 were later converted to test null hypotheses in hierarchical multiple regression analyses. That is, I found no difference between Asian and non-Asian faculty in workload satisfaction or salary satisfaction. In addition, this study explored the connection between Asian and non-Asian faculty's opinion on fair treatment for women and for racial minorities in their organizations and their personal satisfaction (with workload or salary). I hypothesized that faculty's satisfaction with their workload and compensation was likely influenced by their race, gender, and/or foreign-born-status and their perception of these characteristics within the context of the relative work and rewards among their peers and labor markets within and outside of the country. The important organizational success factor is the members' satisfaction, which includes reasonable workload, equitable compensation, and their perception of fairness.

Methods

Data and Participants

The data was drawn from the NSOPF-04 survey by the NCES. The purpose of NSOPF was to provide comprehensive and representative data such as faculty demographic characteristics, principal activities, and job satisfaction. The NCES faculty samples were selected with a two-stage stratified and clustered probability design, and the weighted response rate was 76% (National Center for Education Statistics, 2006). The total weighted sample size is 1,211.90 (n/1,000s); more specifically, White (999.4; 82.5%), Black (66.5; 5.5%), Asian (76.1; 6.3%), American Indian (4.8; 0.4%), Pacific Islander (1.8; 0.1%), Hispanic (42.5; 3.5%), and multi-race (20.7; 1.7%). Judging by the numbers, White is the predominant faculty group in U.S. academia, followed by Asian faculty. Initially, I reviewed the publicly available weighted data and found interesting satisfaction patterns, and decided to use the unweighted (undistorted) restricted data to address my research questions.

Unweighted data consisting of 26,108 faculty and instructional staff in 940 Title IV participating associate, bachelor's or advanced degree-granting, and not-for-profit institutions were subtracted and analyzed, but the final data consist of 24,432 (only participants who self-identified as faculty, i.e., had a faculty position). The number of Asian faculty was 1,557. The final data included only participants who had faculty status

and worked full-time. Although many reports from the NCES have combined Asians and Pacific Islanders into one analysis category, this study focuses on Asian-descent faculty (about 6.3% of the total), excluding the very small percentage (about 0.1%) of Pacific Islanders. Because this study focuses on Asian faculty, I collapsed the other racial groups for the multiple regression analysis.

The current NCES website reports faculty race data based on the NSOPF-04, and no newer national-scale representative data set is available. Thus, I decided to analyze the NSOPF data for this study partly because research has not shown any improvement in minority faculty's job conditions, glass ceiling, pay gap, and other workload factors in universities over a decade.

Variables

Two dependent variables in the multiple regression models are faculty's (a) workload satisfaction and (b) salary satisfaction.The survey items regarding faculty satisfaction are limited to intrinsic (motivational) or extrinsic (hygiene) factors as identified in Herzberg's (1974) two-factor model of job satisfaction. Thus, the operational definitions and interpretations of results are largely limited to the NCES's actual survey questions and phrases. Although work compensation consists of salary and benefits, this study examined only satisfaction with salary, partly due to variations and complexity of faculty benefits.

Although the dependent variable was on a four-point scale, the study moved to the causal analysis level, checking the normality and cautiously treating the ordinal four-point-scaled satisfaction measures like interval-scale variables. Due to the large number of survey responses and the exploratory nature of the study, this design was justified. Still, models and results should be interpreted with caution.

While I focused on faculty satisfaction measures, I also included faculty demographic profiles, work patterns, racial minority, and faculty opinion about race-equity and gender-equity. The study variables and coding information are shown in Table 1. Four types of independent variables were selected: faculty demographic characteristics (e.g., female, Asian, foreign-born, total individual income range, and tenure status), faculty work-related characteristics (e.g., percentage of time spent at instruction,

total hours per week, and faculty's opinion about fairness toward racial minority and gender), faculty's total individual annual income range, and doctoral degree status (e.g., faculty's highest level of education attained).

Table 1.

Variable Description and Coding

Variables	Description and definition	Coding	Source variables
Satisfaction with workload	Indicates the respondent's selected degree of satisfaction regarding his/her workload	1: very dissatisfied, ~ 4: very satisfied	Q62A
Satisfaction with salary	Indicates the respondent's selected degree of satisfaction regarding his/her salary	1: very dissatisfied, ~ 4: very satisfied	Q62B
Gender (female)	Indicates the respondent's gender (female)	Dichotomous 1 = male; 2 = female	Q71
Asian faculty	Asian (vs. non-Asian)	Dichotomous; Asian = 1; non-Asian = 0	X06Q74
Tenure status	Indicates the tenure status of the respondent in the 2003 fall term	Dichotomous 1 = no tenure; 2 = tenure	Q12
Race/ethnicity	Indicates the respondent's race/ethnicity and whether the respondent identified with multiple racial categories	Categorical	X06Q74
Average hours per week worked	Indicates average work hours per week worked	Continuous	X01Q31
Percentage of time spent on instruction	Percentage of time spent on instruction; instructional emphasis or instructional role indicator	Percentage	X01Q32
Doctoral degree	Faculty's doctoral degree obtainment (highest degree collapsed further)	Dichotomous 1= no doctoral degree; 2= doctoral degree	X01Q17
Foreign-born status	Faculty's foreign-born (vs. U.S.-born) status	Dichotomous 0 = U.S.-born; 1 = foreign-born	Q80
Annual total individual income	Total individual income range	1 = 1-24,999, 8 = 300 or more.	Q66B2
Principal research field: General code	Indicates the respondent's principal field of research	Categorical	Q54CD2
Opinion: racial minority treated fairly	Indicates the respondent's opinion on racial minority's fair treatment	1 = very dissatisfied; 4 = very satisfied	Q82D

Note. Some variables were recoded from the source variables.

The demographic and work-related characteristics were included to control confounding characteristics and to understand their effects through multiple regression analyses. I chose faculty's total individual annual income range variable over the true income variable to reduce the extreme income figures and skewed distribution, and to avoid a strong correlation with salary satisfaction. This variable also captures all sources of individual income, as certain disciplines are more likely than others to have multiple sources of income. The doctoral degree status was introduced into the models to control for the faculty's education level. Many community colleges, or certain disciplines such as arts and technical areas, do not require a doctoral degree to be a faculty member. Faculty's opinion on fair treatment was included to check the association among institutional fairness indicators, workload or salary satisfaction, and being Asian.

Procedures

Considering ongoing racial conflicts and institutional policy and management perspectives, I sought to conduct this faculty satisfaction study using a descriptive analysis, predictive modeling, and hypothesis testing procedures. This study began with a descriptive analysis. Initially, I compared the demographic and satisfaction patterns among three groups: White, Asian, and non-Asian minority, based on initial percentage, cross-tabulation, and Chi-square (χ^2) analyses. Racial group differences, particularly between Asian and non-Asian groups, seemed obvious.

Then, I used hierarchical multiple regression analysis after Chi-square (χ^2) and cross-tabulation analyses to adjust for characteristics such as foreign-born status, being female, tenure status, and other work-related variables to obtain more solid information. To simplify the analysis, the race variable was eventually collapsed as Asian versus all others. I modeled both workload and salary satisfaction models with the same set of variables in order to cross-compare the independent variables or the change patterns between two outcomes. Faculty's opinion on fair treatment was included to check the statistical relationship and significance with being Asian and satisfaction variables in Model 2, the full model, but the null hypotheses were tested in Model 1 (Characteristics model) before adding or controlling for opinions on fairness. The hypothesis testing was done at the $p \leq .05$ level. However,

tables present additional significance levels (at $p \leq .01$ and $p \leq .001$) for those who prefer to use more conservative testing (see Tables 2 & 3).

Results and Implications

The Demographic Characteristics of Asian Faculty

Before I present the group comparison in satisfaction measures and quasi-causal regression models, I present comparative demographic characteristics. The analysis includes a breakdown by faculty's foreign-born status, tenure status, gender, and other appointment characteristics. The common image of Asian faculty is associated with being foreign-born, non-citizen, and heavily concentrated on STEM research (Kim et al., 2013; Sabharwal & Varma, 2017). It is important to check this image or assumption against the data.

Regarding foreign-born status, only 16.8% of faculty respondents were foreign-born, but four out of five Asian faculty (79.9%) were foreign-born. However, 67.9% of Asians in the study were U.S. citizens (or 32.1% are not U.S. citizens). The percentage having citizenship status was still significantly lower than for White (95%) or other minority groups (92.8%). As such, Chi-square analysis revealed significant associations between race and foreign-born status (χ^2: 5064.8, *df*: 2; $p < .001$) and between race and U.S. citizen status (χ^2: 1733.4, *df*: 2; $p < .001$). Because of the correlation and variability, I used the foreign-born variable in the hierarchical multiple regression models.

In terms of faculty rank, 17.8% of Asian faculty members were full professors; many Asian faculty hold the rank of assistant professor (28%). The mean age of Asians was a little younger (mean = 46), than that of White faculty (mean = 50) and other minority faculty (mean = 47); age dispersion among the racial groups was similar (10–11 years). Notably, the gender representation of Asian faculty is skewed: 66.2% of Asian faculty were male. Tenured faculty amounted to 32.3% among Asian and 35.5% among White faculty, while overall data suggested that 34.3% of participants were tenured faculty.

Furthermore, the data suggested that the percentage of tenured Asian male faculty was significantly higher than that of White male faculty (Asian: 23.1%; White: 19.7%) and likewise on the tenure track (Asian:

15%, White: 6.3%). Asian women were, however, considerably lower (8.3%) in tenured status. In terms of rank, among all Asian faculty, 15% are male full professors, while only 3% are female full professors. Gender discrepancy in professorial ranks is greatest among Asian faculty. Future studies should continue to investigate the patterns and reasons for the disparity and any barriers and bias against Asian or Asian female faculty.

The Role Characteristics of Asian Faculty

According to NSOPF-04 data, 21.8% of Asian faculty reported research as their primary activity, compared with 9.1% of White faculty and 4.3% of other minority faculty. Because of their greater involvement in research activities, a relatively lower percentage of Asian faculty (61.9%) reported teaching as their primary role, compared with White faculty (71.7%) or other minority faculty (78.8%). Nevertheless, teaching is still the main activity for Asian faculty and all others. Administration is heavily dominated by White faculty (8.2%), followed by other minority faculty (7.3%). Only 4.7% of Asians reported their primary activity as administration. It is possible that many Asian faculty (often, foreign-born with English as their second language) just want to focus on teaching and research, or they may not have the same opportunity to administer or lead the unit as other racial groups.

Other categories within primary activity include clinical service, public service, on sabbatical, and other activities; I combined all these other categories to examine the association between racial groups and principal activities. The overall Chi-square analysis led me to assume that there is a difference in primary activity between racial groups ($\chi^2 = 396.7$, $df = 6$, $p < .001$). Consistent with the typical assumption, the primary role of many Asian faculty is conducting research or contributing to knowledge production, with a concentration in STEM fields.

Consistent with previous reports, about half of Asian faculty were concentrated in research fields in science, engineering, and health science: e.g., biological and biomedical sciences (16.3%), engineering technologies/technicians (12.4%), and health professions/clinical sciences (15.3%) (not shown in tables). These are rapidly growing STEM fields in which the U.S. has experienced a labor shortage for decades.

Universities have had to hire foreign-born doctoral recipients to teach and conduct research in the science and engineering academic fields.

In addition, the majority of Asian faculty members were working in doctoral-granting universities (45.6% in public doctoral institutions and 18.3% in private doctoral institutions). Doctoral-granting universities, especially public institutions, tend to have major science and engineering schools and educate their students in various disciplines within those fields.

Faculty's Opinions about Fairness. Considering the dissatisfaction patterns of Asian faculty in cross-tabulation and Chi-square analysis, I also examined opinion items related to faculty's experiences in their organizational or academic environment: "racial minority treated fairly" and "female faculty treated fairly." When the employees of colleges and universities think they and their peers are fairly treated, their satisfaction level and work morale will be likely to increase.

Faculty perception of fair treatment can reflect their contextual situations in academia. The responses among different groups on the opinion items were somewhat intuitive. While White faculty predominantly believed that racial minorities are fairly treated, a lower proportion of Asian and other minority groups marked the strongly agree category similarly (Asian: 39.7%, White: 57.8%, other minority: 40.6%). When I combined the percentages of disagree and strongly disagree categories, Asian and other minority groups were similar again (Asian: 18.1%, other minority: 19.1%), but only 7.6% of White faculty expressed their disagreement on "racial minorities treated fairly." Although racial differences for this item were rather expected, the gaps between White and minority faculty groups (18 or 10 percentage points) were very large (Chi-square value, 715.3, $df = 6$, $p < 0.001$). In short, Asian faculty's dissatisfaction pattern in workload and salary as well as the racially divided response pattern in the item "racial minority treated fairly" seemed to indicate the Herzberg model's external hygiene factors.

Due to the negative effect or lower satisfaction level reported for being female, I added to the regression models "female faculty treated fairly," which shares its significant predictability with being female and "racial minority treated fairly."

Satisfaction in Workload and Salary Compensation: Multiple Regression Models

Based on cross-tabulation and Chi-square analysis, the faculty data presents clear racial group differences regarding faculty satisfaction, particularly between Asian and White groups. In what follows, I will explain variable patterns and examine causal relationships, reviewing and comparing the multiple regression models. As noted, there is an advantage in demonstrating related satisfaction models together: being able to observe the patterns of variables and cross-validation across the models.

This study examined the hypothesis of group differences in faculty satisfaction in (a) workload and (b) salary (compensation), controlling for faculty characteristics variables (Model 1 – for hypothesis testing). Both null hypotheses were rejected (a reaffirmation of the Chi-square analysis results). In particular, being Asian was negatively associated with satisfaction in salary and workload when controlling for gender and other demographic characteristics, foreign-born status, tenured status, and other work-related characteristics.

The opinion variables were then added to Model 2, the full model to capture other fairness aspects of work settings and faculty perceptions. The negative effect of being Asian or being female noticeably dropped when controlled for the positive effect of faculty's opinion about their campus racial climate. I included "opinion: racial minorities fairly treated" because it can be considered as an effect of organizational or group characteristics or a reflection of respondents' own experiences and observations. It added notable variance to the models, suggesting the importance of faculty's opinion about fair treatment in their organizations or for themselves to faculty satisfaction. Model 2 of multiple regression analysis in Tables 2 and 3 also presents the relationship among Asian vs. non-Asian, opinion about racial minorities treated fairly, female faculty treated fairly, and outcome variables.

Table 2.

Faculty Workload Satisfaction

Independent Variables	Model 1 (Characteristics model)			Model 2 (Full model)		
	b	β	t	b	β	t
Asian faculty	-.066	-.018	-2.636**	-.026	-.007	-1.092
Foreign-born status	-.046	-.020	-2.791**	-.040	-.017	-2.492*
Female	-.128	-.072	-11.031***	-.025	-.014	-2.200*
Doctoral degree	-.140	-.079	-11.461***	-.104	-.059	-8.814***
Tenured status	-.190	-.102	-13.585***	-.173	-.093	-12.762***
Years since beginning first faculty job	.003	.038	5.196***	.003	.043	6.084***
Average hours per week worked	-.009	-.173	-25.879***	-.008	-.152	-23.619***
Percentage of time spent on instruction	.001	.030	4.393***	.000	.008	1.261
Total individual income (range)	.051	.082	11.121***	.042	.067	9.401***
Opinion: Racial minority treated fairly				.130	.107	13.831***
Opinion: Female faculty treated fairly				.215	.185	23.615***
Variance explained:				$R^2 = .23$		

Note. $* p \leq .05, ** p \leq .01, *** p \leq .001$

I also traced the effect of foreign-born status and found that being foreign-born is negatively related to both satisfaction outcomes— workload and salary satisfaction ($p < .01$). This negative effect can be related to the social and employment conditions that deter foreign-born scholars. Little coefficient change in Model 2 suggests that foreign-born faculty's (dis)satisfaction and experience regarding fair treatment can be unique.

The full models, including two opinion variables (racial minority fairly treated and female faculty fairly treated), showed sharp changes in the coefficients (and significance levels) of being Asian faculty and female. These big drops suggest that women and minorities tend to be unfairly treated, and their perceptions of unfair treatment could lead to Asian faculty's (or female faculty's) low satisfaction levels. Table 2 shows that "Asian faculty" ceased to be a significant predictor (suggesting little statistical and practical difference between Asian and non-Asian) in the full model of workload satisfaction (once two types of fair treatments were held constant). More college climate, fairness or equity, and social environment indicators could bolster the explanation of faculty satisfaction or dissatisfaction.

The most notable independent variables were total individual income range and hours worked per week. Total individual income had a very strong positive impact on faculty's satisfaction in both satisfaction outcomes. "Average hours per week worked," however, had a strong negative effect on workload satisfaction (being the largest beta) and salary satisfaction (the second-largest beta). When a faculty member or any employee works more hours is than typical for their salary or income level, it is likely to cause dissatisfaction. It also suggests that even if one is working many more hours per week, a higher income (largely basic salary and other benefits) makes them more accepting of the workload.

Comparing Asian faculty with non-Asian faculty, there was no significant difference in total hours per week worked (48 and50 hours, respectively). In addition, there were unremarkable differences between Asian and non-Asian faculty in total individual income ranges (3.26–3.21 = .05; range 3 = $50,000–$75,999 in 2004; or, the inflation-adjusted salary in March 2021, $70,446–$107,077) and actual income amounts (less than $1,500; or the inflation-adjusted amount in March 2021, $2,087) (not shown in tables). Some people might dismiss Asian faculty's satisfaction gaps by these figures, but it is important to note that Asian faculty are heavily concentrated in STEM fields in the U.S. Faculty in STEM generally earn higher salaries than their non-STEM counterparts; for this reason, the means might not capture the complete sources of disparity or (dis)satisfaction.

Table 3.

Faculty Salary Satisfaction

Independent Variables	Model 1 (Characteristics model)			Model 2 (Full model)		
	b	β	t	b	β	t
Asian faculty	-.116	-.030	-4.234***	-.076	-.019	-2.871**
Foreign-born status	-.082	-.032	-4.542***	-.076	-.030	-4.390***
Female	-.038	-.020	-2.996**	.075	.039	5.945***
Doctoral degree	-.139	-.073	-10.396***	-.100	-.053	-7.755***
Tenured status	-.058	-.029	-3.763***	-.038	-.019	-2.598**
Years since beginning first faculty job	.000	-.005	-.633	5.228E-5	.001	.086
Average hours per week worked	-.006	-.101	-15.010***	-.005	-.081	-12.402***
Percentage of time spent on instruction	.000	-.013	-1.933*	-.001	-.035	-5.261***
Total individual income (range)	.125	.185	24.989***	.115	.171	23.797***
Opinion: Racial minority treated fairly				.125	.096	12.205***
Opinion: Female faculty treated fairly				.245	.196	24.647***
Variance explained:				$R^2 = .21$		

Note. * $p \le .05$, ** $p \le .01$, *** $p \le .001$

It is notable that faculty who stay longer at an academic job reported higher workload satisfaction but showed no difference in salary satisfaction. In other words, time or years since the first faculty or instructional job was a significant positive predictor for workload satisfaction. Those faculty who had worked on the same or a similar job with accumulated knowledge and skills for a long period may have found it easier to manage their workload than newer employees and therefore to be contented with their jobs.

The percentage of time spent in instruction measures not just an individual faculty's effort or focus on teaching but can also capture the percentage of faculty's time contributed to teaching and research activities. In addition, this variable can represent or capture an instruction-oriented faculty. The directions and effects suggest that instruction-oriented faculty are relatively tolerant with workloads, but they are not happy with the monetary compensation. This seems to be related to the current U.S. faculty reward system and faculty appointment types.

Existing research often characterizes tenure as a positive predictor of job satisfaction(Blackburn & Lawrence, 2002). Tables 2 and 3 of this study, however, present an opposite pattern; tenured status was a strong negative predictor for both workload and salary satisfaction. Particularly, the standardized (β) coefficient of tenured status was the second strongest predictor in workload satisfaction. Not presented in tables, the tenure variable's negative coefficient for workload became much stronger with the income variable (revealing a suppressor effect of income). The persistent negative effect of tenured status on faculty workload satisfaction suggests that academic workloads can be heavier after tenure, perhaps with more committees, leadership, and advising responsibilities. The coefficient patterns of the doctoral degree variable were unexpected yet similar to those of tenured faculty status. Overall, no multicollinearity was found in any of the regression models, based on VIF and Tolerance tests. Despite the limited measures and scales of the dependent variables, all models fit relatively well with 23% of total variance explained for workload and with 21% explained for salary compensation.

Discussion

Through a national faculty survey, this study aimed to understand Asian faculty's characteristics and workload and salary satisfaction level compared with that of non-Asian faculty in the United States. Various aspects of Asian faculty demographics, roles, and job satisfaction were examined to aid in our understanding of this increasingly important faculty population. In general, Asian faculty's primary roles were research and teaching, while they were much underrepresented in administrative positions in academia. Asian scholars in U.S. academia, often foreign-born and -educated, may likely have mitigated the

shortages of researchers and scientists in the rapidly growing STEM research fields.

The results of various statistical analyses revealed that Asian faculty tended to be less satisfied than other faculty (White and non-Asian minority) in both workload and salary. In the initial stage of examining faculty work patterns and satisfaction, Asian faculty as a group had the highest dissatisfaction rate—or the lowest proportion in the "very satisfied" category—compared with White faculty and non-Asian minority faculty. One possible reason for the lowest "very satisfied" rating among Asian faculty may be their relative social isolation in carrying out research duties, or the limited opportunity to lead the organization or socialize in faculty networks. Findings of multiple regression analyses, including other faculty characteristic variables such as gender, foreign-born status, age, tenure, and time spent at the academic or instructional job, did reveal that Asian faculty in general are less satisfied with their workload and salary than non-Asian faculty. Faculty workload and salary were major external satisfaction factors at work, and relatively low salary for heavy workloads can be a hygiene factor as well (Herzberg et al., 1959; Herzberg, 1974). The results are somewhat consistent with the previous literature stating that minority faculty members are more likely to see academia as "chilly" (Piercy et al., 2005; Samimy, 2006; Yook, 2013).

Both Asian and non-Asian minority faculty groups rated lower than White faculty in their perception of fair racial-group treatment on campus. This opinion variable can serve as a proxy for campus climate or capture faculty's personal experiences or observations around them. Faculty's opinions and perceptions on fair racial treatment could influence their satisfaction with their employment, including workload and salary. The relationship patterns between faculty's opinion on fairness in their institutions and faculty's workload satisfaction were consistent with findings by O'Meara et al. (2019) and Campbell and O'Meara (2014), although their data and methods were different. This study examined the relationship between additional demographic factors and satisfaction measures.

Because gender disparity with regard to salary is frequently examined in the literature, I traced the gender effect by including the fairness indicator (female faculty treated fairly). The negative coefficient of being

female dramatically dropped in the salary model, but its effect did not change the sign direction in the workload model. Consistent with the previous literature (e.g., O'Meara & Campbell, 2011; Seifert & Umbach, 2007), female faculty were still less satisfied with workload than males. Higher education faculty and administrators should pay special attention to Asian and female faculty, and understand that their (dis)satisfaction with workload and salary can be largely related to their opinion (from experience or observation) about fair treatment and trust in campus governance.

The negative effects of being tenured can indirectly capture some unnoticed trends and disciplinary characteristics in the U.S. Some organizations and academic fields tend to focus on junior faculty's success and satisfaction by releasing their teaching or service activities and paying newly hired faculty members much more than long-serving tenured professors (Schuster & Finkelstein, 2008).

How can we explain an unexpected effect, "the more educated, the less satisfied"? Perhaps some faculty members may not be happy with the low salary and income return on their educational investment, or they may compare their workloads and compensation with those of their peers in academic or non-academic institutions. The consistent negative effects of "tenure status" and "doctoral degree" in both workload and salary models need more focused investigations.

Moreover, this large data-based study reveals the fairness and (dis)satisfaction problems among Asian and foreign-born faculty, who are marginalized or have less power than White or U.S.-born faculty and are located at the periphery of the organizational structure. The long-term impact of dissatisfaction can cause a brain-drain or reverse brain-drain if Asian-descent and foreign-born scholars choose to relocate to their home countries, to their ancestors' countries, or to another country in this global labor market (Welch & Zhen, 2008; Zweig, 2006).

Although this study could not address every factor affecting faculty satisfaction and/or (dis)satisfaction, it attempted to gain a greater understanding about Asian faculty as a group and to provide important insights into Asian faculty's satisfaction levels, as well as some predictors for general faculty (dis)satisfaction. Future researchers on the

topic should investigate at a deeper level with diverse epistemological approaches and different data sets.

Finally, the issues of Asian faculty have not been investigated, nor have their work satisfaction and conditions been seriously addressed in U.S. academia within the past 10–20 years. Therefore, despite the timeframe of the NSOPF-04 survey from which this study drew its data, researchers and policymakers should pay attention to notable findings regarding Asian faculty and female faculty's low satisfaction as well as their respective coefficient size and sign changes between Model 1, the characteristics model, and Model 2, the model concerning faculty's opinion on fair treatment for women and for racial minorities in their institutions. The Department of Education should continue to pay special attention to investing in data and knowledge in higher education faculty and staff for evidence-based education policies and decision-making.

Conclusion

Considering overall results, the most important and pragmatic factors for university leaders and faculty to consider are (a) the compensational effects between workload and salary, (b) the close link between faculty satisfaction measures and perception of fair treatment, and (c) faculty characteristics and level of satisfaction. All seem obvious and natural, but due consideration appears hard to practice or integrate into the organizational policy and management. During this period of racial tension, racial disparity, violence, and protests, it is very important and timely to consider the findings of this study using available national data, and to reflect on its long- and short-term impacts and consequences of minority faculty's (dis)satisfaction.

What does Asian faculty's lower level of satisfaction imply? At the micro level, faculty satisfaction or dissatisfaction is a critical issue for professional adjustment, morale, and welfare. One is more likely to look for another job (departure) if one is dissatisfied with workload, salary, or workplace. From the university management perspective, the university or its programs are likely to lose hard-earned faculty and waste their human resources, and faculty dissatisfaction can be transferred to colleagues and students, or manifest in work performance (student learning and knowledge production and transfer). Because of the labor-intensive nature of college and university missions (for knowledge

creation and maintenance; or career skills and knowledge transfer, reflected in teaching and research), the members' satisfaction is critical even from the business perspective. A substantial salary or compensation gap or excessive workloads in academia can negatively affect faculty morale, retention, and the departmental culture (the effects of external hygiene factors); faculty satisfaction levels and perceptions can also affect all the above-cited critical aspects. Academic organizations are not operated on the basis of just facilities, money, and hard facts, but also through collegial culture and attitudes of faculty and personnel. At the macro level, keeping and improving the manpower and talents for knowledge creation and maintenance is critical for the country in this knowledge society. The consequence of dissatisfaction is not just a loss for the institution, but also a loss for the academy and knowledge production capacity in the U.S. It is particularly serious in the STEM or other academic fields in which the U.S. has been struggling to develop and secure its workforce.

Taken together, the findings of this study suggest that administrators, policy makers, and leaders of higher education institutions should pay special attention to faculty's satisfaction, workload, compensation, and fair treatment. Awareness of Asian faculty and their sources of (dis)satisfaction is critically important for effectively managing colleges and universities. Understanding and working with this minority group is imperative, beyond institutional policy or equity perspective. This study might stimulate more healthy dialogues about Asian faculty and satisfaction issues specifically, and about White and minority faculty challenges in general, while enhancing institutional or departmental climate and working conditions, and pointing out the implications of Asian and all other faculty's (dis)satisfaction at higher education institutions.

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