

Gender Effects on Faculty Work Experiences by Career Stage

Xiangfen Liang, Jeff Turell, Allison Baker, Diana Bilimoria
Academic Careers in Engineering and Sciences Program
Case Western Reserve University, Cleveland, Ohio

ABSTRACT

Background: Faculty career stages have not been extensively studied in the literature on academic career development, and not much is known definitively about how faculty careers systematically unfold for female and male faculty. **Materials & Methods:** Using three definitions of career (age, years teaching in higher education, and years at current institution) we examine the dynamics and issues for female and male faculty at each career stage surrounding academic work experiences, particularly faculty work effort, research productivity, satisfaction, and equity and compensation. We perform a secondary data analysis on the 2004 National Study of Postsecondary Faculty available to the public domain and conducted by the National Center for Education Statistics, using a weighted sample of faculty across public and private not-for-profit, four-year, degree-granting institutions. Mean and Standard Error are reported for each item, which are then used to calculate a t-value to test for differences between female and male faculty at each stage, as well as trends that emerge across career stages by gender. Then we look for consistency of results using three definitions of career.

Results: Female faculty display lower levels on measures of career satisfaction, lower measures of productivity, and lower earnings than male faculty. Female faculty disagree more with the statement "Female faculty are treated fairly" than do male faculty. Female faculty spend more time per week teaching and advising students, and less time on research activities than male faculty.

Conclusion: Our evaluation of faculty career development encompasses career stage differences and patterns in the progression of faculty in academia, and identifies gender differences in academic work experiences in early, middle, and late career stages.

INTRODUCTION

The effect of faculty career stage on working experience has been a heated topic in academia. The attention of administrators, faculty members, and administrators, and faculty members alike. Even determining the stage in which a faculty member belongs is not always straightforward, depending on the criteria used. In addition, faculty at certain career stages have been less studied than others with regard to career motivation, workload, time distribution and performance.

More recently, faculty career stages have been conceptualized and operationalized through an analysis of the 1999 National Survey of Postsecondary Faculty by Baldwin, Lunceford and Vanderlinde (2005) based on three perspectives – life stage, years of teaching in higher education, and years at a single institution. The proposition of defining career stages from multiple perspectives helps both researcher and faculty members understand the nature of academic jobs and the psychological mindset of faculty members at different career stages.

While Baldwin, Lunceford and Vanderlinde's (2005) study identified some noteworthy findings regarding faculty life/career stages, concerns remain over the consistency of their findings with the passage of time. The current analysis extends their work to evaluate gender differences in faculty by career stage, using the most recent faculty dataset available. To examine patterns of work effort, productivity, satisfaction, and equity and compensation of male and female faculty across faculty career stages, the definitions of faculty life/career stages used by Baldwin, Lunceford and Vanderlinde (2005) were applied to analyze the 2004 National Study of Postsecondary Faculty (NSOPF-04).

METHODS

Dataset: 2004 National Study of Postsecondary Faculty

Using one of the largest databases on U.S. faculty, a secondary data analysis was performed comparing measures of work effort, productivity, satisfaction, and compensation between male and female faculty, describing trends of career patterns by gender across faculty life and career stages. The 2004 National Study of Postsecondary Faculty (NSOPF-04) was used.

The NSOPF-04 selected a sample of 1,080 degree granting postsecondary institutions from all 3,380 US postsecondary educational institutions. From those, 980 institutions provided faculty lists. A total of 35,630 faculty members were listed. Of those, 26,110 faculty completed surveys.

Consistent with Baldwin, Lunceford and Vanderlinde (2005), the present analysis is restricted to full-time faculty at four-year institutions of higher education. In NSOPF-04, there were 19,670 faculty members responding from 4-year institutions, or 75.3% of the total faculty responding to the survey. Likewise, there were 17,250 full-time faculty members responding to the survey, or 66.1% of the respondents. Thus, by selecting this subset of the faculty who responded to NSOPF-04, a total of 13,002 of faculty members from the 26,110 faculty who responded were included in the data query.

Data Analysis System

The current analysis uses publicly available data through use of the web-based Data Analysis System (DAS), developed by the National Center for Educational Statistics (NCES).

Three definitions of career phase were used: Age, Years at Current Institutions, and Years Teaching in Higher Education. Each definition of career stage was analyzed separately. To be consistent with earlier work in the field, the same categories for each definition of career stage were used as in the Baldwin et al. paper. Items in which an individual marked 0 were not counted.

Data Analysis

Based on the tables generated from DAS, data analysis was performed separately by making comparisons between male and female faculty at each career stage and within-gender comparisons across all three definitions of career. Comparisons were made based on mean values and the standard error between genders or across time periods for each item. T-tests were performed at the p<.05 level of significance to compare differences by gender and by career stage.

Stages at which the maximum and minimum values occurred were identified for each item by gender for all 3 definitions of career stage. When present, the temporal trend was described. In some instances, it is hard to deny similarities between male and female on a particular item if they share in common maximum and minimum values at the same stages, even if the pattern is somewhat different at other career stages or not as great of a difference between stages.

RESULTS

Table 1. Work Effort, Productivity, Satisfaction, and Compensation by Gender and Age in 2004

	Women*				Men**			
	Early Life (60+less)	Early Middle (40-49)	Late Middle (50-59)	Late Life (60+more)	Early Life (60+less)	Early Middle (40-49)	Late Middle (50-59)	Late Life (60+more)
	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)
Work effort								
Hours per week spent...								
on paid tasks at institution	46.08 (32) *	45.24 (35) *	45.67 (30)	44.87 (32)	47.22 (39) *	47.51 (29) **	46.32 (29)	45.64 (32)
on unpaid tasks outside of institution	6.39 (40)	6.64 (40)	7.01 (56)	6.67 (134)	7.62 (49) *	6.27 (27)	6.60 (26)	6.69 (32)
on unpaid tasks outside of institution	3.90 (15)	4.15 (16) *	4.32 (17)	4.08 (29)	4.14 (16) *	3.78 (09) **	4.23 (13)	4.49 (16)
Hours per week, administrative committees	3.63 (13) *	4.76 (16) *	5.62 (22)	5.83 (34)	3.48 (13) *	4.62 (13) *	5.58 (15)	5.44 (19)
Hours per week, thesis and dissertation committees	2.16 (14) *	2.61 (13)	2.40 (12)	2.76 (17)	2.40 (12) *	2.66 (09)	2.56 (09)	2.67 (13)
Hours per week, research activities	4.41 (31) *	3.78 (18) *	4.11 (16) *	4.22 (22) *	3.77 (20) *	3.44 (13) *	3.24 (09) *	3.34 (14)
Percent time spent on research activities	31.41 (100) **	28.25 (08) **	24.02 (82) *	22.34 (118) *	37.31 (092) **	33.06 (55) **	28.75 (57) **	27.54 (59) **
Percent time spent on instruction	59.52 (96) *	60.27 (09) **	60.62 (87) *	63.88 (141) *	54.13 (84) *	52.21 (62) **	54.57 (62) **	59.62 (82) *
Productivity								
Recent articles, refereed journals	2.53 (02) *	3.09 (22) *	2.84 (17) *	2.83 (27) *	3.38 (19) *	3.61 (14) *	3.80 (16) *	3.62 (19) *
Recent articles, nonrefereed journals	3.12 (09) **	3.55 (17) *	3.59 (16) *	3.58 (27) *	4.42 (14) **	5.01 (12) *	5.01 (15) *	5.54 (29) *
Recent book reviews, chapters, creative works	2.19 (15)	2.40 (15)	2.30 (11)	2.49 (18)	2.39 (13)	2.40 (07)	2.48 (08)	3.03 (14)
Recent book reviews, chapters, creative works	2.08 (19)	2.18 (14)	2.05 (13)	1.91 (14) *	2.54 (19)	2.13 (10)	2.23 (12)	2.21 (16) *
Recent presentations, exhibitions, or performances	5.11 (38) *	5.53 (21) *	5.91 (21) *	5.02 (23)	6.44 (20) *	6.77 (20) *	6.59 (17) *	5.92 (23)
Recent total presentations, exhibitions or performances	6.06 (28) *	6.33 (28) *	6.93 (27) *	5.84 (27) *	7.67 (31) *	8.13 (31) *	7.66 (22) *	6.99 (29) *
Recent total publications (scholarly works)	4.56 (15) **	5.75 (24) *	5.70 (20) *	5.61 (32) *	6.91 (19) **	7.77 (17) *	7.85 (24) *	8.16 (32) *
Satisfaction								
Workload	2.05 (03) *	2.16 (02) *	2.16 (03) *	1.98 (05) *	1.97 (03) *	2.02 (02) *	2.02 (02) *	1.76 (02) *
Salary	2.32 (03) *	2.53 (03) *	2.46 (03) *	2.30 (04) *	2.32 (03) *	2.39 (02) **	2.33 (02) *	2.17 (03) *
Benefits	1.83 (02) *	1.94 (02) **	1.87 (02) *	1.84 (03) *	1.94 (02) **	1.99 (02) **	1.99 (02) **	1.78 (02) *
Authority to make decisions	1.36 (02) *	1.29 (02) *	1.24 (02) *	1.22 (02) *	1.28 (02) *	1.23 (02) *	1.27 (02) *	1.22 (02) *
Job overall	1.73 (03) *	1.83 (02) *	1.77 (02) *	1.64 (03) *	1.75 (02) *	1.80 (02) *	1.78 (02) *	1.66 (02) *
Equity and Compensation								
Female faculty are being treated fairly **	1.85 (03) *	2.03 (02) *	2.06 (03) *	1.97 (04) *	1.50 (02) *	1.54 (02) *	1.52 (01) *	1.47 (02) *
Amount of income from basic salary from institution	52539 (1017) **	59256 (978) **	62954 (761) **	66442 (1413) **	60946 (1153) **	74864 (1005) **	81226 (872) **	80649 (1056) **
Amount of income from other salary from institution	7455 (471) *	7958 (350) *	8526 (355) *	8033 (497) *	10887 (618) *	12242 (445) *	12562 (318) *	11667 (516) **

Note: In each definition of career stages, the maximum value is in bold and the minimum value is underlined. The scale used in the measurement of satisfaction is: 1 = Very satisfied, 4 = Very dissatisfied. The greater the value, the lower the degree of satisfaction reported. ** The scale used in the measurement of this item is: 1 = Strongly agree, 4 = Strongly disagree. The greater the value, the less the respondent agrees with the statement. * Statistically significant difference of p < .05 between male and female faculty, within career stage. ** Statistically significant difference of p < .05 between two consecutive career stages, within gender. Symbol refers to career stage marked and career stage immediately following. * A weighted total sample size (n=10,000) of female faculty participants ranges from 41.46 to 199.51. ** A weighted total sample size (n=10,000) of male faculty participants ranges from 93.66 to 356.8.

Table 3. Faculty Work Effort, Productivity, Satisfaction, and Compensation by Gender and Years at Current Institution in 2004

	Women			Men		
	Early-Career (6 years or less)	Mid-Career (12-20 years)	Late-Career (25 or more years)	Early-Career (6 years or less)	Mid-Career (12-20 years)	Late-Career (25 or more years)
	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)	M (SE)
Work effort						
Hours per week on paid tasks at institution	45.75 (26) *	45.45 (44) *	45.12 (71)	46.90 (26) *	46.84 (34) *	46.08 (32)
Hours per week on paid tasks outside of institution	7.27 (31)	7.69 (80)	8.69 (159)	7.15 (26)	6.34 (34)	5.85 (29)
Hours per week, administrative committees	4.65 (13) *	5.41 (25)	5.40 (50)	4.61 (14) *	5.40 (16)	4.99 (19)
Hours per week, thesis and dissertation committees	2.54 (11) *	2.63 (15)	2.53 (18)	2.51 (09) *	2.50 (08)	2.58 (12)
Hours per week, with advisees	4.68 (22) **	3.42 (17) *	3.47 (25)	3.81 (14) **	3.15 (13)	3.19 (15)
Percent time spent on research activities	28.33 (72) *	27.08 (124) **	22.07 (132) *	33.68 (57) **	30.05 (61) **	27.78 (57) *
Percent time spent on instruction	60.86 (73) *	59.59 (106) **	64.50 (147) **	54.21 (63) *	54.20 (67) **	59.04 (85) *
Productivity						
Recent articles, nonrefereed journals	2.89 (14) *	3.26 (25) *	2.68 (26) *	3.58 (14) *	3.64 (16)	3.52 (26) *
Recent articles, refereed journals	3.18 (08) **	3.92 (21) *	3.79 (32) *	4.32 (09) **	5.15 (15) *	5.35 (26) *
Recent book reviews, chapters, creative works	2.16 (09) **	2.49 (18) *	2.27 (26) *	2.57 (10) *	2.41 (08) *	2.94 (14) *
Recent books, textbooks, reports	2.13 (11)	1.90 (18)	1.72 (18)	2.31 (10) *	2.35 (17)	2.08 (11)
Recent presentations, exhibitions or performances	5.57 (16) *	5.49 (19) *	4.96 (36) *	6.26 (14) *	6.64 (18) **	5.89 (26) *
Recent total presentations, exhibitions or performances	6.47 (21) *	6.44 (28) *	6.47 (42) *	7.45 (25) *	8.00 (26) **	7.05 (30) *
Recent total publications (scholarly works)	5.06 (13) **	6.17 (29) **	5.20 (35) *	6.97 (13) **	8.12 (22) **	8.09 (41) *
Satisfaction						
Workload	2.07 (02) *	2.15 (03) *	2.10 (06) *	1.97 (02) **	2.04 (02) **	1.79 (03) *
Salary	2.37 (02) **	2.47 (03) *	2.29 (05) *	2.28 (02) **	2.41 (03) *	2.20 (03) *
Benefits	1.87 (02) *	1.90 (03) *	1.74 (04)	1.94 (02) **	1.99 (02) **	1.82 (02) *
Authority to make decisions	1.33 (01) *	1.22 (02) *	1.26 (02) *	1.31 (01) *	1.26 (02) *	1.22 (02) *
Job overall	1.75 (02) *	1.82 (03) *	1.62 (04)	1.73 (01) **	1.79 (02) *	1.62 (03) *
Equity and Compensation						
Female faculty are being treated fairly **	1.90 (02) **	2.11 (04) *	2.04 (05) *	1.49 (01) **	1.53 (02) *	1.49 (02) *
Amount of income from basic salary from institution	55153 (739) **	64637 (1092) **	71030 (1618) **	68116 (1001) **	82347 (1232) **	86039 (945) **
Amount of income from other salary from institution	7900 (517) *	8170 (466) *	9001 (985) *	10725 (383) **	12980 (448) *	12423 (547) *

Note: In each definition of career stages, the maximum value is in bold and the minimum value is underlined. The scale used in the measurement of satisfaction is: 1 = Very satisfied, 4 = Very dissatisfied. The greater the value, the lower the degree of satisfaction reported. ** The scale used in the measurement of this item is: 1 = Strongly agree, 4 = Strongly disagree. The greater the value, the less the respondent agrees with the statement. * Statistically significant difference of p < .05 between two consecutive career stages, within gender. Symbol refers to career stage marked and career stage immediately following. * A weighted total sample size (n=10,000) of female faculty participants ranges from 31.42 to 156.27. ** A weighted total sample size (n=10,000) of male faculty participants ranges from 71.23 to 279.09.

CONCLUSIONS

Comparison by Gender	Pattern Comparison across Career Stages
Female faculty work fewer hours than male faculty on paid tasks at their institution in early career	Both male and female faculty spend an increasing amount of time on administrative committees from early to mid-career, but differences from mid to late-career are inconsistent across definitions of career
Female faculty spend a lower percentage of time on research at each career stage	Both male and female faculty spend a decreasing percentage of time on research from early to later career stages
Female faculty spend a greater percentage of time on instruction in all career stages	Both male and female faculty devote the greatest percentage of time to instruction during the later career stage
Female faculty spend more time with advisees, but the career stage at which this occurs is not stable across definitions of career	Both male and female faculty experience a rise in productivity after the early career stage
Female faculty make fewer presentations, particularly in early and mid-career stages	Both male and female faculty are generally least satisfied during mid-career, with the exception of satisfaction with authority to make decisions, which occurs in early career stage
Female faculty are less satisfied with workload from mid to late career	Salaries rise throughout the career for faculty of both genders
Female faculty are less satisfied with salary, but the career stage at which this occurs is not consistent across career definitions	In early career, female faculty agree more that "Female faculty are treated fairly," compared to later in their careers
Female faculty agree less with the statement "Female faculty are treated fairly" than do male faculty at all career stages	
Female faculty earn less than male faculty in all career stages	

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This study was supported by an NSF ADVANCE Institutional Transformation Grant, SBE-0245054, start date 9/12/2003, end date 8/31/2008.