

Do Faculty Members Get What They Deserve?: A Review of the Literature Surrounding the Determinants of Salary, Promotion and Tenure

Toby Park
Vanderbilt University

Abstract: *As the face of higher education has become increasingly more diverse, recent literature has begun to probe at the extent to which the rewards obtained by faculty members are equitable. This review summarizes the recent findings on determinants of promotion and tenure as well as salary increases and asks the questions: What are the main factors identified as being related to promotion and tenure as well as salary? What disparities have been identified among genders and racial/ethnic groups? What factors have been suggested as contributing to these disparities? This review concludes with the intriguing question, as adapted from Gaston (1978), “Are faculty members getting what they deserve?”*

For many years, the field of higher education has provided incentives for its faculty as a form of reward. The academic reward structure serves to reward those faculty members most successful in the areas of research, teaching, and service. Tuckman (1979) identifies four components of the academic reward system: salary, non-monetary satisfaction, promotion & tenure, and increased career opportunities. Two of these (salary and promotion & tenure) are direct rewards to the faculty while the others (non-monetary satisfaction and increased career opportunities) are classified as indirect rewards. As the majority of empirical research has been directed at direct rewards to the faculty, this review will focus on salary as well as promotion and tenure; however, a brief discussion of both direct and indirect rewards is necessary.

Indirect rewards, through the form of non-monetary satisfaction and increased career opportunities often take a passive role in any discussion of the academic reward structure; however, they are not without their

Toby Park is a Ph.D. Student in the Higher Education Leadership and Policy Program at Vanderbilt University.

importance. Though often under-appreciated, feelings of satisfaction and positive psychology have been shown to increase productivity in the workplace (Martin, 2005). Specifically with regard to academia, some scholars report having traded monetary gains for prestige in deciding which academic opportunities to pursue (Marsh & Stafford, 1967). In general, however, empirical studies on non-monetary satisfaction are limited. Career options, both internal and external also play a role in the academic reward structure. Internally, increased career opportunities typically include administrative appointments such as department chairs, associate deans, or even higher positions. Externally, the focus is on editorships of academic journals, service to various professional organizations, and consulting. Tuckman (1979) notes a word of caution, however, in external rewards to higher education in that they do not come without potential consequences. New faculty members may have the opportunity to pursue external consulting for additional monetary gain; however, doing so may cause a decrease in productivity at the academy and, ultimately, a significant threat to promotion and salary increases may arise. A final component of the indirect rewards offered to faculty members are subtle, intrinsic rewards such as reduced teaching loads, flexible teaching hours, a shift in the number of advisees, etc. Expanding on the notion of intrinsic rewards, Austin and Gamson (1983) report that faculty highly value autonomy and freedom and tend to be most productive when the work environment is defined by high levels of skill variety, task identity, task significance, autonomy and feedback. Taken collectively, indirect rewards remain a vital, yet understudied, dimension of the academic reward structure.

Direct rewards to faculty members include salary as well as promotion and tenure. Salary increments, or merit raises, have the most immediate, direct impact on faculty members and are used to cover cost of living changes and reward productivity. Much empirical work has studied salary increases and will be discussed later in this paper. Along with salary, promotion and tenure tend to be identified as the most significant and lasting type of reward. As there is a definite link between the two entities, promotion and tenure are often studied collectively. As such, the literature contains many studies directed at the awarding of tenure as well as faculty promotion, though often through two separate research questions (e.g. Perna, 2001a).

What factors determine promotion & tenure decisions as well as faculty salary? By applying the theory of human capital (Becker, 1962; Schultz, 1961), many argue that traits such as demonstrated ability in teaching, research, and service as well as professor rank, experience, and educational attainment affect reward structures. In addition, economists have appealed to structural theory (e.g. Youn, 1988) to explain variation amongst rewards across different higher education sectors. In an equitable system, one expects that individuals characterized by similar attributes of the aforementioned factors to be compensated equally; however, empirical evidence has demonstrated that disparities exist for women and ethnic minorities in the academic reward structure (e.g. Ransom & Megdal, 1993; Perna, 2001a). Such findings beg the question, “Are faculty members getting what they deserve in terms of the academic reward structure in higher education?”

To answer this question an understanding of both human capital and structural theory is necessary as a theoretical framework. Then, by providing a brief background on the importance of promotion and tenure as well as academic freedom, this review will summarize the recent findings on determinants of promotion and tenure as well as salary increases. What are the main factors identified as being related to promotion and tenure as well as salary? What disparities have been identified among genders and racial/ethnic groups? What factors have been suggested as contributing to these disparities? This review concludes with the intriguing question, as adapted from Gaston (1978), “Are faculty members getting what they deserve?”

Theoretical Framework

Human capital theory suggests that individual success and prosperity is connected to the individual’s possession of specific skills and attributes seen as vital to success in a given discipline. Personal attributes are best explained by investments made by an employee in himself or herself prior to employment, most often through advanced education and training. The link between personal attributes and rewards, however, is two-fold. Employees are rewarded based upon productivity; however, levels of productivity are not only determined by effort but also by an individual’s educational level, prior experience, and amount of on-the-job training as well as physical/mental health and satisfaction. Background characteristics influence productivity, which, in turn,

influences the rewards received (Becker, 1962; Schultz, 1961). Appealing strictly to human capital theory, one would expect that individuals possessing the same levels of personal attributes such as prior experience and educational attainment, who expend the same effort, to receive the same reward.

Research demonstrates, however, that not all aspects of the labor market can be explained by human capital theory. Rather, scholars suggest the inclusion of structural theory, which focuses on the characteristics of organizations that employ individuals to explain variation across academic departments and institutional types (DeYoung, 1989; Dreijmanis, 1991). In particular, DeYoung (1989) argues that sex segregation can be explained by women self-selecting into fields that historically offer a lower salary, and thus a lower return on any prior individual investment. Extending this argument to the field of higher education, Youn (1992) illuminates three factions of academia as having an influence on such disparities: academic discipline, ratio of teaching to research, and professor rank. In addition, Smart (1991) argues that sex disparities are due to the self-selection of women and racial/ethnic minorities into institutions, fields, and work roles that have lower prestige.

While this review will be guided by human capital and structural theories, other theories have been used in explaining disparities in the academic reward structure for women and racial/ethnic minorities. At the societal level, many agree that women and minorities are socialized into certain academic fields and teaching roles that are not historically associated with higher paying positions and increased academic prestige. O'Meara, Tierosky, and Neumann (2008) argue that women and minorities tend to earn far less than male faculty members due, in part, to societal pressures to subscribe to the roles of teaching and less prestigious disciplines. While further exploration of these societal forces is clearly warranted, such a discussion is outside the scope of this review.

What follows is a review of the empirical literature on promotion and tenure as well as salary. For both issues, this review discusses the elements related to human capital theory influencing each reward while also highlighting studies that have addressed a structural response, often offering an explanation as to why disparities exist. Concluding this

review is a discussion of whether faculty members get what they deserve in terms of the academic reward structure.

Promotion and Tenure

Historical Context and Importance

As discussed, promotion and tenure tend to be intrinsically linked and, as a consequence, studied collectively. Any review of the empirical evidence surrounding promotion and tenure would be remiss, however, without discussing the importance of the two in the academic disciplines. At least three rationales are offered as to the importance of promotion and tenure. First, historians remind us that modern American research universities grew out of the German tradition where *lehhrfreiheit*, the “right of the university professor to freedom of inquiry and to freedom of teaching,” was a central component of the education and socialization of future faculty members (Rudolph, 1962, p. 412). As such, this belief became indoctrinated into American faculty members and central to their expectations in their work. A second, related rationale is that of the relative importance faculty members place on tenure as compared to other aspects of the academic reward structure. A study from the National Center for Postsecondary Improvement (2000) finds tenure as the most important reward as reported by faculty in four-year institutions.

As a third and final rationale, Braxton (1986) suggests that a prime component of promotion and tenure – academic freedom – is central to the professionalism of the faculty. To follow this line of reasoning, we first turn to Goode (1969) who identifies professional autonomy as a central notion of professionalism. From this, scholars argue that academia’s unique claim to professional autonomy is academic freedom (Hofstader & Metzger, 1955; Kadish, 1972). Thus, promotion and tenure, with academic freedom at their core, are a vital part of the professional status of faculty members.

Promotion and tenure are clearly vital and important to academia as evidenced by our German roots in *lehhrfreiheit*, the perceived magnitude of such a reward by the faculty members, and the meaning academic freedom has to the professional status of faculty. With such a level of significance placed on this academic reward, this “holy grail” of academia, an examination of the determining factors tenure and

promotion is warranted. What follows is a review of the factors demonstrated to be associated with the tenure and promotion process.

Research on Promotion and Tenure

The main factors influencing promotion and tenure vary widely by context. In an analysis of the promotion and tenure process on twelve different campuses ranging from a private, liberal arts school to a major public university, Tierny and Bensimon (1996) identify commonalities as well as differences among institutions. In conducting their study, the researchers interviewed new assistant professors, department chairs, deans, and provosts to gain triangulation in their understanding of the tenure process. The researchers identify broad commonalities including the timeframe, principle actors in the process, and a review of a candidate's performance in the areas of teaching, research, and service. The timeframe is generally agreed upon whereby an assistant professor is hired in the tenure stream, reviewed over the course of six years and a decision is made to either award or deny tenure, with the latter typically accompanied by dismissal. Principle actors in the process include the department chair, the dean and/or provost, the president, the board of trustees, and external reviewers. Differences in the process, however, also exist. Often, large universities prioritize publications in the tenure decision while smaller liberal arts schools pay more attention to teaching. In addition, some review committees meet weekly for a year, while others meet for only one evening.

Empirical analysis of the promotion and tenure process has been conducted for relatively thirty years and has employed a wide variety of techniques. Specific variables often included in an empirical analysis of tenure and promotion are the human capital characteristics of degree attainment, service, and publication productivity; the institutional characteristics of level (research, doctoral, comprehensive, liberal arts, or two-year), control (public, private, religiously-affiliated), historically black colleges and universities, and unionized systems; as well as the characteristics of academic discipline and time dedicated to research (Perna, 2001a). Largely using logistic regression or OLS regression, studies on promotion and tenure seek to determine the most influential variables that govern the process.

If such a system were fair, one would expect that candidates of equal performance and of equal levels of human capital would receive equal

outcomes regardless of gender and race/ethnicity. Empirical research, however, demonstrates that this is not always the case. After controlling for human capital factors, the results on gender disparities are somewhat mixed; however, there tends to be general equity in two-year institutions and disproportional awarding of tenure to men over women in four-year institutions (Broder, 1993; Dwyer, 1994; Gorden et al., 1974; Marshall & Perrucci, 1982; McElrath, 1992; Perna, 2001a; Persell, 1983; Ranson & Megdal, 1993; Riggs et al., 1986; Rosenfield & Jones, 1987; Smart, 1991; Szafran, 1984; Toutkoushian, 1999; Weiler, 1990). What follows is a synopsis of significant studies pertaining to sex differences in promotion and tenure.

In a longitudinal study, Ransom and Megdal (1993) demonstrated how women were less likely to achieve the rank of associate or full professor in 1969, 1973, 1977, and 1984, by controlling for variation in educational level, previous experience, and publication productivity. Expanding upon this, Toutkoushian (1999) found women to be less likely than men to hold the rank of full professor, but were just as likely as men to hold the rank of associate professor, after controlling for attainment, previous experience, publication productivity, Carnegie classification, and discipline. Other research, however, demonstrates that not only are women more likely to hold lower ranks than men (Persell, 1983), but that women are often held to different accountability measures when being reviewed for tenure (McElrath, 1992). Specifically, using data collected as part of a larger project on faculty members in criminology, criminal justice, and sociology departments, McElrath (1992) concludes, based upon 300 female respondents, that women face extreme penalties in the tenure process when interrupting their careers or changing academic jobs, penalties that are not faced by men. In what is, perhaps, the most comprehensive study of sex differences in promotion and tenure by including a myriad of variables relating to both human capital and institutional factors, Perna (2001a) concludes that, “women and men who are participating in the tenure process appear to be equally likely to be tenured after taking into account other differences” (p. 561).

With regard to race and the promotion and tenure process, empirical studies are much more limited. Using data from the 1993 National Survey of Postsecondary Faculty, Toutkoushian (1999) found that Black faculty had a higher probability than White and Hispanic faculty at achieving the rank of full professor, but that Black and Hispanic faculty

had a lower probability of achieving the rank of associate professor after accounting for variance in prior experience, publication productivity, Carnegie classification, and academic discipline. This finding also suggests Black and Hispanic faculty are less likely to receive tenure, as well. Additionally, this finding is echoed by Perna (2001a), who found that there is still unexplained variance between Black and White faculty after controlling for human capital factors.

The empirical research appears to be mixed with regard to clear conclusions on sex differences in promotion and tenure. Furthermore, recent literature (Perna, 2003) seems to suggest that by incorporating additional carefully targeted independent variables into the analysis, a better picture may develop. Moreover, studies including variables pertaining to both human capital and structural theories (i.e. Perna, 2001a) tend to have the most explanatory power, suggesting that both theories are essential to understanding variance for women and racial/ethnic minorities in the tenure process. This notion warrants further discussion; however, for now, we turn to the studies pertaining to faculty salaries before returning to the central question of whether faculty members get what they deserve.

Salary

Bowen and Schuster (1986) identify four dimensions of earnings for faculty members: base contracts, extended contracts, extended pay, and external pay. Base contracts typically refer to a standard 9-month contract whereas extended contracts may involve a duration of 11 or 12 months. Extra pay is derived from such activities of teaching extra classes and advising additional students while external pay is often acquired through external consulting and other services. What follows is a description of the main variables influencing salaries as well as a discussion of the emerging disparities amongst genders and racial/ethnic groups.

Main Influential Variables

As identified by the American Association of University Professors (AAUP, 1995) in the annual report of faculty salaries, the main categories by which salaries are distributed include level of the institution (doctoral, master's, baccalaureate, or two-year), control of the institution (public, private-independent, or private, religiously-affiliated),

and rank of professor (full, associate, assistant, instructor, lecturer, or no rank).

Aside from these basic classifications, salary is also largely dependent upon the human capital traits of educational attainment, experience, mobility, research productivity, teaching performance, and institutional service. Those with more advanced degrees earn more, though research here is limited as many studies focus solely on research universities where a terminal degree is the norm (Fox, 1981; Fairweather, 1995; Hirsch & Leppel, 1982; Konrand & Pfeffer, 1990; Nettles, Perna & Bradburn, 2000; Smart, 1991, Tuckman, 1979). Additionally, research finds that each additional year of experience means more earnings (Fairweather, 1995; Ferber & Kordick, 1978; Fox, 1981; Hoffman, 1976; Perna, 2001b; Ragan, Warren, & Bratsberg, 1999; Tuckman, 1979; Weiler, 1990). Aside from attainment and experience, research productivity (often measured as the number of total articles published) has an influence on salary differentiation (Astin & Bayer, 1972; Ferber & Green, 1982; Ferber, Loeb & Lowry, 1978; Gomez-Meja & Balkin, 1992; Gregario, Lewis, & Wanner, 1982; Tuckman, 1979; Tuckman & Hagemann, 1976; Tuckman & Tuckman, 1976).

Interestingly, those faculty more willing to relocate (often measured by number of years at a given institution) have been shown to earn more (Astin & Bayer, 1972; Ferber & Kordick, 1978; Gomez-Meja & Balkin, 1992; Kasten, 1984; Smart & McLaughlin, 1978; Webster, 1995). This finding is often attributed to the idea of faculty members being offered positions with considerably higher salaries and/or with tenure at other institutions and the consequent willingness of the faculty member to engage in these opportunities. Also, Ragan, Warren, and Bratsberg (1999) argue that serving as the department chair and the number of years in such a position is positively related with higher salaries.

Although with much less empirical evidence, some argue that teaching performance is a strong predictor of faculty salary (Koch & Chizmar, 1973), but the evidence is weak, particularly in the four-year sector. One possible explanation for this lack of evidence lies in the notion that teaching is much more central to the role of faculty members in two-year institutions (Townsend & Twombly, 2007). Fairweather (1994, 1996), however, finds that faculty who teach less and publish more earn higher salaries at four-year institutions, regardless of control or academic

discipline. This study is significant in that it includes both human capital factors (publication) with structural factors (academic discipline). Service to the department has also been studied; using a panel dataset consisting of faculty members in economics, Ragan, Warren, and Bratsberg (1999) find that serving as the department chair and the number of years in such a position is positively related to higher salaries.

Aside from characteristics of human capital, empirical findings also suggest that faculty salaries are further determined by such structural characteristics as institutional context and academic discipline. As noted earlier, institutional type and control are determining factors of faculty salaries, but so, too, are such factors as the selectivity of institutions, with more selective institutions offering higher salaries (Astin & Bayer, 1972; Cox & Astin, 1977), and size of the institution, with larger schools offering higher salaries (Cox & Astin, 1977; Pfeffer & Ross, 1990; Tolbert, 1986). Additionally, the academic disciplines of law, engineering, medicine, and certain hard sciences are known to have higher salaries, which are largely influenced by market forces and relative demand (Astin & Bayer, 1972; Marshall & Petrucci, 1982; Pfeffer & Langton, 1988; Smart & McLaughlin, 1978; Toutkoushian, 1998; Tuckman, 1979; Tuckman & Hagemann, 1976).

Just as with promotion and tenure, one would assume that candidates presenting the same level of credentials in the characteristics identified to be equally compensated; however, empirical findings suggest otherwise. From 1976 to 1996, the gap between the number of men and women in higher education has closed; however, the gender gap in salary has remained the same (NCES, 2001). Why does such a gap exist? Much research attempts to address this question by controlling for human capital factors such as educational attainment, previous experience, publication productivity, institutional characteristics, and discipline (Astin & Bayer, 1972; Bellas, 1997; Fairweather, 1993; Konrad & Pfeffer, 1990; Perna, 2001b; Toutkoushian, 1998).

Though some have argued a relatively equal distribution of pay after controlling for human capital factors (e.g., Ramond, Sesnowitz, & Williams, 1988; Swartzman, Selig, & McClelland, 1992), the overwhelming majority of the research has demonstrated clear gender differences in salary that cannot be explained by human capital factors. Specifically, using a national survey conducted in 1992, Toutkoushian

(1998) found an 11% salary gap between men and women after controlling for a myriad of independent variables. By disaggregating respondents further, Perna (2001b) found that “older” faculty members (faculty members who have held their rank for a number of years) demonstrated greater gaps in male and female salaries that cannot be fully explained by human capital factors; however, starting salaries for both assistant and associate professors tend to be similar for men and women.

Extending this body of literature, studies have addressed more subtle factors that may lead to a salary disparity. Some argue that salary structures unfairly reward career trajectories of men, implying that the current salary scale isn't fair (Finkelstein, 1985). This is particularly the case when tenure and promotion structures do not take into consideration the socialization of women and ethnic minorities. Additionally, Bellas (1997) argues that women tend to have a bias towards low-paying disciplines. In other words, from a conflict theory perspective, the current salary structure is biased against women and the gap between male and female earnings will not change until the structure is overhauled and societal forces on women and ethnic minorities have been altered.

Research on disparities amongst racial/ethnic groups is more limited than studies on female faculty members, partially due to the small number of minority faculty members. Just as with studies on sex differences, however, the literature is mixed in its findings. Hoffman (1976) finds a somewhat higher salary amongst African Americans in the mid 1970s as compared to their white counterparts, which the author attributes to a high demand for a small supply of African American academics. In another study, Jusenius and Scheffler (1981) conclude that African American and East Indian male economists make less than their white counterparts. More recent work, however, suggests that salaries across racial/ethnic groups have begun to level out and become comparable (Nettles, Perna, & Bradburn, 2000).

Discussion

Do faculty members get what they deserve in terms of the academic reward structure? From this review of the literature, it remains unclear. While gaps remain in the promotion and tenure as well as salary statistics

for women and ethnic minorities, the challenge is attributing these gaps specifically to gender and race, aside from human capital and institutional characteristics. Research accounting for these characteristics would expect to find little variation across gender and ethnicity, yet findings seem to suggest that women and ethnic minorities are receiving promotion and tenure at a lower rate than their peers and are receiving lower salaries. More recent literature seems to suggest a general leveling off in the racial disparities as well as in sex disparities, particularly in starting salaries.

In interpreting any of these results, however, at least three significant points must be addressed: the population, the methodology employed (including the variables in the analysis), and the time frame of the study. In a review of the literature on faculty salary, Perna (2003) reveals how data on promotion and tenure decisions, salary, as well as the independent variables under analysis, particularly on a national scale, are limited. Many of the studies have been conducted on a specific campus or within a specific discipline and, thus, their findings must be tempered with context.

Additionally, methodological techniques used in earlier studies (such as logistic regression) may not be as informative as the more commonly used method of OLS regression. Furthermore, OLS regression also has its limitations in that it cannot take into account nested variables, which may lead to a more informed analysis. For example, faculty are nested within institutions and further nested within academic departments; these between school differences can be taken into account using methods such as hierarchical linear modeling (HLM). Aside from specific methods, analyses have also found drastically different results depending on the array of independent variables included. This is particularly telling in the example of more recent research that seems to suggest that disparities between women and ethnic minorities can be fully explained by teasing out enough variables from the error term.

Finally, much of the research has been cross-sectional; additional research using longitudinal analysis is warranted. This is particularly relevant for studies that wish to focus on variation between starting salaries and later earnings. With such limitations on the current body of quantitative work, further scholarship may also wish to employ methods from carefully conducted qualitative research. Furthermore, any review

of the literature surrounding the determinants of salary, promotion and tenure would be remiss without acknowledging that there are a number of variables for which we are seemingly unable to control. While this review has focused on the human capital and structural characteristics that determine faculty rewards, other factors such as motivation, life experiences, and societal pressures which led new faculty members to pursue an academic career—as well as those experiences that led others to pursue different directions, a population we may never be able to study—certainly play a role in the career of a faculty member.

Despite a demonstrated thirty-year differential in the promotion and compensation of women and ethnic minorities, research in this arena has been unable to offer a definitive answer as to the explanation of this void. Are tenure and promotion decisions as well as salary increases decided based solely upon human capital factors and structural components or are certain groups, such as women and ethnic minorities, being disadvantaged based on their sex and/or race? Moreover, are faculty members getting what they deserve? Current research yields varied results and the issue continues to be a topic of empirical research. At this point, we appear to be unable to provide a definitive answer to this important question. Perhaps future research will shed additional light on this question by employing larger datasets, nested techniques, and longitudinal analysis.

References

- American Association of University Professors. (1995). *Policy documents and reports*. Washington, DC: Author.
- Astin, H.S., & Bayer, A.E. (1972). Sex discrimination in academe. *Educational Record*, 53, 101-118.
- Austin, E.F., & Gamson, Z.F. (1983). *Academic workplace: New demands, heightened tensions*. (ASHE/ERIC Higher Education Research Report, No. 10). Washington, DC: Association for the Study of Higher Education.
- Becker, G.S. (1962). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70(5), 9-49.
- Bellas, M.L. (1997). Disciplinary difference in faculty salaries: Does gender bias play a role? *Journal of Higher Education*, 68, 299-321.
- Bowen, H.R., & Schuster, J. (1986). *American professors: A national resource imperiled*. New York, NY: Oxford University Press.
- Braxton, J.M. (1986). The normative structure of science. In J.C. Smart (Ed.), *Higher education: Handbook of theory and research*, Vol. 2 (pp. 309-357). New York, NY: Oxford University Press.
- Broder, I.E. (1993). Professional achievements and gender differences among academic economists. *Economic Inquiry*, 31, 116-127.
- Cox, M., & Astin, A.W. (1977). Sex differentials in faculty salaries. *Research in Higher Education*, 7(4), 289-298.
- DeYoung, A.J. (1989). *Economics and American education: A historical and critical overview of the impact of economic theories on school in the United States*. White Plains, NY: Longman.
- Dreijamins, J. (1991). Higher education and employment: Is professional employment a right? *Higher Education Review*, 23(3), 7-18.

- Dwyer, P. (1994). Gender differences in the scholarly activities of accounting academics: An empirical investigation. *Issues in Accounting Education*, 9(2), 231-246.
- Fairweather, J.S. (1994). The relative value of teaching, research, and service. In H. Wechsler (Ed.), *The NEA 1994 almanac of higher education* (pp. 39-58). Washington, DC: National Education Association
- Fairweather, J.S. (1995). Myths and realities of academic labor markets. *Economics of Education Review*, 14, 179-192.
- Fairweather, J.S. (1996). *Faculty work and public trust: Restoring the value of teaching and public service in American academic life*. Needham Heights, MA: Allyn and Bacon.
- Ferber, M.A., & Green, C.A. (1982). Traditional or reverse sex discrimination? A case study of a large public university. *Industrial and Labor Relations Review*, 35(4), 550-564.
- Ferber, M.A., & Kordick, B. (1978). Sex differentials in the earnings of Ph.Ds. *Industrial and Labor Relations Review*, 31(2), 227-238.
- Ferber, M.A., Loeb, J.W., & Lowry, H.M. (1978). The economic status of women faculty: A reappraisal. *Journal of Human Resources*, 13(3), 385-401.
- Finkelstein, M.J. (1984). The status of academic women: An assessment of five competing explanations. *Review of Higher Education*, 7(3), 223-246.
- Fox, M.F. (1981). Sex segregation in salary structure in academia. *Sociology of Work and Occupations*, 8(1), 39-60.
- Gaston, J. (1978). *The reward system in British and American science*. New York, NY: Wiley.
- Gomez-Mejia, L.R., & Balkin, D.B. (1992). Determinants of faculty pay: An agency theory perspective. *Academy of Management Journal*, 35(5), 921-955.

- Goode, W.J. (1969). The theoretical limits of professionalism. In A. Etzioni (Ed.), *The semi-professions and their organization* (pp. 255-313). New York, NY: The Free Press.
- Gordon, N.M., Morton, T.E., & Braden, I.C. (1974). Faculty salaries: Is there discrimination by sex, race, and discipline? *American Economic Review*, 64(3), 419-427.
- Gregario, D.I., Lewis, L.S., & Wanner, R.A. (1982). Assessing merit and need: Distributive justice and salary attainment in academia. *Social Science Quarterly*, 63(3), 492-505.
- Hirsch, B.T., & Leppel, K. (1982). Sex discrimination in faculty salaries: Evidence from a historically Black women's university. *American Economic Review*, 72(4), 829-835.
- Hoffman, E.P. (1976). Faculty salaries: Is there discrimination by sex, race, and discipline? Additional evidence. *American Economic Review*, 66(1), 196-198.
- Hofstadter, R., & Metzger, W.P. (1955). *The development of academic freedom in the United States*. New York, NY: Columbia University Press.
- Jusenius, C.L., & Scheffler, R.M. (1981). Earnings differentials among academic economists: Empirical evidence on race and sex. *Journal of Economics and Business*, 32(2) 88-96.
- Kadish, S.H. (1972). The theory of the profession and its predicament. *AAUP Bulletin*, 5, 120-125.
- Kasten, K.L. (1984). Tenure and merit pay as rewards for research, teaching, and service at a research university. *Journal of Higher Education*, 55(4), 500-514.
- Koch, J.V., & Chizmar, J.F. (1973). The influence of teaching and other factors upon absolute salaries and salary increments at Illinois State University. *Journal of Economic Education*, 5(1), 27-34.

- Konrad, A.M., & Pfeffer, J. (1990). Do you get what you deserve? Factors affecting the relationship between productivity and pay. *Administrative Science Quarterly*, 35, 258-285.
- Marsh, J.F., & Stafford, F.P. (1967). The effects of values on pecuniary behavior: The case of academicians. *American Sociological Review*, 32(5), 740-754.
- Marshall, H., & Perrucci, C.C. (1982). The structure of academic fields and rewards in academia. *Sociology and Social Research*, 66(2), 127-147.
- Martin, A.J. (2005). The role of positive psychology in enhancing satisfaction, motivation, and productivity in the workplace. *Journal of Organizational Behavior Management*, 24(1/2), 113-133.
- McElrath, K. (1992). Gender, career distribution, and academic rewards. *Journal of Higher Education*, 63(3), 269-281.
- National Center for Education Statistics. (2001). *Digest of education statistics: 2000*. Washington, DC: Author.
- National Center for Postsecondary Improvement. (2000). Why is research the rule? The impact of incentive systems on faculty behavior. *Change*, 32, 53-56.
- Nettles, M.T., Perna, L.W., & Bradburn, E.M. (2000). *Salary, promotion, and tenure status of minority and women faculty in U.S. colleges and universities*. Washington, DC: U.S. Department of Education.
- O'Meara, K., Terosky, A.L., & Neumann, A. (2008). *Faculty careers and work lives: A professional growth perspective*. (ASHE Higher Education Report, No. 24.) San Francisco, CA: Jossey-Bass.
- Perna, L.W. (2003). Studying faculty salary equity: A review of theoretical and methodological approaches. In J.C. Smart (Ed.), *Higher Education: Handbook of Theory and Research*, Vol. 18 (pp. 323-388). Dordrecht, The Netherlands: Kluwer Academic Publishers.

- Perna, L.W. (2001a). Sex and race differences in faculty tenure and promotion. *Research in Higher Education*, 42(5), 541-567.
- Perna, L.W. (2001b). Sex differences in faculty salaries: A cohort analysis. *The Review of Higher Education*, 42(3), 283-307.
- Persell, C.H. (1983). Gender, rewards, and research in education. *Psychology of Women Quarterly*, 8(1), 33-47.
- Pfeffer, J., & Langton, N. (1988). Wage inequality and the organization of work: The case of academic departments. *Administrative Science Quarterly*, 33(4), 588-606.
- Pfeffer, J., & Ross, J. (1990). Gender-based wage differences: The effects of organizational context. *Wage and Occupations*, 17(1), 55-78.
- Ragan, J.F., Warren, J.T., & Bratsberg, B. (1999). How similar are pay structures in 'similar' departments of economics. *Economics of Education Review*, 18, 347-360.
- Ransom, M.R., & Megdal, S.B. (1993). Sex differences in the academic labor market in the affirmative action era. *Economics of Education Review*, 12(1), 21-43.
- Raymond, R.D., Sesnowitz, M.L., & Williams, D.R. (1988). Does sex still matter? New evidence from the 1980s. *Economic Inquiry*, 26, 43-58.
- Riggs, M.L., Downey, R.G., McIntyre, P.E., & Hoyt, D.P. (1986). Using discriminate analysis to predict faculty rank. *Research in Higher Education*, 25(4), 365-376.
- Rosenfeld, R.A., & Jones, J.A. (1987). Patterns and effects of geographic mobility for academic women and men. *Journal of Higher Education*, 58(5), 493-515.
- Rudolph, F. (1962). *The American college and university: A history*. New York, NY: Vintage Books.

- Schultz, T.W. (1961). Investment in human capital. *American Economic Review*, 51(1), 1-17.
- Smart, J.C. (1991). Gender equity in academic rank and salary. *Review of Higher Education*, 14(4), 511-526.
- Smart, J.C., & McLaughlin, G.W. (1978). Reward structures of academic disciplines. *Research in Higher Education*, 8, 39-55.
- Swartzman, L.C., Seligman, C., & McClelland, W.J. (1992). Detecting gender discrimination in university salaries: A case study. *Canadian Journal of Higher Education*, 22(1), 1-12.
- Szafran, R.F. (1984). *Universities and women faculty: Why some organizations discriminate more than others*. New York, NY: Praeger Publishers.
- Tierney W.G., & Bensimon, E.M. (1996). *Promotion and tenure: Community and socialization in academe*. Albany, NY: State University of New York Press.
- Tolbert, P.S. (1986). Organizations and inequality: Sources of earnings differences between male and female faculty. *Sociology of Education*, 59(4), 227-235.
- Toutkoushian, R.K. (1998). Racial and marital status differences in faculty pay. *Journal of Higher Education*, 69(5), 513-541.
- Toutkoushian, R.K. (1999). The status of academic women in the 1990s: No longer outsiders, but not yet equals. *Quarterly Review of Economics and Finance*, 39, 679-698.
- Townsend, B.K., & Twombly, S.B. (2007). *Community college faculty: Overlooked and undervalued*. (ASHE Higher Education Report No. 32.) San Francisco, CA: Jossey-Bass.
- Tuckman, B. H. (1979). Salary differences among university faculty and their implications for the future. In T.R. Pezzullo & B.E. Brittingham (Eds.), *Salary equity: Detecting sex bias in salaries among college*

and university professors (pp. 19-36). Lexington, MA: Lexington Books.

Tuckman, B.H., & Tuckman, H.P. (1976). The structure of salaries at American universities. *Journal of Higher Education*, 17(1), 51-64.

Tuckman, H.P., & Hagemann, R.P. (1976). An analysis of the reward structure in two disciplines. *Journal of Higher Education*, 47(4), 447-464.

Webster, A.L. (1995). Demographic factors affecting faculty salary. *Educational and Psychological Measurement*, 55(5), 728-735.

Weiler, W.C. (1990). Integrating rank differences into a model of male-female faculty salary discrimination. *Quarterly Review of Economics and Business*, 30(1), 3-15.

Youn, T.I.K. (1992). The sociology of academic careers and academic labor markets. *Research in Labor Economics*, 13, 101-130.

Youn, T.I.K. (1988). Studies of academic markets and careers: An historical review. In D.W. Breneman & T.I.K. Youn (Eds.), *Academic labor markets and careers* (pp. 8-27). New York, NY: Falmer Press.