

Salary Negotiations and the Gender Pay Gap: Evidence from a University Setting

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***Abstract:** This study examines how the timing of salary negotiations contributes to the gender pay gap in academia. Using survey data from a public research university in the United States, we demonstrate that women faculty are indeed paid significantly less than their male counterparts. We also show that women faculty are actually more likely to engage in salary negotiations at the outset of their careers but that their greater relative tendency to negotiate disappears entirely by the time of tenure, which we attribute to familial obligations and other pressures that limit their ability to seek competing offers. Finally, and critically, the results indicate that only negotiations at the stage of tenure have a meaningful impact on professors' salaries.*

Keywords: Gender, salary negotiation, tenure

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Introduction

Through out the 1960s and 1970s, the US government passed numerous initiatives designed to end pay discrimination for laborers based on individual characteristics such as race/ethnicity and gender. In the decades since, literature has examined pay differentials between men and women in the general labor market, with many studies demonstrating that women are paid less than men, though the gap has decreased over time (Olivetti & Petrongolo, 2016; Wiedman, 2019). Within academia in particular, the persistence of a gender pay gap is well documented (Barbezat & Hughes, 2005; Kelly & Grant, 2012; Porter, Toutkoushian & Moore, 2008). Scholars propose a litany of explanations for the gender pay gap in the professoriate, including familial obligations (Husu, 2005), predominant disciplines of study (Kelly & Grant, 2012), rank and seniority (Burke et al., 2005), societal stereotypes and biases (Wiedman, 2019), and research output (Creamer, 1998; O'Meara, 2011).

We investigated how salary negotiations, and the timing of those negotiations, contributed to the gender pay gap in academia. Women often face family pressures at precisely the time when academics on the tenure track are expected to seek outside offers that can increase their negotiating leverage in anticipation of promotion to tenure (Acker & Armenti, 2004). Yet, the literature to this point has not sufficiently addressed negotiation differences between men and women faculty at key points in their professional trajectories, in particular at hire and at promotion to tenure.

While some research has explored the impact of negotiation tactics on pay differentials among men and women faculty members in the higher education setting (Silva & Galbraith, 2018), the idea that negotiations are a driver of the gender pay gap is most frequently discussed in the context of corporate America. In that setting, studies have conventionally indicated that women are paid less because they are more averse to negotiating higher salaries (Babcock et al., 2006; Gray et al., 2019). This study aimed to explain why women may not be as likely to negotiate salary raises at keypoints in their careers and how the institutional setting may play a role.

To examine this issue, we relied on an online survey of tenured faculty at a large, public research-intensive institution in the United States, which

we refer to as Western University (WU). The study drew 126 respondents from across 15 schools or colleges at WU. All participants had advanced to tenure, which ensured that they had been exposed to the most critical opportunities for salary negotiation – upon hire and at the tenure stage.

The study was based on the conceptual framework of the loyal servant hypothesis (Booth et al., 2003), which argues that women face commitments that limit their mobility and thus undermine their capacity to seek and receive offers that could aid their salary negotiations. To operationalize the conceptual framework, the study focused on three research questions:

- 1) Does a gender pay gap exist among tenured faculty at WU?
- 2) Are negotiation tendencies at hire and at promotion to tenure important determinants of salary at WU?
- 3) If negotiation is a meaningful determinant of salary, do women's (and men's) negotiation tendencies change from the stage of hire to the stage of promotion?

The study contributes to the literature in three important ways. First, it underscores not just the importance of negotiating leverage as a driver of salaries, but also that the timing of those negotiations may be critical to closing the gender pay gap in academia. Second, it draws renewed attention to the shifting priorities and challenges that women faculty face as they advance in their careers and lives. Finally, the study relies on information gleaned directly from faculty members in a large university setting, which afforded us the opportunity to establish patterns in the data while also supplementing the quantitative evidence with firsthand insights and anecdotes from faculty members.

Literature Review

The gender pay gap in academia has received extensive attention from researchers (Barbezat & Hughes, 2005; Doucet & Durand, 2012; Porter, Toutkoushian & Moore, 2008; Wiedman, 2019). Studies note that, while the gap has decreased from its peak, the rate at which the gender pay gap is closing has begun to slow in recent years. As Miller and Vagins (2018) note, “at the rate of change between 1960 and 2017, women are expected to reach pay equity with men in 2059. But even that slow progress has

stalled in recent years. If change continues at the slower rate seen since 2001, women will not reach pay equity with men until 2106” (p. 5).

The early gains may be explained by women’s entrance into male-dominated fields (Banchefsky & Park, 2018), as well as increased educational opportunities and legislated workplace protections (Crenshaw, 1995; England et al., 2020).

That the pay gap persists despite legislated workplace protections and women’s assumption of traditionally male roles suggests that more subtle and still culturally acceptable reasons contribute to the salary differential, including gender bias and differences in negotiation. Much of the literature indicates that men negotiate more than women (Bowles et al., 2005; Kolb, 2009; Kolb & McGinn, 2008). For instance, a study comparing male and female master’s degree students found that among graduating MBA students, 51.9% of men negotiated their job offer, whereas only 12.5% of women did (Small et al., 2007). As subsequent raises are often tied to initial salaries, this may have consequences for future earnings.

Numerous gendered factors can further contribute to the disparity in outcomes of negotiating between men and women. First, studies note a historical gendered expectation among both male employees and employers that men should earn more money, precisely because they have traditionally done so (Bowles & Babcock, 2013; Jost, 1997). Bowles and Babcock (2013) stress that, “in the context of a compensation negotiation, these expectations become a self-fulfilling prophecy—particularly when there is ambiguity about pay standards” (p. 80).

Research also suggests that women are less likely to perceive situations as negotiable, to set high personal salary expectations, and to call foul play, unlike their male counterparts who are more likely to themselves engage in lower-handed or aggressive negotiating tactics (Amanatullah & Tinsley, 2013; Manea et al., 2020; Säve-Söderbergh, 2019). Some scholars argue that these differences stem from women perceiving negotiations as a cooperative context, whereas men tend to perceive negotiations in competitive terms (Amanatullah & Tinsley, 2013). Building on literature on gendered institutions (Acker, 1990), Small et al. (2007) argue that the language of negotiation “implies a face-threatening

act that is inconsistent with norms for politeness among low-power individuals, such as women” (p. 600). Furthermore, research suggests that men may perceive negotiations as an instant, whereas women perceive negotiations as part of a longer relationship (Amanatullah & Tinsley, 2013).

Studies also indicate that women pay a social cost for engaging in negotiations. According to Bowles et al. (2007), negotiating for higher compensation has no effect on men’s willingness to work with men, but it has a significant negative effect on men’s willingness to work with women. Women, meanwhile, tend to penalize men and women equally for attempting to negotiate. As Amanatullah and Tinsley (2013) explain, women are stuck between being perceived as likeable or competent; too assertive a stance detracts from their likeability, whereas “non-assertive behavior is seen as weak and gullible, suggesting they are underperforming their role, which leads to leadership backlash” (p.119). The potential fallout from negotiating may exceed the benefit for women who choose to negotiate.

The stage of tenure and promotion is particularly challenging for women faculty in academia. Studies highlight how women faculty often feel, at this stage where long-term professional stability is on the line, that they must consistently prove their worth, “cope well,” and demonstrate that they are no different from their male counterparts (Acker & Armenti, 2004). Women faculty at this stage are also often charged with mentoring women students and more junior women faculty in an effort to support women in fields dominated by men, which adds additional pressure, fatigue, and burnout (Acker& Armenti, 2004; Winslow, 2010).

Studies also note that the critical juncture of tenure is further complicated by women’s life stages, when the tenure clock may be competing with women faculty’s family planning (Acker & Armenti, 2004). Other factors that can shape women’s productivity prior to tenure, and thus their negotiating leverage at the time of tenure, include additional teaching demands (Winslow, 2010), greater service expectations at the department and university levels (El-Alyali et al., 2018; Misra et al., 2011), motherhood and familial obligations (Ravizza & Peterson-Iyer, 2013; Ward & Wolf-Wendel, 2013), and gender bias in evaluations of their work (Harlow, 2003; Ho et al., 2009; Laube et al., 2007).

Lastly, it is important to contextualize the environment into which women faculty have entered over the years. Before the passage of Title IX in 1972, as Miller (2020) argues, “the terms ‘sexism’ and ‘sexual discrimination’ barely existed; moreover, many employers that practiced sexual discrimination claimed it wasn’t problematic, as it was the ‘natural order of things’” (Miller, 2020, p.132). With the passage of Title IX in 1972, the ratio of female faculty grew from less than 20% in 1970, to 24% by 1980, 38% as of 1993, and to approximately 50% in 2020 (AAUP, 2020). Social and policy changes over time have thus led to near parity in men’s and women’s participation in the professoriate, and women are increasingly taking on leadership roles in higher education, as well (Hannum et al., 2015). Yet, numerous studies suggest that women faculty continue to face a “chilly climate” (Maranto & Griffin, 2011), earning lower evaluation scores, facing greater odds of harassment from students and colleagues, and being overlooked for promotions despite publishing at similar rates as their male colleagues (August & Waltman, 2004; Dixon, 2013; Sandler, 1991). Today, less than one-third of full professors identify as women (AAUP, 2020), which may be a result of both discrimination in promotion and the gender imbalance in hiring in previous decades which has manifested itself in the gender composition of senior ranks (O’Connor, 2019). Nevertheless, as female faculty have remained in the professoriate and mentored other women, the situation has improved enough to shift the conversation toward wage comparisons across men and women faculty (Gibson, 2006).

Conceptual Framework

Building on the literatures on salary negotiations and the gender pay gap in academia, we framed our analysis using the lens of the loyal servant hypothesis (Booth et al., 2003), while also understanding higher education institutions as gendered organizations in which processes are ordered based on long-established social norms for men and women (Acker, 1990). The loyal servant hypothesis argues that women face family, motherhood, and other commitments that may limit their mobility on the job market, especially in an academic context in which moving to a new job typically requires relocating to a different town or city. If universities perceive women faculty as less mobile because of those commitments, they may recognize that the likelihood of those women faculty receiving outside employment offers at the time of promotion is lower, and they may thus make lower salary adjustment

offers (Booth et al., 2003). In addition, other universities that follow this logic would be less inclined to view potential women hires at the stage of promotion as capable of leaving their current institution, so competing offers may not be forthcoming, thus reinforcing the perception of loyal servitude to the home institution (Blackaby et al., 2005). Scholars also note additional reasons apart from mobility that may contribute to the perception of women faculty as loyal servants, including greater risk aversion than men (Blackaby et al., 2005), stronger ties to students (El-Alyali et al., 2018), and general patterns of expected nurturing and helpful behavior in alignment with the social roles of women (Eagly, 1987). As noted, Small et al. (2007), Babcock and Lascheser (2003), and others suggest that women, even when operating from strengthened positions, tend not to ask for salary raises and promotions to the degree that men do.

Acker's (1990) model of gendered organizations guided our understanding of higher education institutions as organizations that may favor and reward work performed by a masculinized ideal worker. The masculinized ideal worker is an individual who is devoted completely to a job; the conceptualization assumes that the worker has another individual—for example, a wife—at home attending to the worker's personal needs and other time-intensive undertakings outside of work. While some employers view men who are also fathers as appealing in the sense that fatherhood does not discredit men's work (Hodges & Budig, 2010), working women who are mothers are not generally afforded the same luxury (Gerson, 2010). Research on the "motherhood penalty" suggests that gender stereotypes, social roles, and biases can lead employers to prefer women who are not mothers over those who have children due to a perception that working mothers may be less productive and require more time away from the workplace (Acker 1990; Rapoport, 2002; Valian, 1998). Studies also suggest that women tend to bear greater responsibility for childrearing and housework, and that women academics who are mothers tend to have less time for publication and research activities than male academics who are fathers (Carr et al., 1998; Whittington, 2011). As such, a woman's professional status may be compromised as she advances toward the stage of promotion. This may contribute to the perception that mothers in academia are less successful than fathers (Carr et al., 1998) and may further reinforce norms within gendered institutions that limit the capacity of women to obtain salary increases.

We note that the motherhood penalty may be a critical factor contributing to the perception of women as loyal servants as they advance from their initial hire to the stage of tenure and promotion. Academics are typically hired as assistant professors after completing their graduate studies, when they are less likely to have extensive family obligations to a spouse and children (Carr et al., 1998; Whittington, 2011). The period from hire to tenure, however, is one in which many academics are also at the life stage of building families (Carr et al., 1998). Thus, whereas women now earn over half of all doctoral degrees (Okahana & Zhou, 2018) and increasingly embrace the opportunity to negotiate their salaries at the outset of their academic careers, they may then face familial pressures, along with the norms of gendered institutions, that reinforce their image as loyal servants in ways that may undercut their capacity to seek outside offers, produce sufficient research to negotiate a raise, or receive appropriate counteroffers from their home institutions at the stage of tenure and promotion. Constraints on the patterns and timing of women's salary negotiations can thus contribute to the pay gap between men and women in the professoriate.

To operationalize the loyal servant hypothesis, the study relied on reported salary information, faculty members' history of negotiating their salaries at the time of hire and upon tenure and promotion, and the relationship between negotiations and salary increases. We hypothesized that a gender pay gap does exist between men and women, with male faculty out-earning their women colleagues, and that a contributing factor is that women are less able to negotiate higher salaries precisely when it matters most – at the time of tenure and promotion.

To evaluate this hypothesis, Research Question 1 asked whether or not a difference in salaries existed across men and women faculty. Research Question 2 asked how salary negotiations at different points in time affected long-term pay among study participants. Finally, Research Question 3 examined whether men and women's negotiating tendencies changed from the stage of hire to the stage of tenure. If women were less prone to negotiate as they advanced to tenure, the results would lend support to this study's application of the loyal servant hypothesis. Furthermore, if negotiations at the time of tenure were strong predictors of longer-term salary, and women were missing out on those opportunities for raises, the loyal servant hypothesis could be viewed as one explanation for the gender pay gap.

Data and Methodology

Data

The study relied on survey data collected at Western University (WU), a public research university located in the western region of the United States. At the time of data collection in the spring of 2016, WU employed 3,391 full-time faculty members, with 54% identifying as men and 46% as women. Among faculty holding tenure ($n=930$), roughly 73% identified as men and 27% as women. The survey was limited to tenured faculty at the rank of associate or full professor to ensure that all participants had experience with the stages of both hire and tenure.

Faculty members were contacted via departments. Of the 709 faculty members who received the survey, 126 participants responded, representing 17.8% of the total potential sample. Table 1 shows the distribution of respondents across colleges and schools.

Table 1

Distribution of Study Participants by College/School (N=126)

WU College/School	Male	Female	Pooled
Arts & Sciences	9.59%	26.00%	15.87%
Business	19.18%	4.00%	12.70%
Design	9.59%	20.00%	15.08%
Education	4.11%	10.00%	6.35%
Engineering	17.81%	4.00%	11.90%
Information Sciences	1.37%	0.00%	0.79%
Graduate School	2.74%	0.00%	1.59%
Health Science	4.11%	2.00%	3.17%
Journalism	1.37%	0.00%	0.79%
Law	2.74%	2.00%	2.38%
Nursing	1.37%	2.00%	1.59%
Pub Service	16.44%	16.00%	15.87%
Environmental Studies	4.11%	0.00%	2.38%
Academic Support	0.00%	2.00%	0.79%
Management & Leadership	1.37%	4.00%	3.17%

Notes: Seventy-three respondents identified as male, 50 as female, and three did not indicate a gender identity. The pooled results include all 126 respondents.

The survey was developed by the authors and pilot tested within a department at WU whose faculty members were excluded from the actual data collection to ensure a clean sample. The instrument was designed to address the key research questions, with the aim of determining whether women face constraints that reduce their tendency

to negotiate as they approach the stage of tenure and promotion, as the loyal servant hypothesis predicts. Missing data proved not to be an impediment to the study. For example, 98.4% provided a response to the survey item regarding salary and over 99% responded to questions regarding their negotiation history at hire and at tenure. Missing observations were dropped rather than imputed.

Descriptive statistics for the survey participants are reported in Table 2. Regarding differences in racial identity, 89% of survey respondents self-identified as White; 5% as Asian; 3% as Hispanic, Latino or of Spanish origin; approximately 2% as a race not listed on the survey; and fewer than 1% identified as American Indian/Alaska Native or Middle Eastern/North African. No participants identified as African American/Black. The sample includes respondents from across the university's disciplines, with 12.6% employed in a STEM field (Engineering). The mean year of hire among study participants was 1980, suggesting a more senior pool of respondents. The average salary of respondents was just under \$100,000. Fifty-nine percent of participants identified as men, and 39.5% identified as women. The study presents results according to the categories of men and women, consistent with convention in the literature and the patterns in the data, though we recognize that doing so could introduce theoretical and empirical limitations.

Table 2

Descriptive Statistics of the Survey Sample (N=126)

Statistic	N	Mean	Std. Dev.	Min	Max
Female	124	0.403	0.493	0.000	1.000
White	125	0.896	0.306	0.000	1.000
In a STEM Field	119	0.126	0.333	0.000	1.000
Recency of Hire	120	1.933	1.150	0.000	5.000
Full Professor	126	0.524	0.501	0.000	1.000
Salary Range	124	6.363	1.867	1.000	8.000

The survey covered a range of topics including hiring and promotion, negotiations, salary, and perceptions of the effects of gender on base salary levels. Participants also provided personal background and demographic data. Outcomes were primarily gauged using Likert response scales, though the survey also included several open-ended questions that allowed survey participants to share broader, subjective views related to the survey topics. All surveys were completed anonymously in an online context, and WU's Institutional Review Board

(IRB) approved the survey instrument. The format was non-experimental.

Key outcomes of interest included the faculty member's salary, negotiation experience, and gender. To gauge salary, respondents were asked to place their current salary in one of eight bins, where 1=\$45,000 to \$54,999; 2=\$55,000 to \$64,999; 3=\$65,000 to \$74,999; 4=\$75,000 to \$84,999; 5=\$85,000 to \$94,999; 6=\$95,000 to \$104,999; 7=\$105,000 to \$114,999; and 8=\$115,000 or higher. To account for faculty members' negotiation experience, the survey asked respondents whether they had negotiated their salary upon being offered a tenure-track position and/or at the stage of tenure. The tenure stage included the 12 months prior to conferral of tenure in addition to the post-tenure contract, in order to capture the key moments at which one might negotiate a raise in association with earning or anticipating tenure.

The data meet the assumption of normality with one exception. Because salaries tend to increase mechanically with time served, and because the salary ranges presented to respondents aggregated the highest earners, the salary data is positively skewed. We address the skewness in the analyses that follow. We note two additional limitations of the study as it was constructed. First, the study focused solely on faculty members who held tenure at WU and not those still on the tenure clock (i.e., assistant professors), which was done in order to ensure that respondents were exposed to the potential negotiation period around tenure. Second, the study was limited by the lack of diversity among respondents. White individuals made up nearly 90% of participants, with no African American individuals participating in the survey and fewer Latin@ respondents than is representative of the faculty at WU.

Empirical Strategy

We conducted two primary analyses, the first to evaluate determinants of salary levels at WU and the second to gauge the factors that correlate with negotiating for a raise at the stages of hire and tenure. To determine the predictors of salary, we relied on an OLS regression model; the model takes the following form:

$$Y_i = \beta_1 \text{Female}_i + \beta_2 \text{Negotiate at Outset}_i + \beta_3 \text{Negotiate at Tenure}_i + \lambda X_i + \varepsilon_i$$

where Y_i represents the salary level for individual i . Key variables of interest include the gender of the faculty respondent (here, denoted as 1 for Female, 0 otherwise) and indicators for whether or not the faculty respondent negotiated upon hire and at the stage of tenure (1 for yes, 0 for no). We also included a vector (X_i) of individual-level characteristics that includes race (measured by a dummy variable for White, given the paucity of respondents across the various non-White categories), a dummy variable for whether the faculty member works in a Science, Technology, Engineering, and Mathematics (STEM) field (1 for yes, 0 otherwise), the recency of the faculty member being hired as an Assistant Professor, and the professional status of the faculty member (using a dummy variable coded 1 for Full Professor and 0 otherwise). Hiring recency is measured on a six-point scale where 0 indicates the 1960s, 1 the 1970s, 2 the 1980s, 3 the 1990s, 4 the period from 2000 to 2010, and 5 the period from 2010 to 2016.

We used logistic regressions to evaluate the second key outcome, the likelihood of negotiating one's salary. The model followed the same structure only without the independent variables for salary negotiation, as those variables served here as the outcomes of interest. Supplementary qualitative data were coded using word clouds to identify common themes and were then matched to the quantitative outcomes of interest to provide additional insights.

Results

Gender as a Determinant of Salary

Research Question 1 asked whether women faculty earn less than their male counterparts at WU. We thus began the analyses by evaluating determinants of salary, with gender serving as the key independent variable of interest. A simple bivariate comparison of men and women confirmed the pattern well-documented in the literature: women faculty members earned substantially less than their male counterparts. On average, women earned a salary of 5.53 on the 1-8 scale, indicating annual earnings of approximately \$90,000. Men, conversely, reported an average salary of 6.93 on the 8-point scale, corresponding to annual earnings of approximately \$104,000, roughly 15.5% higher than the women faculty respondents. Figure 1 adds additional insight regarding this difference: women were twice as likely as men to earn in the range

of \$65,000-\$75,000, on the lower end of the salary scale, whereas men were almost three times more likely than women to earn above \$115,000.

Figure 1

Distribution of Salaries by Gender

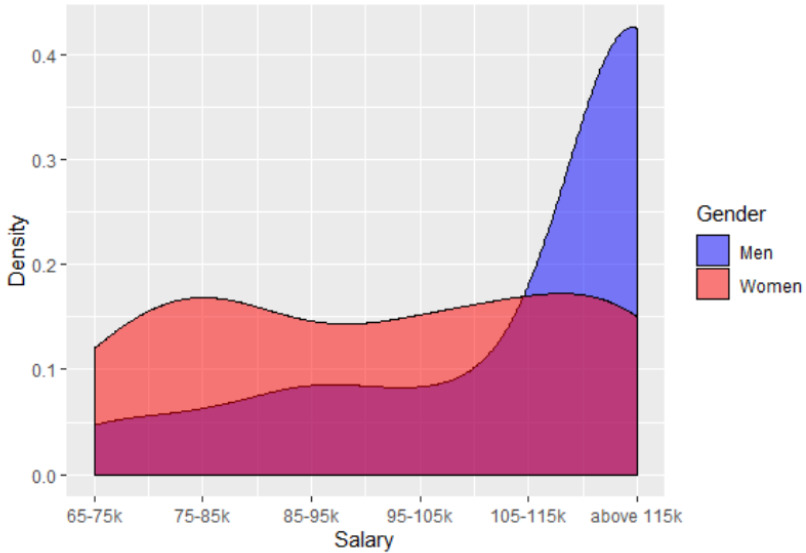


Table 3 presents the impact of gender as well as other professional and demographic factors as determinants of salary in multivariate regression analyses. The results confirm that being a woman correlates significantly with earning a lower salary. In substantive terms, the coefficient of -0.735 ($p=.02$) in Column 1 indicates that women earned about \$7,350 less than their male counterparts, holding other factors constant (noting that each unit on the eight-point scale represents an additional \$10,000 in annual salary). In addition to the effects of gender, Column 1 indicates that faculty members in STEM fields, those with greater longevity since hire, and full professors were likely to earn higher salaries. Column 2 presents the same analysis using the log transformation of the salary data to account for its skewness. The results remain stable, with women earning significantly less than men, holding other factors constant.

Table 3

OLS regression predicting salary range

Predictor	Standard Salary n = 109	Logged Salary n = 109
Female	-0.74 ** (0.31)	-0.12 * (0.06)
White	-0.54 (0.51)	-0.10 (0.09)
In a STEM Field	1.29 *** (0.47)	0.24 ** (0.09)
Recency of Hire	-0.27 ** (0.13)	-0.05 * (0.02)
Full Professor	1.48 *** (0.32)	0.28 *** (0.06)
Negotiated upon Hire	-0.15 (0.30)	-0.02 (0.06)
Negotiated upon Tenure	0.99 *** (0.33)	0.17 ** (0.06)
Constant	6.63 *** (0.56)	1.83 *** (0.10)
R ²	0.356	0.355
Residual Std. Error	1.466 (df = 101)	0.269 (df = 101)
F Statistic	7.980 *** (df = 7; 101)	7.946 *** (df = 7; 101)

Notes: *** $p < .001$, ** $p < .05$, * $p < .01$. Standard errors displayed in parentheses.

Negotiation as a Determinant of Salary

Research Question 2 examined whether negotiating at two critical junctures – upon hire and at promotion to tenure – affected participants’ eventual salaries. This research question helps to determine whether, and when, negotiating can be most helpful to faculty members’ salaries, which sets the stage for evaluating whether women are able to negotiate when it matters most. Referring again to Table 3, Column 1 presents the analysis using salary data in their standard form and Column 2 presents the results using the log transformation of salary. The results reveal an important set of outcomes. Notably, negotiating upon getting hired has no statistical effect whatsoever on eventual salary levels. On the other hand, negotiating at the time of tenure is a significant predictor of higher salaries, boosting annual earnings by nearly \$10,000. This pattern figures importantly in the discussion of women’s salaries and negotiating tactics that follows.

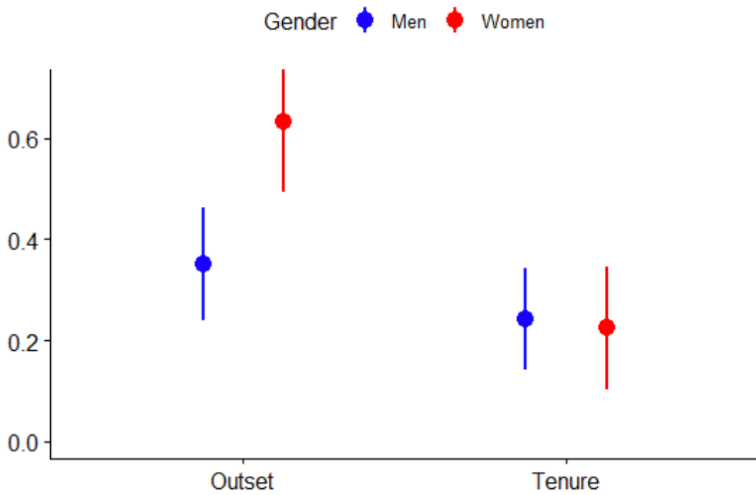
Who Negotiates, and When?

Finally, Research Question 3 asked whether gender correlated with the likelihood that a faculty member at WU negotiated over salary at those two professional junctures, upon hire and at tenure. The bivariate difference-in-means tests that compare the likelihood of engaging in salary negotiations across genders, presented in Figure 2, tell a striking story: women were significantly more likely to negotiate their salaries upon getting hired, not less. This finding runs counter to literatures suggesting that women are too risk averse to negotiate or that gender

discrimination otherwise prevents them from doing so when they are initially offered jobs as assistant professors. In this simple bivariate comparison, 62% of women in the sample, versus just 35% of men, reported negotiating their salary upon getting hired ($p=.003$). Just as striking, however, is that by the time of tenure, that advantage disappears entirely, with 23% of women faculty reporting that they negotiated for a raise compared to 24% of men faculty.

Figure 2

Likelihood of Negotiating Salary upon Hire and at Tenure



The regression analyses presented in Table 4 offer modest support for this pattern. Controlling for race, discipline, recency of hire, and professional status, women were notably more likely to negotiate their salaries upon hire (see Column 1); marginal effects calculations based on the coefficient of 0.669 suggest that being a woman is associated with a 15.3% greater likelihood of negotiating, and the results approach conventional levels of statistical significance ($p=.107$). Being in a STEM field was also associated with negotiating tendencies, reducing the likelihood that the faculty member negotiates a higher salary. As Column 2 indicates, however, being female had no statistical effect on negotiating at the time of tenure, and the direction of the effect is negative if anything. These findings lend support to the bivariate results, indicating an important shift in women's tendency to negotiate their salaries from the outset of their careers to the stage of tenure and promotion.

Table 4

Logit regression predicting likelihood of engaging in salary negotiation

Predictor	Negotiate upon Hire n = 111		Negotiate upon Tenure n = 110	
	Female	0.669 †	(0.43)	-0.030
White	0.471	(0.72)	1.147	(1.10)
In a STEM Field	-1.230 *	(0.72)	-0.830	(0.83)
Recency of Hire	-0.093	(0.18)	-0.105	(0.20)
Full Professor	-0.301	(0.46)	0.612	(0.51)
Constant	-0.327	(0.78)	-2.169 *	(1.16)
Log Likelihood	-71.926		-60.894	
Akaike Inf. Crit.	155.851		133.787	

Notes: *** $p < .001$, ** $p < .05$, * $p < .01$, † $p = .107$. Standard errors displayed in parentheses.

In separate analyses, we evaluated the extent to which faculty members successfully achieved a higher salary as a result of their negotiations, using negotiation success as the dependent variable in logit regressions that otherwise replicated those in Table 4. The results provided tentative evidence that women were somewhat less successful in their negotiation efforts upon getting hired (61% vs. 69%), though the results did not reach conventional levels of statistical significance ($p = .538$). Approximately 90% of both men and women were successful in their negotiations at the stage of tenure, likely owing to the strong probability that many who chose to negotiate at that stage did so with the leverage of a competing offer.

Qualitative evidence from the survey respondents substantiated patterns found in the regression analyses. One female associate professor, reflecting on the negotiation process, said, “I have to say that since getting tenure, I’ve discovered that some male colleagues make considerably more, despite having lower performance. This causes me significant consternation as you’d hope the gender disparity at the university would not be reflective of the larger systemic ceiling for women.” A different woman associate professor added this: “the idea that you could negotiate at the point of tenure was not really one that was discussed or promoted at the time. Had I felt I could negotiate, I would have.” These examples indicate that women’s aptitude in negotiating can be undermined even when they make intentional efforts to overcome established salary barriers, and that the transition to tenure is a key inflection point in this regard.

Discussion

Extensive evidence from academia and beyond indicates that women are paid less than men (Barbezat & Hughes, 2005; Kelly & Grant, 2012; Porter, Toutkoushian & Moore, 2008). The conventional wisdom suggests that one factor contributing to the gender pay gap is the failure of women to negotiate raises in their salaries to the same extent that men do (Babcock et al., 2006; Gray et al., 2019).

This study adds considerable nuance to the role that negotiations play in the salary differential between men and women academics. Using survey data from a large, research-intensive university in the western region of the United States, we first confirmed that in this setting, women did indeed earn less than their male counterparts, which is consistent with other studies on the gender pay gap (Barbezat & Hughes, 2005; Kelly & Grant, 2012; Porter et al., 2008). We also showed, somewhat surprisingly, that women faculty were actually more likely than men faculty to engage in salary negotiations upon getting hired as assistant professors, which differs from previous findings on salary negotiation tactics across genders (Bowles et al., 2005; Kolb, 2009; Kolb & McGinn, 2008). However, our statistical analyses indicated that negotiations at this stage in professors' careers have no real bearing on their longer-term salary trajectories. Instead, counter to the argument that initial salary raises have outsized effects over time, professors' salary negotiations at the stage of hire may be generating only token increases that satisfy the new faculty employees in the short-term while preserving the budgetary flexibility of hiring departments. Next, and critically, this study demonstrated that the advantage in more frequent negotiating that women faculty demonstrate at the outset of their academic careers disappeared entirely by the time they reached the stage of tenure and promotion, which is precisely when those negotiations tend to generate substantial improvements to one's income.

Our study focuses intentionally on the role that negotiations play in the gender pay gap in academia. That male faculty members did not negotiate significantly more at either the hiring or tenure stage yet still had significantly higher salaries than women faculty suggests that other factors contribute importantly to the salary differential. Among them, our analyses suggest that a faculty member's discipline certainly matters, as those employed in a STEM field reported significantly higher salaries,

and our data—as well as other studies (Sterling et al., 2020)—indicate that men are more likely to work in such fields. In addition, we suspect that male faculty may simply be receiving better initial offers than their female counterparts, which obviates the need for them to engage in negotiations, while also contributing to the gender pay gap. Similarly, and in keeping with other studies on academic salary negotiations (Crothers et al., 2010; Silva & Galbraith, 2018), we found tentative evidence that men in academia may be somewhat more successful in their negotiations, and they may also receive larger boosts to their salary when they do choose to negotiate, so the payoff may be greater for male faculty even as they negotiate less at the outset of their careers and at essentially equal rates at the stage of tenure.

Why might women faculty be more likely than their male counterparts to engage in salary negotiations at the outset of their careers? One possible explanation is that women faculty who complete successful careers as graduate students and then pursue jobs on the academic market recognize their own professional value and the increasing value that academic departments are placing on gender diversity in the workplace (Auriol, 2007). This would provide women with some degree of leverage upon the offer of a contract, which they may seek to benefit from via negotiations. Additionally, it may be the case that increasing attention to the issue of salary differentials between men and women faculty serves as a source of encouragement for newly hired women to redress the imbalance and seek support from their deans and departments through negotiations.

More central to the findings of this study is the question of why women academics lose their relative tendency to negotiate over time. Based on our primary theoretical framework of the loyal servant hypothesis (Booth et al., 2003), we have argued that women faculty members face familial obligations and other social constraints (Kulis & Sicotte, 2002; Shauman & Xie, 1996) that complicate the possibility of taking a new job in a different location, thus creating a perception of women faculty as loyal servants (Blackaby et al., 2005; Booth et al., 2003).

Academic departments understand this and continue to operate in a gendered manner (Acker, 1990), so other departments are less likely to make competing offers to women, and women's own departments are less likely to make robust counters when such offers are forthcoming

(O'Meara et al., 2017). During this critical stage between the beginning of one's career and the stage of tenure, women also often face a motherhood penalty that further undermines their mobility, their prospects for greater productivity, and ultimately an increase in their salaries (Carr et al., 1998; Kulis & Sicotte, 2002; Shauman & Xie, 1996; Whittington, 2011). Thus, despite the interesting finding that women participants in the study were more likely than men to negotiate their salaries upon being hired, the findings generally support the study's hypothesis.

Future studies could build on this one in numerous ways. Research that examines the impact of faculty members' salary negotiations at different and more precise points in their careers, including at earlier and later stages of the tenure clock and at various points post-tenure, could shed additional light on the impact of negotiation timing on long-term salary trends and the gender pay gap. Future research could also work to include a more diverse study population in order to examine how gender interacts with race and ethnicity in negotiations and salary.

Conclusion

This study examined how salary negotiations contribute to the gender pay gap. Using self-reported data from an online survey conducted at a major research university in the western United States, the study found that a gender pay gap did exist, with women earning substantially less than men. It also found that women actually negotiated more often than men upon hire. However, the results showed that salary negotiations upon hire have no bearing on long-term salary. Women faculty members' tendency to negotiate then dropped significantly, and their advantage disappeared entirely by the stage of promotion to tenure. The results indicated, furthermore, that it is at this point when negotiating matters most for salary increases.

The findings of this study have theoretical as well as policy implications. From a theoretical standpoint, they add important nuance to the literature on salary negotiations as a factor contributing to the gender pay gap in academia, demonstrating that the timing of those negotiations matters in ways not fully addressed in existing studies. In terms of policy implications, the findings suggest that departments and universities interested in addressing the gender pay gap should rely less on outside

offers as the primary driver of raises, particularly during the stage at which faculty members are also building families. Providing raises based on ongoing excellent performance, including for campus service work, and rewarding loyalty rather than punishing it, are policies that departments can adopt to overcome gendered norms and to address the gender pay gap.

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