



## **Rank and Representation: A Quantitative Analysis of Female Representation Within Entry Level Faculty Positions**

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### **ABSTRACT**

**The representation of women in leadership positions and as tenured faculty in higher education has been an issue of concern for a number of years across academic disciplines. What remains unclear is whether this trend is also observed all the way down to entry-level positions in the field of education alone. The purpose of this quantitative, correlational study was to determine if women and men occupying the non-tenured track ranks of assistant and associate professor were equally represented in the field of education at post-secondary, credential granting institutions in California ( $n=46$ ). Between groups comparisons indicated that female, assistant professors significantly outnumbered men at both public and private California universities ( $p<0.0001$ ), and outnumbered men as associate professors at private universities ( $p=0.0148$ ). Within groups comparisons indicated that while fewer in number, a greater percentage of men occupied the rank of associate professor, thus outranking their female colleagues at public and private learning institutions (54.5% and 44.8%, respectively). However, the difference was not statistically significant.**

### **INTRODUCTION**

For decades, the number of women in higher education has continued to rise and in some instances they are thriving. Women made history for the first time in 2008-2009. During this academic term, 50.4% of doctoral degree holders were females, thus becoming the slight majority (Jaschik, 2010) after centuries of formal education. What happened during 2008 was not a fluke but rather the start of a trend. Since the 1950's the number of females in higher education has risen steadily (Easterly & Ricard, 2011). Graduate data indicate that the gap between males and females earning doctoral degrees continues to widen. In 2014 the Council of Graduate Schools reported that women earned 52.2% of doctoral degrees, while men earned 47.8% (Allum & Okahana, 2015).

These statistics would suggest that an increased number of female, doctoral graduates would result in more women acquiring teaching jobs at the college level. According to data from the TIAA Institute, the total number of female faculty members doubled that of men between 1993 and 2016 in the United States of America (Flaherty, 2016); which is a significant accomplishment for female scholars.

### **PROBLEM**

Though there is much to celebrate with an ever-growing presence in higher education, females remain underrepresented in higher-ranking academic teaching positions. In spite of being outnumbered, more males continue to hold higher paying professorships associated with additional

job security and prestige than their female colleagues. In a 2013-2014 report published by the American Association of University Professors (2014), 32.5% of women held non-tenure track positions, while men held only 19.6% of those positions. Though these data accounted for representation across the country, in many disciplines and among higher-ranking positions, it is unclear as to whether these disparities exist among entry-level professorships in the field of education exclusively. It is also uncertain if such disparity is occurring in a state like California, where system wide efforts are being made by the Universities of California ("Diversity: Faculty and Other Academic Personnel," 2018) California State University and California State Universities (ZumMallen, 2016) to improve diversity among faculty.

Knowing that more males currently hold higher ranking teaching positions is valuable information. However, it is just as important that the examination of entry-level positions by gender in higher education take place. Data from the *Faculty in Higher Education Salary Survey* (2012-2013) indicated that an associate professor makes an average of \$10,000 more per year than an assistant professor across disciplines (Flaherty, 2018). As a result, new hires at the rank of associate professor will experience a significant financial advantage over those hired at the rank of assistant professor. Whether or not more men than women at credential granting institutions in California occupy the rank of associate professor remains in question in the field of education.

### **PURPOSE**

The purpose of this quantitative, correlational study was to determine if there was a significant difference between the number of female and male faculty members in education holding the ranks of assistant and associate professor at credential-granting institutions in California. Though previous studies have addressed female representation in higher education across disciplines, the results of this study will provide insight into the number of females occupying these positions in the field of education exclusively in California.

### **Research Questions**

In order to address a knowledge gap within this area, the following research questions were posed:

1. Is there a significant difference between the number of males holding the rank of associate professor and the number of females holding the rank of associate professor at credential granting institutions in California?
2. Is there a significant difference between the number of males holding the rank of assistant professor and the number of females holding the rank of assistant professor at credential granting institutions in California?

With a new influx of female graduates in recent years from higher education and the field of education historically consisting largely of women, it was hypothesized that the percentage of associate and assistant female professors in California would be equal to the percentage of associate and assistant male professors.

### **REVIEW OF LITERATURE**

#### **Female Faculty Representation Trends in Higher Education**

Women are no longer as underrepresented in many higher education institutions as they were decades ago. Social reforms in the 1960 and 70's, the Civil Rights Movement and the creation of Title IX in the United States changed the roles that women played in higher education as faculty and

leaders (Parker, 2015). Today women represent half of new faculty members across disciplines in higher education (Eddy & Ward, 2015). However, women are less likely to be holding the rank of full professor and in many cases even the rank of associate professor.

According to the National Study of Postsecondary Faculty (NCES, 2007 as cited in Easterly & Richard, 2011) 57.5% of faculty and teaching staff were male, while 42.5% were female. Males were more likely to hold the rank of full or associate professor (13.6% and 8.6%, respectively) than women who made up only 4.4% of full professors and 4.9% of associate professors. However, than 10 years later, it is unclear if the composition of female education assistant and associate professors is similar to other disciplines.

## **Relevance of Faculty Gender and Rank**

### ***Rank, promotion, and family***

In the competitive job market for academic positions, receiving a much sought after position is gratifying. However, the choice to remain in a profession is often encouraged or reinforced with promotion or advancement. Though female representation in higher education has improved, the ascension up the career ladder continues to be a slower process than what it is for men. At the start of a women's career in academia the future looks promising, but research suggests that obstacles within the first decade of teaching present challenges that may delay promotion. According to Parker (2015) female professors are promoted at a slower rate and have heavier teaching loads than their male colleagues.

Compounding issues with workload, new professors are often expected to work more than 40 hours per week to acquire tenure within the first 5-7 years of their career. Easterly & Riccard (2011) suggested that the initial stages of one's professional career often coincide with childbearing years or familial obligations. Therefore, the promotion process could be slowed. Women attempting to successfully fulfill multiple roles at work could be fearful that use of familial leave will negatively impact progress toward tenure (Drago, 2005; Samble, 2008). These issues raise the question of whether trends associated with career advancement cut across all disciplines, including education. Since education departments are devoted to teaching current and future teachers in early childhood to high school settings where children are the primary focus, one would assume that these departments (or schools) would be understanding of faculty members' familial obligations.

### ***Rank and compensation***

Imbalances in workload demands and expectations are not the only challenges women in entry-level professorships face. A significant reason to analyze the academic ranks held by women is to determine just how much females are being paid for the work they are doing in the positions they occupy. While salary differences between men and women have somewhat declined in the last 30 years, inequity persists (Toutkoushian, 1998). Aguirre (2000) asserted that the pay gap between men and women can be observed all the way down to the level of assistant professor. A report by the *American Association of University Professors* (AAUP) in 2006 (as cited in Lee & Won, 2014) revealed that male assistant professors made more than female assistant professors, in spite of holding the same job title. What is even more discouraging is that this pay gap can place women at a financial disadvantage for the remainder of their career (Lee & Won, 2014). Considering the difference one makes financially as an associate versus an assistant professor as well as how a pay gap at the beginning of one's career can impact one's earning potential in the future, it would be

important to determine if females and males are equally represented among entry level positions in higher education.

Obtaining a position as faculty at the post-secondary level is the first in a series of professional hurdles that a woman must overcome. Heavy workloads, lower pay, competing demands, and attempts to fulfill multiple roles are just a few of the obstacles that lie ahead for many women in higher education entry level positions. While literature highlights these challenges across many disciplines, a focus on California education alone can shed additional light on whether similar trends are observed in a state that has made conscious efforts to improve diversity among faculty.

## METHODOLOGY

### Criteria for Inclusion

In order to address the research question, a quantitative, correlational design was used. 46 California universities' data were included in the study. In order to be included in the study, the institution had to be either a public or private credential granting university in California, as with an approved program recognized by the California Commission on Teacher Credentialing ("Commission Approved Educator Preparation Programs," 2017). The California Commission on Teacher Credentialing website was used to generate a list of universities offering credential and/or Master's of Arts in Education programs in 2016.

Enough information to determine the gender of education faculty members had to be publicly available online in order to be included in the study. For example, faculty biographies where gender defining pronouns were used were analyzed. Individual data were excluded from the analysis if gender could not be determined due to insufficient information. In addition, only universities who assigned the titles of 'associate professor' or 'assistant professor' to faculty members listed on their website were included in the analysis.

### Procedure

Descriptive statistics were used to calculate a total number and percentage of males and females occupying the rank of either associate or assistant professor at a public or private university. In order to answer the research questions posed; the total number of female associate professors in education was compared to the number of male associate professors. A comparison was also drawn between the total number of female assistant professors to the number of male assistant professors in education. Data were disaggregated by university type (public or private) to create an analysis by school type. Comparisons of professor rank by both gender and university type (public versus private universities) were conducted using one-way ANOVA. A Tukey Pairwise Comparison was used to analyze between and within group differences for the following groups:

Associate male professors at public universities, associate female professors at public universities, assistant male professors at private universities, and assistant female professors at private universities. An alpha level of 0.05 was used as a threshold for all tests.

## RESULTS

### Descriptive Statistics

At the time of the analysis, there were significantly more females holding entry-level positions as education professors (413 women compared to 198 men) in both public and private institutions (See Table 1). Both private and public universities had more than double the amount of female

faculty than male faculty. However, descriptive statistics for each gender group indicated that the majority of women at both university types (and even more so at public universities) held the rank of assistant professor. As shown in Table 2, at private universities, 48.3% of men were associate professors and 47.4% of women were associate professors. At public universities, 59.6% of men were associate professors and 42.9% of females were associate professors (See Figure 1).

### **Results of Between Gender Groups Comparisons**

Between groups comparisons were conducted using the one-way ANOVA (See Table 3). Significant differences were observed between the number of female assistant professors and both male assistant and male associate professors at both public and private universities ( $p=0.0001$  and  $p=0.0002$ , respectively). There were also significantly more female associate professors than male associate professors ( $p=0.0148$ ), and significantly more female associate professors than male assistant professors ( $p=0.0027$ ). Therefore, null hypotheses for both research questions were rejected.

### **Results of Within Gender Groups Comparisons**

While between groups comparisons showed significantly more women than men occupying entry level professorships, comparisons of rank within one's own gender group yielded findings that more closely mirrored historical trends associated with inequity. When examining numbers and percentages of male and female assistant versus associate professors, some disproportionalities (although not statically significant) were observed within gender groups using descriptive statistics. As stated previously, Figure 1 demonstrates that at both public and private universities, 54.5% of men held the rank of associate professor, while 48.5% of women were ranked as an associate. However, the opposite held true for the rank of assistant professor. Here the majority of women teaching in education at a credential granting institution were holding the rank of assistant professor (55.2%) but only 45.5% of males were occupying the same rank.

When data were analyzed by university type, additional findings emerged. The percentage of men and women occupying either associate or assistant professor of education positions were more balanced at private universities than at public universities. According to Figure 2, 48.3% of men and 47.4% of women were associate professors at private universities. This was in stark contrast to only 42.9% of women and 59.6% of men serving as associate professors at public universities in California (see Figure 2).

Though one-way ANOVA indicated that at public universities there was not a significant difference between the number of female assistant professors and the number of female associate professors, a much smaller  $p$ -value was observed for females than for males ( $p=0.0953$  and  $p=0.5658$ , respectively) (see Table 4). Tests for significance at private universities yielded  $p$ -values that were much more balanced for each gender group. While differences within groups were not significant at both public and private universities, descriptive data and differences in  $p$ -values observed within one's own gender group were worth noting.

### **CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH**

Between groups comparisons of male and female professors suggested that female representation in education at post-secondary institutions in California is impressive. Between groups comparisons indicated that women significantly outnumbered men as both assistant and professors

at both public and private universities. However, what remains concerning is that descriptive data for each gender group indicated that there was still a very good chance that female entry level professors in education departments were outranked by their male colleagues who were fewer in number. This was especially the case at public, 4-year credential granting institutions in California. While the prospects of obtaining a job as a female professor in education are quite good, women will need to continue to advocate for better representation among higher education faculty ranks, even at entry levels.

It is important to note that institution type tended to be an important factor in this analysis. At the time of this study, comparisons within one's own gender group suggested that there was a much more balanced proportion of men and women occupying the rank of associate professor at private universities in California than at public institutions. As a result, women seeking a position in higher education (specifically within the field of education) should closely examine the current composition and academic rank of faculty at the universities to which they are applying. Based on these data, private institutions may offer more pay and room for advancement to women, but additional analysis in this area is necessary to support this hypothesis.

These findings pose questions as to why a field with incredible female representation may still be granting more favorable, higher paying positions to males even during the early stages of one's academic career? Additional research is needed to determine why within groups comparisons by gender continue to reveal some disproportionality. Was there just a large influx of new, female faculty during the 2016-2017 academic year? Did these women not have enough experience or years under their belts to be hired (or promoted) to the rank of associate? Were the men (though fewer in number) in these entry-level positions simply more qualified and experienced than the majority of women who were working at the same university?

Qualifications and experiences aside, it is possible that additional, social factors are impacting one's rank at the time of hire. For example, Small, Gelfand, Babcock and Gettman (2007) found that women negotiated compensation less frequently than men. Therefore, it may be that females in education are also less likely to negotiate a contract for an assistant professorship. Another possibility is that some time had to be taken away from work in order to fulfill familial wants or needs, which resulted in the loss of time necessary for promotion for some women. This would be similar to what Mason's (2013) research team found and discussed in "The Baby Penalty." Or, are universities, like so many other institutions and corporations, guilty of being willing to pay male employees more than female employees for other known or unknown reasons? The answers to these questions warrant additional study.

### **LIMITATIONS**

One of the most significant limitations of this study was the focus on credential granting institutions in California only. It would be beneficial to replicate this analysis and include additional western, mid-western and eastern universities to establish whether this is a nationwide trend. Another limitation is that faculty data from year to year change, especially in entry level positions. This can especially be the case for universities that rely heavily on funding from state governments. As budgets change from year to year, universities may cut or add faculty based on funding. Therefore, statistics on gender and positions of faculty can change each year.

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### **CONCLUSION**

In the 21<sup>st</sup> century, it is imperative that higher education institutions closely examine areas of strength and need regarding gender equity within higher education institutions across all departments and positions. Representation and sheer numbers are only start. We need to continue to look at rank. Ensuring that the playing field is level for all faculty from entry to senior level positions is necessary. Education is (and always has been) the future. It is time to implement practices in the present that we want to see in the future.

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