

Updated Analyses of Gender Equity in Salaries of Faculty at the University of Minnesota—Executive Summary

Murray K. Clayton, Professor of Statistics and of Plant Pathology, University of Wisconsin-Madison,
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This report provides an addendum to the report “A Statistical Investigation of Gender Equity in Salaries of Faculty at the University of Minnesota” issued on June 22, 2011. In that report, multiple linear regression was used to determine whether there was evidence of a gap in salary between male and female faculty after various adjustment factors considered to influence salary were taken into account (such as department, years of faculty employment at the University of Minnesota, etc.). The data used for those analyses were taken from a 2007 snapshot of projected salaries for fall contracts, and included tenured and tenure-track faculty from the Twin Cities campus. Faculty from Nursing, Dentistry, Medicine, and Veterinary Medicine were excluded because of differences in the salary structure in those units. Merit and performance data were not available, and therefore not used.

The analyses summarized in the 2011 report led to a finding of statistical evidence that male faculty were paid an average of 2.2% more than female faculty. More detailed analyses provided statistical evidence that this gap in salary was not evenly distributed across the schools/colleges nor was it evenly distributed across the ranks.

In Spring 2013 these analyses were repeated for more contemporary data obtained from an October 2012 snapshot of salaries. The same analytical methods were used as for the 2011 report on 2007 data. For brevity, the definitions and analytical details are not repeated here. (See that report for these details and for a fuller discussion of the issues surrounding the methods and conclusions.)

In brief, the conclusion for the 2012 data is that there remains statistical evidence of a gap in salary between male and female faculty; the estimated average gap based on 2012 data is 2.4%. Again, as for the 2007 data, the 2012 data provide evidence that the gap in salary is not evenly distributed across the schools/colleges nor is it evenly distributed across the ranks. For example, the following table summarizes the average gender gap for each school/college based on both “interaction analyses” and “separate regressions.” (See the 2011 report for full definitions. Reported are the “combined” gender gaps based on with- and without-rank analyses. The interaction analyses assumes that other factors such as years since degree play the same role for all colleges/schools; the separate regressions approach does not, but is based on smaller data sets. A negative gap means that, on average, and after taking into account various adjustment factors, males are paid more than females.)

College/School	2007		2012	
	Interaction Analysis	Separate Regressions	Interaction Analysis	Separate Regressions
Design	5.1	3.8	3.5	4.4
Biological Sci	0.9	-3.1	-6.9	-7.4
Education	-2.1	-2.5	-0.3	-0.4
CLA	-3.0	-2.8	-3.4	-3.0
CFANS	-0.6	-0.7	-2.6	-3.0
Carlson School	-1.7	-5.8	1.7	-3.6
Humphrey Inst	-2.9	-1.3	-16.1	-16.0
Sci & Engr	-2.1	-2.3	-0.1	0.1
Law	-1.0	-2.4	-1.5	-2.8
Pharmacy	-0.2	-0.2	7.8	10.8
Public Health	-7.3	-3.4	-8.2	-3.0

The table shows that there have been some changes within colleges/schools over the five years spanned by the data but for the most part gaps remain evident in the current data. The general conclusions and recommendations from the 2011 report therefore are unchanged. Some commentary and conclusions from that report are repeated below.

- These analyses do not take into account any quantitative measure of merit because such data are not generally available for faculty at the UM campus. As a result, the analyses performed here and their interpretations are based on the assumption that, given the adjustment factors used in the regression models, men and women are equally meritorious, *overall*. This certainly does not preclude the possibility that merit might vary considerably from individual to individual.
- These results have very little to say about a given individual. The regression results of this report are useful for understanding broad trends but, absent quantitative merit data, these methods cannot assess whether a gap in salary exists for any given individual. Moreover, even in a school where there is an *average* estimated gap favoring women, it could still be the case that there exists a female faculty member whose salary is too low. Likewise, in a college where there is an average estimated gap favoring male faculty, there might still be some female faculty whose salaries are too high relative to their merit.
- The methods employed here, and the results obtained, cannot be considered to provide a *proof* that there is a gender gap in salary, not least because, as noted, merit data were unavailable. Consequently, for a given school or college, it could be that a sizeable average gap in salary exists between male and female faculty, but upon examining merit information, it is clear in that instance that the gap is justified. Accordingly, it cannot be argued that the estimated regression coefficient for gender must always be zero. However, a large regression coefficient serves as a sentinel that further investigation of salaries is warranted. Moreover, if upon examination a gap is allowed to stand, then the reasons for doing so must be well-articulated and supportable. This holds whether the estimated gap is positive (favoring women) or negative (favoring men).

Finally, the recommendations of the 2011 report remain the same, and these are summarized below.

1. *Develop a system for adjusting the salaries of female faculty as warranted, on a case-by-case basis.* For a given female faculty member, this might be done by comparing her salary to those of males with comparable records and performance. (Extensive details for a recommended process are provided in the 2011 report.) An across-the-board remedy whereby each female faculty member receives a salary adjustment of 2.2% is *not* recommended.
2. *Work to identify the causes of salary inequities, and develop policies to prevent their recurrence.* Such causes might include responses to retention cases, differential assignment of teaching and other duties, differential assignment of laboratory space, starting rank, committee assignments, etc. Policies should exist to ensure that equity in these factors is maintained and monitored.
3. *Routinely monitor faculty salaries at the institutional level.* Periodically repeating the primary analyses of this report can provide an overall view of faculty salaries, can emphasize the need for and value of maintaining vigilance in monitoring and addressing salary inequities as they arise, and can aid in preventing the occurrence of gender gaps in faculty salaries in the future.