OCAD University Gender Pay Review

Executive Summary

Under the direction of the gender pay review committee, OCAD University conducted a gender pay review similar to those conducted at other Ontario universities. The Office of Institutional Analysis analyzed the 2017-18 Statistics Canada University and College Academic Staff System (UCASS) data supplemented with additional institutional data for part-time non-sessional faculty not represented in the UCASS data.

Analyses of data from 198 non-sessional faculty, 100 of which were female, revealed that while faculty rank, appointment, years since first degree, years since rank, and an interaction of gender and years since appointment significantly influence annual salary, gender does not.

Background

On August 15, 2018 a communication was sent from the Office of the Vice President, Academic and Provost to permanent faculty and Deans at OCAD University. The communication announced that following a joint commitment made between the President of the University and the President of the Ontario College of Art & Design Faculty Association (OCADFA), OCAD University would be undertaking a gender pay review.

A gender pay review committee was established, co-chaired by the Vice President, Academic and Provost and an OCADFA Executive representative and comprised of two faculty members, a Dean, the Director of Academic Relations and the Director of Institutional Analysis. The Director of Human Resources and the Director of Diversity, Equity & Sustainability Initiatives were available as advisors to the committee.

Under the direction of the committee, the Office of Institutional Analysis was tasked with conducting the analysis for the gender pay review.

Methodology

Similar to gender pay reviews conducted at other institutions (e.g., McMaster University, Western University), the Office of Institutional Analysis at OCAD University analyzed the 2017-18 Statistics Canada University and College Academic Staff System (UCASS) data supplemented with additional institutional data for non-sessional faculty not represented in the UCASS data (e.g., part-time faculty not covered under the UCASS definitions).

The UCASS data includes information about full-time faculty and their salaries. It captures gender (binary), age, year of first degree, highest degree, year of highest degree, rank, appointment, year of appointment to rank, year of appointment to institution. Similar data for part-time non-sessional faculty was also added to the UCASS data with salary being calculated to full-time equivalent. Deans and Associate Deans are exempt from the OCADFA bargaining unit and were not included in the sample.

Ontario Context

UCASS data is available for all public degree granting universities in Canada. Average salaries were examined for full-time faculty (excluding medical and dental faculty) across Ontario universities for the 2017-18 period. In Ontario, average full-time faculty salaries for females represent 90% of average full-time faculty salaries for males. At OCAD U, for 2017-18, full-time

female faculty salaries represent 98% of full-time male faculty salaries. This does not consider any of the additional factors explored in the *Analyses* section in this report, which provides context for this disparity.

Sample Characteristics

The sample used consisted of 198 faculty. Among the 198 faculty, 100 (50.5%) were female.

Seventy-one (35.9%) were from the Faculty of Art (FoA), 84 (42.4%) were from the Faculty of Design (FoD), and 43 (21.7%) were from the Faculty of Liberal Arts & Sciences and School of Interdisciplinary Studies (FoLAS/SIS).

Tenured faculty represented 49.5% (98) of the sample, Tenure-Track faculty represented 18.2% (36), CLTA faculty represented 14.6% (29), Continuing faculty represented 9.6% (19), and TIS faculty represented 8.1% (16).

The sample comprised of 41 (21.6%) Full Professors, 63 (33.2%) Associate Professors, 77 (40.5%) Assistant Professors, and 17 (8.9%) Lecturers.

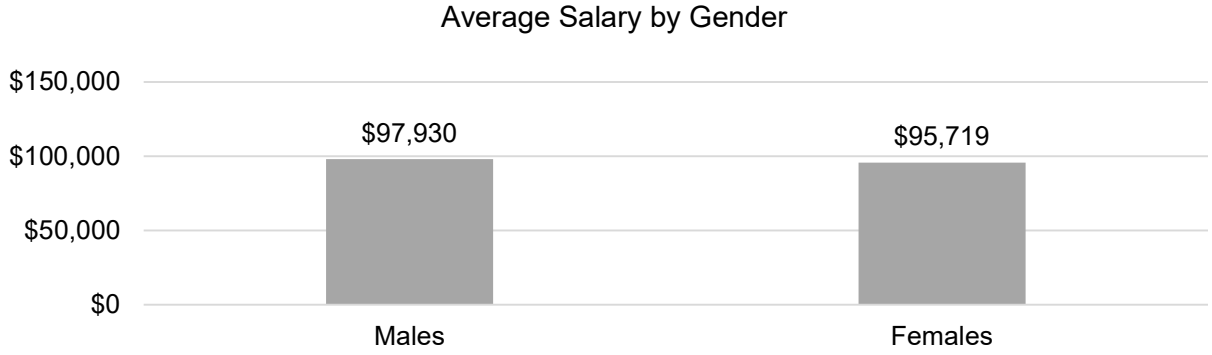
With regards to highest degree, forty-seven (24.7%) faculty had a PhD or equivalent, 95 (50.0%) had a Masters degree or equivalent, 22 (11.6%) had a Bachelors degree, and 34 (17.9%) had a diploma or professional designation other than a degree.

Analyses

Several analyses were conducted to examine factors that may impact salary at OCAD University. Statistical details are provided in the following paragraphs for transparency, but focus should be put on the accompanying explanatory text.

Gender Analyses

The average salary for the 198 faculty was $96,813 (*SD*[1] = $18,921); $97,930 (*SD* = $18,691) for males and $95,719 (*SD* = $19,174) for females. The difference in annual salary between males and females ($2,211) was not statistically significant[2] (Welch-*t*[3] (195.995) = 0.822, *p*[4] = .412). While examining gender alone did reveal a statistically significant difference, differences in salary are further explored using a variety of analyses.



Significant differences were found between males and females for age (Welch-*t* (195.106) = 2.615, *p* < .05), years since first degree (Welch-*t* (190.484) = 2.281, *p* < .05), years since highest degree (Welch-*t* (188.112) = 3.306, *p* < .05) and years since appointment (Welch-*t*

[1] SD = standard deviation; a value indicating the degree of variation in a numerical data set.
[2] Statistical significance = mathematical indicator that the relationship between two or more variables is due to something other than chance.
[3] Welch-t is a statistical test to determine if two groups differ on a given variable.
[4] p = probability; refers to the likelihood that should an experiment be conducted again, the same outcome would occur by chance; small p-values (p < .05) indicate that something did not likely occur by chance.

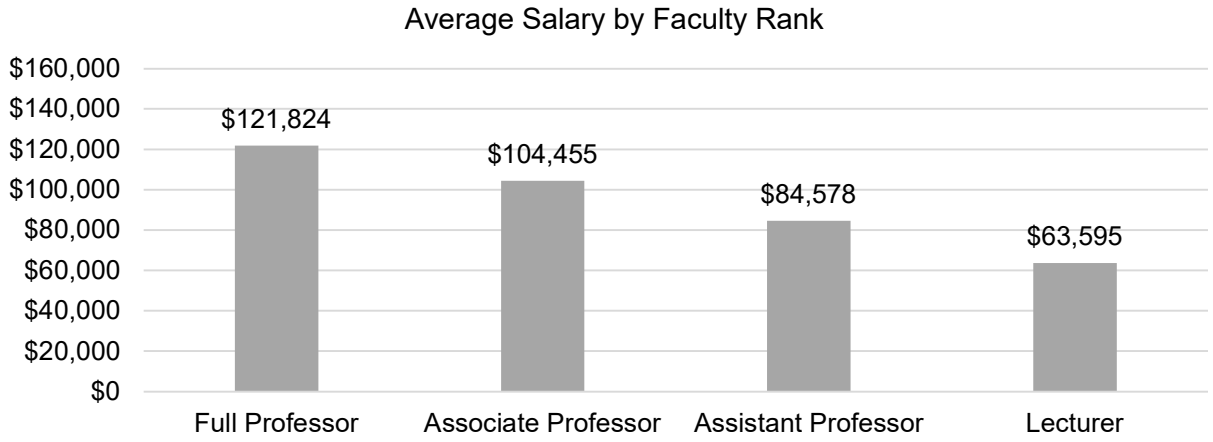
(180.458) = 2.734, $p < .05$). Males (M[5] = 55.9, SD = 10.9) were significantly older than females (M = 51.9, SD = 10.4), years since first degree was significantly higher for males (M = 31.2, SD = 11.7) than females (M = 27.6, SD = 10.8), years since highest degree was significantly higher for males (M = 22.5, SD = 14.8) than females (M = 16.0, SD = 12.6), and years since appointment was significantly higher for males (M = 16.8, SD = 14.3) than females (M = 11.9, SD = 10.8).

Salary Analyses

The relationship between salary and other factors was examined. Results of the Pearson correlation[6] analysis indicated that there was a significant positive association between annual salary and age (r[7](198) = .671, $p < .001$), years since first degree (r(195) = .737, $p < .001$), years since highest degree (r(197) = .526, $p < .001$), years since appointment to university (r(198) = .632, $p < .001$), and years since rank (r(198) = .612, $p < .001$).

Differences in salary were also examined for several grouping factors. Results from Analysis of Variance (ANOVA[8]) determined that there was no difference in salary between faculty from the three OCAD U home faculties (Welch-F[9](2, 108.797) = 1.515, p = .224) – FoA (M = \$99,677, SD = \$18,399), FoD (M = \$96,017, SD = \$19,156), and FoLAS/SIS (M = \$93,642, SD = \$19,090). There was also no significant difference in salary between faculty with a Doctorate (M = \$93,349, SD = \$19,498), a Masters (M = \$94,917, SD = \$17,601), a Bachelor's (M = \$102,551, SD = \$19,654), and faculty with a diploma or professional designation other than a degree (M = \$103,189, SD = \$19,689), (Welch-F(3,65.680) = 2.613, p = .059).

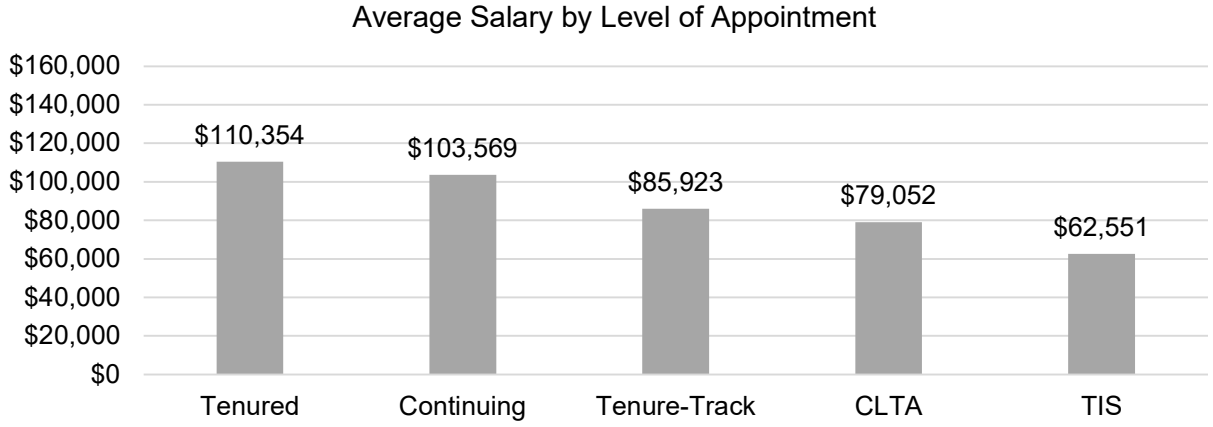
There was a significant difference in annual salary between faculty ranks (Welch-F(3,64.202) = 494.140, $p < .001$, η^2 [10]= 0.85). An eta-squared of 0.85 indicates a large effect. Full Professors (M = \$121,824, SD = \$5,630) were paid more than Associate Professors (M = \$104,455, SD = \$9,200), who were paid more than Assistant Professors (M = \$84,578, SD = \$6,982), who were paid more than Lecturers (M = \$63,595, SD = \$6,587).



There was also a significant difference in annual salary between levels of appointment (Welch-F(4,58.045) = 196.547, $p < .001$, η^2 = 0.72). An eta-squared of 0.72 indicates a large effect. There was no significant difference between Tenured faculty (M = \$110,354, SD = \$12,348) and Continuing faculty (M = \$103,569, SD = \$12,990). Tenured and Continuing faulty were paid

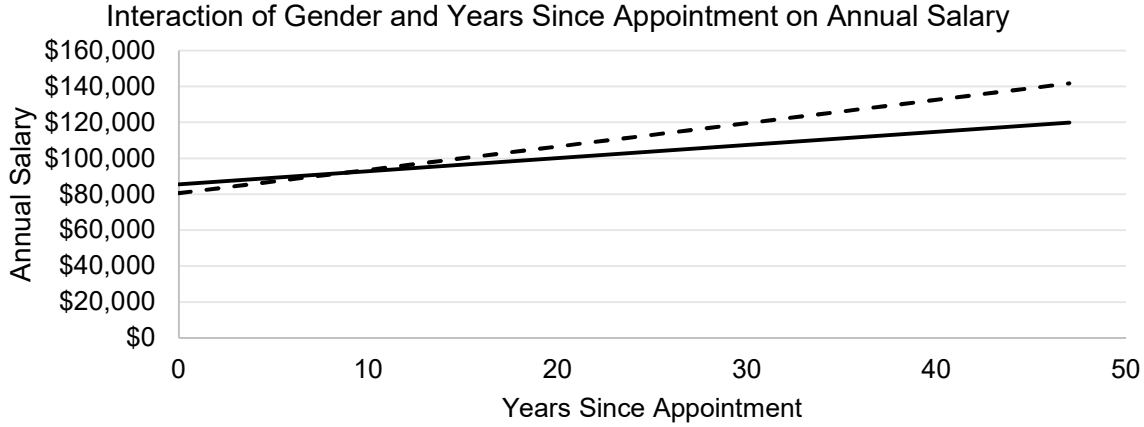
[5] M = mean or average of a group of values
[6] Pearson correlation measures the strength of a relationship between two sets of data; values can range from -1 to 1 with zero indicating no relation, and values closer to -1 or 1 indicating stronger relations.
[7] r = is the statistical notation for "Pearson correlation".
[8] ANOVA measures the degree of difference between 2 or more groups of data on a given variable.
[9] Welch-F is a variation of the ANOVA used for certain types of data.
[10] η^2 = eta-squared; eta-squared is the proportion of variance shared between the dependent variable and an independent variable and indicates how big or small a significant difference is.

significantly more than Tenure-Track faculty (*M* = $85,923, *SD* = $4,713), who were paid significantly more than CLTA faculty (*M* = $79,052, *SD* = $4,182), who were paid significantly more than TIS faculty (*M* = $62,551, *SD* = $5,151). It is important to note that there was a significant difference in years since appointment between levels of faculty appointment (Welch-*F*(4,58.381) = 196.547, *p* < .001, η^2 = 0.42). An eta-squared of 0.42 indicates a large effect. Tenured faculty (*M* = 20.46, *SD* = 12.74) and Continuing faculty (*M* = 24.42, *SD* = 10.41) had significantly higher years since appointment than Tenure-Track faculty (*M* = 4.06, *SD* = 4.89), CLTA faculty (*M* = 3.90, *SD* = 3.03), and TIS faculty (*M* = 6.50, *SD* = 4.55).



Interaction Analyses

Analyses were also conducted to determine if differences in salary existed as it relates to the interaction between gender and other factors. Results from two-way ANOVAs determined the only significant interaction[11] was for gender and years since appointment (*F*[12](1,194) = 11.464, *p* = .001, η_p^2 [13]=.056). The influence of years since appointment on annual salary is dependent on gender. Compared to males, the annual salary of females increased at a greater rate over time since being hired.



The following interactions were found not to be significant: gender and years since first degree (*F*(1,191) = 1.145, *p* = .286), gender and years since highest degree (*F*(1,193) = 0.369, *p* = .544), gender and years since rank (*F*(1,194) = -0.726, *p* = .469), gender and home faculty

[11] Interaction effects occur when the effect of one variable on a second, depends on the value of a third variable.
[12] F is the statistical notation for the results of an "ANOVA".
[13] η_p^2 = partial-eta-squared is the proportion of variance shared between the dependent variable and independent variable when there are multiple independent variables; it indicates how much of an effect the specific independent variable has on the dependent variable.

($F(2,192) = 0.320$, $p = .727$), gender and highest degree ($F(3,190) = 1.138$, $p = .335$), gender and rank ($F(3,190) = 0.553$, $p = .646$), and gender and appointment level ($F(3,188) = 0.211$, $p = .932$). The influence of these factors on annual salary were not dependent on gender.

Regression Analysis

A regression analysis[14] was conducted to assess the overall degree to which annual salary could be explained by the factors considered and to identify factors that significantly influence annual salary when all others were accounted for. Results indicated that the model as a whole significantly accounted for annual salary ($F(12,182) = 189.301$, $p < .001$, R^2_{adj} [15]$= .926$). Factors included in the regression were: Gender, Faculty Rank, Level of Appointment, Years Since First Degree, Years Since Highest Degree, Years Since Appointment, Years Since Rank, and the interaction of Gender by Years Since Appointment.

Results indicated that on their own, Gender and Years Since Appointment were not significant predictors of annual salary. Faculty Rank had the greatest influence on annual salary ($F(3,182) = 87.002$, $p < .001$, $\eta_p^2 = .589$). As faculty members' rank increase, so too did their annual salary. Level of Appointment had the second largest impact on faculty salary ($F(4,182) = 10.155$, $p < .001$, $\eta_p^2 = .182$). Faculty salary was dependent on faculty appointment level. Years Since First Degree had the third largest impact on faculty salary ($F(1,183) = 36.979$, $p < .001$, $\eta_p^2 = .169$). As the number of years since a faculty member's first degree increased, so too did their annual salary. Years Since Rank had the fourth largest impact on faculty salary ($F(1,182) = 28.747$, $p < .001$, $\eta_p^2 = .136$). As the number of years since a faculty member attained their current rank increased, so too did their annual salary. The interaction of Gender on Years Since Appointment was the final significant factor that contributed to annual salary ($F(1,182) = 5.782$, $p = .017$, $\eta_p^2 = .031$). As the number of years since a faculty member's appointment increased, so too did their annual salary; although this increase was significantly greater for females compared to males.

Conclusion

The current analysis found that Faculty Rank, Appointment, Years Since First Degree, Years Since Rank, and an interaction of Gender and Years Since Appointment significantly influence Annual Salary. There was no evidence to support the conclusion that on their own Years Since Appointment or Gender influence Annual Salary.

The variables included in the analysis accounted for 92% of the variance in annual salary. The remaining 8% in the current analysis is due to factors that are unidentified, unmeasured, or not contained within the data set available.

Next Steps

Upon review of the results of the analyses presented in this report, the gender pay review committee recommends the following steps:

- Regular gender pay reviews, using UCASS data, at five-year intervals
- Examination of workforce survey results and exploration of ways to assess potential pay inequities among other employment equity groups (persons with disabilities, Indigenous and racialized persons)
- Process review to ensure equitable salary placement and progression.

[14] Regression analysis is similar to the Pearson correlation, but it assesses the relations between a dependent variable and one or more independent variables.

[15] R^2_{adj} is an indicator of the relationship between the dependent variable and a specific independent variable in a regression analysis and is similar to eta-squared and partial-eta-squared.

Prepared by the Office of Institutional Analysis under the direction of the Gender Pay Review Committee

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