Examination of Gender Equality Issues at Pittsburg State University

Gender and Protected Groups Task Force
Pittsburg State University
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Gender/Protected Groups Salary Equity Analyses

Two models were used to examine the possibility of salary discrepancies between genders. The first was developed by Wichita State University (WSU) and included a dichotomous representation of the variables used to examine salary. The specific variables used as regressors (the variables that were to understand differences in salary) were College (Arts & Sciences, Business, Education, and Technology), Rank (Full Professor, Associate Professor, Assistant Professor, Instructor), Years in Rank, Gender, and Ethnicity. The second model was adapted from the Pittsburg State University-Kansas National Education Association (PSU-KNEA) salary generation formula. The regressors in this analysis included Market Place Factor[1] (a salary multiplier used to generate salary based on market place demand), Rank (same as above), Years in Rank, KNEA Year (a factor of the number of years of service multiplied by the average merit of the past five years), CAP (the number of years of previous work experience capped at eight years), Gender, and Ethnicity.

As mentioned above, the WSU model dichotomized the variables entered into the regression model. As an example, the variable of rank was coded as four separate variables as follows:

Full Professor = 1 if Full Professor, 0 otherwise
Associate Professor = 1 if Associate Professor, 0 otherwise
Assistant Professor = 1 if Assistant Professor, 0 otherwise
Instructor = 1 if Instructor, 0 otherwise

This essentially creates four variables each accounted for some possible amount of variability in salary. It should also be noted that this model is essentially an analysis of variance design examined with the use of regression procedures. Analysis of variance is actually a special case of regression in which one or more of the regressors are qualitative rather than quantitative. Each of these two models can reasonably account for the fluctuations in salary.

Regression with the WSU model was used to examine the variables of College, Rank, Years in Rank, Ethnicity, and Gender. The results of which indicated that the regression solution explained 85.3% of the variance in salary. The results further indicated that the College of Business ($R^2 = .417$, $\underline{p} < .0001$), Years in Rank ($R^2 = .332$, $\underline{p} < .0001$) and Full Professor ($R^2 = .114$, $\underline{p} < .0036$), were the regressors that

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[1]Market Place Factor determined by the College and University Personnel Association (CUPA) and reported each year in their annual salary survey.

shaped salary. Neither Gender nor Ethnicity explained much of the variance in salary; Gender ($R^2 = .00002$[2], $p > .6656$), Ethnicity ($R^2 = .008$, $p > .2091$). The results indicated that gender and ethnicity do *not* play a role in determining salary.

The salary data were further examined with the variables used to create the PSU-KNEA salary generation formula in addition to the variables of Gender and Ethnicity. The specific type of regression procedure used was stepwise. This procedure assesses each regressor and its relationship with the dependent variable. It then determines the regressors that are important in understanding the dependent variable and produces the model that best describes the variability in the dependent variable. The first variable selected by the stepwise procedure explains as much of the variance in salary as possible. Once entered, the stepwise procedure reexamines the rest of the regressors to determine which will account for the next largest proportion of the variance of salary. This continues until none of the remaining variables explains much of the variance in salary. As a result, the stepwise regression solution only includes the variables that are important for the fluctuations in salary. If the variable does not help to explain salary it will not be included in the final solution.

Stepwise regression with the PSU-KNEA model was used to examine the variables of Market Place Factor, Rank, Years in Rank, KNEA Year (the number of years at PSU multiplied by the average performance appraisal for the past five years), and CAP (the number of years experience prior to PSU capped at eight years). The results of the stepwise analysis indicated that Market Place Factor ($R^2 = .424$, $p < .0001$), Rank ($R^2 = .328$, $p < .0001$), Years in Rank ($R^2 = .075$, $p < .0001$), and KNEA Year ($R^2 = .006$, $p < .007$) explained 83.5% of the variance of salary. The Market Place Factor itself explained 42.4% of the variance of salary followed by Rank (32.8%), Years in Rank (7.5%), and KNEA Year (0.6%). The variables of Gender and Ethnicity had to be forced into the regression equation since the stepwise solution did not determine that they were useful in explaining any of the variance of salary. When these variables were entered into the regression equation along with the regressors identified by the stepwise solution, 83.5% of the variance of salary was explained by the solution. The amount of the salary variance explained by Gender and Ethnicity was miniscule (.05% and .001%, respectively). The results of this analysis indicate that differences between faculty salaries can *not* be attributed to gender or ethnicity.

Overall, the amount of the variance in salary that could be explained by the two regression models was quite good. The WSU model explained 85.3% of the variance in salary and the PSU-KNEA model explained 83.5%. Since these models explain such a large proportion of the variance in salary, the variables included in the models seem to be quite useful in determining salary. What is quite striking is the lack of ability of

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[2]This value was estimated. The regression model was not full rank. As a result, the estimates for R^2 for this variable was biased

gender or ethnicity to explain even a miniscule amount of variance in salary. Gender explained 5/100s of a percent of the variance in salary for the PSU-KNEA model. It is

obvious that gender plays no role in determining salary at PSU. The other variables play a considerable role. The same can be said for ethnicity. Ethnicity explained 8/1,000s of a percent of the variance in salary for the WSU model and 1/1,000s of a percent of the variance in salary for the PSU-KNEA model. Ethnicity plays no role in determining salary at PSU.

In summary, the variables of Gender and Ethnicity do not help to determine any of the variance in salary. The percentage of variance these two variables contributes to understanding salary is negligible. The other variables, such as Market Place Factor, Rank, College, and Years in Rank contribute much more to the understanding of differences in salaries. It can therefore be concluded that there are no gender or ethnicity inequalities at Pittsburg State University.

Perception of Gender/Protected Groups Equity Survey

The Gender/Protected Groups Task Force developed an Equity Perception Survey to gather data regarding faculty and chairpersons perceptions of gender equity and protected group equity. There were two parts to the survey each relating to the proposed purpose of the survey; examining the perceptions of gender equity (Part A) and protected groups equity (Part B). Part A was comprised of 23 questions while Part B was comprised of 22 questions. The survey required a forced-choice response for each question along a five-point Likert Scale of Strongly Agree, Agree, Neither Agree Nor Disagree, Disagree, and Strongly Disagree. The questions comprising Parts A and B can be in Tables 1 and 2, respectively. Demographic information collected included Gender, Status (Faculty or Chairperson), Classification (Tenured, Tenure Earning, or Nontenured Earning), College (Art & Sciences, Business, Education, Learning Resources, Technology), Rank (Full Professor, Associate Professor, Assistant Professor, Instructor), Time at Pittsburg State University (0-2, 3-6, 7-10, 10-14, 15 or more years) and Race or Protected Group (African American, Asian, Caucasian, Hispanic, Multiracial, Native American, Resident Alien, or Other).

Of the 332 faculty and chairpersons who received the surveys 168 individuals returned completed surveys (51% return rate).

The 45 questions were subjected to a 2 (Gender) x 5(College) x 5(Rank) analysis of variance (ANOVA). The results revealed that there were significant differences between males and females on several of the 45 questions (see Table 3). To protect against making Type I errors (an error indicating that there were significant differences when the differences are actually chance fluctuations), the significant levels of follow-up ANOVAs are typically reduced by the number of comparisons. If this were done for these analysis, only a few of the differences between questions would remain as significantly different. To fully examine the nature of the differences in perceptions between males and females all of the questions in which there were significant

differences at the usual significance level ($p < .05$) were retained (please refer again to Table 3). With the rather large degrees of freedom for the error term in these analyses, due to the large number of respondents, the margin of difference between males and females can be quite small and still statistically significant. As a result, the next question becomes how practically important are the statistical significant differences. The mean response of the females on the questions that were related to gender and were statistically significantly different was 3.0 while the respective males' mean was 3.9. Females generally responded that they neither agreed nor disagreed with the statements while the males generally agreed with the statements. Agreement with the statement indicates a lack of belief that there are gender biases. Of the questions in which there were significant differences, fortunately the two that referred to appropriate attitudes and behavior toward women (Q2 and Q19, respectively) were close to agreement than the other questions in which there were significant differences (means of 3.6 and 3.5 respectively). Males were more likely to agree that women were treated with appropriate behavior and respect. Questions 7 through 12 and 15 involved the recruitment and retaining of women faculty and administrators and resources.

One of the most important questions on this survey was Q13, which referred to the belief that salary decisions were not gender biased. Females responded with a mean of 2.9 (neither agree nor disagree) while males responded with a mean of 3.9 (agree). Although there was a significant difference between males and females on their perceptions of salary equity, there was no support for the contribution of gender in determining salary as assessed by the two regression models. It would seem that more work needs to occur to bridge the gap between the perception and reality of salary equity. The same cannot be stated with regard to the perception that recruitment and retaining of women faculty and administrators is not as desirable as it could be. Males were much less likely to agree to these statements as well.

The results of Part A of this survey indicate that there were several questions that were statistically significant differences in the way that males and females perceived gender equity. Although there were some differences, females generally responded that they neither agreed nor disagreed with the statements concerning gender equity while males generally agreed with the statements. Agreement to the statements reflects a perception of no gender inequities. The statements that produced the most concern involved recruitment and hiring of women administrators and the leadership development of women faculty, administrators, and professionals. Further examination of these issues will be necessary to either correct the situation and/or the perception. Generally, individuals at PSU seem to be satisfied. However, there are few female administrators and this situation has not gone unnoticed. It is imperative that all members of the university feel that they have equitable access to resources and that this perception is realized without regard to gender or ethnicity.

The analyses examining the perceptions of equity for protected groups failed to yield any significant differences between protected groups. The members of the protected groups and the individuals not in the protected groups had similar perceptions regarding equity. The survey did indicate that all groups believed that Pittsburg State

University was not able to hire a sufficient number of administrators in protected groups. It is useful to indicate that although there may be deficiencies in the number of protected group members on campus at Pittsburg State University, all members of the campus are generally in agreement that this is true and share a vision of the potential to recruit, hire, and retain protected group members as faculty and administrators.

Conclusions

The results of the regression solutions based on the WSU and the PSU-KNEA models strongly indicate that there are no inequities due to gender or ethnicity. The inclusion of these variables into the regression models provided *no* appreciable explanatory value.

The results of the Gender/Protected Groups Equity Survey also indicated that there were very few differences in the ways that males, females, and ethnic groups perceived resources and opportunities at Pittsburg State University. There were several questions on Part A of the survey dealing with gender issues in which there were significant statistical differences between males and females. Although these differences were statistically significant, there were no huge disparities in the ways that males and females responded. All questions that generated statistically significant differences between males and females were further considered.

The net result of the above analyses is that the climate at Pittsburg State University could be considered gender and ethnic equitable, particularly when salary issues are concerned.

Table 1

Questions Comprising the Gender Equity Issues from the Gender/Protected Groups Survey (Part A)

1. Pittsburg State University provides a safe work environment for female employees.
2. Women are respected members of the University community.
3. Gender neutral language is used in the Pittsburg State University documents.
4. Women are adequately represented as members of University committees.
5. Women are adequately represented as members of College committees.
6. Women are adequately represented as members of Departmental committees.
7. Pittsburg State University adequately recruits women faculty.
8. Pittsburg State University hires a sufficient number of women faculty.
9. Pittsburg State University adequately recruits women administrators.
10. Pittsburg State University hires a sufficient number of women administrators.
11. There are sufficient opportunities for leadership development for women faculty.
12. There are sufficient opportunities for leadership development for women administrators and professionals.
13. Salary decisions are not gender biased.
14. The University benefit policies are not gender biased.
15. Resource allocations are not gender biased.
16. Administrators are sensitive to gender equity issues.
17. Administrators rarely engage in behavior demeaning to women.
18. Administrators adequately promote the University policy on sexual harassment.
19. Behavior demeaning to women rarely occurs at meetings.
20. Behavior demeaning to women rarely occurs in other setting son campus.
21. My department has evaluated its curriculum to ensure representation of perspectives related to gender.
22. Tenure is equally attainable for women and men.
23. Faculty promotion is equally attainable for women and men.

Table 2

Questions Comprising the Protected Groups Equity Issues from the Gender/Protected Groups Survey (Part B)

1. Pittsburg State University provides a safe work environment for employees in protected groups.
2. People in protected groups are respected members of the University community.
3. Race neutral language is used in the Pittsburg State University documents.
4. People in protected groups are adequately represented as members of University committees.
5. People in protected groups are adequately represented as members of College committees.
6. People in protected groups are adequately represented as members of Departmental committees.
7. Pittsburg State University adequately recruits faculty in protected groups.
8. Pittsburg State University hires a sufficient number of faculty in protected groups.
9. Pittsburg State University adequately recruits administrators in protected groups.
10. Pittsburg State University hires a sufficient number of administrators in protected groups.
11. There are sufficient opportunities for leadership development for faculty in protected groups.
12. There are sufficient opportunities for leadership development for administrators and professionals in protected groups.
13. Salary decisions are not racially biased.
14. The University benefit policies are not racially biased.
15. Resource allocations are not racially biased.
16. Administrators are sensitive to racial equity issues.
17. Administrators rarely engage in behavior demeaning to people in protected groups.
18. Behavior demeaning to people in protected groups rarely occurs at meetings.
19. Behavior demeaning to people in protected groups rarely occurs in other settings on campus.
20. My department has evaluated its curriculum to ensure representation of perspectives related to race.
21. Tenure is equally attainable for people of all races.
22. Faculty promotion is equally attainable for people of all races.

Table 3

Questions from the Gender Equity Survey in which there were Significant Differences between Males and Females.

2.	Women are respected members of the University community.
7.	Pittsburg State University adequately recruits women faculty.
9.	Pittsburg State University adequately recruits women administrators.
10.	Pittsburg State University hires a sufficient number of women administrators.
11.	There are sufficient opportunities for leadership development for women faculty.
12.	There are sufficient opportunities for leadership development for women administrators and professionals.
19.	Behavior demeaning to women rarely occurs at meetings.