Gender Discrimination Lawsuit

BC2406 – Group 2

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Houston College of Medicine: Response to Gender Discrimination Lawsuit

In this presentation, we, the analytics consultants representing Houston College of Medicine, will analyze the claims raised under Title VII of the Civil Rights Act of 1964. We aim to demonstrate that the College's policies and practices are aligned with equity and fairness, addressing each claim with objective data and contextual understanding.

Regression Analysis

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Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  53119.2    28372.1   1.872 0.062351 .
GenderMale   -3417.0     4258.0  -0.802 0.423040
Exper         3342.8      384.4   8.696 4.81e-16 ***
Prate        -3259.6     3656.5  -0.891 0.373549
Dept2       -13128.0     6124.6  -2.143 0.033049 *
Dept3        24507.6     8167.2   3.001 0.002968 **
Dept4        23629.1    11291.8   2.093 0.037403 *
Dept5        80344.5     9534.2   8.427 2.91e-15 ***
Dept6       188098.3    12977.3  14.494  < 2e-16 ***
Clin1        18975.6     8662.7   2.190 0.029420 *
Cert1        21069.2     4471.5   4.712 4.09e-06 ***
Rank2        18934.4     4967.7   3.812 0.000174 ***
Rank3        37202.2     5540.6   6.715 1.28e-10 ***
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Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
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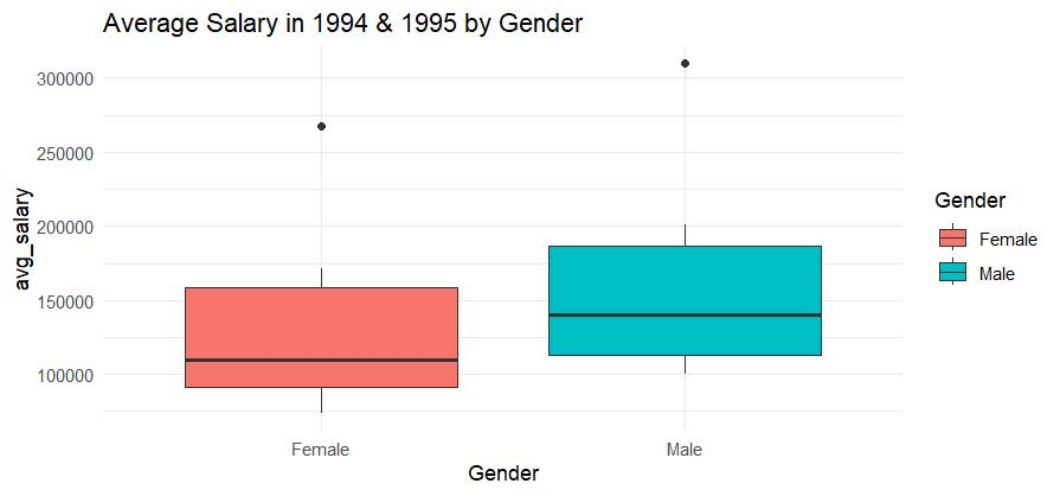
Inference

The regression analysis clearly illustrates that gender is not a significant variable while determining salary.

Factors such as experience , rank , department are significant while determining the salary

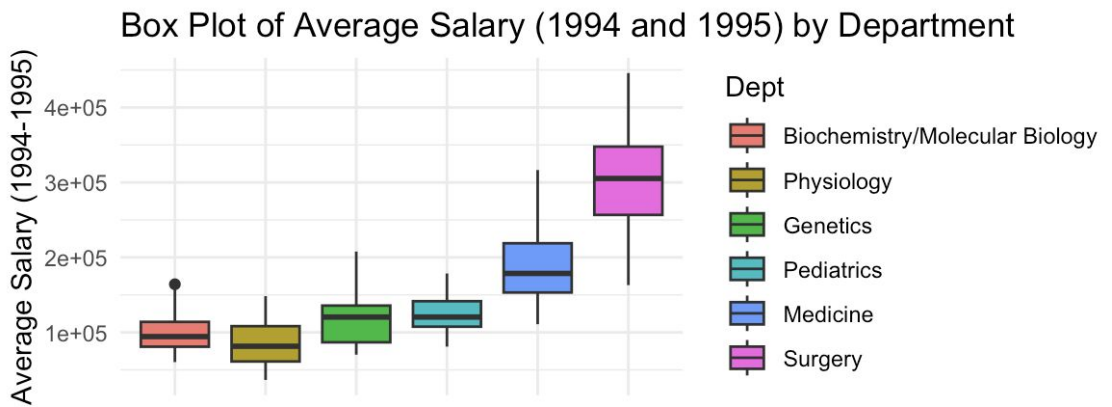
Lets now see how these factors determine salary . The following examples will demonstrate that no gender discrimination takes place while determining the salary of an individual.

Average Salary Comparison



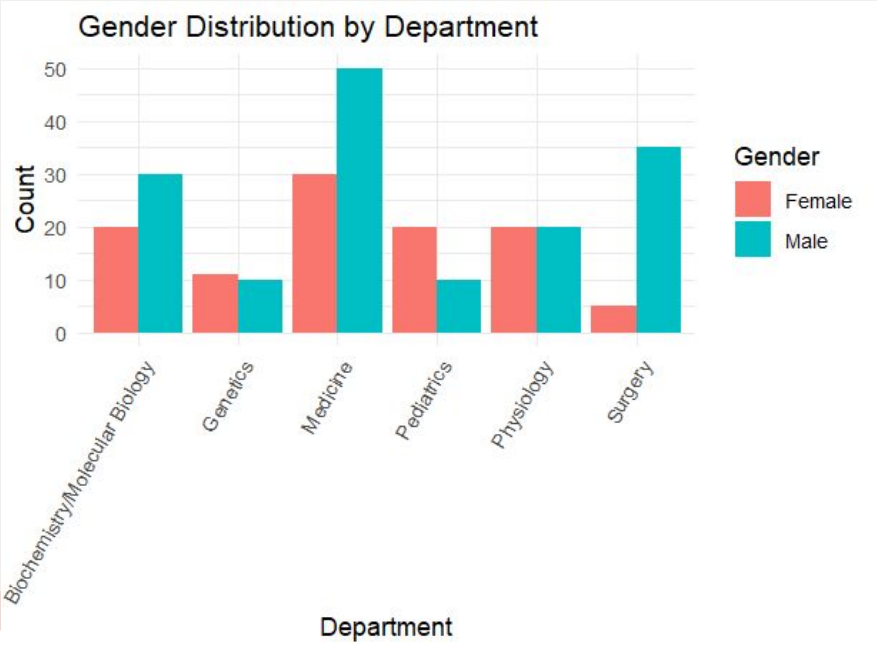
After looking at our regression analysis, we will be touching on the salary portion. Firstly, we will be looking at the average salary ((Sal94 + Sal95)/2) by gender. This graph shows that males earn more on average (median, outlier, upper and lower limits are higher) than females.

Average Salary by Department



After looking at the average salary by gender, we looked further to find out why there is such a salary gap. When looking at the average salary by departments, we noticed that medicine and surgery have a much higher salary than the others.

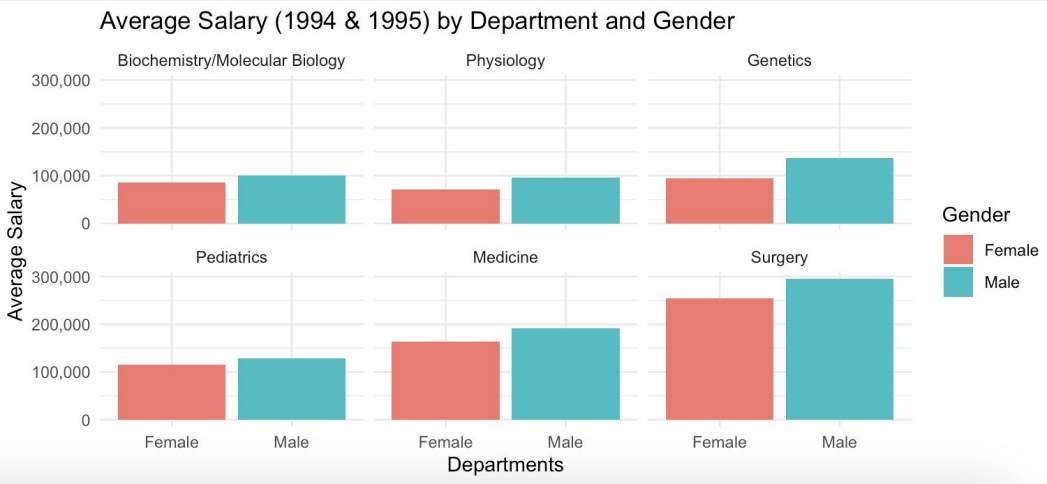
Gender Distribution by Department



We realised that the reason why males tend to have a higher salary than females, is because of the gender distribution in medical departments. A significant number of males work in the Medicine and Surgery departments, which offer some of the highest salaries in the college.

This concentration of males in these lucrative fields contributes to a higher overall mean salary for men. In contrast, women are often more represented in lower-paying specialties or support roles, further widening the salary gap between the genders. As a result, the overall mean salary reflects this disparity in specialty representation.

Counter Argument



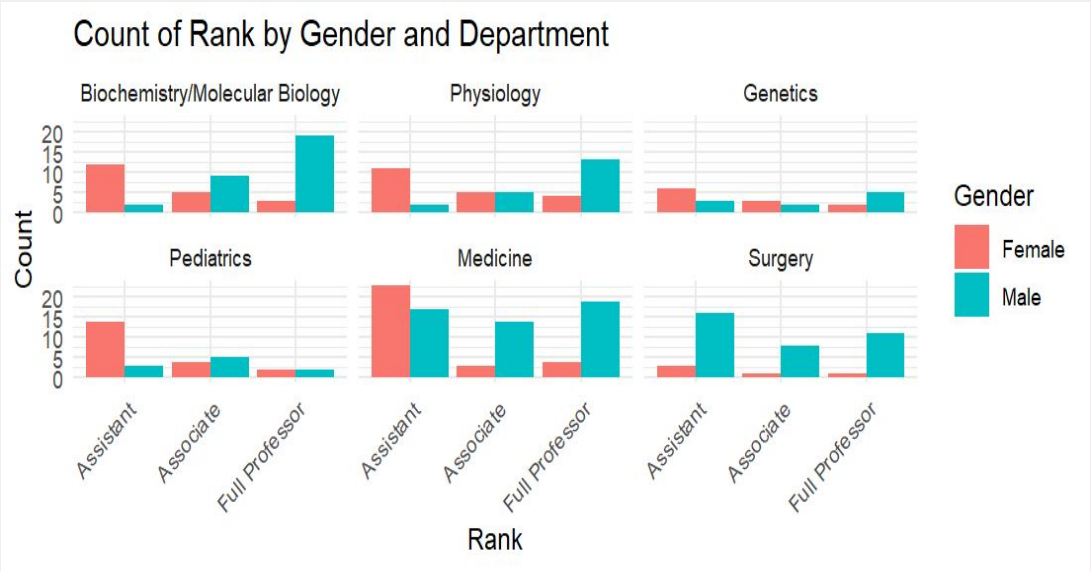
However, when we looked at the comparison between the salaries of males and females by departments, we noticed a flaw in our argument as there is still a noticeable margin in favour of males.

This sets as a possible counter argument to prove that the college is indeed discriminating against women.

In order to counteract this, we decided to look further into the respective departments to find out the difference in salaries.

Cherryl Leong

Count of Rank by Gender and Department

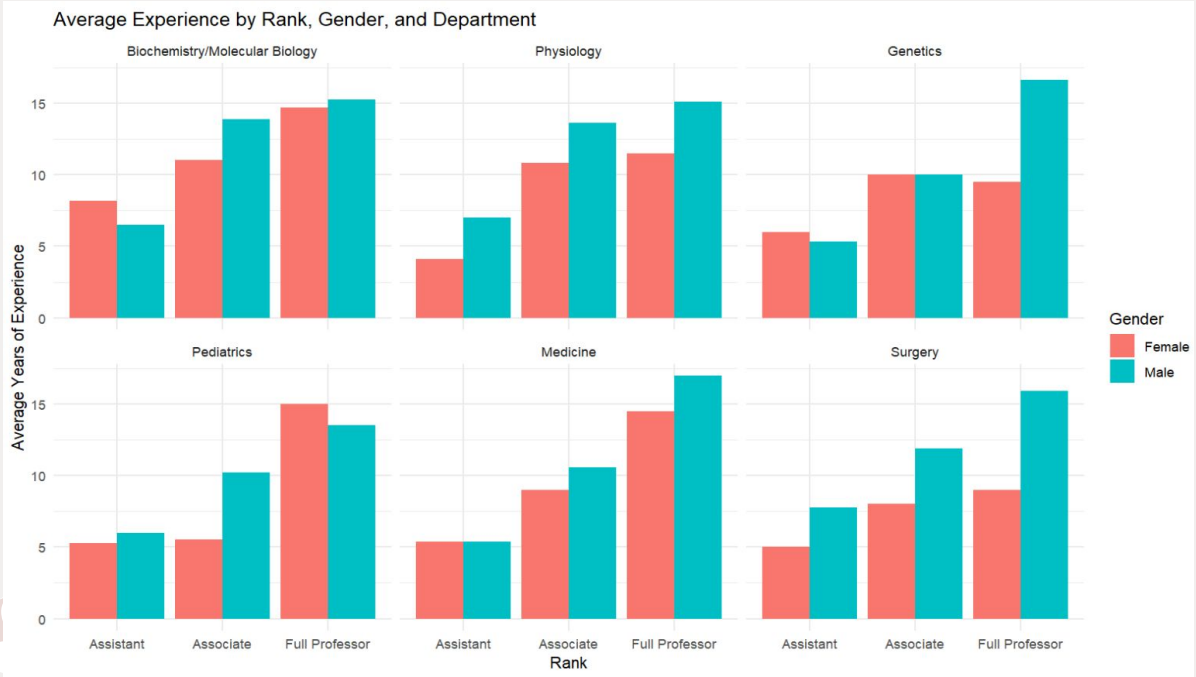


Looking at the number of females and males in each rank by departments, what stands out the most is that in general, a higher number of males tend to hold the highest position of “Full Professor”, and this is especially evident in the Medicine field. Surgery in general has very little females and thus, there is more males in every rank.

This is a strong indicator and explanation of why males tend to have higher salary than females in the same department, which is due to them having a higher position to their counterparts.

However, it is to be noted that due to this, we also need to address why there is such a disparity in ranks by gender.

Average Experience by Rank



Previous graph shows more males in associate and full professor positions.

This graph explains that experience is a key factor determining rank progression. There are more males with higher years of experience, which explains why there are more of them in higher ranks.

Higher ranks generally come w higher salaries.

Hence, the discrepancy is driven by experience, not gender bias.

Conclusion

Our analysis of salary discrepancies shows that gender is not a significant factor influencing salaries. Instead, experience, rank, and departmental affiliation played critical roles. The higher average salaries for males are largely due to their concentration in lucrative departments like ‘Medicine’ and ‘Surgery’, as well as their greater representation in senior positions.

Despite these findings, a persistent salary gap favoring males indicates a need for further examination of the gender imbalance in higher ranks. To promote equity, we recommend initiatives that focus on mentorship and support for female faculty advancement, ensuring a more inclusive environment that benefits all employees.