

On the Gender Pay Gap in the Philippines and the Occupational Placement and Educational Attainment Levels of Men and Women in the Labor Force

Gabriel C. Engcong
Daisy Lou Lim-Polestico, Ph.D.
Nicky C. Yungco
John Alfred M. Liwanag

Mindanao State University – Iligan Institute of Technology
Premier Research Institute of Science and Mathematics

Presented by:
Gabriel C. Engcong

OUTLINE

- Introduction
 - Definition of Terms
 - Glassdoor Salary Data
 - Philippine Context
 - The Global Gender Gap Report
- Methodology
 - July 2018 Labor Force Survey
 - Blinder-Oaxaca Decomposition
- Primary Results
 - Occupational Factors
 - Educational Factors
 - Summary
 - Conclusions

DEFINITION OF TERMS

- **Gender Pay Gap**

The gender pay gap is defined as the relative difference in the average gross earnings of women and men within an economy.

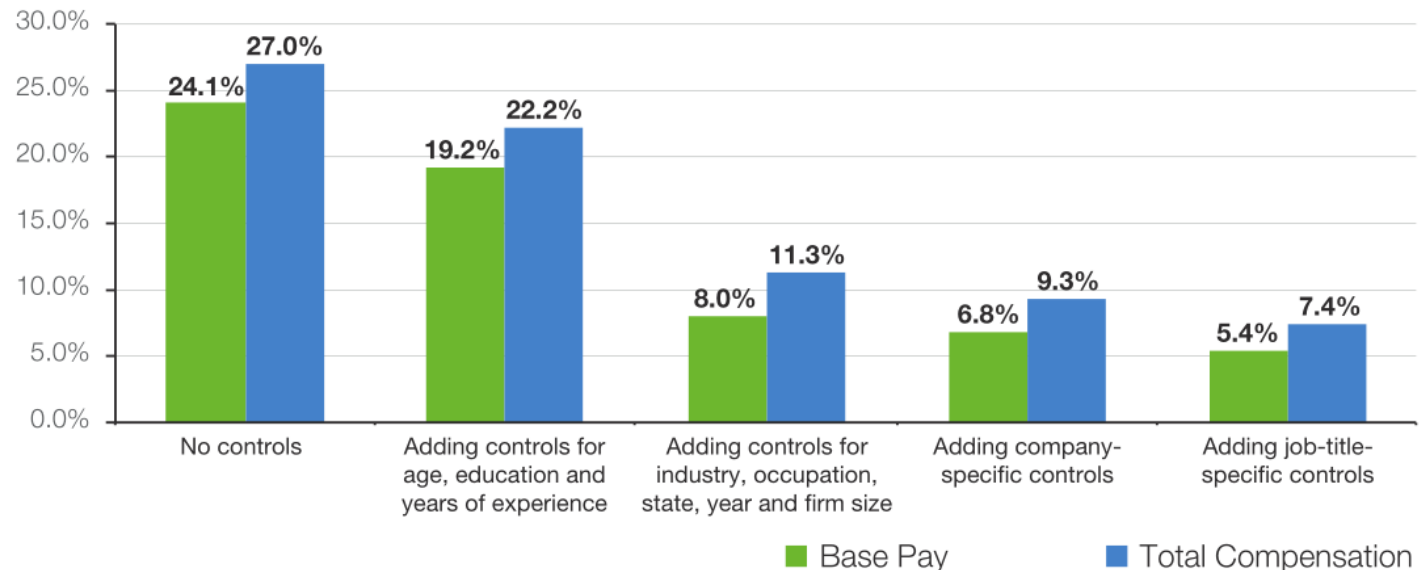
- **Gender Pay Gap (Adjusted)**

The (adjusted) gender pay gap is defined as the relative difference in the average gross earnings of women and men within an economy, with the differences in hours worked, occupations chosen, education, and job experience taken into account.

GLASSDOOR SALARY DATA

- In the US, the unadjusted gender pay gap is 24.1%.
- For workers of similar age, education, and years of experience, the gap shrinks to 19.2%.
- For workers of the same job title, employer, and location, the gender pay gap falls to 5.4%.

U.S. Gender Pay Gap, Before and After Adding Statistical Controls



■ Base Pay ■ Total Compensation

Source: Glassdoor Economic Research ([Glassdoor.com/research](https://www.glassdoor.com/research))



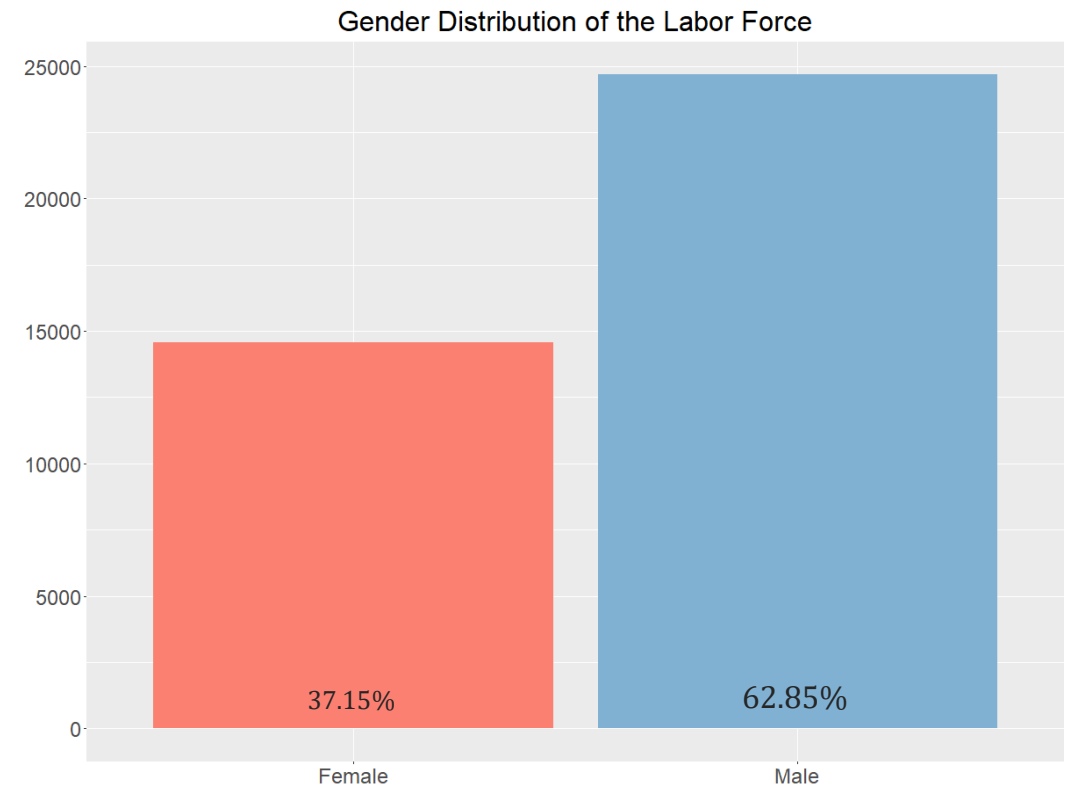
THE GLOBAL GENDER GAP REPORT

2017 Rank	2018 Rank	Economy	2018 Score
1	1	 Iceland	0.858
2	2	 Norway	0.835
5	3	 Sweden	0.822
3	4	 Finland	0.821
6	5	 Nicaragua	0.809
4	6	 Rwanda	0.804
9	7	 New Zealand	0.801
10	8	 Philippines	0.799
8	9	 Ireland	0.796
13	10	 Namibia	0.789

LABOR FORCE SURVEY

July 2018 Labor Force Survey

- The July 2018 Labor Force Survey collected data on 182,956 individuals.
- Of the 182,956 individuals, 69,653 are classified as employed.
- Only 39,262 of the respondents reported values on basic pay per day for which 24,667 (62.85%) are men and 14,585 (37.15%) are women.



BLINDER-OAXACA DECOMPOSITION

Given two groups A and B; an outcome variable Y ; and a set of predictors, how much of the mean outcome difference is accounted for by the group differences in the predictors?

$$R = E(Y_A) - E(Y_B)$$

BLINDER-OAXACA DECOMPOSITION

Based on the linear model

$$Y_{\ell} = X'_{\ell}\beta_{\ell} + \epsilon_{\ell}; E(\epsilon_{\ell}) = 0, \ell \in \{A, B\}$$

where X is a vector containing the predictors and a constant, β contains the slope parameters and the intercept, and ϵ is the error, the mean outcome difference is given by

$$R = E(Y_A) - E(Y_B) = E(X_A)'\beta_A - E(X_B)'\beta_B$$

TWOFOLD DECOMPOSITION

Let β^* be a nondiscriminatory coefficient vector. Then the outcome difference can be expressed as

$$R = \{E(X_A) - E(X_B)\}'\beta^* + \{E(X_A)'(\beta_A - \beta^*) - E(X_B)'(\beta^* - \beta_B)\}$$

and a “twofold” decomposition is obtained:

$$R = Q + U$$

TWOFOLD DECOMPOSITION

The first component Q is the part of the outcome differential that is explained by the group differences in the predictors.

$$Q = \{E(X_A) - E(X_B)\}'\beta^*$$

The second component is the unexplained part.

$$U = \{E(X_A)'(\beta_A - \beta^*) - E(X_B)'(\beta^* - \beta_B)\}$$

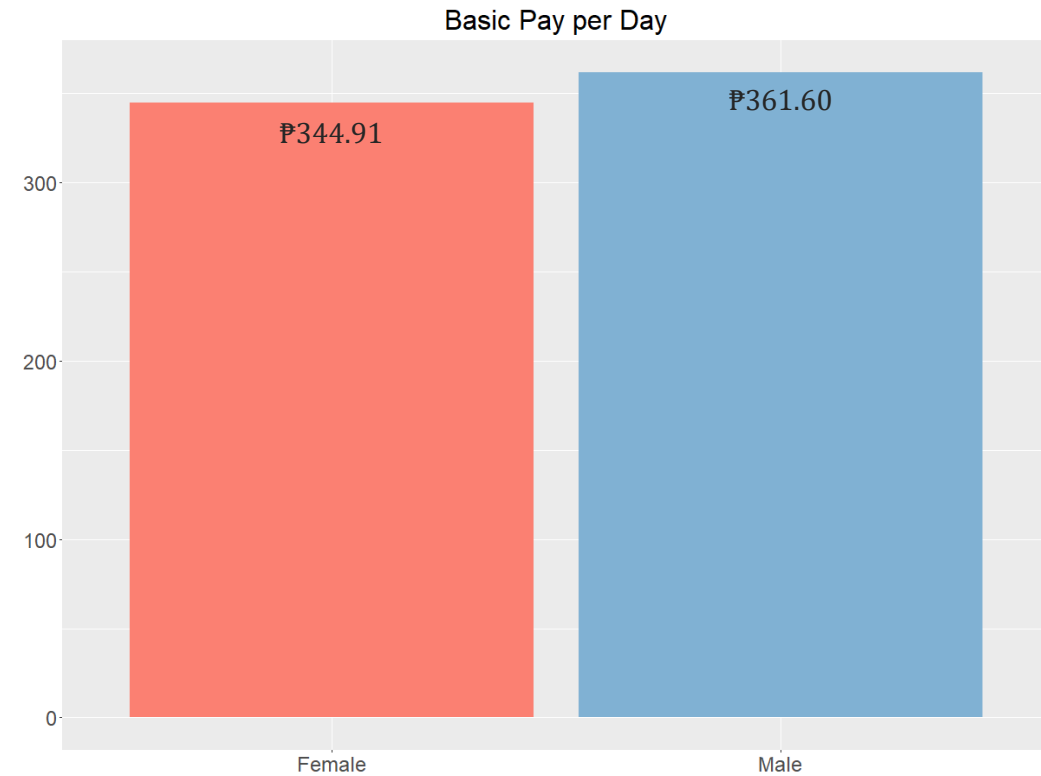
The second component U is usually attributed to discrimination. However, the component also reflects all potential effects of differences in unobserved variables.

PRIMARY RESULTS

Unadjusted Pay Gap

The (geometric) mean of pay of the respondents is ₱355.31.

The means of pay for men and women are ₱361.60 and ₱344.91, respectively, which reveals a pay gap of **4.84%**.

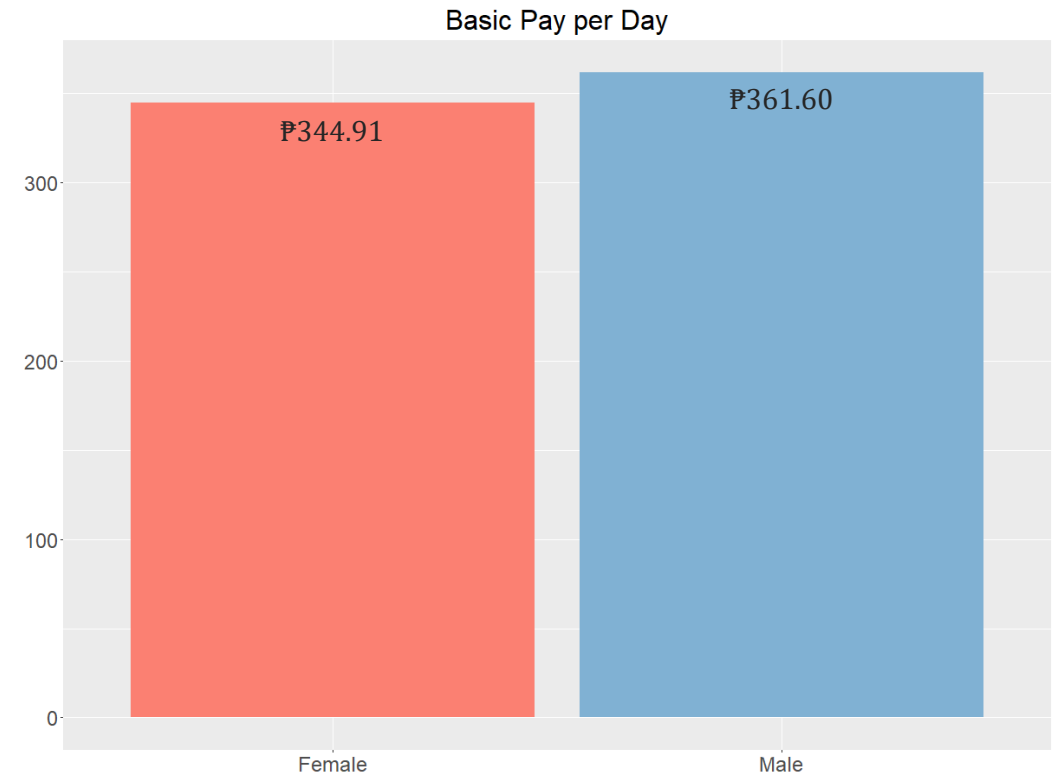


PRIMARY RESULTS

Adjusted Pay Gap

A twofold decomposition shows that the **age of the respondents** does not explain the pay differential between the two groups.

The decomposition further reveals that when the **age of the respondents** is taken into account, the pay differential against women **increases to 5.02%**.

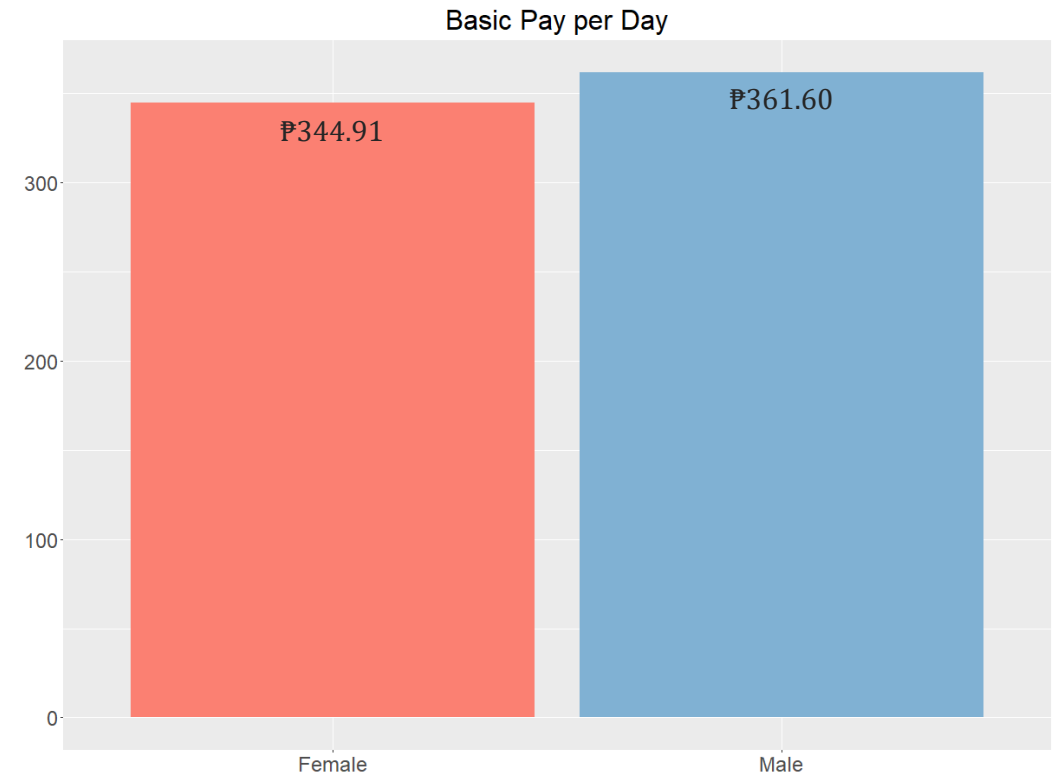


PRIMARY RESULTS

Adjusted Pay Gap

A twofold decomposition shows that the **geographical location** of the respondents (by regions) does not explain the pay differential between the two groups.

The decomposition further reveals that when the **geographical location** of the respondents is taken into account, the pay differential against women **increases to 6.93%**.

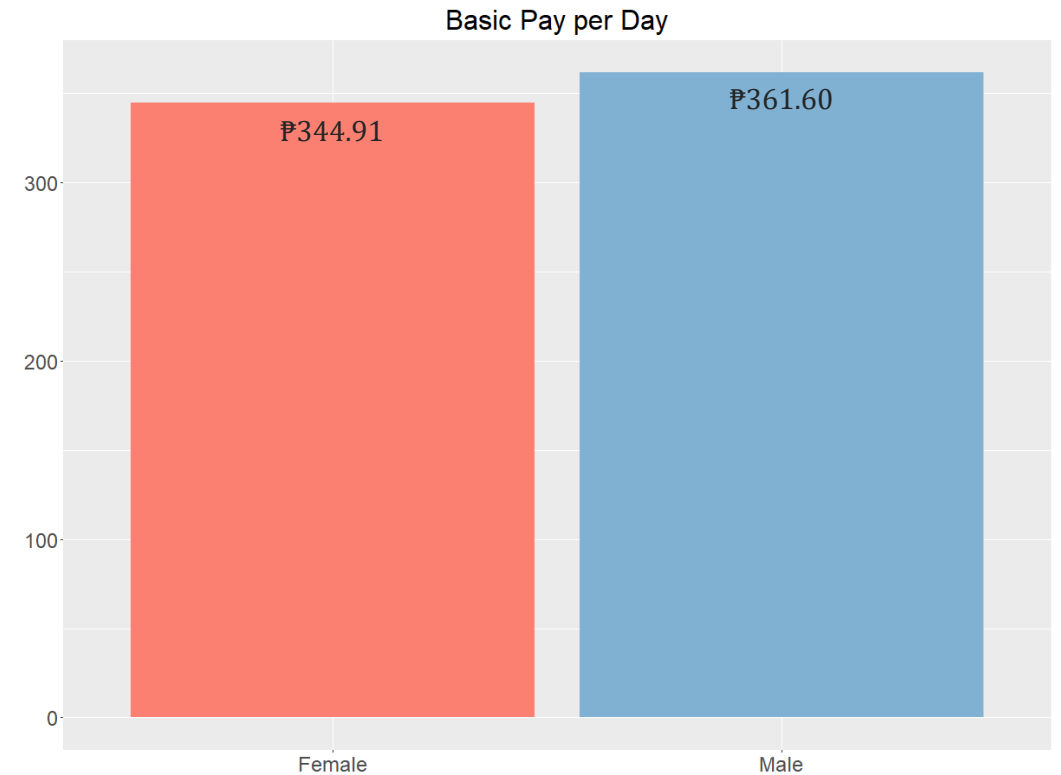


PRIMARY RESULTS

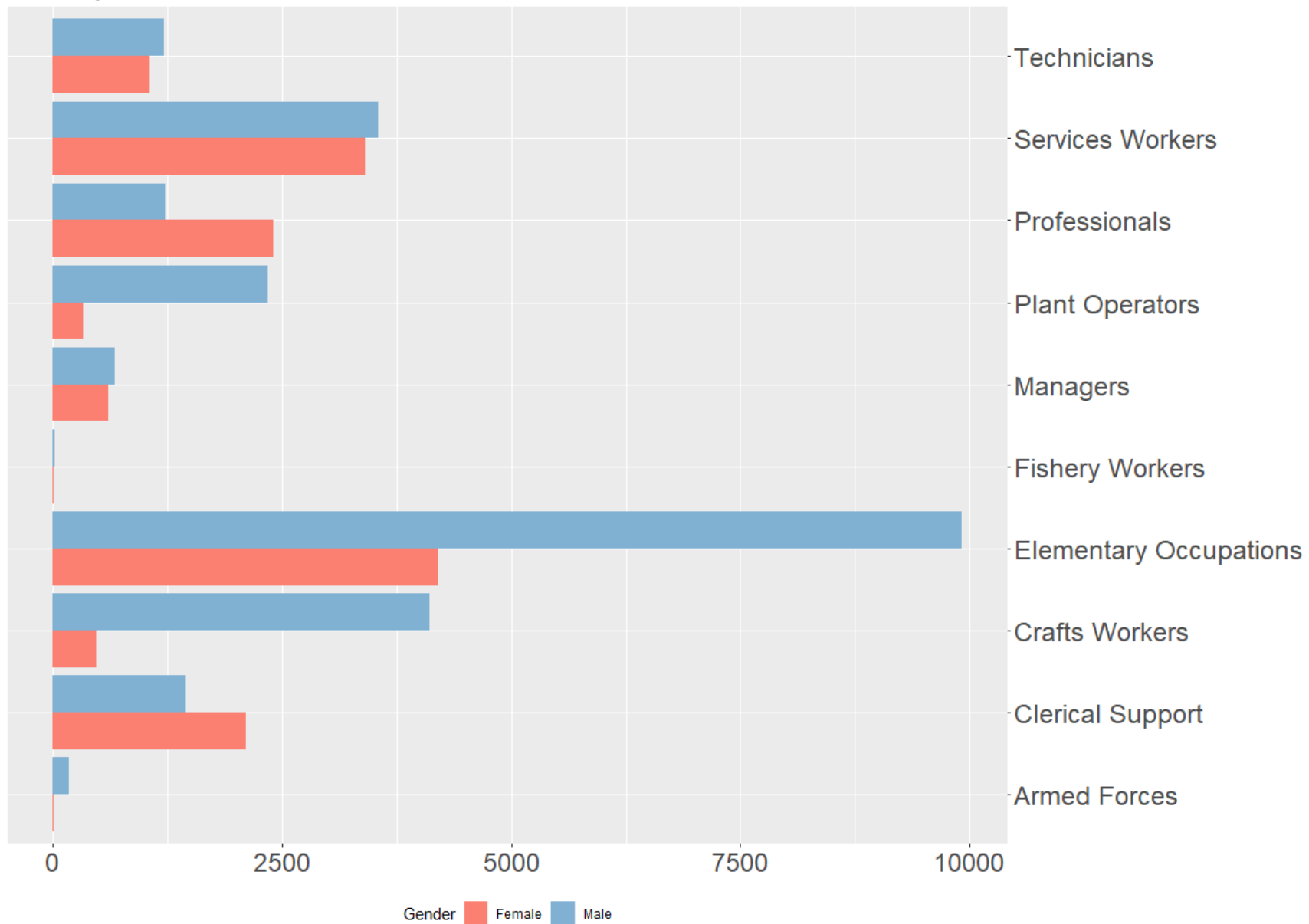
Adjusted Pay Gap

A twofold decomposition shows that the **primary occupation** of the respondents does not explain the pay differential between the two groups.

The decomposition further reveals that when the **primary occupation** of the respondents are taken into account, the pay differential against women **increases to 21.9%**.



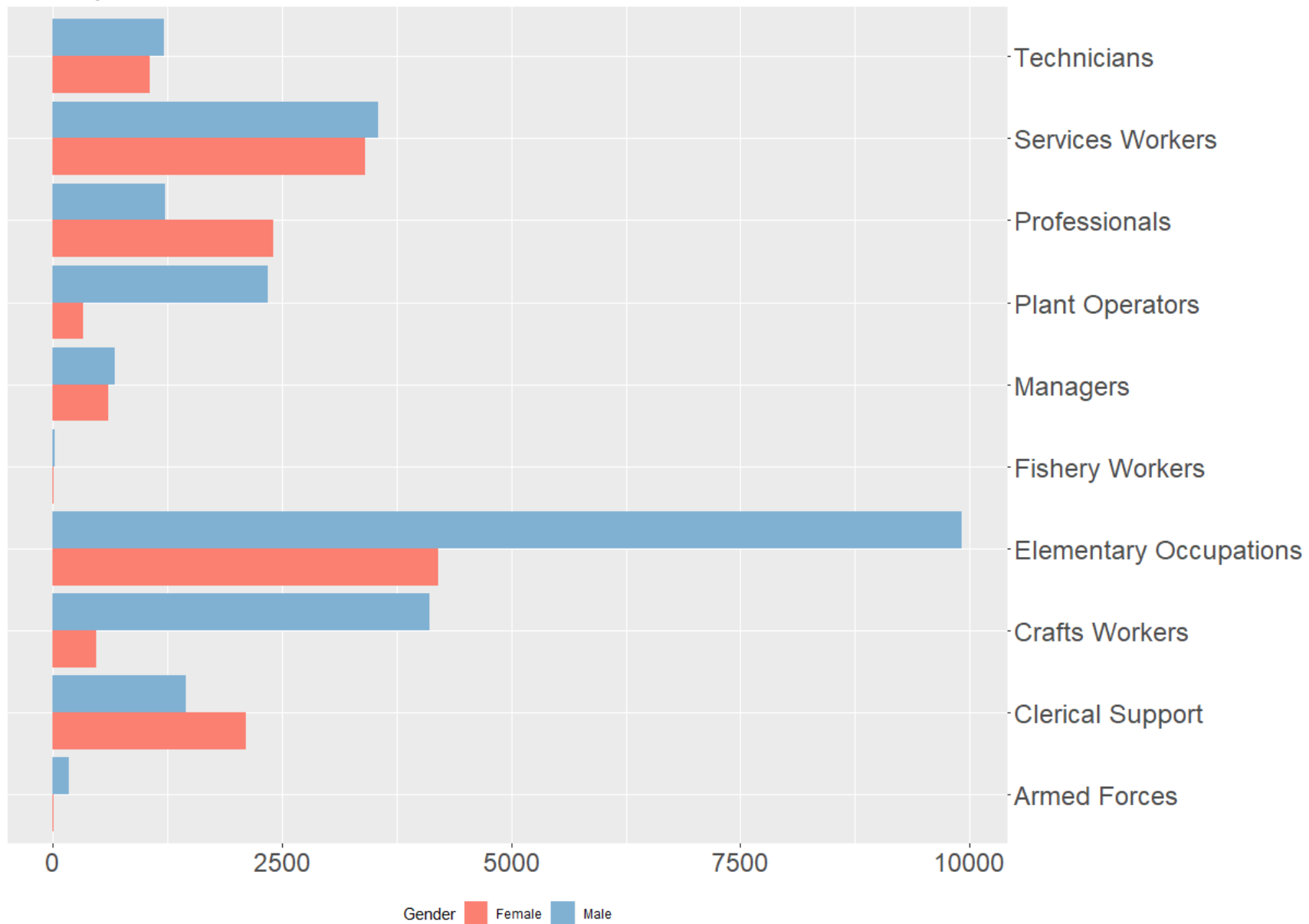
Occupational Distribution of Men and Women in the Labor Force



Gender Female Male

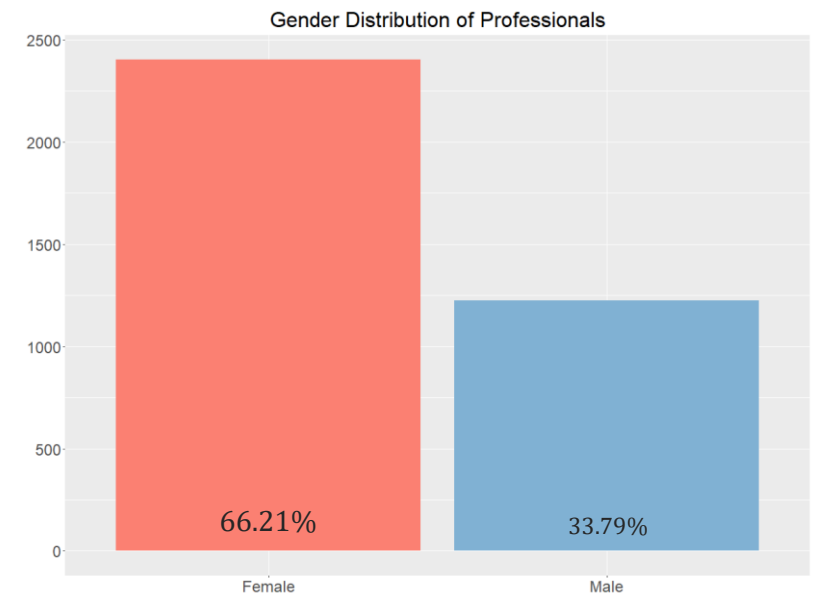
Basic Pay by Primary Occupation	
Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62

Occupational Distribution of Men and Women in the Labor Force

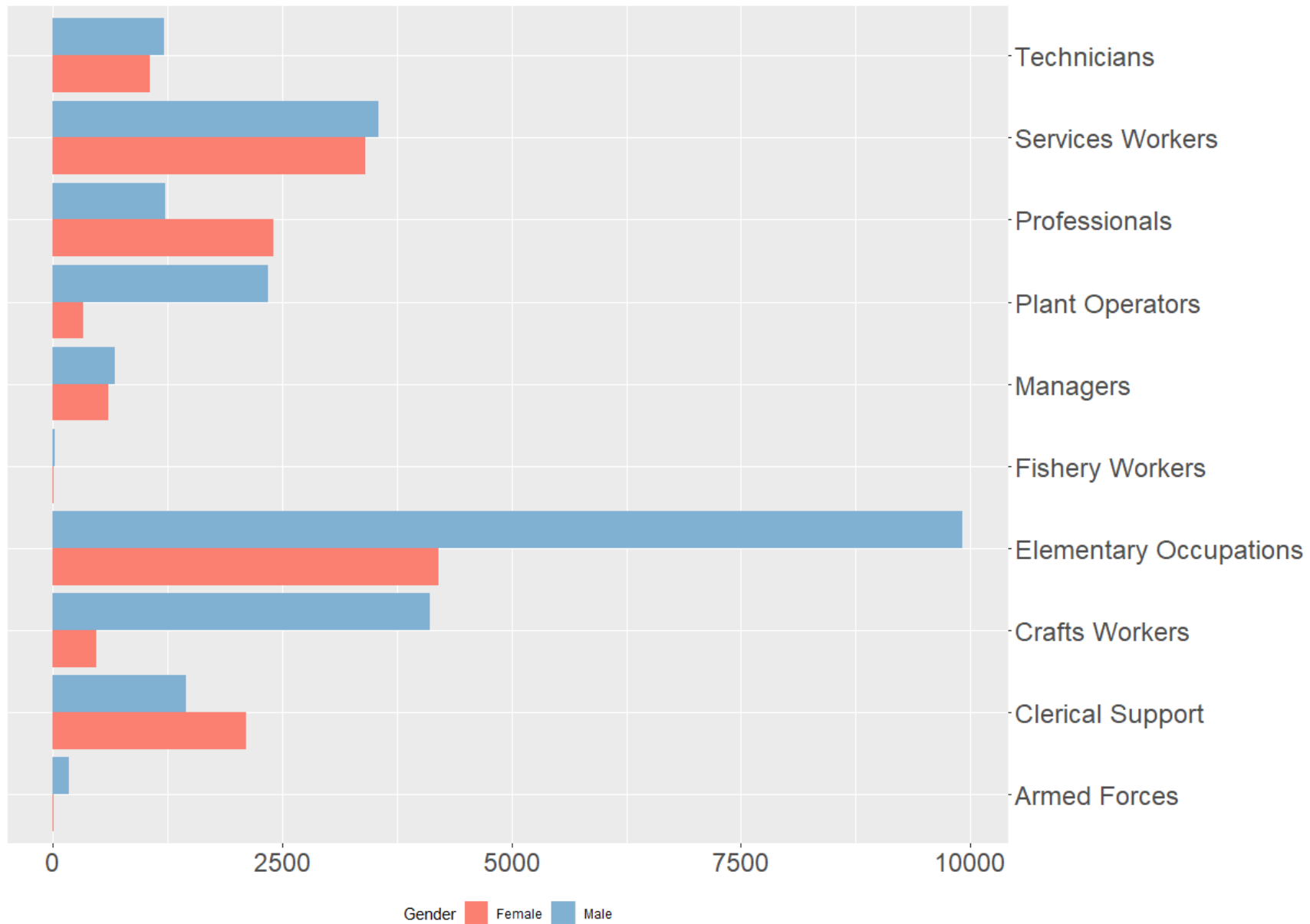


Gender ■ Female ■ Male

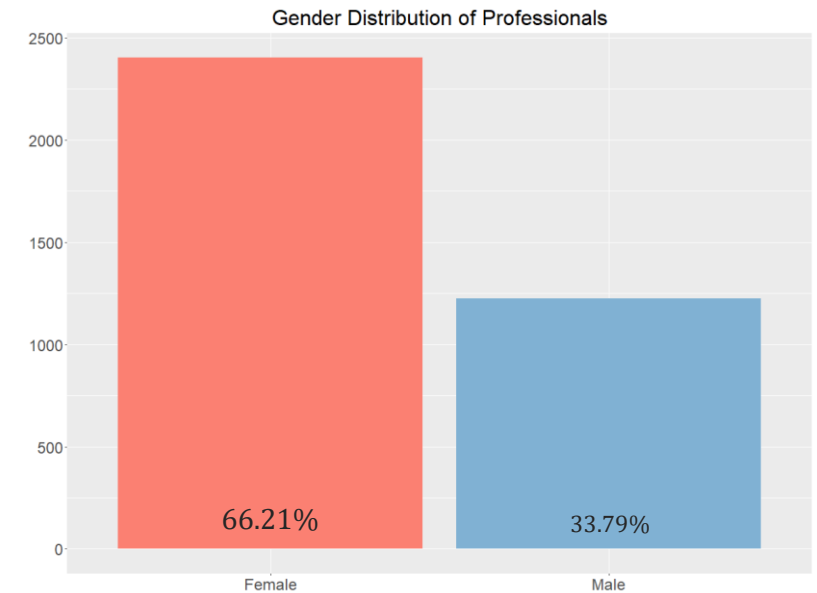
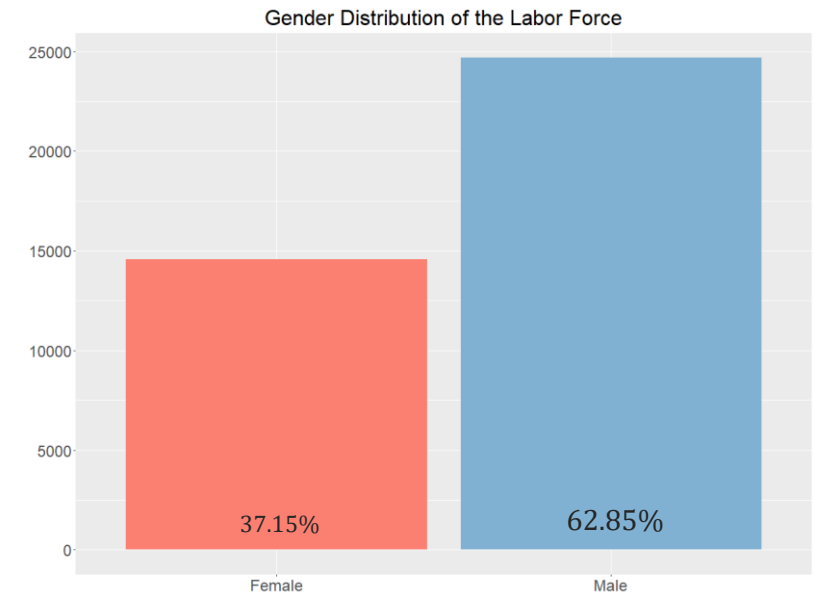
Basic Pay by Primary Occupation	
Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62



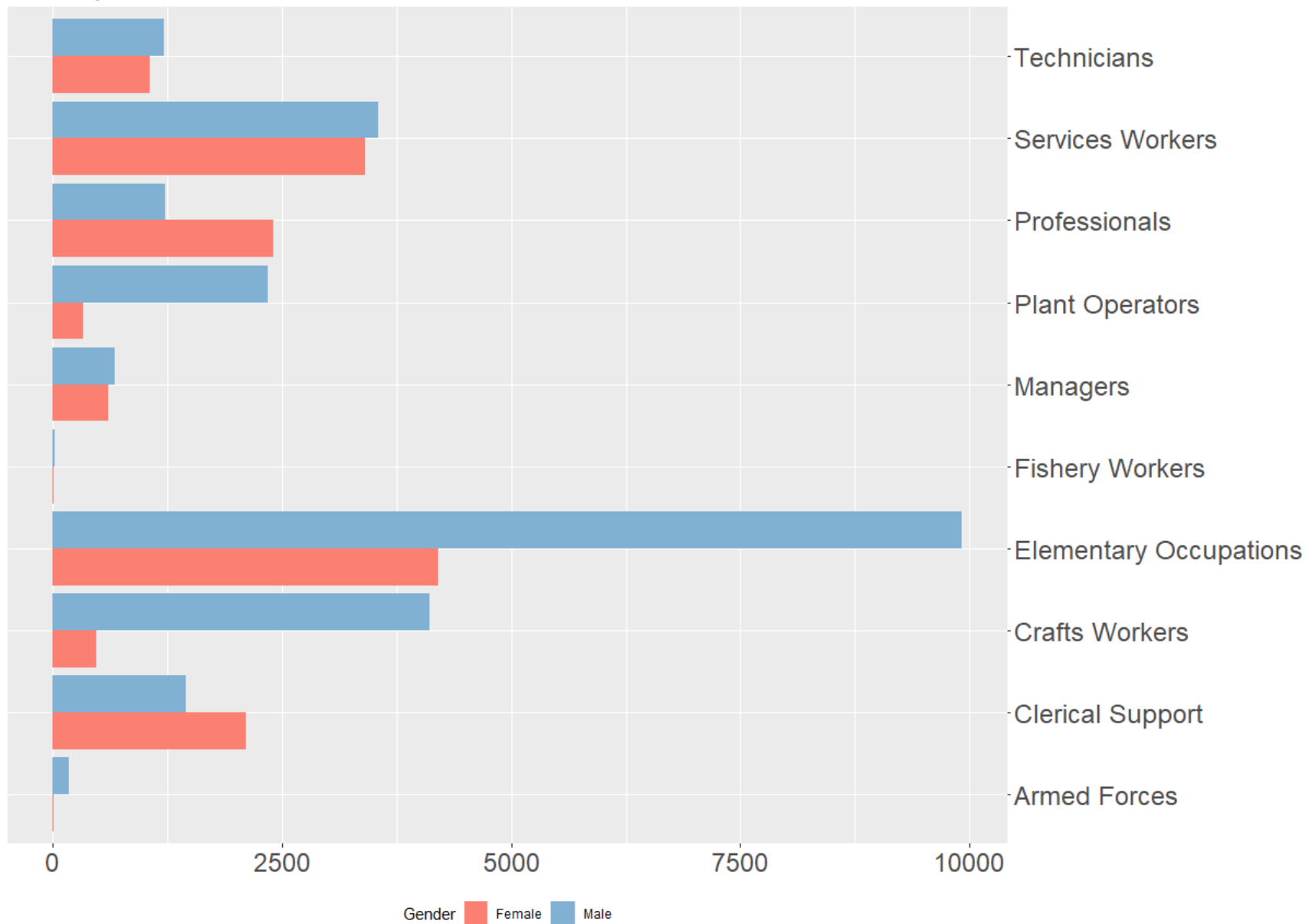
Occupational Distribution of Men and Women in the Labor Force



Gender ■ Female ■ Male

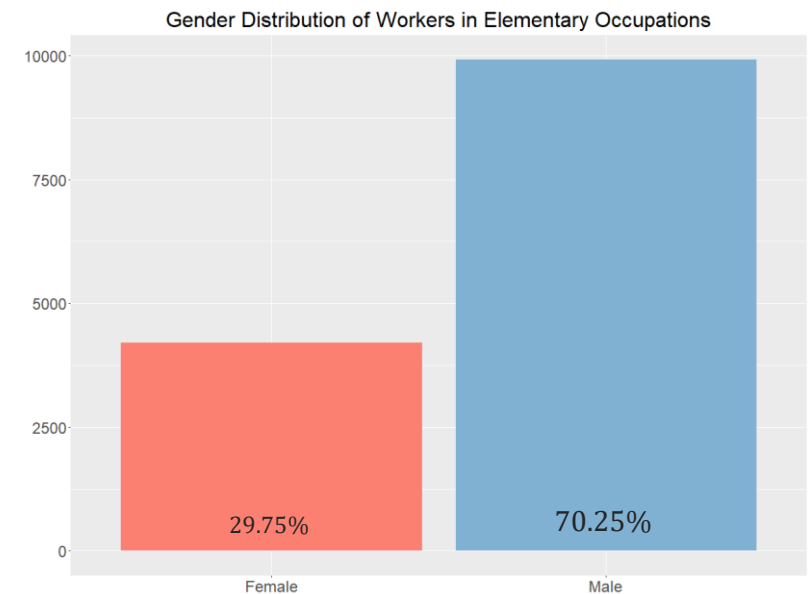


Occupational Distribution of Men and Women in the Labor Force

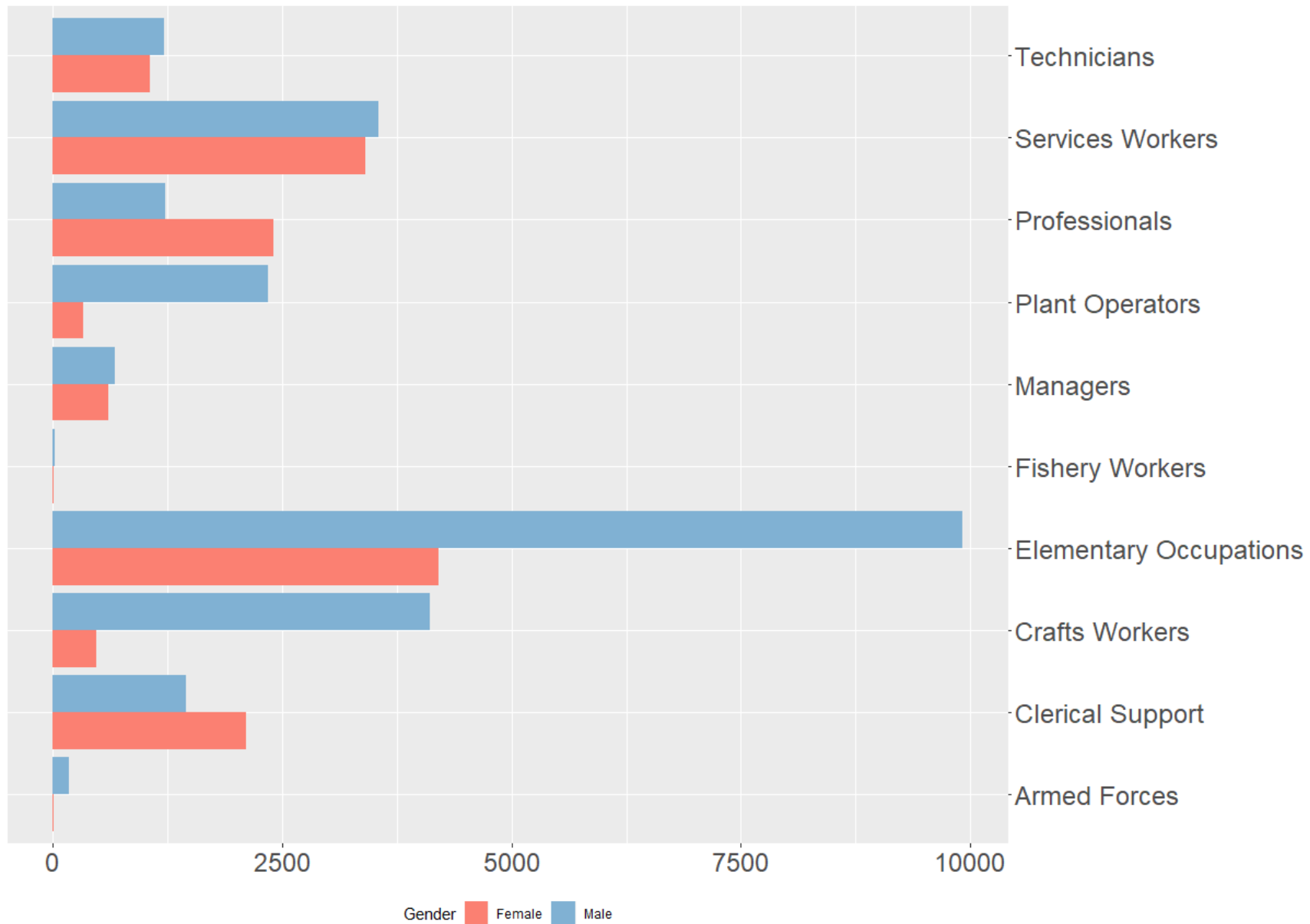


Gender ■ Female ■ Male

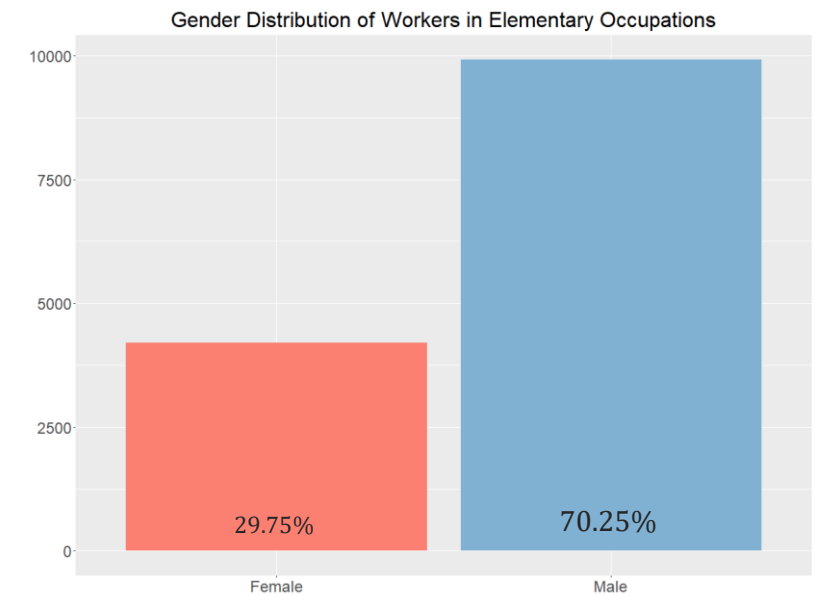
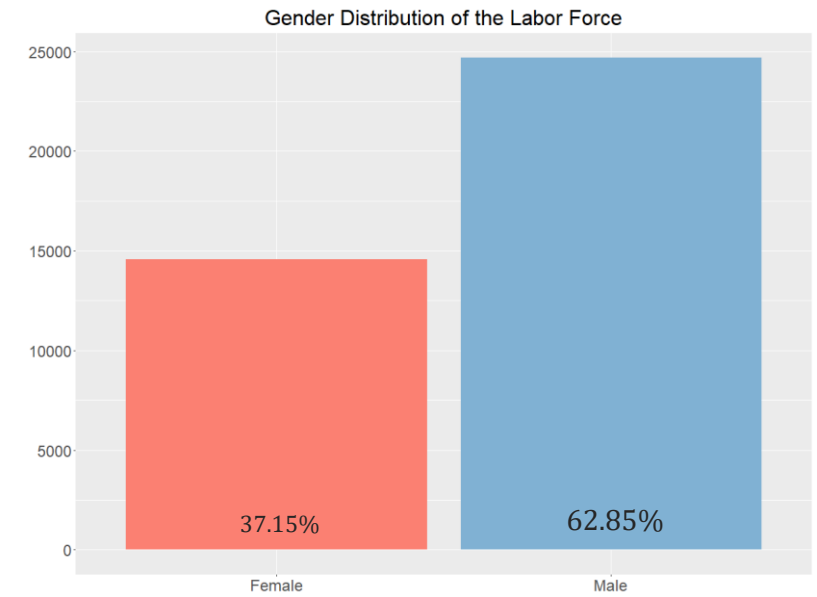
Basic Pay by Primary Occupation	
Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62



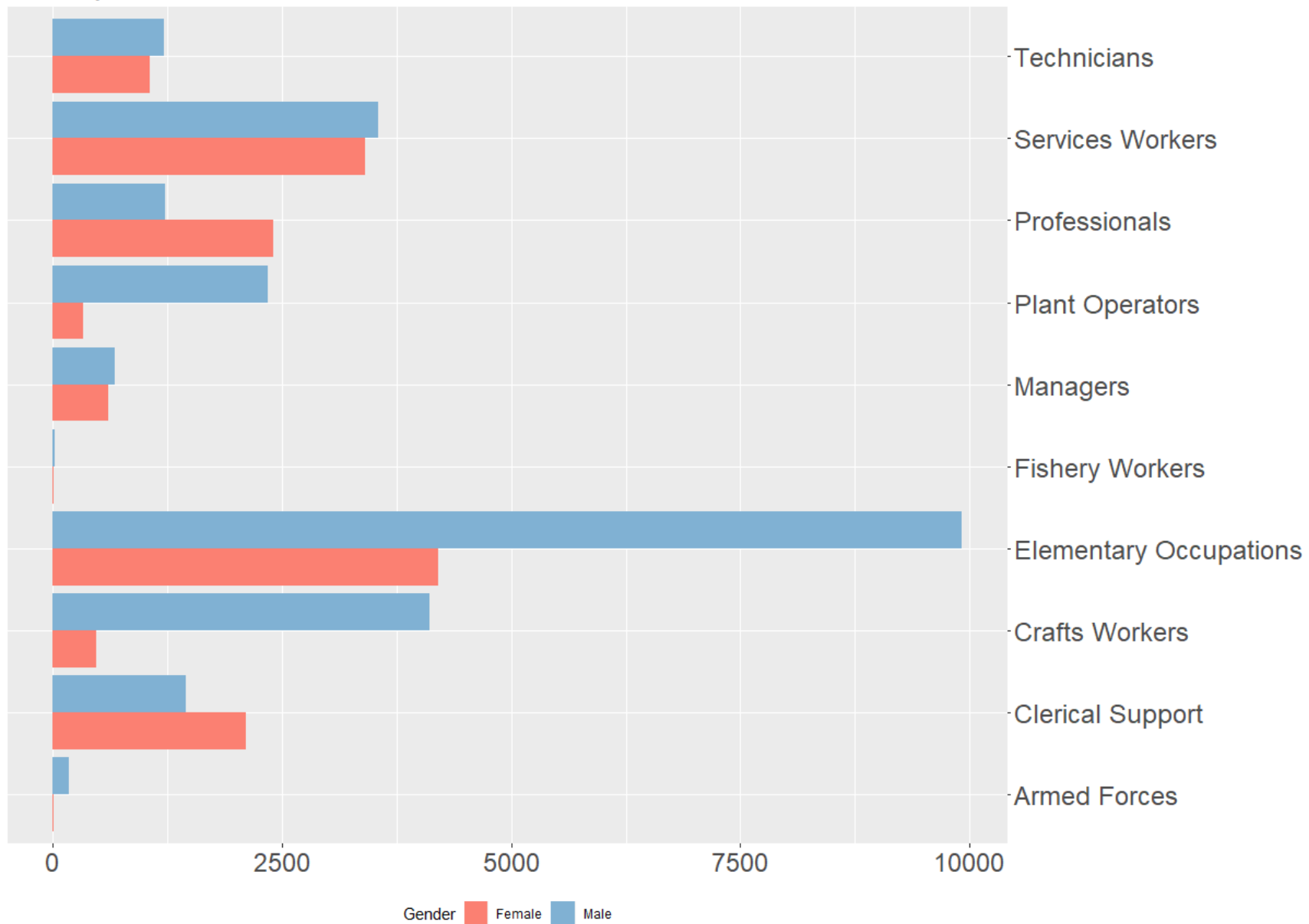
Occupational Distribution of Men and Women in the Labor Force



Gender ■ Female ■ Male

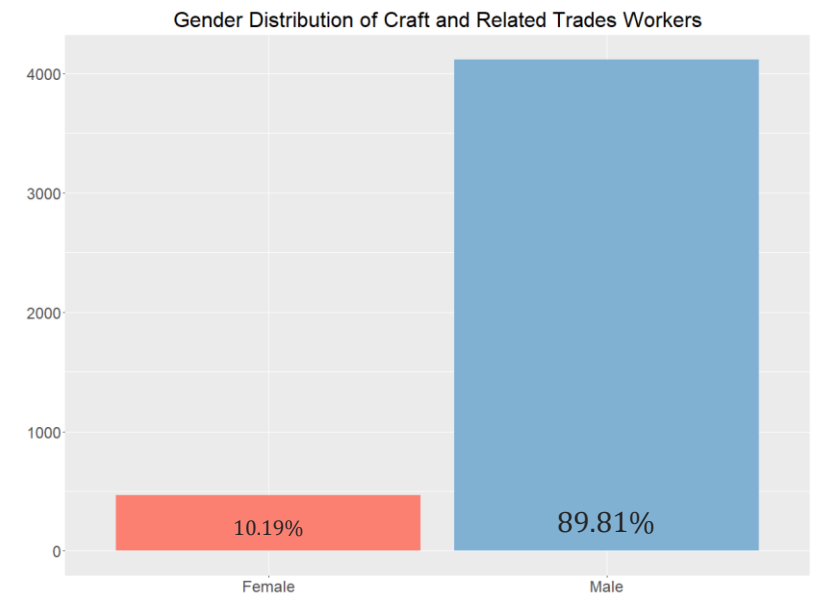


Occupational Distribution of Men and Women in the Labor Force

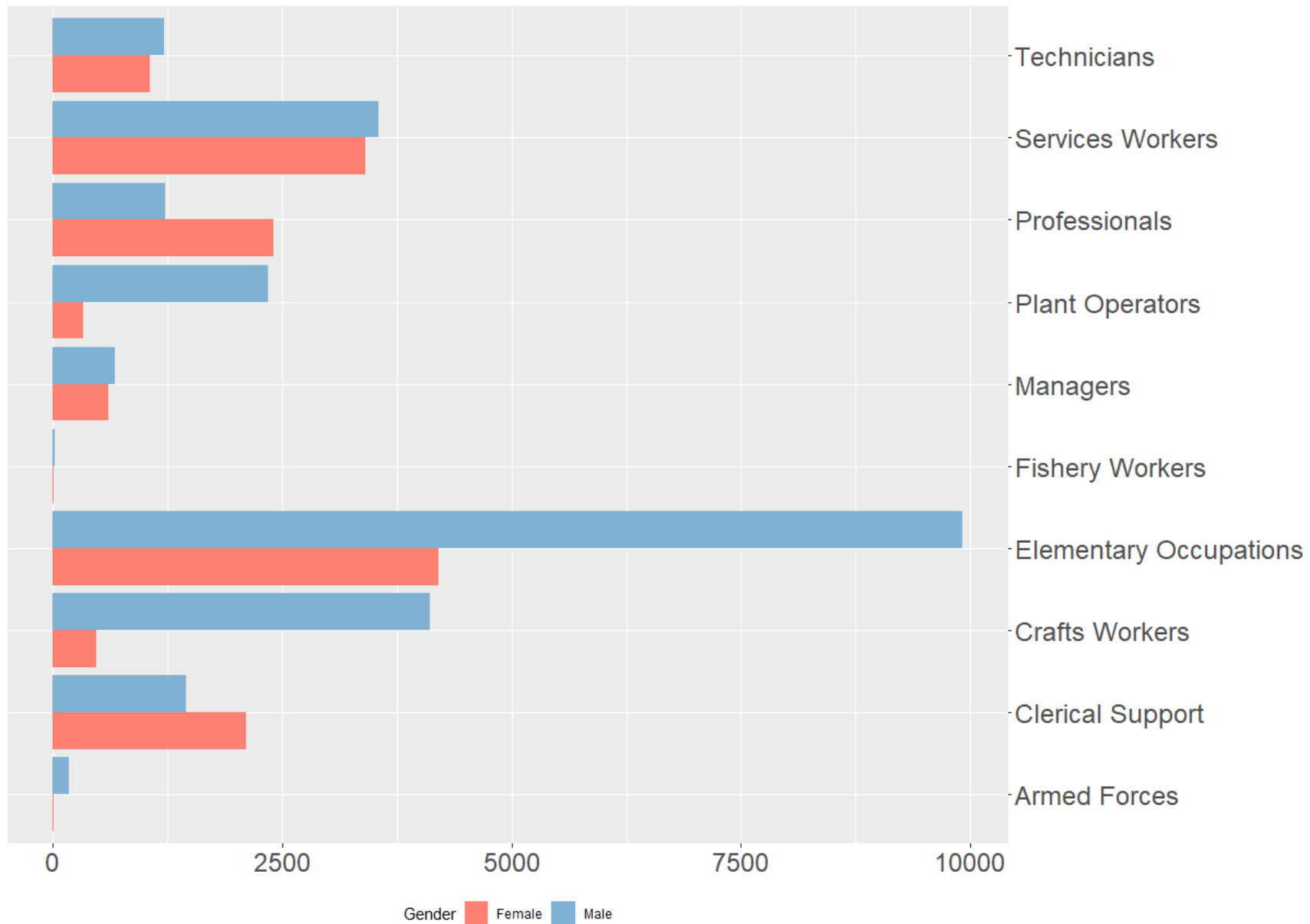


Gender ■ Female ■ Male

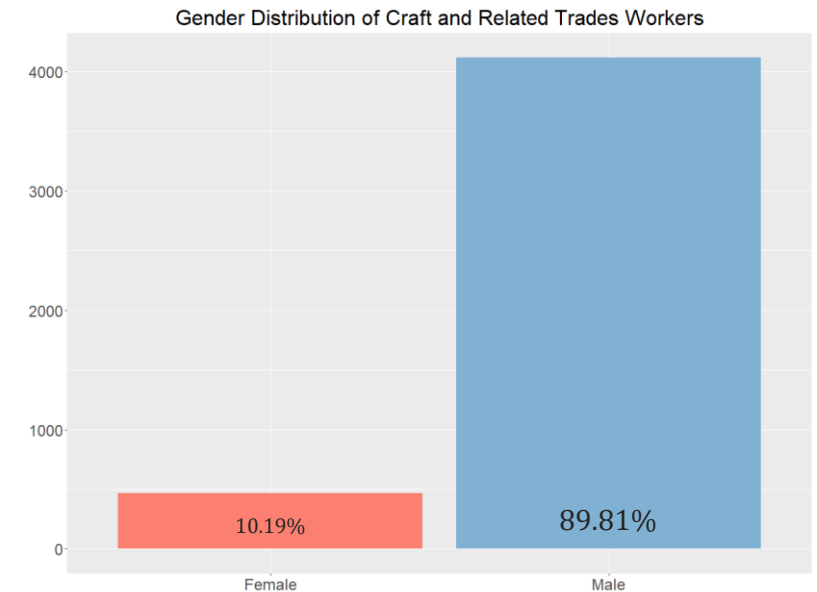
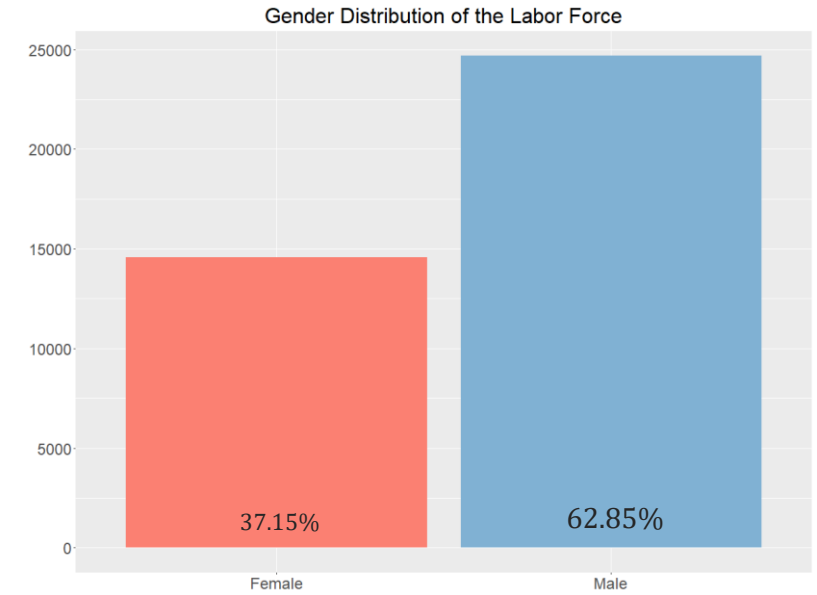
Basic Pay by Primary Occupation	
Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62



Occupational Distribution of Men and Women in the Labor Force



Gender ■ Female ■ Male

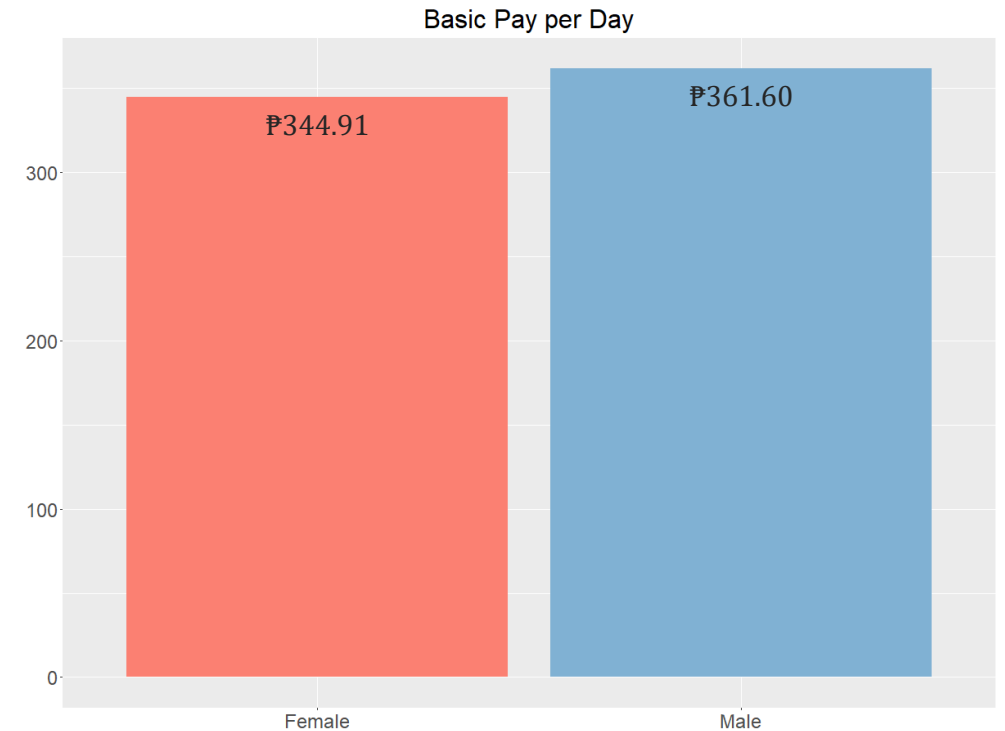


PRIMARY RESULTS

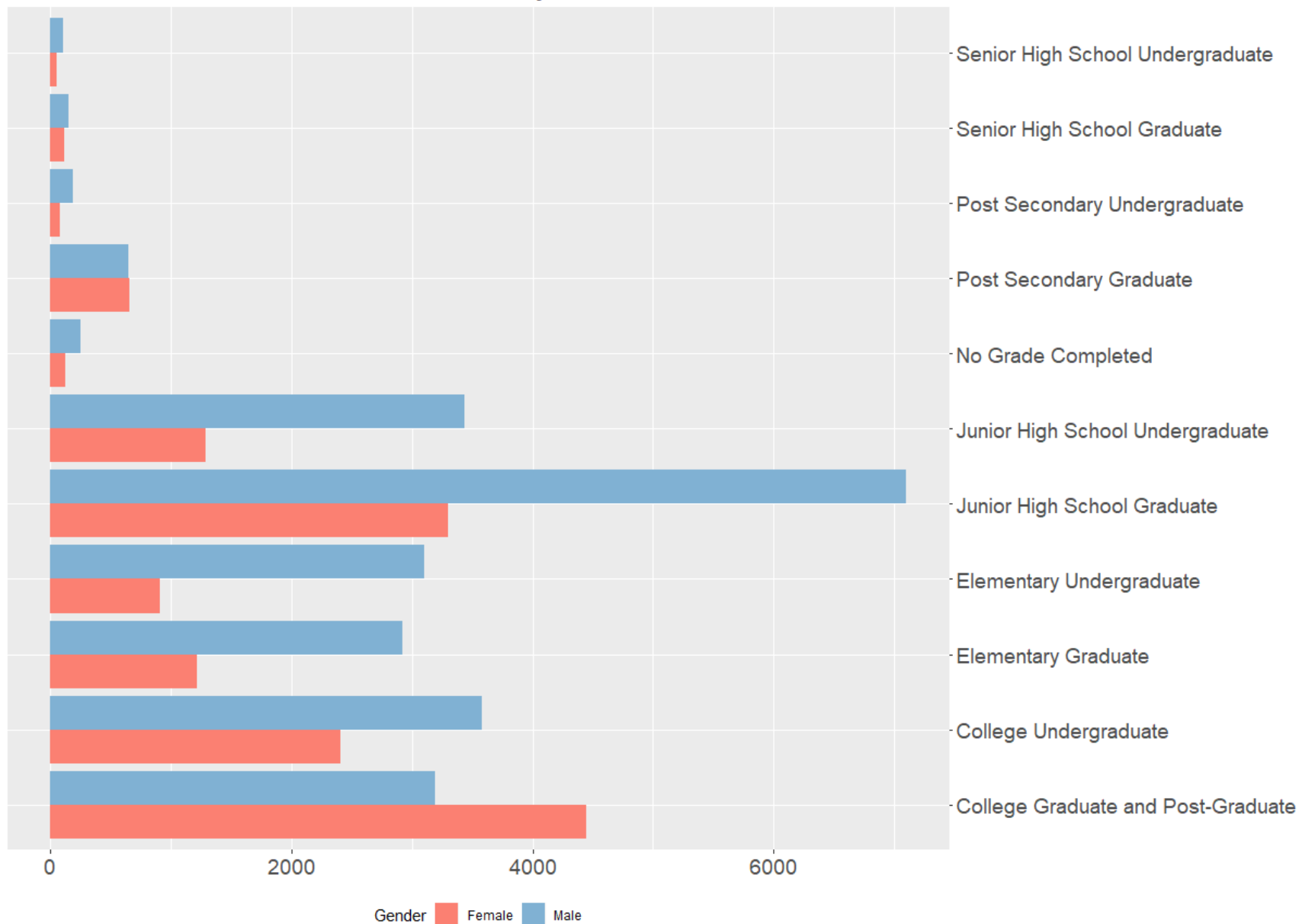
Adjusted Pay Gap

A twofold decomposition shows that the **highest educational attainment** of the respondents does not explain the pay differential between the two groups.

The decomposition further reveals that when the **highest educational attainment** of the respondents are taken into account, the pay differential against women **increases to 24.9%**.



Distribution of Men and Women by Educational Attainment

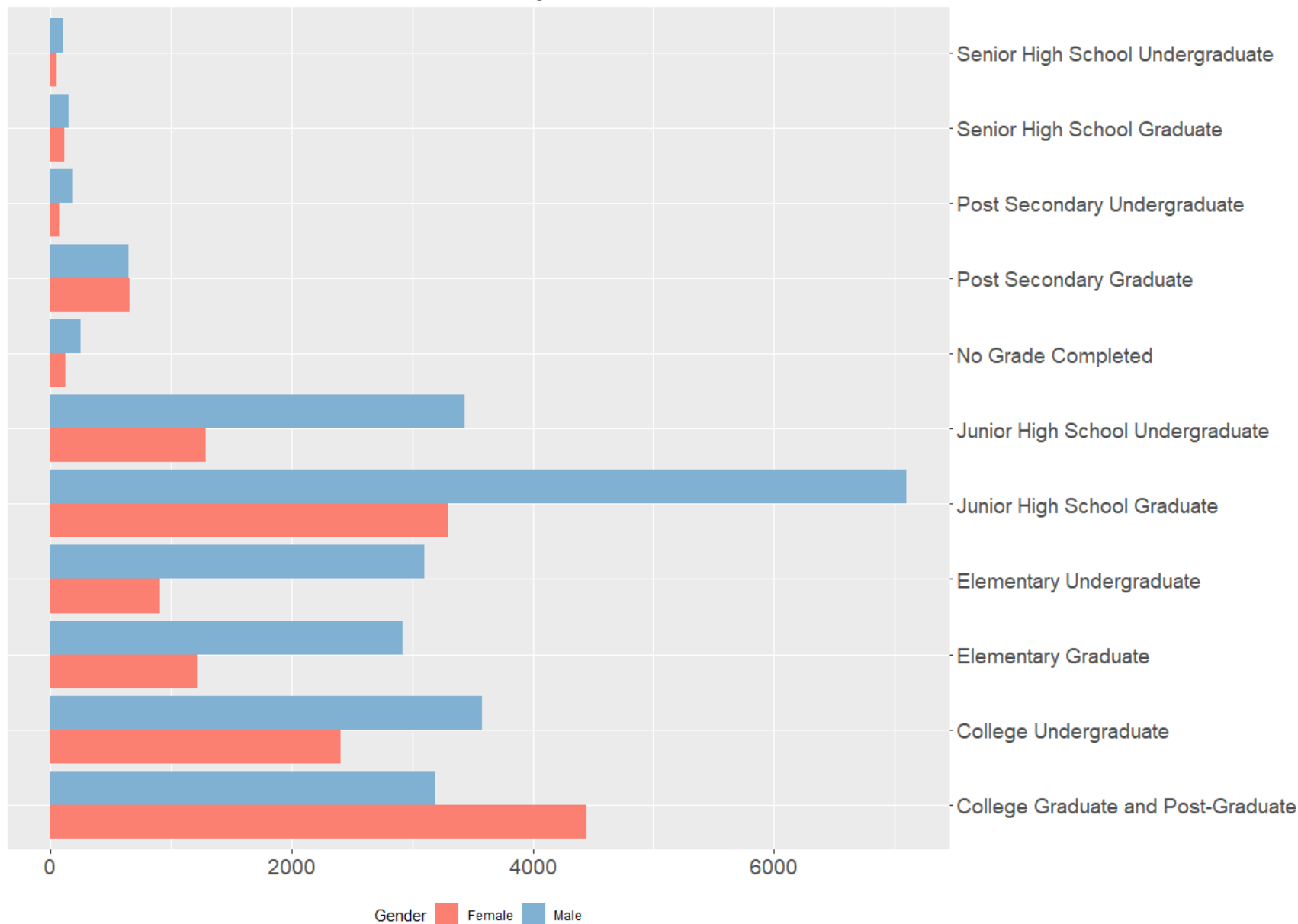


Gender Female Male

Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

Distribution of Men and Women by Educational Attainment

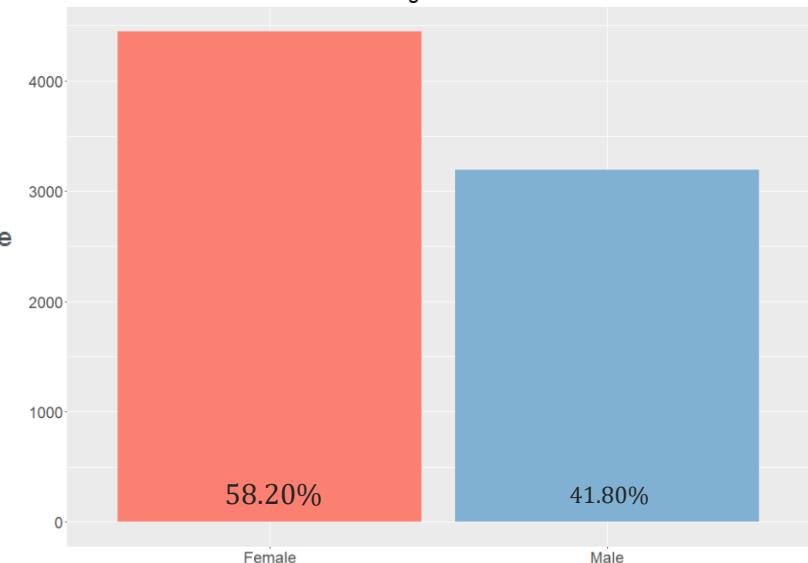


Gender ■ Female ■ Male

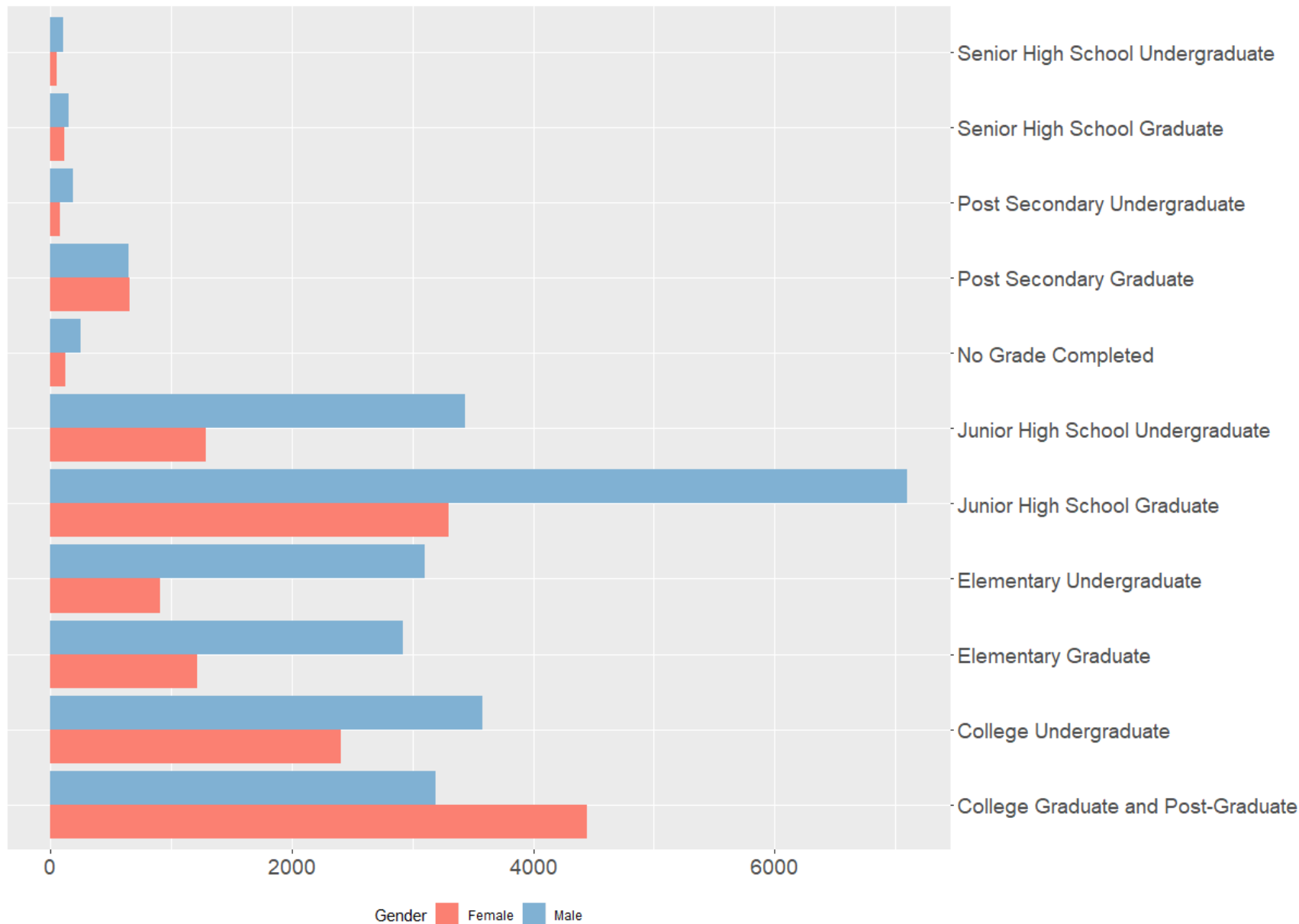
Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

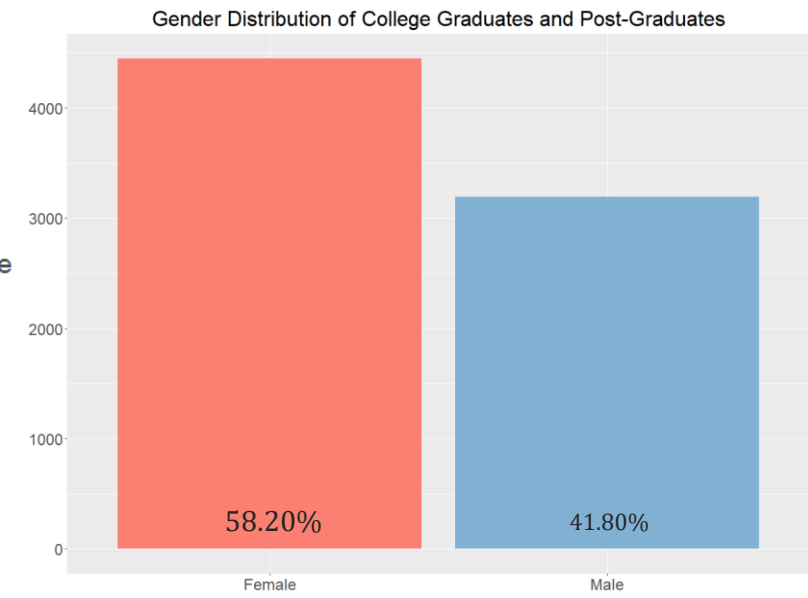
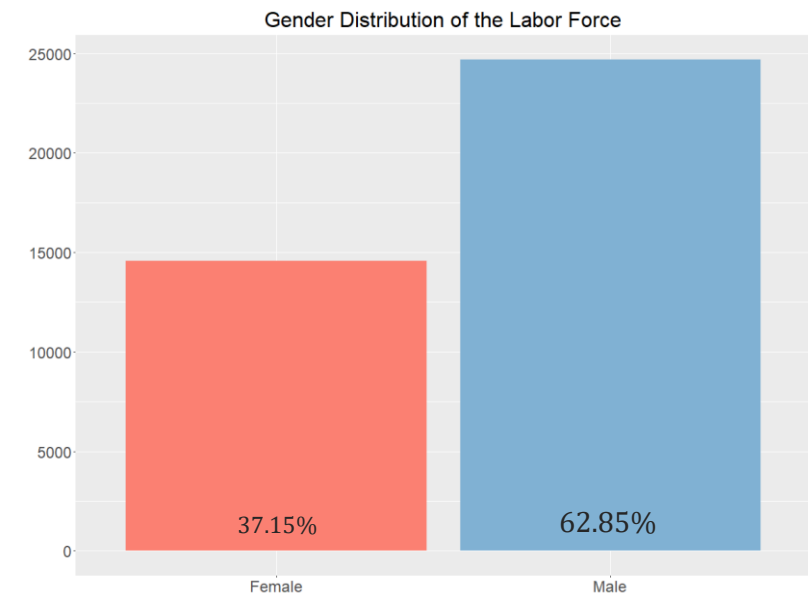
Gender Distribution of College Graduates and Post-Graduates



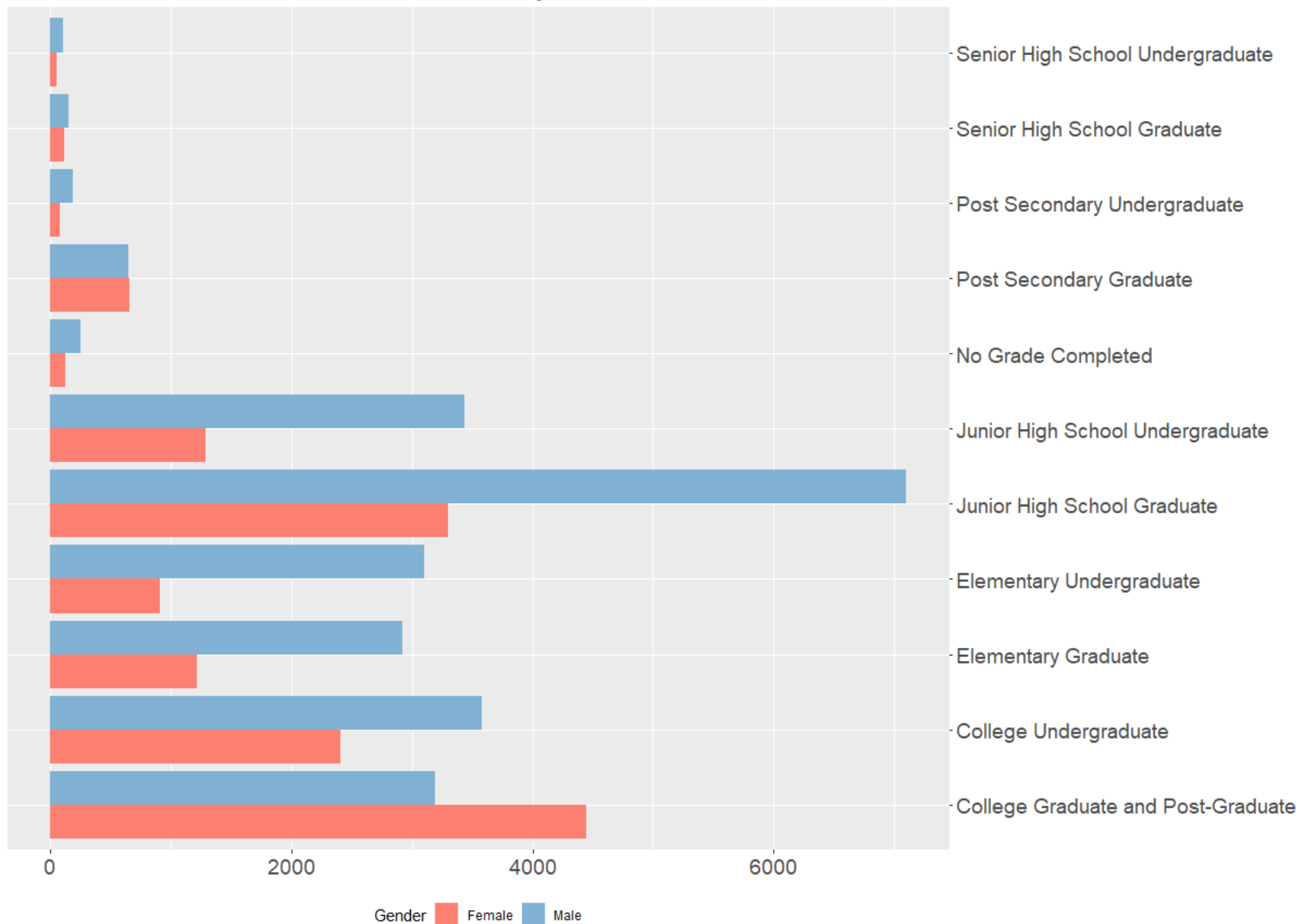
Distribution of Men and Women by Educational Attainment



Gender ■ Female ■ Male



Distribution of Men and Women by Educational Attainment

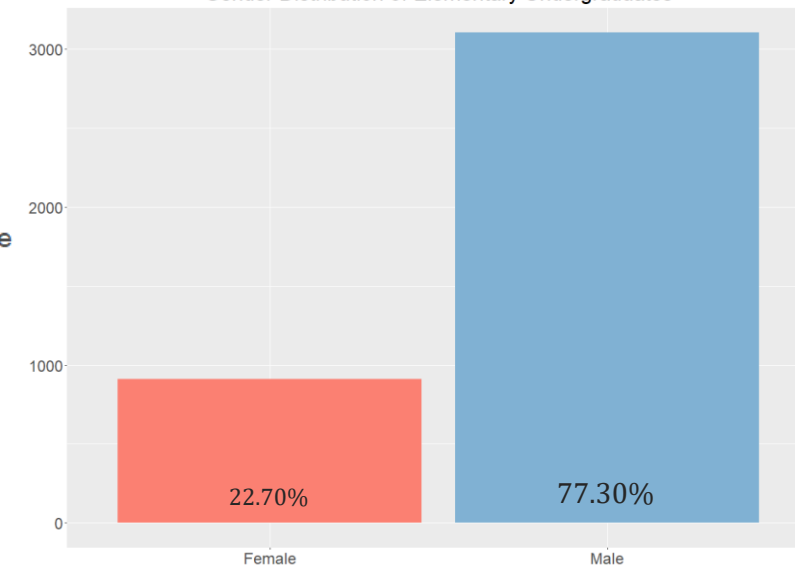


Gender ■ Female ■ Male

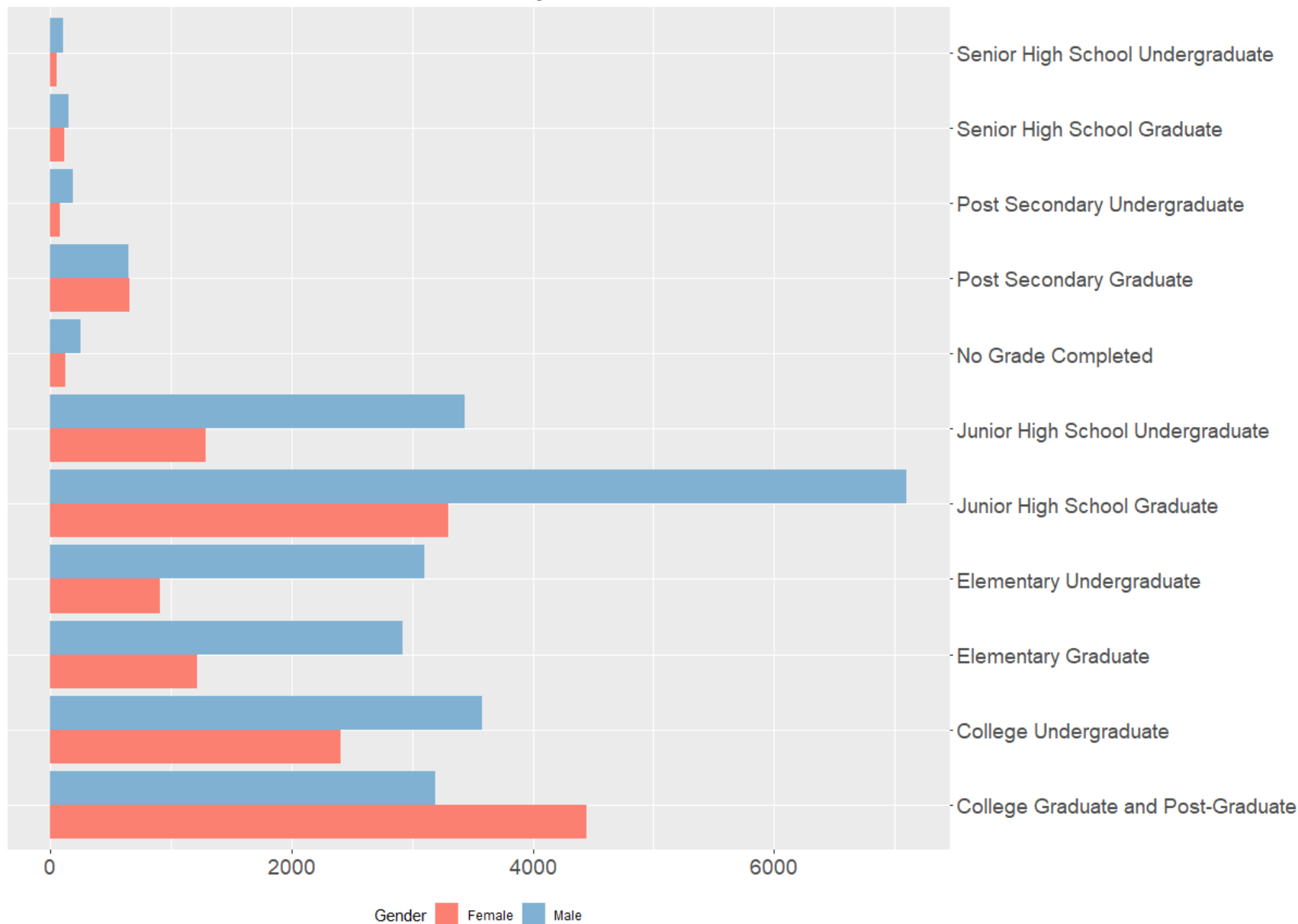
Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

Gender Distribution of Elementary Undergraduates



Distribution of Men and Women by Educational Attainment

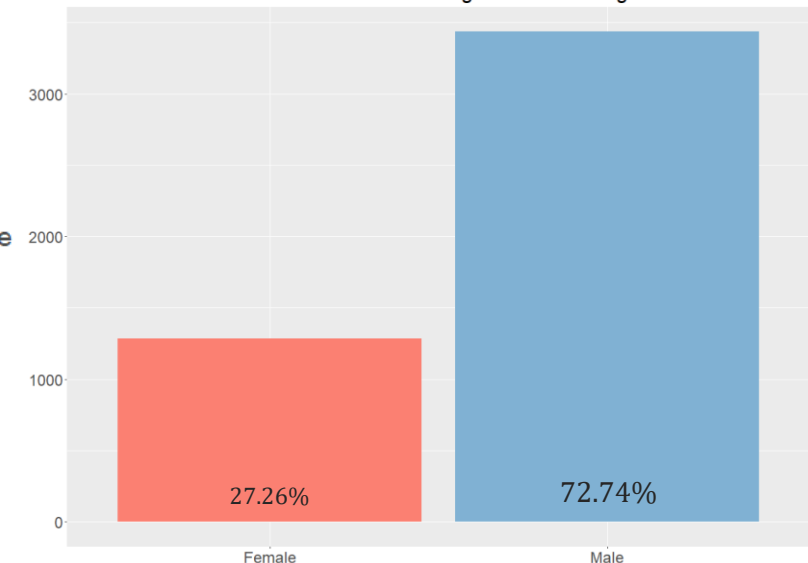


Gender ■ Female ■ Male

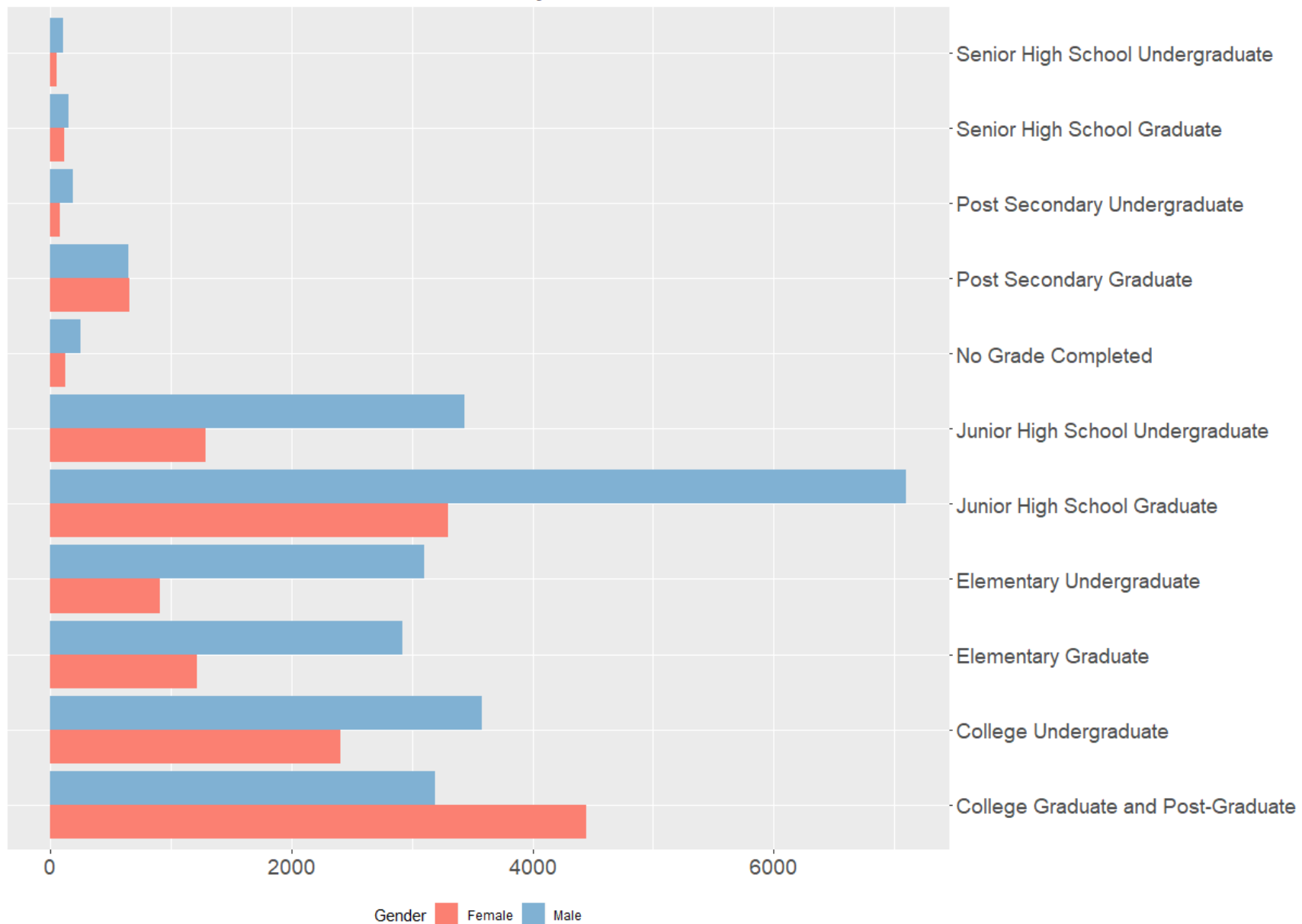
Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

Gender Distribution of Junior High School Undergraduates



Distribution of Men and Women by Educational Attainment

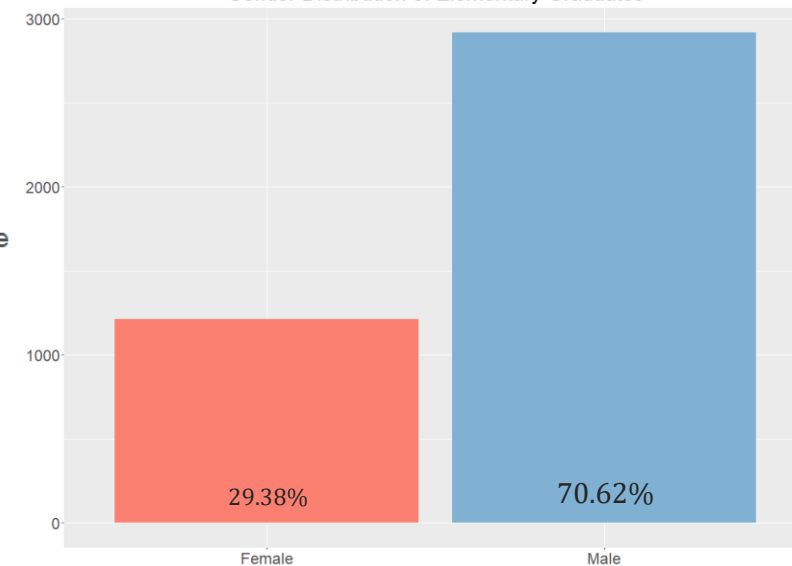


Gender ■ Female ■ Male

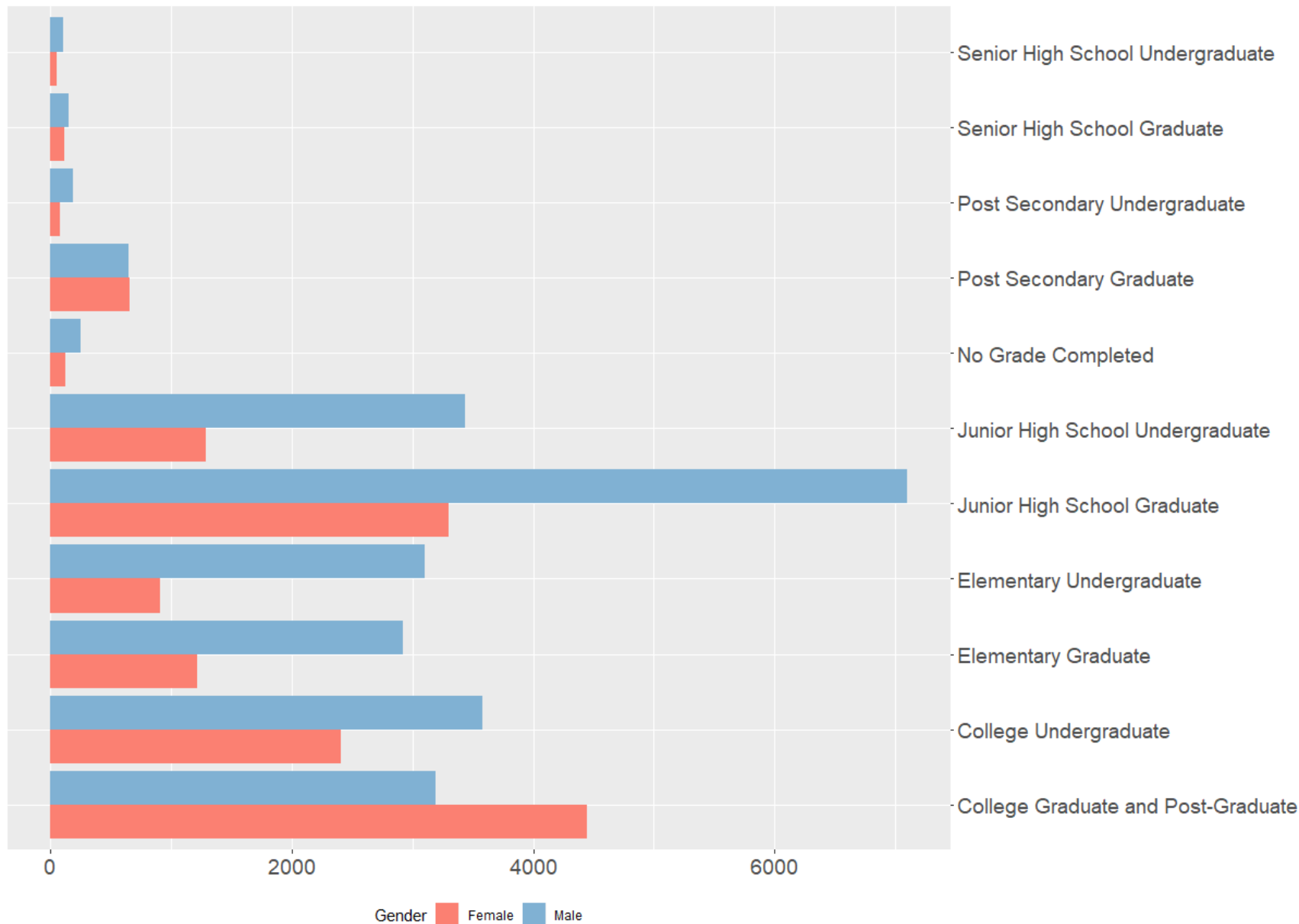
Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

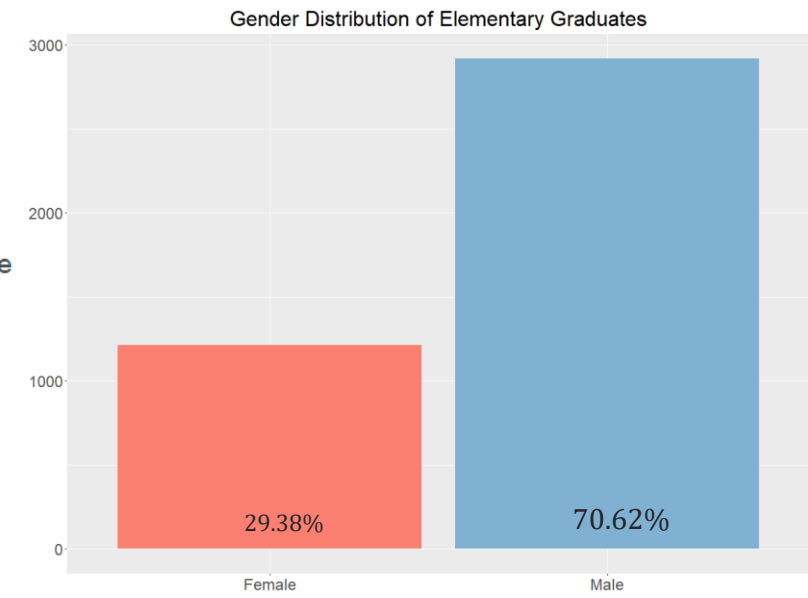
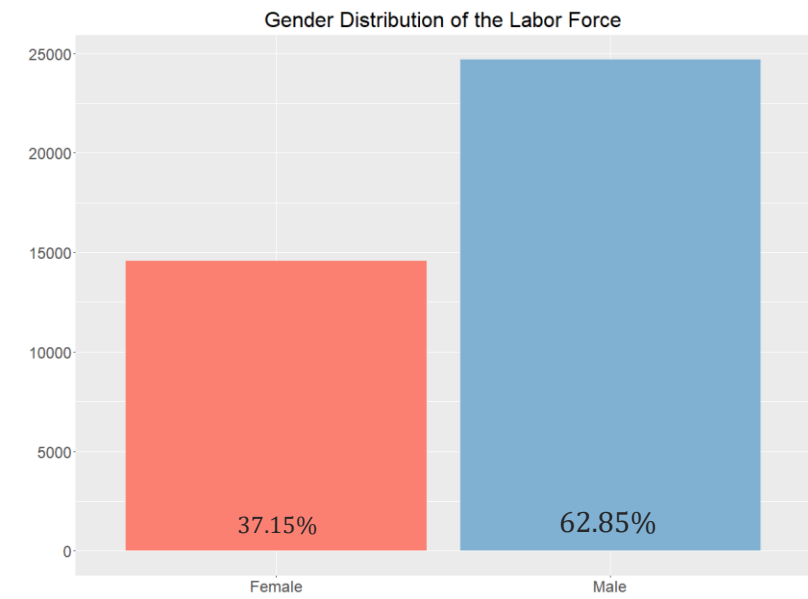
Gender Distribution of Elementary Graduates



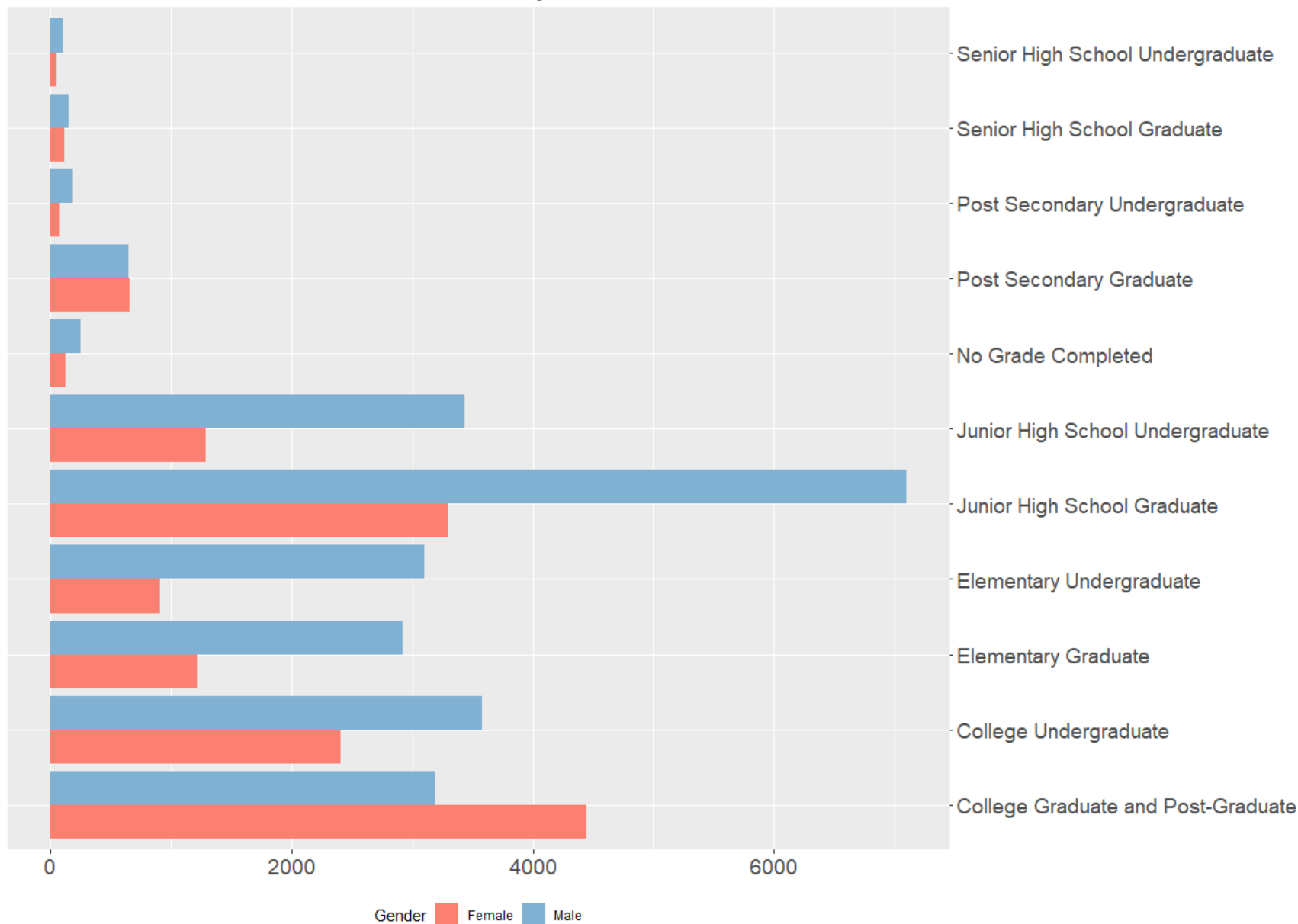
Distribution of Men and Women by Educational Attainment



Gender ■ Female ■ Male



Distribution of Men and Women by Educational Attainment

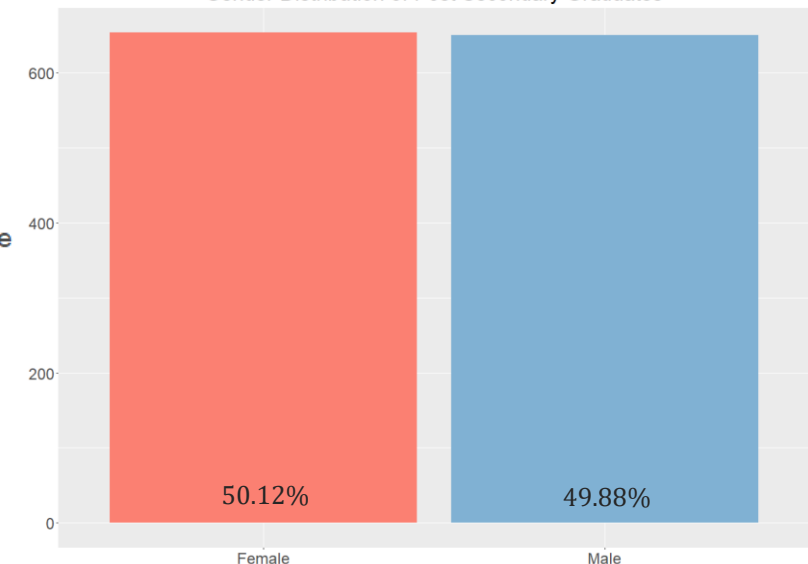


Gender Female Male

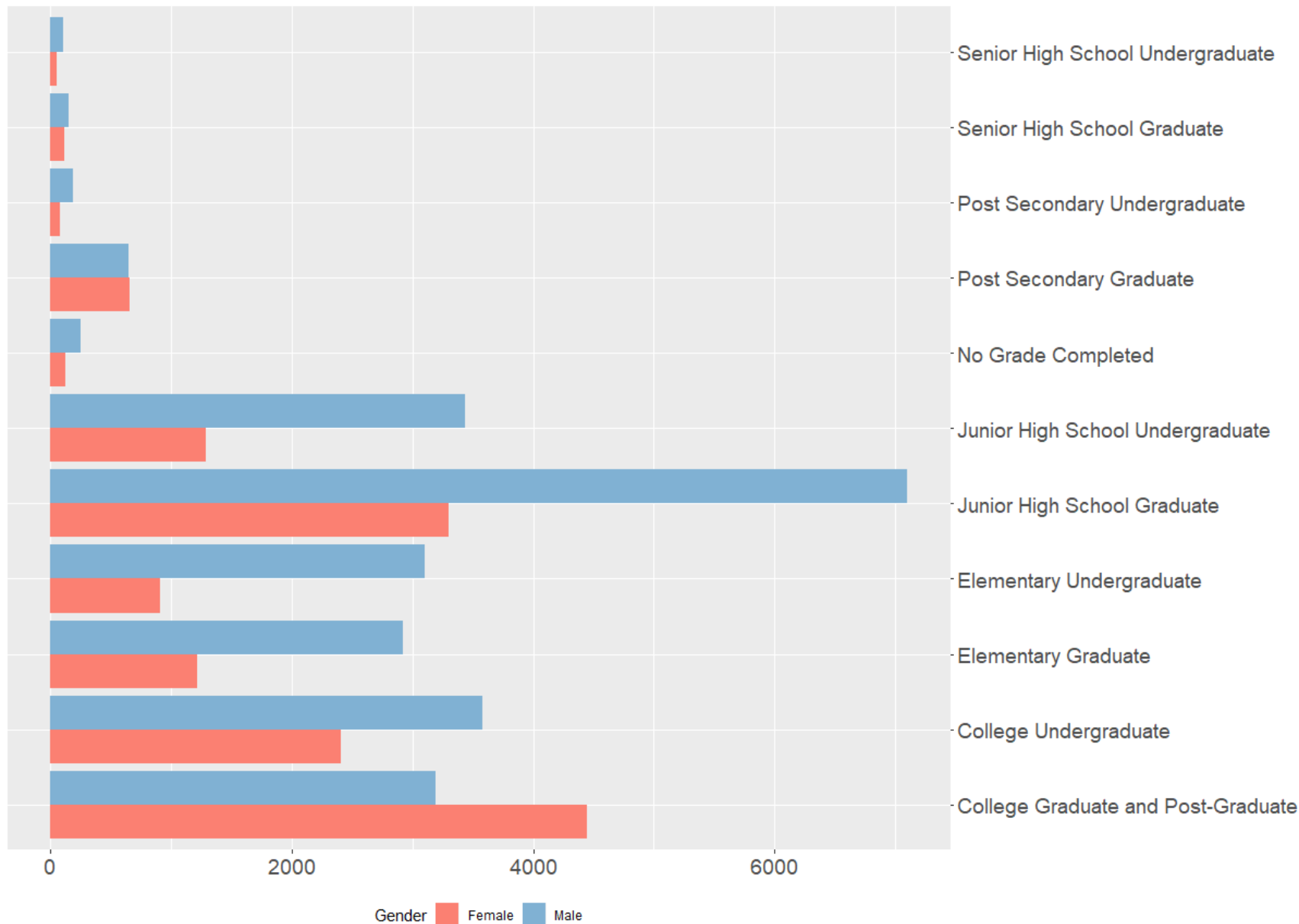
Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

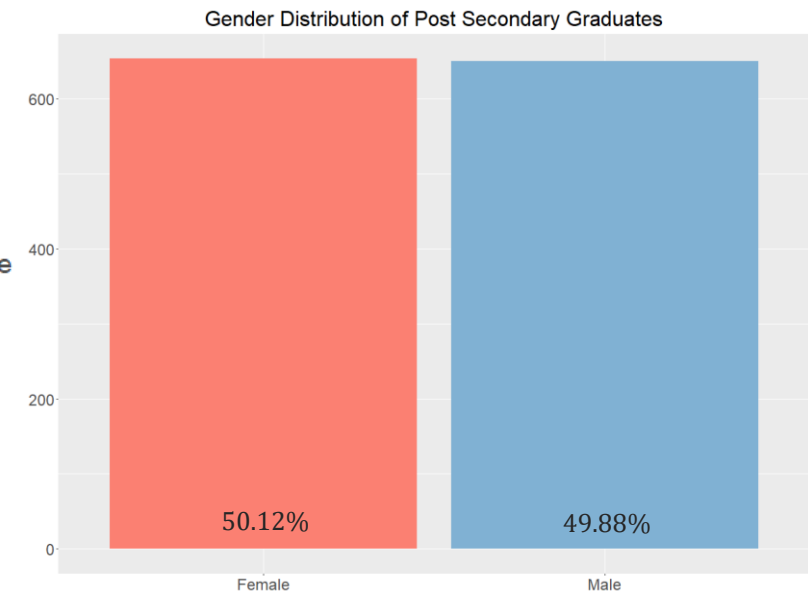
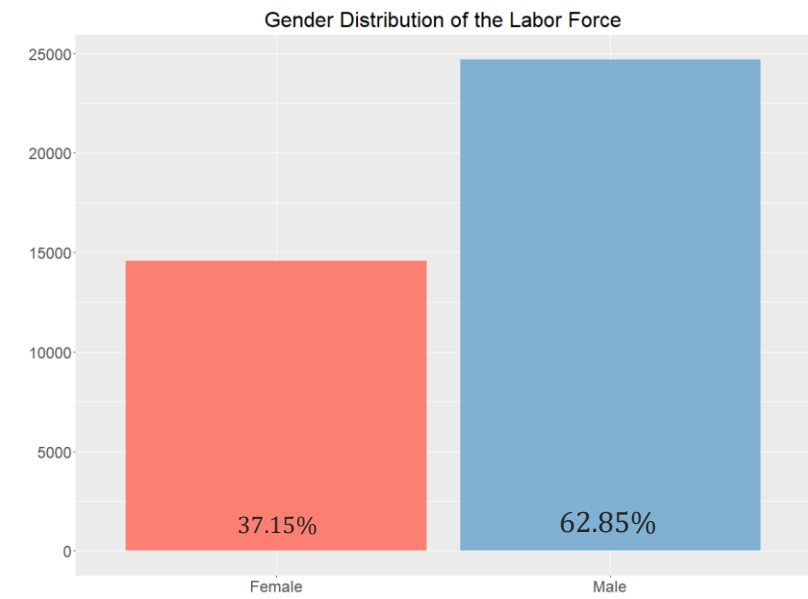
Gender Distribution of Post Secondary Graduates



Distribution of Men and Women by Educational Attainment



Gender ■ Female ■ Male

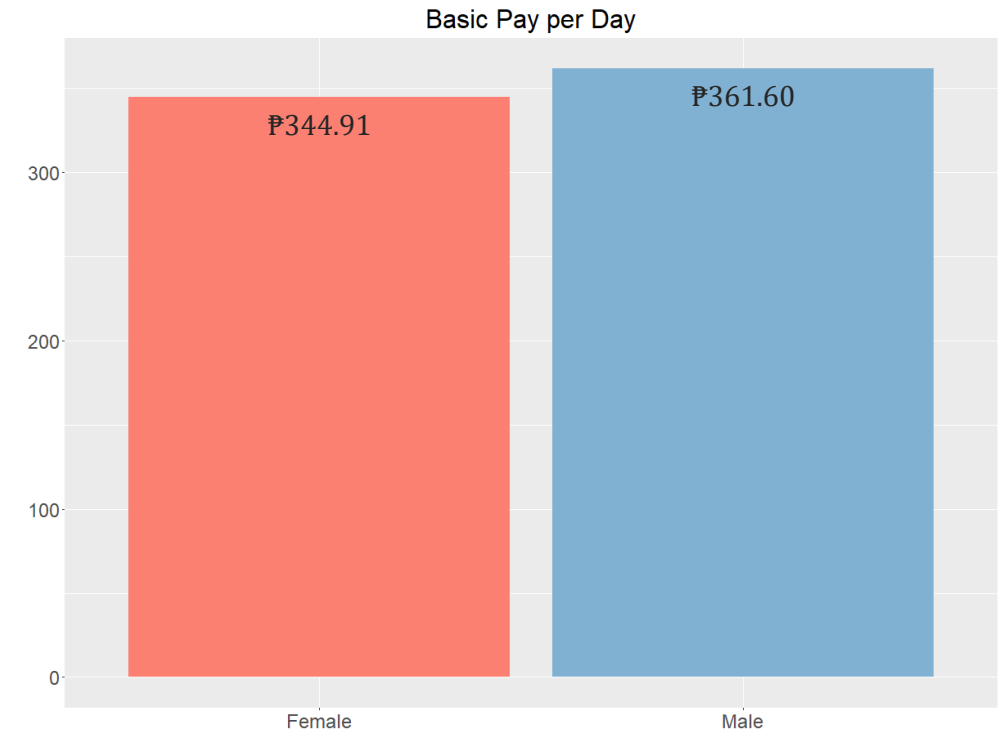


PRIMARY RESULTS

Adjusted Pay Gap

The decomposition further reveals that when the **primary occupation** of the respondents are taken into account, the pay differential against women **increases to 21.9%**.

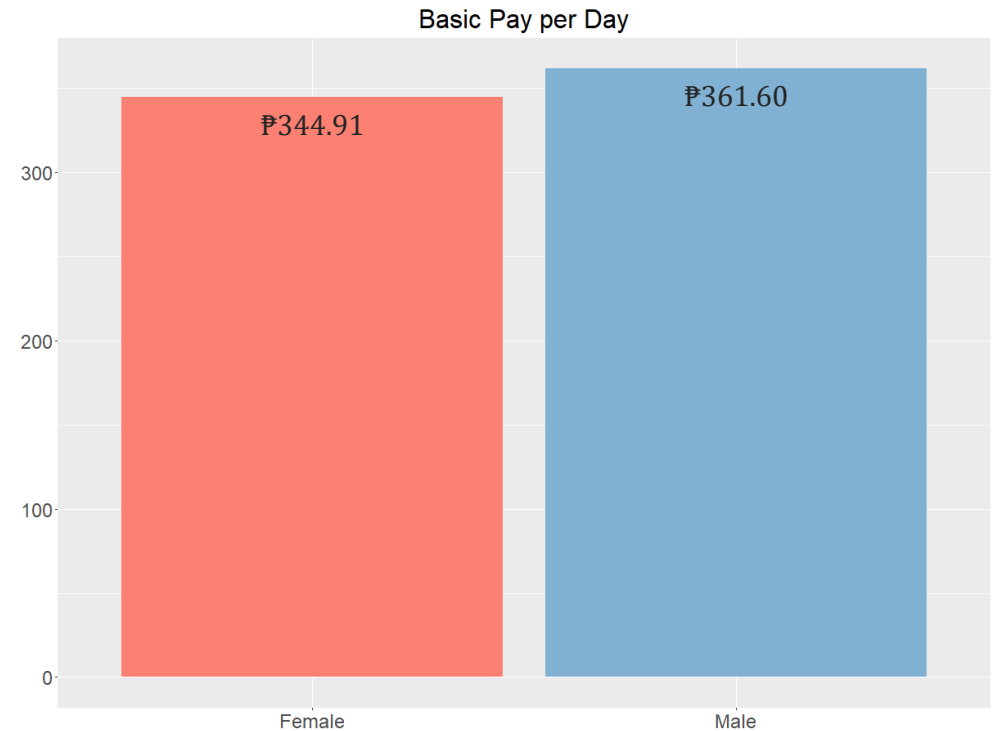
The decomposition further reveals that when the **highest educational attainment** of the respondents are taken into account, the pay differential against women **increases to 24.9%**.



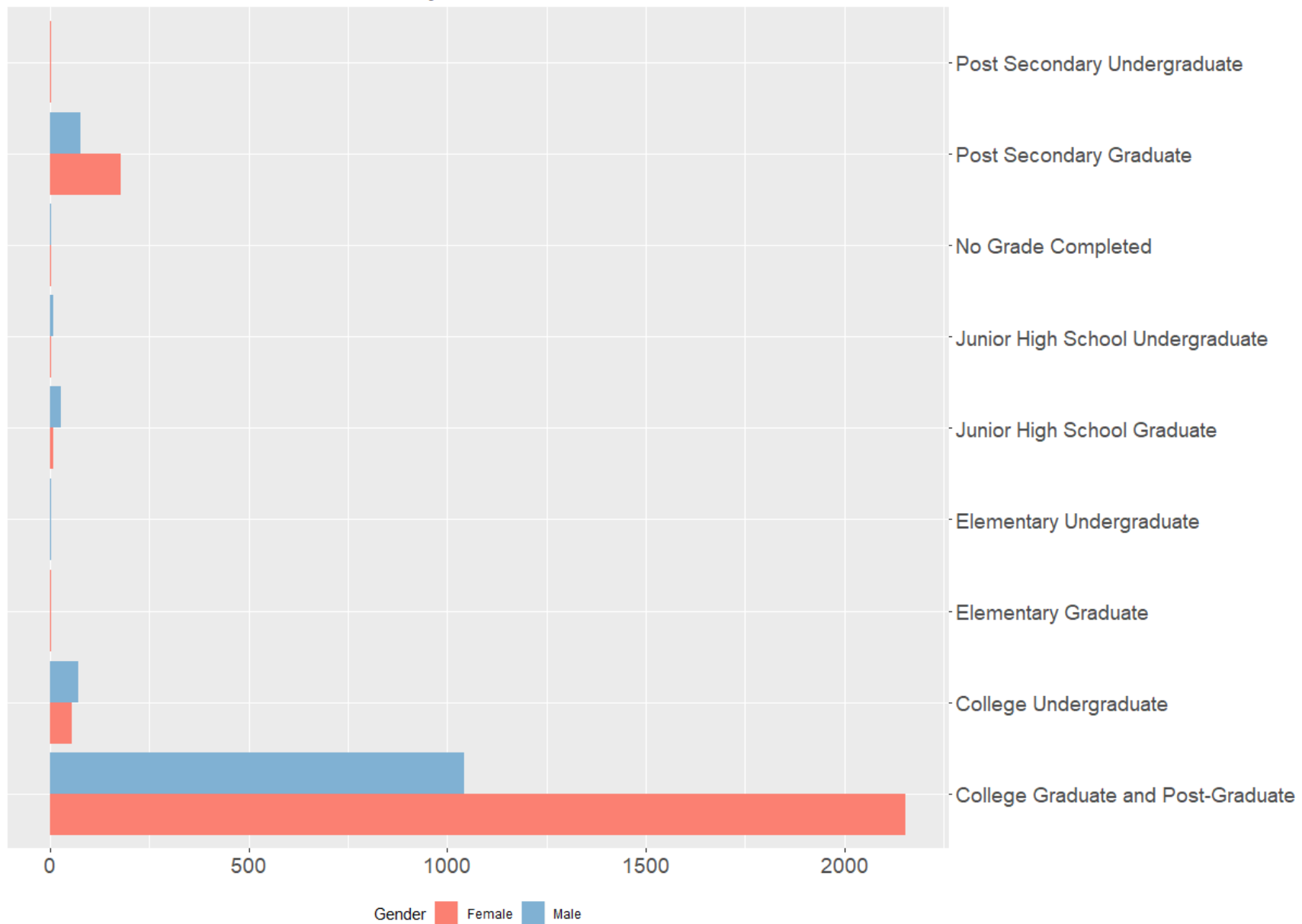
PRIMARY RESULTS

Adjusted Pay Gap

A twofold decomposition on the pay differential with respect to both **primary occupation** and **educational attainment** of the respondents shows that the differential **only increases to 23.6%** .



Distribution of Professionals by Gender and Educational Attainment



Gender ■ Female ■ Male

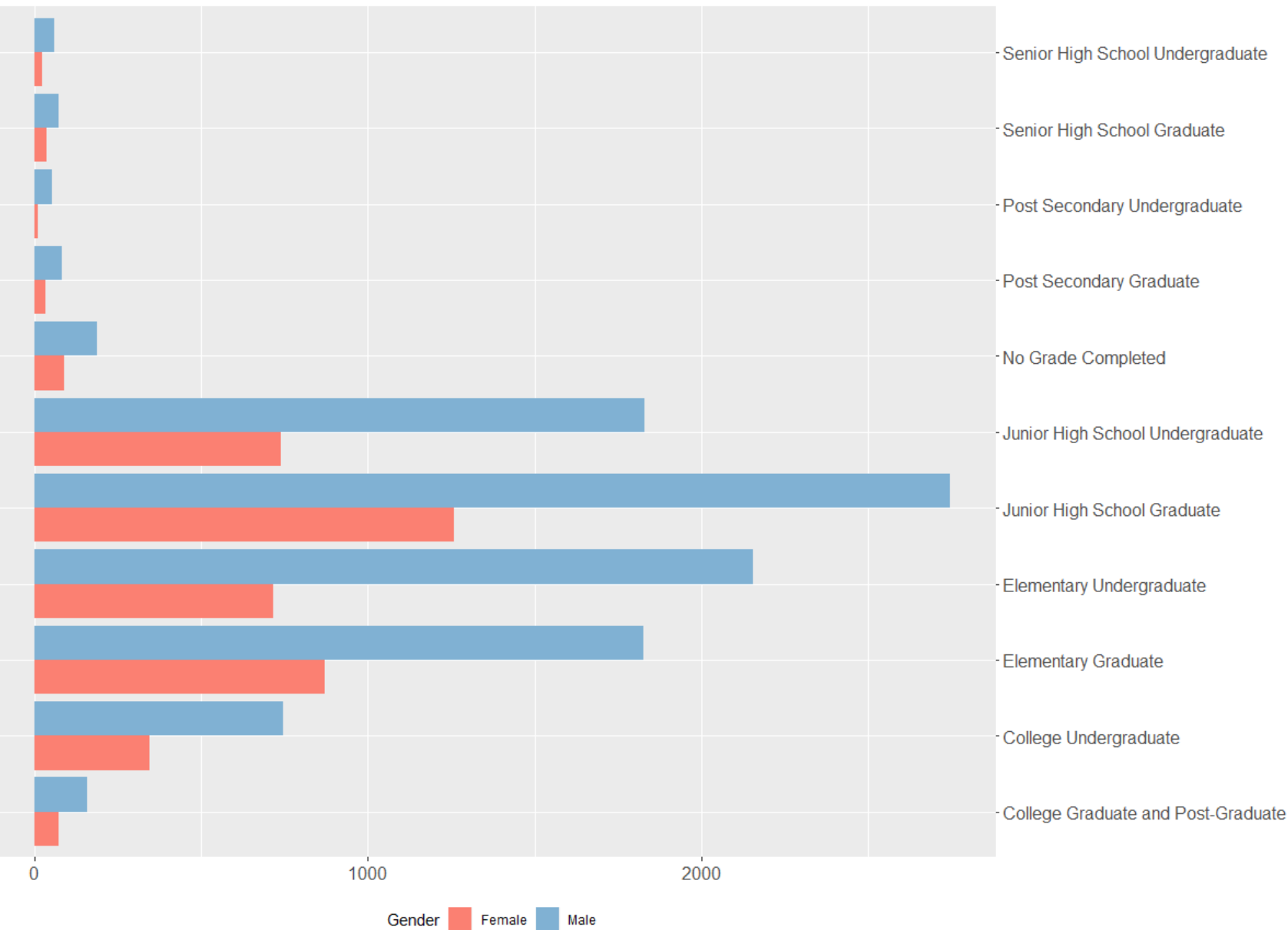
Basic Pay by Primary Occupation

Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62

Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

Distribution of Elementary Workers by Gender and Educational Attainment



Gender ■ Female ■ Male

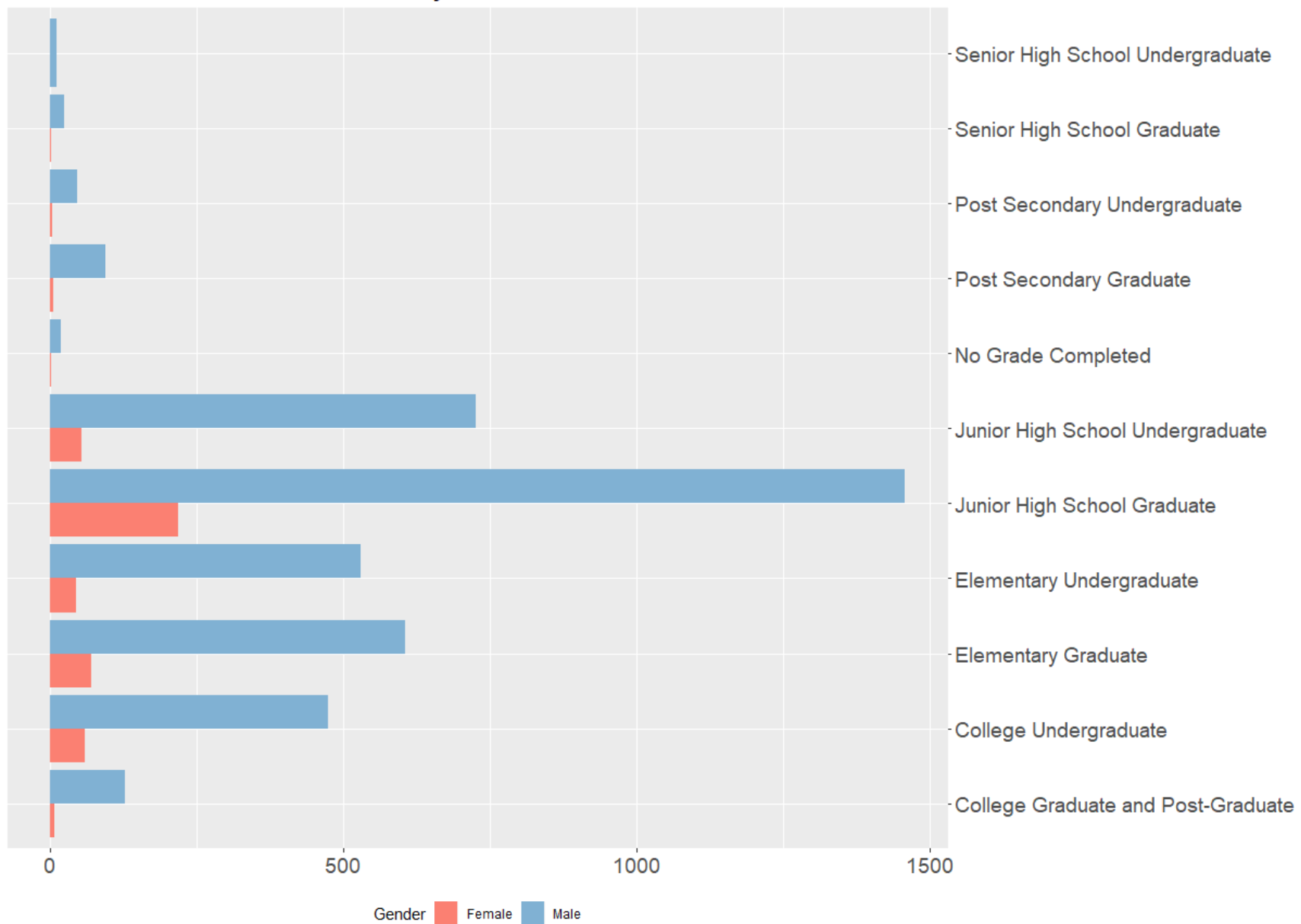
Basic Pay by Primary Occupation

Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62

Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

Distribution of Craft Workers by Gender and Educational Attainment



Gender ■ Female ■ Male

Basic Pay by Primary Occupation

Professionals	₱787.88
Armed Forces	₱734.96
Managers	₱599.65
Technicians	₱496.44
Clerical Support	₱475.85
Plant Operators	₱395.19
Crafts Workers	₱364.70
Fishery Workers	₱313.89
Services Workers	₱309.12
Elementary Occupations	₱250.62

Basic Pay by Educational Attainment

College Graduate and Post-Graduate	₱665.91
Post Secondary Graduate	₱450.68
College Undergraduate	₱405.21
Post Secondary Undergraduate	₱362.15
Junior High School Graduate	₱314.16
Junior High School Undergraduate	₱271.03
Elementary Graduate	₱252.02
Elementary Undergraduate	₱240.33
Senior High School Graduate**	₱238.46
Senior High School Undergraduate**	₱226.00
No Grade Completed	₱224.31

PRIMARY RESULTS

Summary

- The (geometric) mean of pay of the respondents is ₱355.31.
- The means of pay for men and women are ₱361.60 and ₱344.91, respectively, which reveals a pay gap of **4.84%**.
- A twofold decomposition reveals that when the age of the respondents are taken into account, the pay differential against women increases to **5.02%**.
- A twofold decomposition reveals that when the geographical location of the respondents are taken into account, the pay differential against women increases to **6.93%**.

PRIMARY RESULTS

Summary

- A twofold decomposition reveals reveals that when the primary occupation of the respondents are taken into account, the pay differential against women **increases to 21.9%**.
- A twofold decomposition reveals reveals that when the highest educational attainment of the respondents are taken into account, the pay differential against women **increases to 23.7%**.
- A twofold decomposition on the pay differential with respect to both primary occupation and educational attainment of the respondents shows that the differential **only increases to 23.6%**.

PRIMARY RESULTS

Conclusion

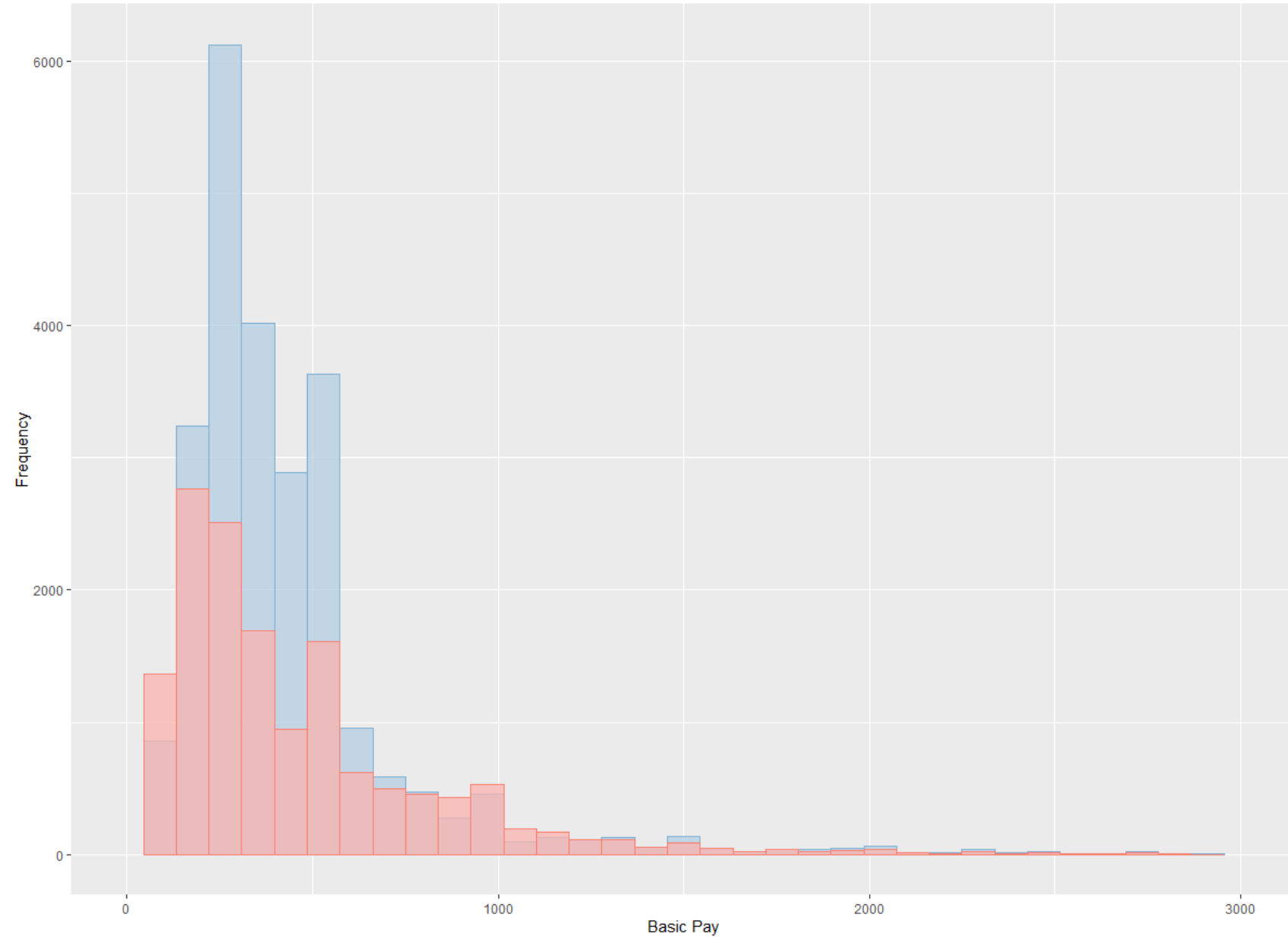
- A detailed investigation into the occupational distribution and educational attainment levels of men and women in the labor force reveal that decisive advantages of women in the labor market mask the existence of a large (currently unattributed) pay gap in the country.

REFERENCES

- European Commission - European Commission. (2019). *The gender pay gap situation in the EU*. [online] Available at: https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality/equal-pay/gender-pay-gap-situation-eu_en [Accessed 08 Apr. 2019].
- Chamberlain, A. (2016). *Demystifying the gender pay gap*. Mill Valley, CA: Glassdoor.
- Leibbrandt, A., & List, J. A. (2014). Do women avoid salary negotiations? Evidence from a large-scale natural field experiment. *Management Science*, 61(9), 2016-2024.
- Philippine Statistics Authority (2016). *Women and Men in the Philippines 2016 Statistical Handbook*.
- The Global Gender Gap Report 2018. (2018). [online] Cologny/Geneva: World Economic Forum. Available at: http://www3.weforum.org/docs/WEF_GGGR_2018.pdf [Accessed 08 Apr. 2019].
- Cortez, G. (2019). *PHL edges up on gender gap report's top 10 list | BusinessWorld*. [online] Bworldonline.com. Available at: <https://www.bworldonline.com/phl-edges-up-on-gender-gap-reports-top-10-list/> [Accessed 08 Apr. 2019].

NOTES

Distribution of Basic Pay by Gender



NOTES

Distribution of Log Pay by Gender

