

Labor Market Analysis part 1

y_bib

Labor Market Canada

April 2025

Goal: get descriptive statistics of usual salary depending on gender, immigrant status, age
study differences between female and male extra hour work, part-time work, unemployment
based on open information provided by Statistica CA (Labor Market Survey)

	Male	Female
16.59711	10.63694	

	Full-time	Part-time
Male	29617	4762
Female	24473	8152

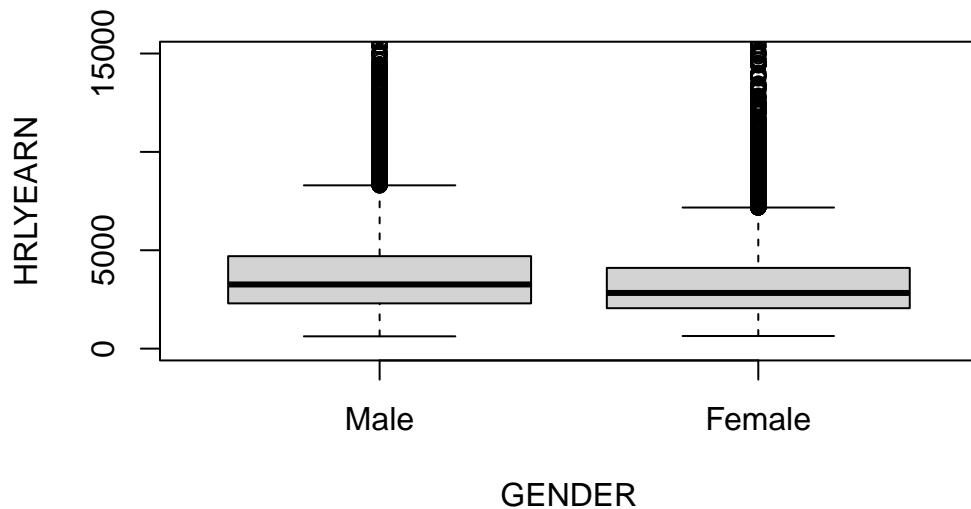
	WHYPT							
GENDER	0	1	2	3	4	5	6	7
Male	344	262	98	146	1664	1370	363	515
Female	519	416	905	565	2349	2223	506	669

	1	2	3	4
36.23496	25.04420	32.71655	24.90305	

	1	2	3	4
31.14	22.00	27.69	20.00	

	Male	Female
14755.46	11590.49	

Male	Female
13078.5	10363.5



Immigrant,not more 10y	Immigrant,more 10y	Non-immigrant
12091.46	13707.10	13189.98

\$`Immigrant,not more 10y`

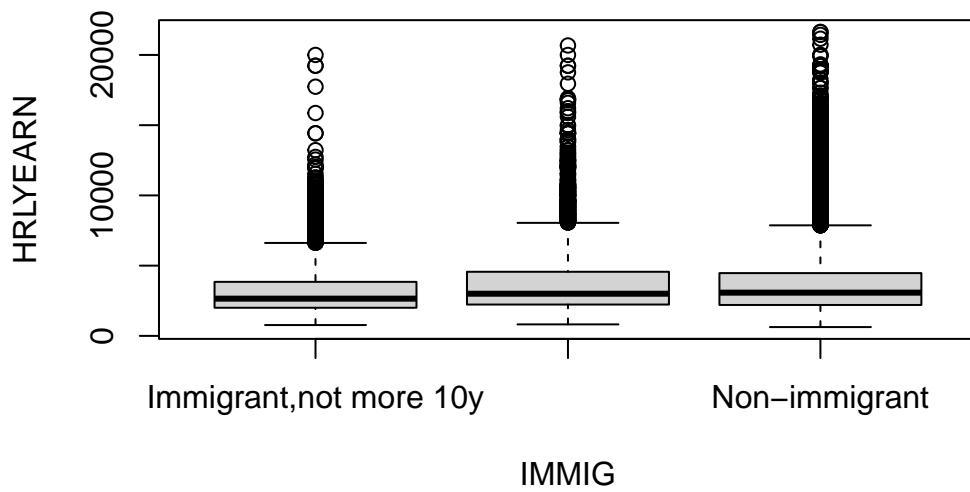
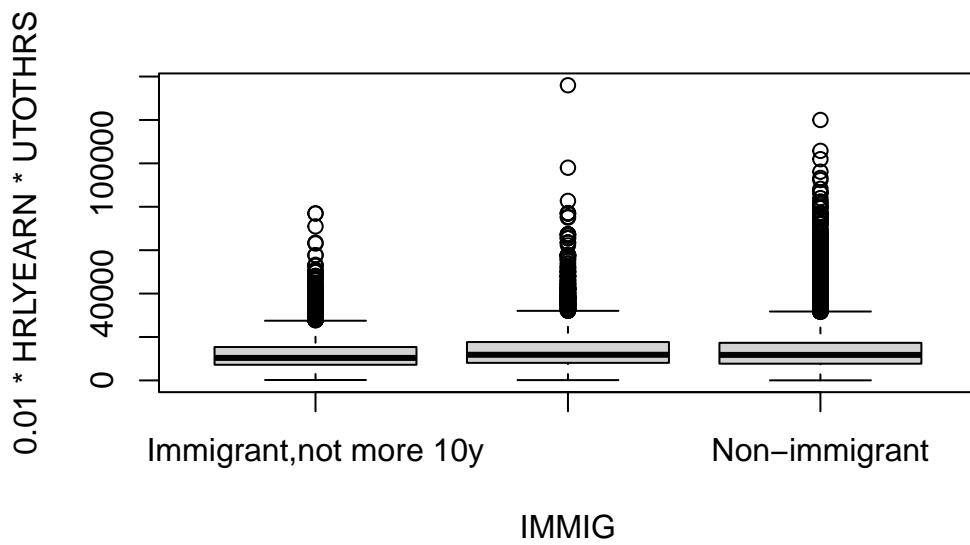
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
180	7200	10350	12091	15384	76924	2971

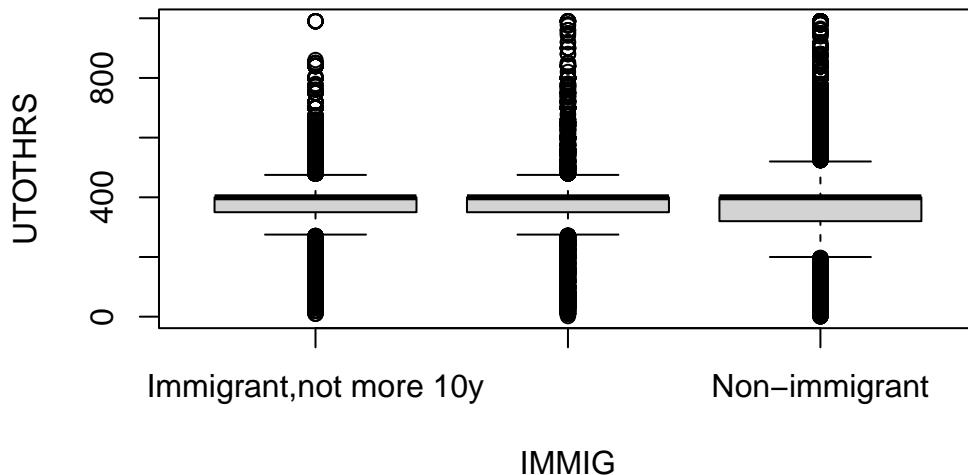
\$`Immigrant,more 10y`

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
134.6	8076.0	11800.0	13707.1	17679.0	136000.0	9934

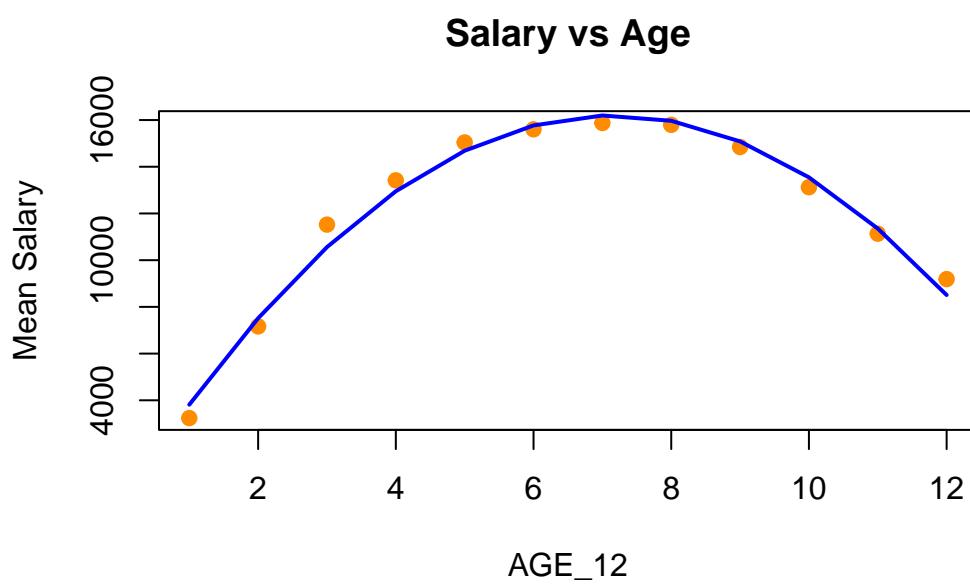
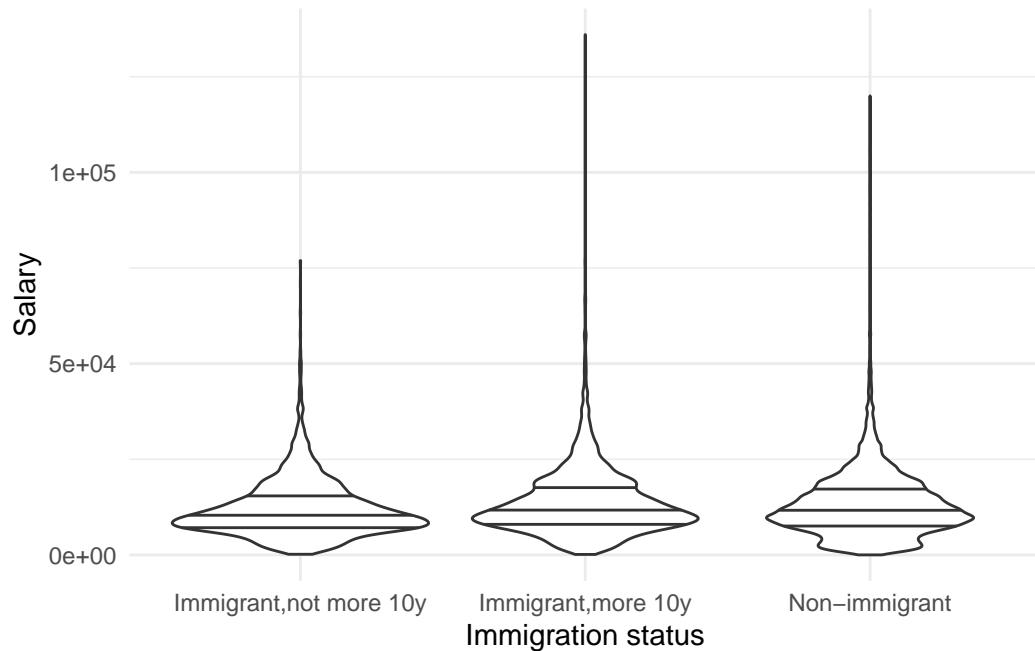
\$`Non-immigrant`

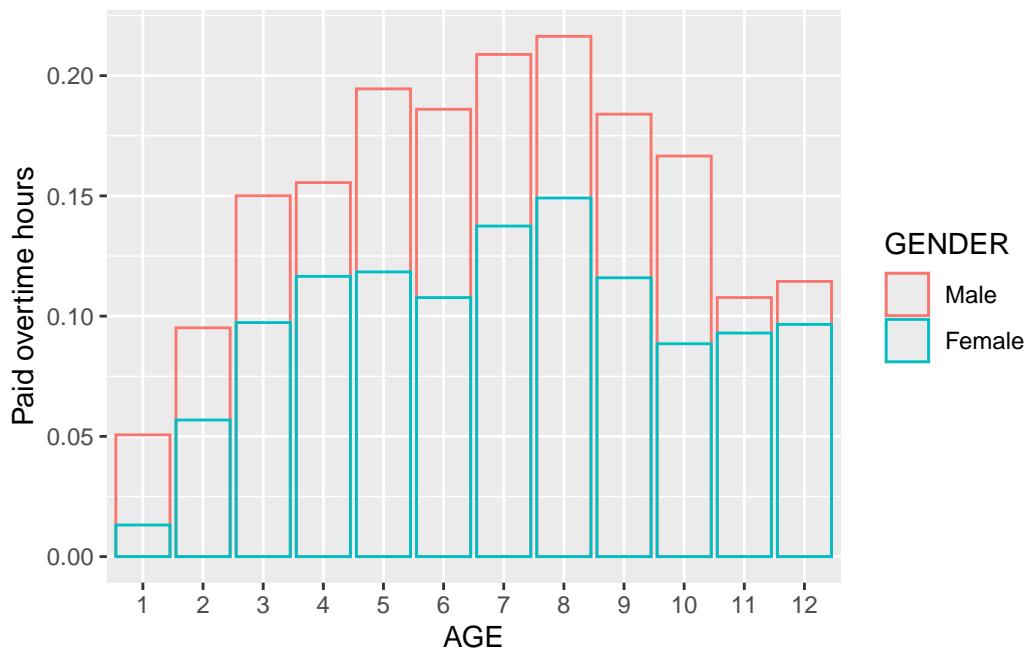
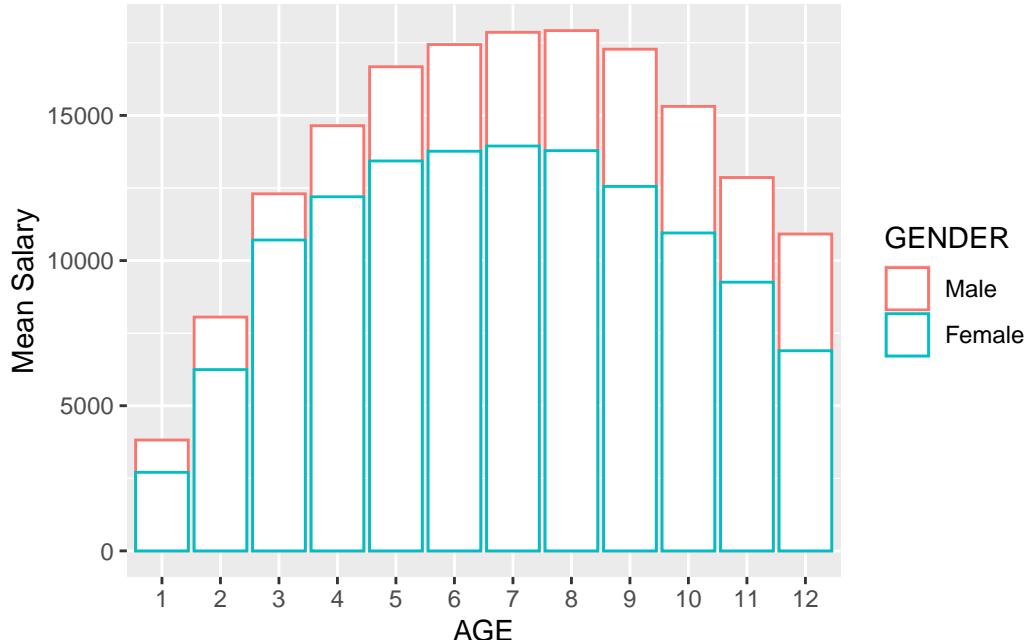
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
16.1	7692.0	11745.0	13190.0	17308.0	120003.0	44755





1	2	3	4	5	6	7	8
1787.382	2296.782	3078.143	3502.898	3895.570	4025.224	4106.235	4077.024
9	10	11	12				
3906.289	3612.604	3433.312	3165.659				



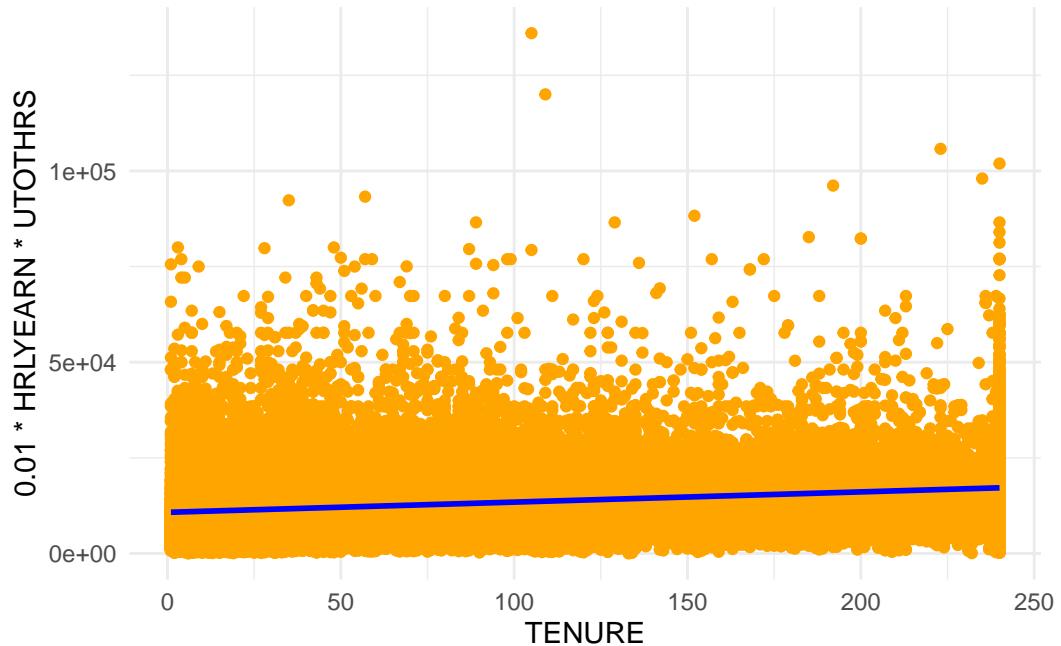


Call:

```
lm(formula = 0.01 * HRLYEAR * UTOTHR ~ TENURE, data = labour)
```

Coefficients:

(Intercept)	TENURE
10760.7	26.7



Call:

```
lm(formula = 0.01 * HRLYEARN * UTOTHR ~ as.numeric(AGE_12),  
  data = labour)
```

Coefficients:

(Intercept)	as.numeric(AGE_12)
9415	635

Call:

```
lm(formula = 0.01 * HRLYEARN * UTOTHR ~ poly(as.numeric(AGE_12),  
  2), data = labour)
```

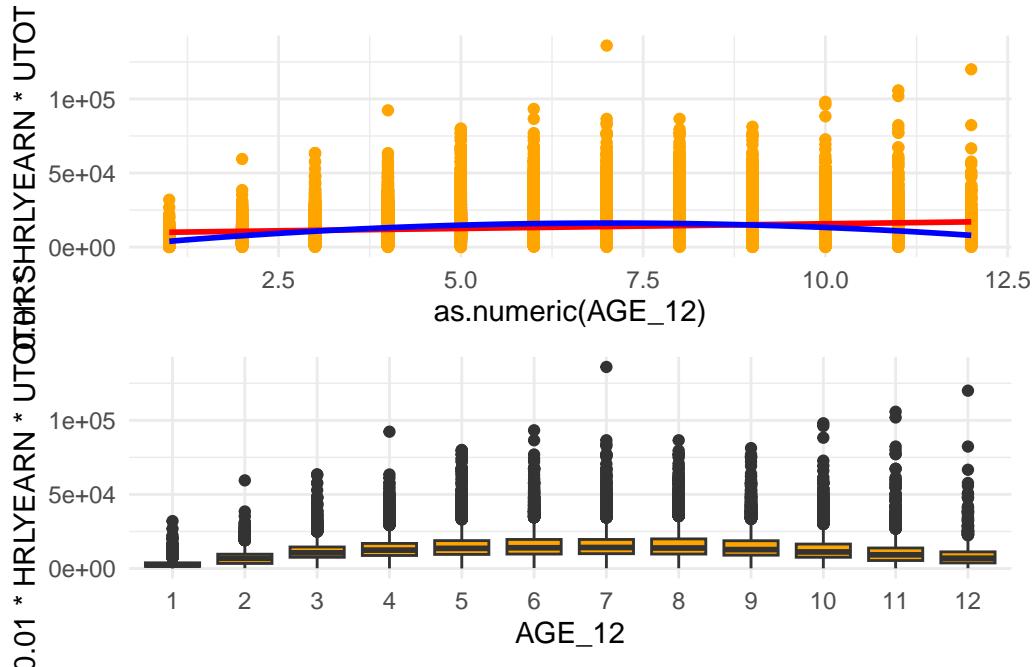
Coefficients:

(Intercept)	poly(as.numeric(AGE_12), 2)1
11822	126456

```

poly(as.numeric(AGE_12), 2)2
-1258477

```



```

#| echo: false
#| message: false
#| warning: false

# PART TIME vs GENDER

# reasons for part-time vs gender
tab<-xtabs(~ GENDER + WHYPT, data=labour )
tab

```

	WHYPT							
GENDER	0	1	2	3	4	5	6	7
Male	344	262	98	146	1664	1370	363	515
Female	519	416	905	565	2349	2223	506	669

```
#Conclusion : women stay away from work taking care of the chieldren approx 10x then men
```

```

#| echo: false
#| message: false
#| warning: false

df_tab <- as.data.frame(tab)

df_tab %>%
  # filter(WHYPT %in% c("2","3","6")) %>%
  ggplot( aes(x = WHYPT , y=Freq, color=GENDER)) +
  geom_point(size=3) +
  theme(legend.position="top") +
  labs(x = "Why part-time job",
       caption = "0 - Other reasons
1 - Own illness or disability
2 - Caring for children
3 - Other personal or family responsibilities
4 - Going to school
5 - Personal preference
6 - Business conditions or could not find full-time work, looked for full-time work in last
7 - Business conditions or could not find full-time work, did not look for full-time work
",
       y = "Number") +
  theme(
    plot.caption = element_text(hjust = 0, size = 10)
  )

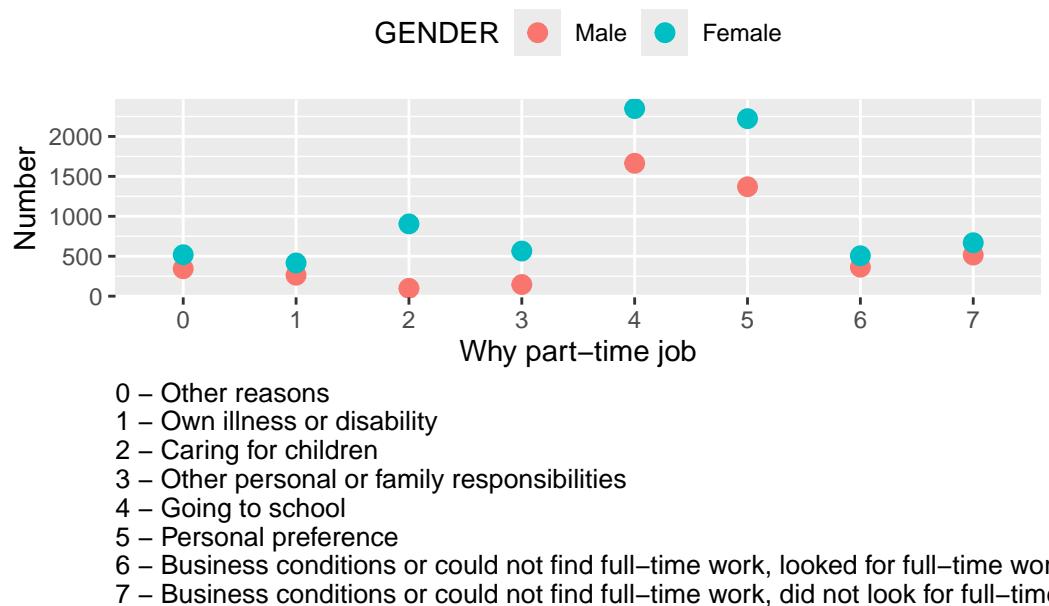
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```



```

#| echo: false
#| message: false
#| warning: false

# GENDER vs REASONS FOR LEAVING JOB

```

```

tab<-xtabs(~ GENDER + WHYLEFTN, data=labour )
tab

      WHYLEFTN
GENDER      0     1     2     3     4     5     6     7     8     9     10    11    12    13
  Male    134   195    10     0    73   810   228   600    30  1103   647    71   605   231
Female   142   144    60    59   134   738   189   493    25   635   538    51   326   184

df_tab <- as.data.frame(tab)

df_tab %>%
  filter(WHYLEFTN %in% c("1","2","3","4","5")) %>%
  ggplot( aes(x = WHYLEFTN , y=Freq, color=GENDER)) +
  geom_point(size=3) +
  theme(legend.position="top") +
  labs(x = "Why left job in the last 12 months",
       caption="

02 Job leavers, caring for children
03 Job leavers, pregnancy
04 Job leavers, personal or family responsibilities
05 Job leavers, going to school",
       y = "Number")+
  theme(
    plot.caption = element_text(hjust = 0, size = 10)
  )

```

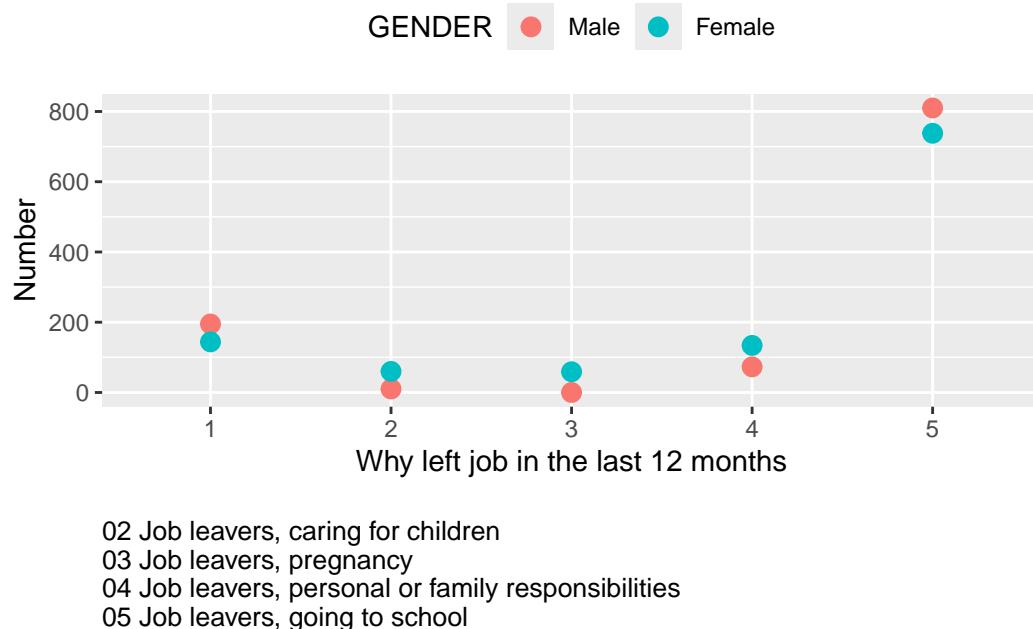
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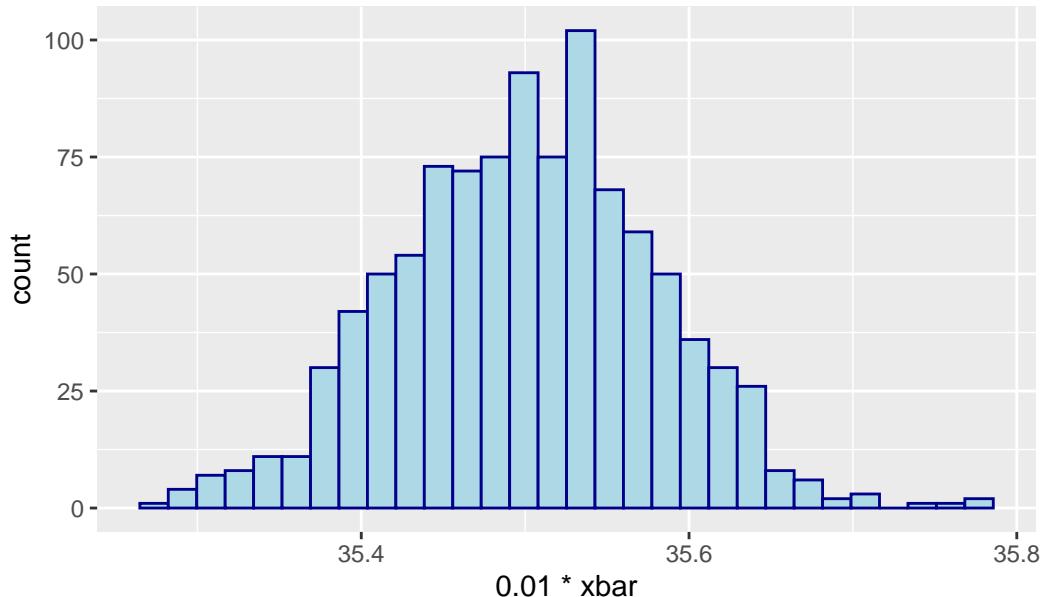


```
# Conclusion: there are more males leaving work for school than females
#
# part time going to school males 1664, females 2349
# left work because of the going to school males 810, females 738
# possible trend: males less likely work full or part-time during attending school
#compared to females
```

Bootstrap: non-weighted and weighted

```
[,1]
[1,] 3545.120
[2,] 3551.876
[3,] 3556.589
[4,] 3539.274
[5,] 3560.359
[6,] 3548.152
```

Estimated Sampling distribution of Means of Hour Rate (HRLY)



2.5% 97.5%
3534.272 3564.535

BOOTSTRAP CONFIDENCE INTERVAL CALCULATIONS
Based on 1000 bootstrap replicates

CALL :
boot.ci(boot.out = BoothHR, conf = 0.95, type = "perc")

Intervals :
Level Percentile
95% (3534, 3565)
Calculations and Intervals on Original Scale