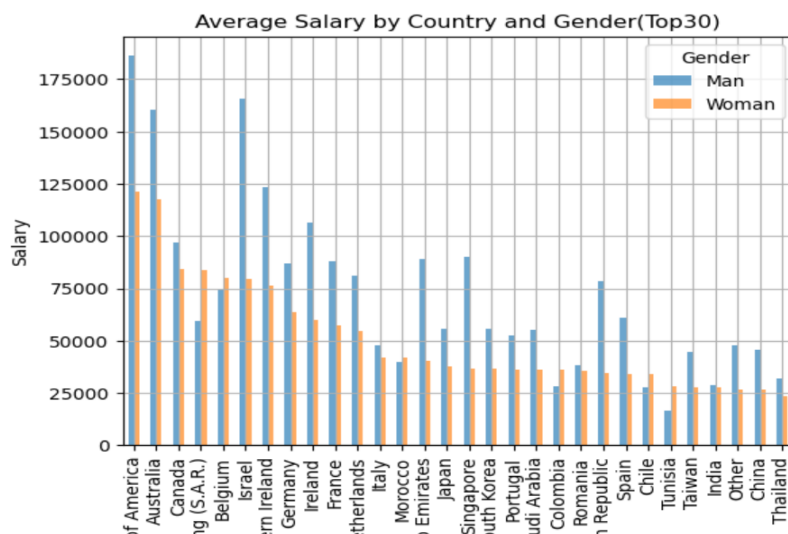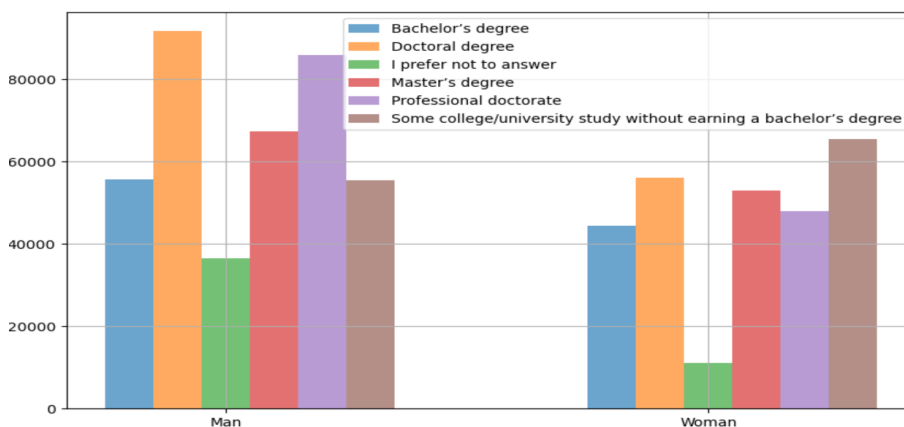# Q1

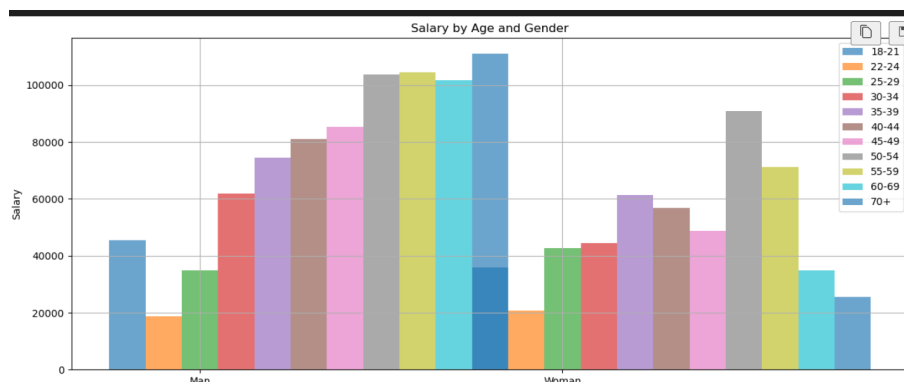I cleaned the dataset, rename some of the columns and analyze the survey dataset on gender with country, eudcation level and age. For country, we can see although the average salary different in different countries, but man overall gets higher salary. only hongkong belgium, morocco and some country woman get higher salary,for country with lower income, things get even worse

For education, doctor higher than master higher than bachelor. But man with professional doctorate paid higher than someone without bachelor degree while women without bachelor degree still get highly paid.
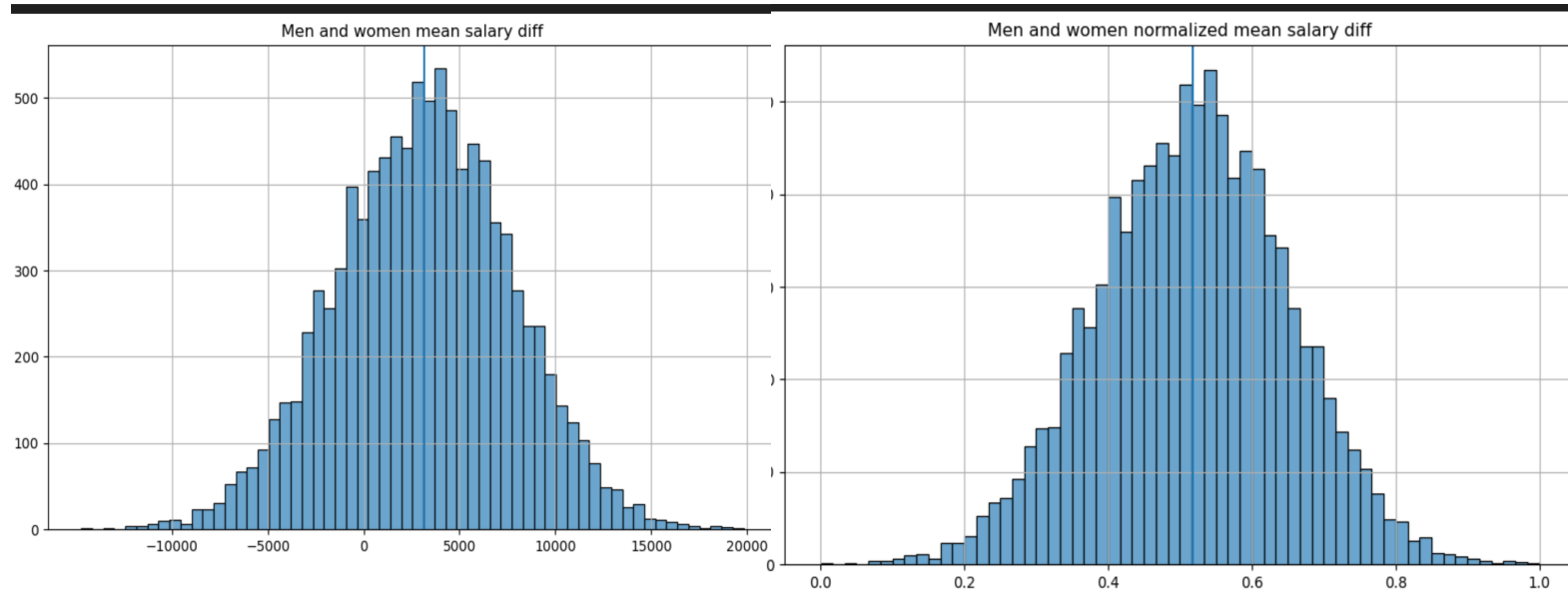
For age area, elder always man get higher paid but woman get a decreased salary after age of 54.(fig1.3)

Q2
a. value in the notebook
b. The p-value obtained from the two-sample t-test is significantly smaller than the 0.05 threshold. Therefore, we should reject the null hypothesis.
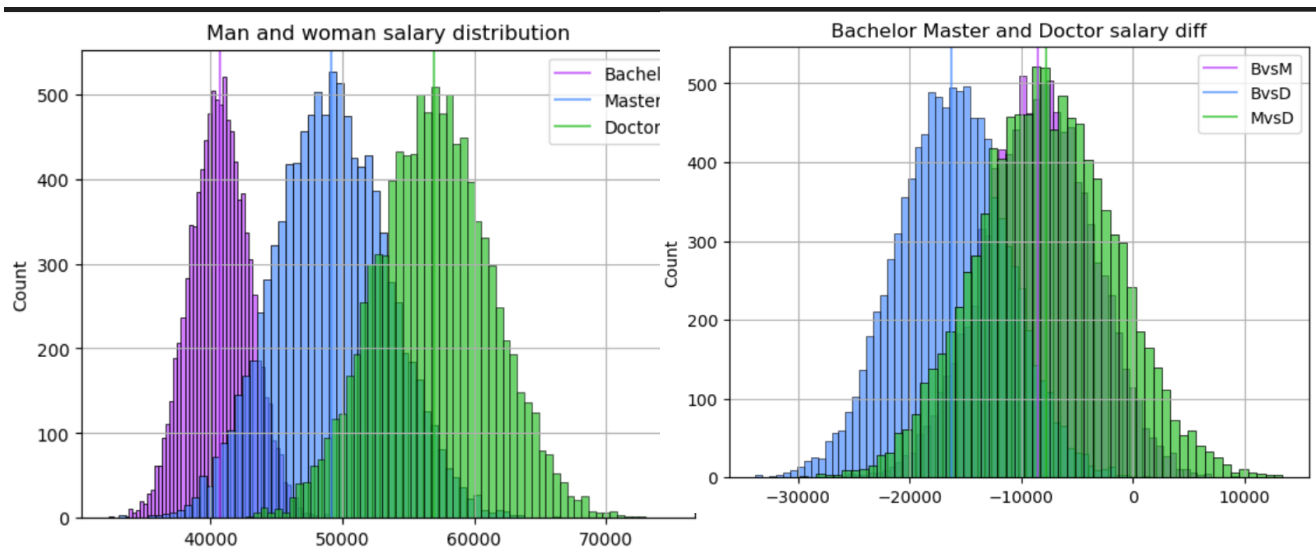
c

Men and women mean salary diff

Men and women normalized mean salary diff

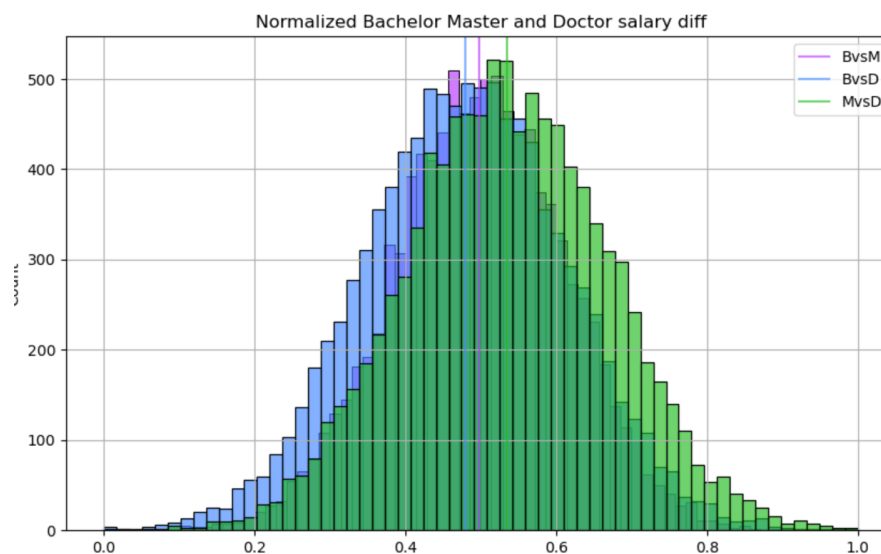d.TtestResult(statistic=67.83955291969656, pvalue=0.0, df=13495.173161034569)
e. see the notebook

C.

a.see data in the notebook
b.F_onewayResult(statistic=43.5157559219096, pvalue=1.84163926878409e-19),explian in note

Man and woman salary distribution

Bachelor Master and Doctor salary diff

c.

Normalized Bachelor Master and Doctor salary diff

d.F_onewayResult(statistic=46037.26169483821, pvalue=0.0) detail in notebook