



**UNIVERSITY OF BRITISH COLUMBIA**

**Faculty of Science**

**STAT 306 FINDING RELATIONSHIP IN DATA**

**Term Project Proposal**

**Group #17**

Mengqi Lu  
Catherine Cai  
Ricky Xie  
Josh Blas

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The Average usual and actual hours worked in a reference week by type of work (full- and part-time), monthly, unadjusted for seasonality data has been discovered and downloaded from Statistics Canada website [1]. The entire archived table originally sourced from Labour Force Survey (LFS<sup>1</sup>, record number 3701). It was collected from January 1<sup>st</sup>, 1<sup>st</sup>1976 to October 1<sup>st</sup>, 2020. The survey targeted a non-institutionalized population 15 years of age and over living in all the ten provinces and territories in Canada. Excluded from the survey's coverage are persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Armed Forces, the institutionalized population, and households in extremely remote areas with very low population density [2]. These groups together represent an exclusion of less than 2% of the Canadian population aged 15 and over [2]. Usually the week containing the 15<sup>th</sup> day of the month works as the reference week and the following week is the collection period. Subjects of the survey included employment and unemployment, hours of work and work arrangement, industries, labours, occupations, unionization and industrial relations, wages, salaries and other earnings.

In the archived table downloaded, the response variable is average working hours in a week. The average working hours is derived by dividing the total actual hours worked by the number of workers who were at work during the reference week. The explanatory variables (predictors) are geography (provinces in Canada), job (Main or All jobs), type of work (full- or part-time work), sex, age group, time (monthly). However, due to the time and scope limit of the project, a preliminary extraction of the dataset was conducted and only labour force survey data in June 2019 was retained with geography, type of work, sex and age group were selected as predictors. Note that all the four predictors are categorical variables.

Our project primarily focused on how different factors of sex, age group and type of work affect the average working hour in different provinces in Canada.

A summary of the task overview for each of the group member is shown below:

Name	Tasks Overview
Mengqi Lu	Introduction, analysis, conclusion writeup
Ricky Xie	Regression models, output, and interpretation
Josh Blas	Regression models, output, and interpretation
Catherine Cai	Introduction, analysis, conclusion writeup

\*note that all members will do the proofreading at the end.

## Reference:

[1] Government of Canada, Statistics Canada. (2020, November 06). Average usual and actual hours worked in a reference week by type of work (full- and part-time), monthly, unadjusted for seasonality. Retrieved November 11, 2020, from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410004201>

[2] Government of Canada, Statistics Canada. (2020, October 19). Labour Force Survey (LFS). Retrieved November 11, 2020, from <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey>

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<sup>1</sup> Labour force survey works as one of the four surveys that tell a complete story of current labor market event in Canada