



Data Science for Design

Assignment 3 Report

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Context

Our project is one of the repositories from "Data Share" website, calling "The Scottish Young People Survey in 1985" (McPherson, Raffe and Lamb, 2017). The dataset we got is a series of answers from more than 8000 respondents in the 1980s. This project was conducted by the Centre for Educational Sociology (CES), University of Edinburgh, in conjunction with the Scottish Education Department (SED). Joanne mentioned in the report that this project is the postal survey sent to young people who have left school or have completed studies" (SYPS cohort83_4 sweep 1 technical report, by Joanne M lamb, Oct 1986).

In the dataset, we got answers from questionnaire A, C and Q, and each of them had two versions. Unfortunately, the dataset missed questionnaire D due to some unknown reasons. The questions of questionnaires covered Scottish people's family background, educational experience, employment situation as well as future expectation. We can find answers from five CSV files (SYPS cohort83_4_sweep1.csv, rec36_scesubj2.csv, rec40_scesbjq.csv, rec42_othrsbj.csv, rec43_schlqual.csv and rec44_modschl.csv.). Meanwhile, we need to encode each value using a data dictionary. The main file we used called "SYPS cohort83_4 sweep 1", containing the majority information of questionnaires, and other files included other information like respondents' performance in school. "publicid" is the primary key. We can link to other files through primary key.

The data from the survey can provide us with comprehensive views on the Scottish young people living in that time. It would still be meaningful to explore the data nowadays, on social level, the conclusions gotten from the analyzation may be a good reference for the researchers and studies in the education field, it is also a valuable material for sociologists to get an insight to the young's living conditions three decades ago; On personal level, for those who were at school age in 1980s, especially who responded to the survey, this data conveys the memory of their young time. Reasons above made it stand out among thousands of datasets on the website and drive us to analyse it again after more than thirty years.

Our target audience is Scottish people with two generations. The elder generation is the people who completed the questionnaire in the 1980s, and the younger ones are their offsprings. More importantly, their offsprings should have the same age as their parents in the 1980s. It would be a great and warm scenario that families sit together, parents can share their stories. On the one hand, it's a great time to recall their past things and memories. On the other hand, young people can learn some experience from their parents, have a better understanding of their parents and make reflections on their own life choices.

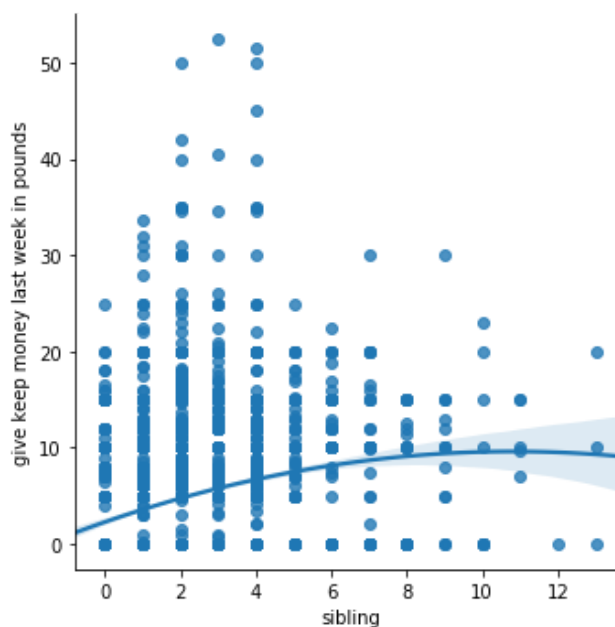
Based on the family scenario and interactive way, a pop-up book is a good option used for communicating data to the audience. Pop-up book is an interactive system, and both adults and children enjoy it (Andrew Glassner, 1998). Compared with data presented just in graphs and tables, data physical visualization is a more vivid and

engaging way (Andrew Vande Moere, Stephanie Patel, 2017), which provide more interactive forms. As a kind of physical visualization, pop-up books are suitable for telling a story, especially when it is presented in a family scenario.

Findings

We analyzed the whole dataset according to the time. The first part is about respondents' family background, including their parents' occupations, educational levels, siblings number. The second part is about their school preferences, courses, The last part is about their dream school, career plans and future expectations. In the report, we will discuss more some interesting findings which could not cover in our presentation or artefact.

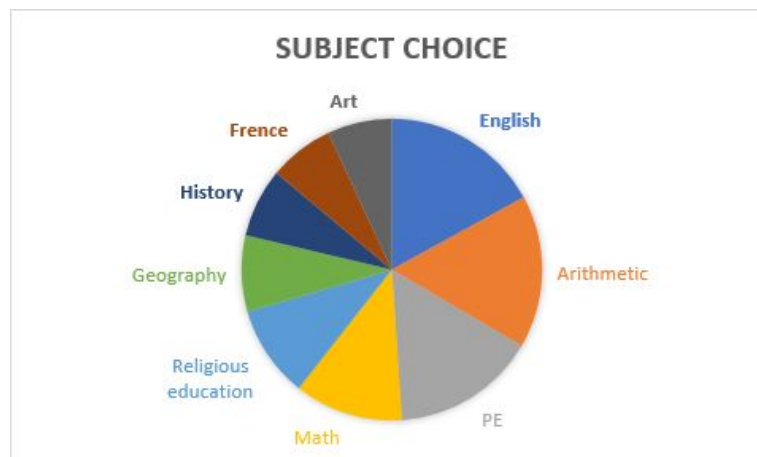
For the first part, except the sibling numbers, family members' occupations. I found another interesting conclusion. Respondents were likely to earn money by doing a part-time job, and the amount of money supporting their families is related to the number of siblings, which means more siblings you have, you tend to give more money to your family and take more responsibilities [Pic 1].



Pic 1. Relationship between the amount of “keep money” and number of siblings

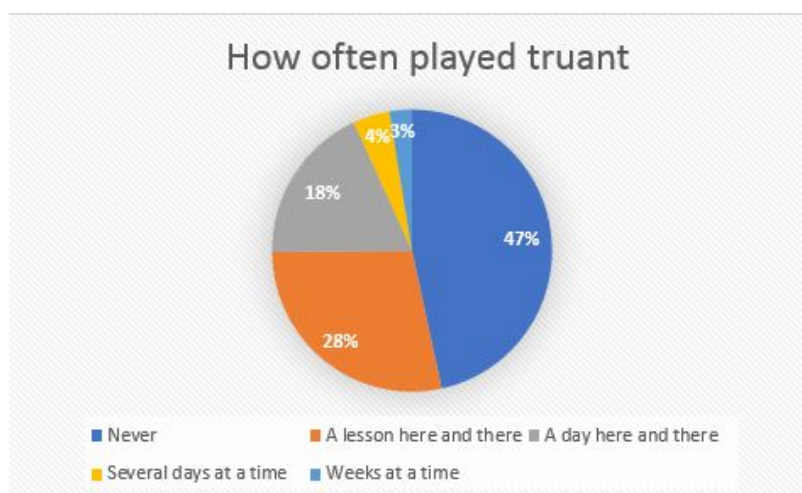
In the educational part, there were some questions about the detailed information about their experience in the S4-S5 year, including their subject they choose and the grade they got, and parents, teachers, and friends' attitude about whether they should go to school and their final decisions.

At first, there were five subjects that included the majority amount of students -- English, Arithmetic, PE, Math and Religious education [Pic 2]. It seems like these courses were the most important courses during that period.



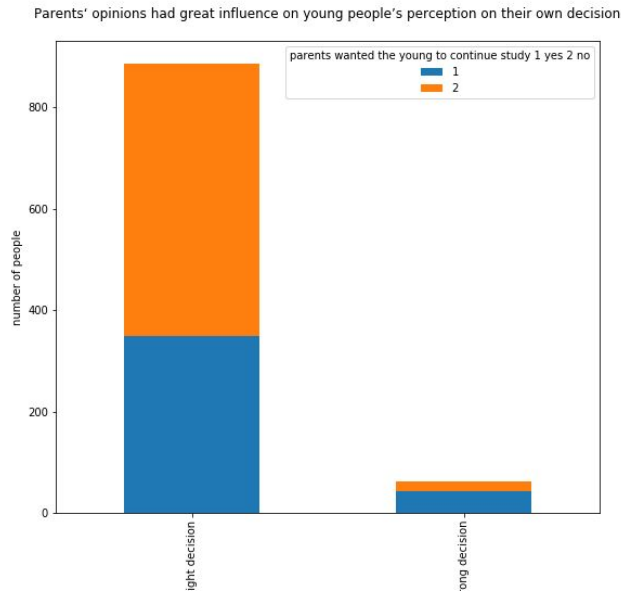
Pic 2. Courses were chosen by the majority students

Meanwhile, half students were absent from the school more or less [Pic 3]. It seems that at that time, the absence of class was too serious compared with around 3-5% absent rate in the UK (Government Digital Service, 2017).

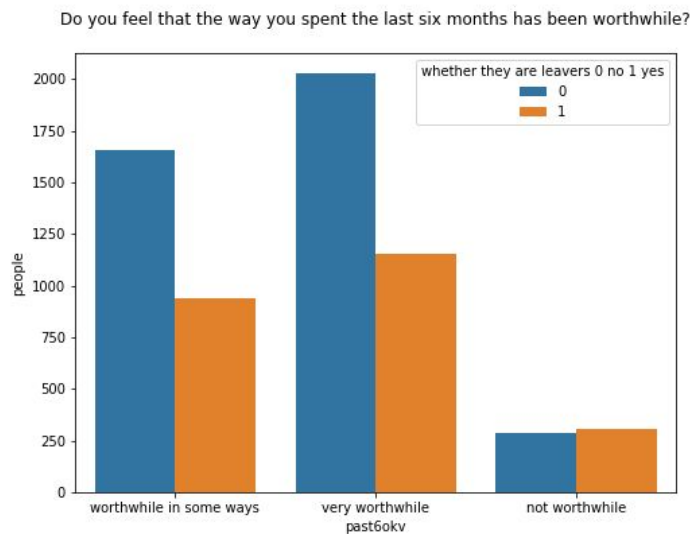


Pic 3. Absent rate

For the last part, one interesting finding is that the parents' attitude had a great influence on the young's perceptions of their own choice. As we can see in the graph below [Pic 4], for those leavers who thought their choices were right, they tended to have parents supported their "leave school" decisions; for those who regretted about their quit decisions, they are more likely have parents who against their quit decisions. On the other hand, most young people who chose to continue their studies were likely to feel worthwhile [Pic 5].



Pic 4. How parents' opinion influence their children



Pic 5. Reflect whether their decision is worthwhile

Reflections

During our presentation, we got many suggestions and feedback from the audience. Instead of just showing pop-up book, a high-quality and vivid video is a good option. It is our first time to edit video, next time we will improve the quality of the video. Secondly, we just chose a typical/common Scottish people and told his story, if we continue to do this, we need to consider more types of people and try to think about the question: Is the people we choose can represent all the respondents? How to combine them closely? The last thing is that pop-up book is full of educational

meaning, but how to go further and explore proper business prospect are what we need to consider later.

Reference

Andrew Glassner, 1998. Interactive Pop-Up Card Design.

Andrew Vande Moere, Stephanie Patel, 2017. The Physical Visualization of Information: Designing Data Sculptures in an Educational Context.

Government Digital Service, 2017. Pupil absence in schools in England: autumn term 2016 - GOV.UK.

McPherson, A., Raffe, D. and Lamb, J. (2017). Scottish Young People's Survey Cohort 1983-84, Sweep 1.