Generational Difference in Highest Obtained Education Level*

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This paper discusses the generational difference in highest education level by looking at the highest level of education obtained by respondents in comparison to their mothers and fathers. We find that the majority of respondents have more than 4 years of college as their highest education level, while both their mothers and fathers have high school as their highest education level, as reported in 2021. We also find that where mothers and fathers have 4 years of college as their highest education level, so do the respondents. These findings matter as we are able to further explore the generational difference in the required education level to work.

1 Introduction

Education is widely recognized to be the foundation of one's success, playing a crucial role in opening new opportunities and shaping our society (Al-Shuaibi 2014). When looking at students in particular, education holds many benefits. Through illuminating one's mind and ways of thinking, education provides a pathway for students to plan for employment or pursue higher education, it grants one to have a good status within society, and self-confidence, contributing to an arguably, more "successful" life.

The structure of education in the US follows a similar pattern to that of many systems. If one were to follow the "standard" path of US education systems, they would go into early childhood education, followed by elementary school, middle school, high school, and then a post-secondary education. Postsecondary education commonly includes a bachelor's (or college) degree, a master's degree, an advanced intermediate, and a research doctorate. Despite this, it is important to note that the level of education needed for employment differs depending on the field, skills, and expertise required.

*Code and data are available at: https://github.com/tayedzac/GSS_education.

Children's educational outcomes have been found to be strongly correlated with the level of education their parents have obtained. This is often due to influences from the family environment and the resources available to the child as they are raised (Ludeke et al. 2021). For example, if a child's parents have gone to college or a graduate school, the child is more likely to model their parents' achievement-oriented behaviors, and have access to achievement-oriented opportunities (University 2021). They are therefore likely to have a positive view on pursuing higher education and landing a "successful" career. In contrast, parents who did not get a degree, but rather immediately entered the workforce, are more likely to devalue a college education, influencing the child's pursuit of higher learning and path of career.

Most studies conducted around this field of research, however, heavily focus on the correlation between the child's educational outcomes or educational success and the level of education their parents have obtained. In addition, many studies will also focus on the child's education and the families' income level. Thus, this paper aims to look beyond educational outcomes and economic factors and explore the highest education level obtained by one in comparison to their mothers and fathers. We particularly consider the potential of a generational difference, and look at the relationship between the child and their mothers' and fathers' highest education level separately, instead of grouping parents as a whole. Through this, we not only get a sense of the way the required level of education for getting a career in our society is changing through generations but also see the gender inequalities that exist in education settings when looking at mothers' and fathers' highest education levels individually.

We use R (R Core Team 2022) for all data cleaning and analysis, R packages *tidyverse* (Wickham et al. 2019), *janitor* (Firke 2023), *tidyr* (Wickham, Vaughan, and Girlich 2023), *dplyr* (Wickham et al. 2023), *ggplot* (Wickham 2016), to create the figures, and *haven* (Wickham, Miller, and Smith 2022) to read the dta files.

2 Data

2.1 Data Source and Methodology

The data used in this paper is obtained from the General Social Survey (GSS), which has been providing a nationally representative survey of adults in the United States since 1972. In this paper, we specifically looked at the data collected in 2021 which was provided by the 2021 General Social Survey Cross-section Codebook. Respondents were invited to participate in an online survey. Within households, respondents were selected by the last birthday method and respondents were all aged 18 or above, located in the United States, and living in non-institutional housing at the time of data collection. The final sample size was 4032 completes from 27591 lines of sample, with a response rate of 17.4%.

2.2 Attributes

In this analysis, we used an individual year dataset which summarizes variables specific to the year 2021. Through data cleaning, we chose to keep the following variables: EDUC (Respondent's education), PAEDUC (Father's education), and MAEDUC (Mother's education). While all of these variables are within one dataset, the Quick Guide to Variables in the 2021 GSS Cross-section document classifies and organizes these variables: EDUC goes under 'Demographic, Household Characteristics, Paradata, and Process Data', and PAEDUC and MAEDUC go under 'Parental/Social Origin Data'.

3 Results

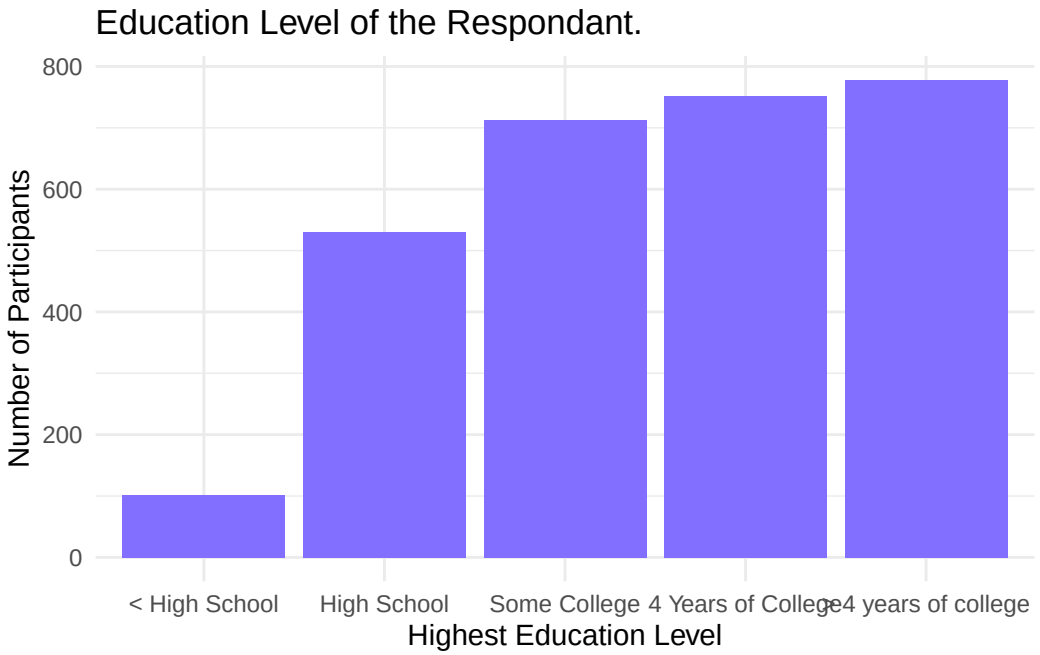

Figure 1: Highest Degree of Education Obtained by the Respondant.

Figure 1 presents a bar graph showing the highest degree of education completed by the survey respondents by 2021. We can see that the largest number of respondents, close to 800 respondents, have obtained more than 4 years of college as their highest level of education. In addition, it can be seen that over 700 respondents have obtained some level of a college education and approximately 750 respondents have completed 4 years of college, which is the traditional number of years to complete a college degree in the United States. Referring to the first two levels of education, we see a large gap between the number of those who have

completed high school (over 500 respondents) and those who have not (approximately 100 respondents).

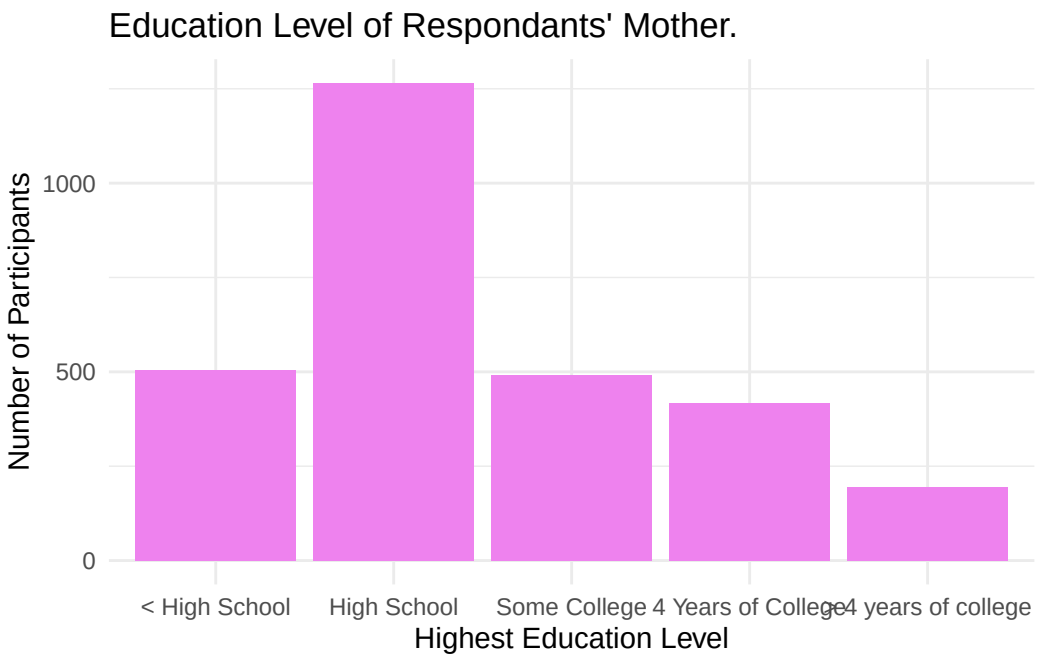

Figure 2: Highest Degree of Education Obtained by the Respondants' Mother.

Figure 2 presents a bar graph showing the highest degree of education completed by respondents' mothers, by 2021. We see that the majority of respondents' mothers earned a high school degree as their highest degree of education. We also see that the number of mothers who obtain an education level beyond a high school degree becomes progressively lower as just under 500 mothers have some college education and less than 250 mothers with more than 4 years of college.

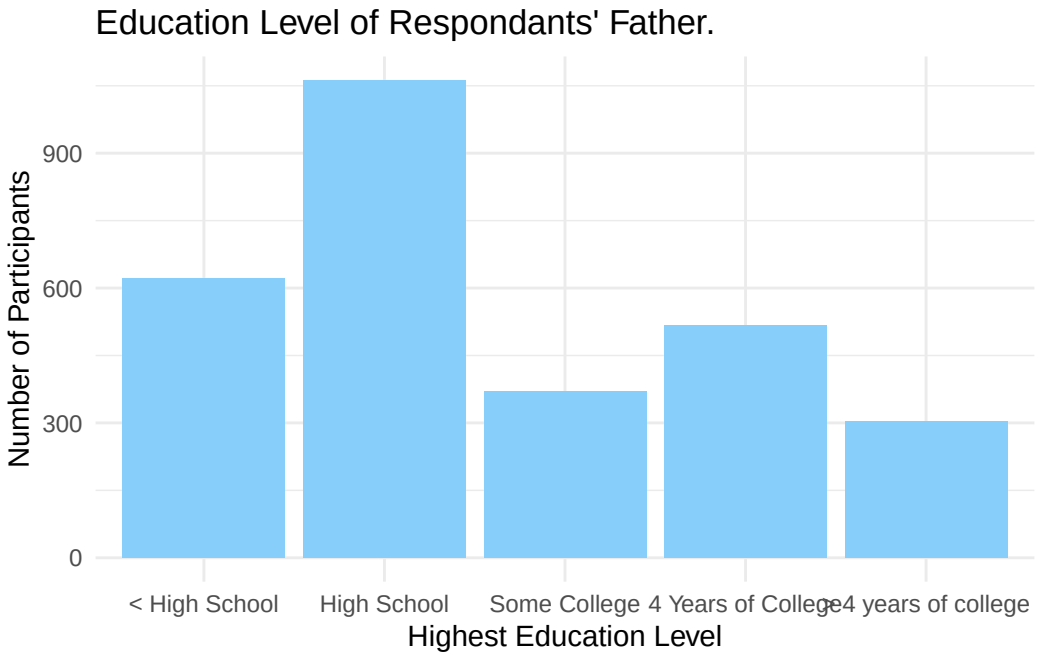

Figure 3: Highest Degree of Education Obtained by the Respondants' Father.

Figure 3 presents a bar graph showing the highest degree of education completed by respondents' fathers, by 2021. The graph shows that the largest number of respondents' fathers have completed high school as their highest degree of education. It is interesting to note that the number of fathers who have less than a high school education (over 600 fathers) is higher than the number of fathers with an education level beyond high school. When looking at education levels beyond high school, we see that more fathers have completed 4 years of their college education, thus have likely obtained a college degree according to the traditional number of college years in the United States.

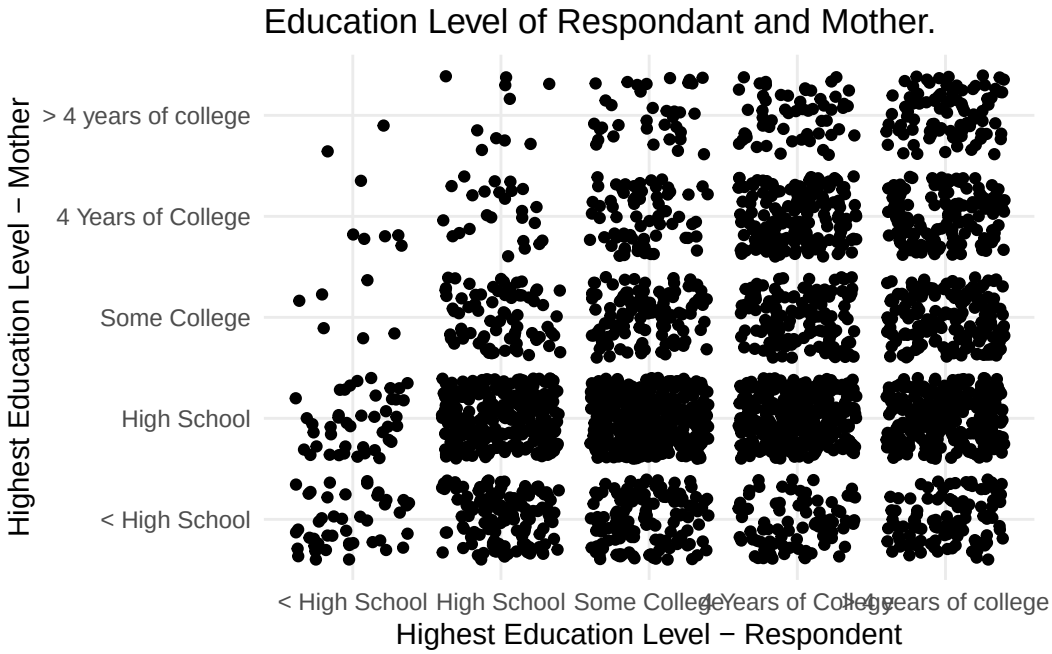

Figure 4: Comparison Between the Respondant and Mother.

Figure 4 presents a scatter plot with two discrete variables: the highest education level of respondents and the highest education level of respondents' mothers, by 2021. For all levels in the respondents' education level category, there is a general pattern where the most populous levels are when the mothers' obtained a high school education as their highest level. This makes sense as Figure 2 shows that the majority of mothers have high school as their highest obtained education level and Figure 1 shows that most of the respondents obtained a high school education or beyond. Another interestingly populated area is where both the respondent and mother have 4 years of college as their highest education level.

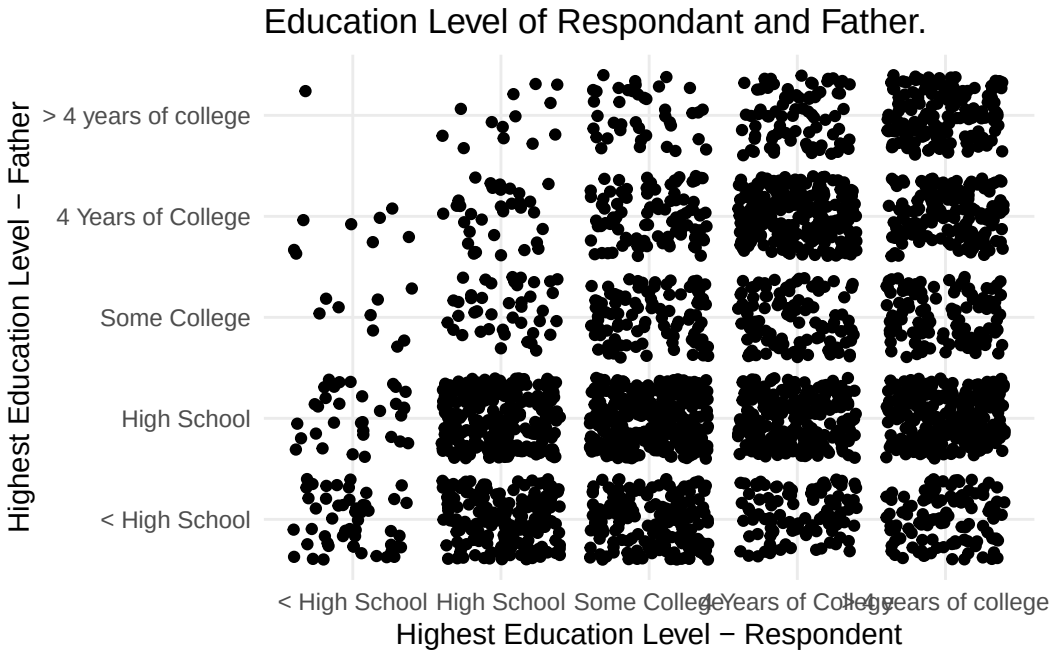

Figure 5: Comparison Between the Respondant and Father.

Figure 5 presents a scatter plot with two discrete variables: the highest education level of respondents and the highest education level of respondents' fathers, by 2021. In this scatter plot, we see that the most populated areas are where respondents have their highest education level as high school and beyond, whilst their fathers have high school as their highest education level. This makes sense as the majority of fathers have high school as their highest education level in Figure 3 and Figure 1 shows that most of the respondents obtained a high school education or beyond. Similarly to Figure 4, we see another populated area where both the respondent and father have 4 years of college as their highest education level.

4 Discussion

4.1 Generational Difference with Highest Obtained Education Level

Based on patterns shown in both the bar graphs and scatterplots, we find that the greatest number of respondents have more than 4 years of college as their highest education level, while the majority of both mothers and fathers have high school as their highest education level. This may suggest the existence of a generational difference between respondents and their mothers and fathers. Some factors that may contribute to this generational difference include: employees with college degrees in today's society are more likely to have a significant earning advantage in comparison to those who don't (Rose (n.d.)). Additionally, the requirement of having a master's-level degree is becoming more common in current entry-level occupations (Torpey (2018)). Furthermore, more Millennials have a bachelor's degree or higher compared with a much lower number of Baby Boomers and Gen Xers when they were the same age (Fry (2019)). Considering these factors, the difference in the number of respondents versus the number of mothers and fathers who have some college or beyond as their highest education level makes sense.

##Highest Level of Education of Mothers Versus Fathers By comparing the results of Figure 2 and Figure 3, presenting the highest education level of respondents' mothers versus fathers respectively, we see that they both have high school as the highest education level obtained by the majority. However, there are some important differences. We see that a larger number of mothers have high school as their highest level of education in comparison to fathers. In addition, more mothers have some college as their highest education level in comparison to fathers, while more fathers have college as their highest education level in comparison to mothers. Furthermore, we see that a larger number of fathers have more than 4 years of college as their highest level of education in comparison to mothers. These patterns make sense as despite more females graduating high school in 1960, more men were accepted into college in comparison to women (B 2022). Thus, these differences between respondents' mothers and fathers suggest the inequalities and barriers that existed and remain in education settings against girls. Going forward, it may be interesting to investigate the respondents and the varying highest level of education obtained by those of different gender identities, and this is stated in the Weaknesses and Next Steps section.

5 Conclusion

In this paper, we looked at the highest education level obtained by respondents, their mothers, and their fathers, by 2021. It was found that the majority of respondents have more than 4 years of college as their highest education level, while both mothers and fathers of respondents have high school as their highest education level. These findings provide significant insight into the generational changes in the highest education level required for occupations in today's society in comparison to that of respondents' mothers and fathers.

5.1 Weaknesses and Next Steps

Our data does not show whether more than 4 years of college is an extension of one's college degree or if they have obtained an advanced degree such as a master's or a PhD. Furthermore, there may be other factors that we did not consider. For example, we found gender inequalities between mothers and fathers. It would be interesting to explore the relationship between one's gender identity and their highest obtained level of education. Career path is another factor we didn't consider however, it plays a crucial role in one's highest level of education as different roles have different requirements.

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