From Roots to Riches: Unraveling the Impact of Parental Education on a Child's Learning Odyssey and Future Finances*

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This study investigates the empowering impact of parents' level of education on their child's academic success and thus their income. Taking advantage of a large dataset from the European Social Survey and focusing on French data gathered in 2020, this study dives into the affiliation between the highest level of education completed by the mother, father and child as well as the child's household net income to determine the correlation between the four variables. The headline result demonstrates a positive correspondence between years of parental education on years of the child's education which is linked to an increase in income in the child's future. The implications of these findings embellish the role that the parents' education has on their child's motivation to pursue post-secondary education and strive for high paying salaries.

1 Introduction

A study done on tenth graders in the Mardan district of Pakistan showed that children with educated parents have notably greater academic success and go onto higher levels of education as compared to children with uneducated parents (Idris, Hussain, and Ahmad 2020). The authors explain that parents have a great deal of influence on their child's knowledge, vocabulary and values. Parents with higher education promote meaningful discussion at home, social skills, are better equipped at giving advice based on their experiences and encourage their children to put in the effort to learn. Additionally, parents' level of education corresponds to their attitude toward education and thus their goals for their children. These factors are all

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positively correlated with students' academic success. Parents without post-secondary education are less likely to have discussions and create learning opportunities in the household (Idris, Hussain, and Ahmad 2020). As follows, parents with supplementary years of education are found to aspire their children to gain higher skills, better preparing them for post-secondary education.

Another study done in Vietnam used a mean and quantile regression approach to observe the consequence of higher levels of education on household income (Vu 2020). The key finding highlighted that higher levels of education are positively correlated with earning higher income. This was very clear when put into the context of Vietnam as a country. Vietnam was one of the poorest countries in the world but in the last few decades, it has worked its way up to a lower-middle income country. The economy was greatly enhanced by refining the education systems as well as growing access to tertiary levels (Vu 2020). This also boosted poverty levels and increased opportunities for children to engage in higher levels of learning. The regression analysis proves that it pays off to pursue higher education as it provides a positive return for all income groups. Overall, the findings of the study explain that additional years of education results in higher income households as compared to households with fewer years of education who are subject to lower levels of income (Vu 2020).

In this paper, we examine the relationship between one's parents' level of education, their level of education as well as their income. More specifically we are looking at data from France taken from a European Union Survey in the year 2020. The variables of interest include the mothers, fathers and childs highest level of education on a rating scale from one through 26. The fourth variable is the child's household net income based on the head of the household. We are interested in whether there is a correlation between the mother's and father's level of education on their child's level of education. Specifically, we are curious as to whether our data has the same trends as the study done in Pakistan, in that parents with high levels of education raise children that also achieve the same level of education. Furthermore, we are interested in the relationship between one's level of education and their income. Explicitly, we are keen to understand whether our data and that of the Vietnam study are positively correlated, where higher levels of education are analogous to higher income.

To better visualize the data, we created figures illustrating the average child's education level based on the mother's and father's education level. Furthermore, another figure displays the relationship between highest level of education completed and income. This was best represented using line plots to analyze the relationship between each variable. Our results indicate that the France data showed similar trends to both Pakistan and Vietnam. Thus we were able to conclude that children with mothers and fathers that have higher levels of education are more likely to themselves engage in higher levels of education. Moreover, it was observed that increased years of education are affiliated with higher income. This investigation is captivating as one of the big decisions upon completing secondary school is whether to pursue higher education or enter straight into the workforce. This decision is greatly affected by the child's home environment thereby their mother and fathers level of education. These two paths

yield very different salaries and lifestyles therefore highlighting the weight parents' education holds on a child's future finances.

The remainder of this paper is structured as follows: Section 2 discusses the data, Section 3 presents the results and lastly Section 4 discusses our findings, areas of weaknesses and improvements.

2 Data

We retrieved the dataset from the European Social Survey (The European Social Survey 2013) data portal, a source which reflects a wide array of social, political, and demographic variables collected across Europe. After downloading the dataset, We cleaned and analyzed via open source statistical programming language R (R Core Team 2022), using functions from libraries tidyverse (Wickham et al. 2019), dplyr (Wickham et al. 2023), knitr (Xie 2014), and ggplot2 (Wickham 2016).

Our analysis concentrates on the 2020 dataset, which comprises responses from over 37,000 individuals across various European countries. This paper focuses specifically on approximately 1,400 respondents from France.

From the over 600 variables available, we chose the four variables of interest: Highest level of education, Mother's highest level of education, Father's highest level of education, and Households Total Net Income. These variables were chosen for their direct relevance to our papers focus.

Due to the monopoly the ESS holds over social data collection in Europe, no comparable alternative data sources were seriously considered.

The selected variables were cleaned and prepared for analysis. This included removing non-French data points and non-responses. This was done for the sake of ensuring the data accurately represented the survey's findings while also allowing robust analysis.

The education level mentioned in the data ranges from numerical values 1 through 26, each representing a different educational milestone. Please refer to Table 1 in the appendix for a detailed description of each education level integer and its corresponding educational milestone [Translated from the original French].
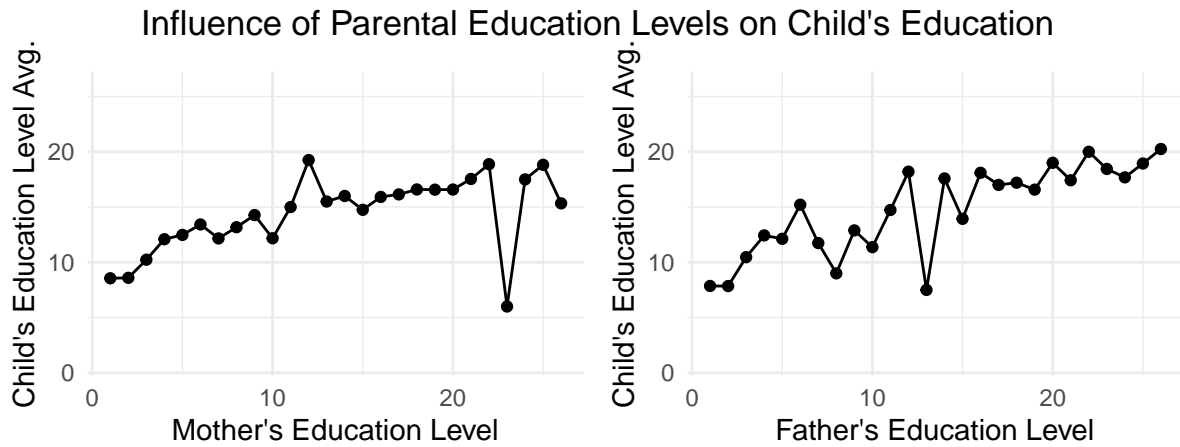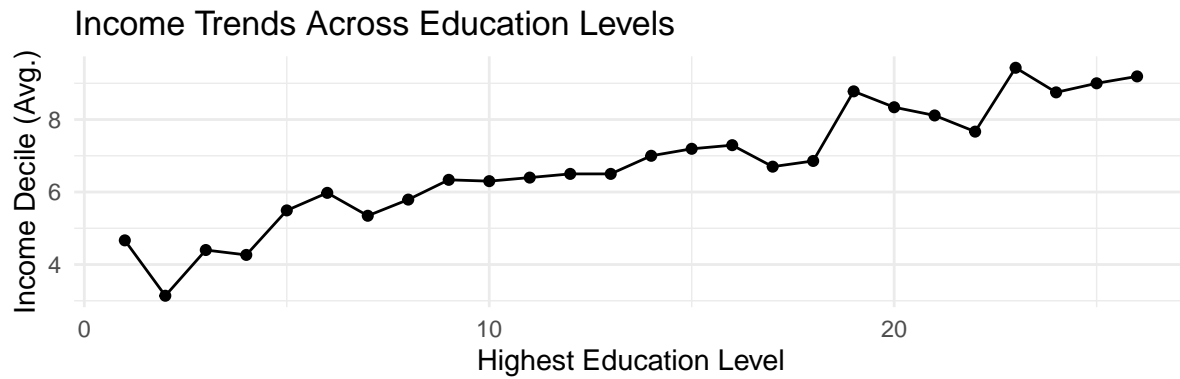
3 Results

Figure 1.

Figure 2.

The mothers level of education is positively correlated with the average child's education level as shown in figure 1. There is a clear upward trend showcasing higher levels of education completed by the mother with higher levels of education completed by the child. There is a clear outlier in the dataset for mothers' education at level 23 and the child's education level of 6. It seems that mothers with higher professional diplomas have children with lower education, particularly those whose highest education level is between 10th to 12th grade. Figure 1 also illustrates the relationship between the fathers education level and the child's education level. Similarly to the correlation in mother-child education, father-child education portrays an increasing interaction, however the trendline is clearly steeper in comparison. Additionally, there is one data point that stands out on the low end of the average child's education level, particularly at level 8 and the parents' education level 14. It appears that fathers with first cycle university diplomas have children who are less educated with assistant diplomas. Please refer to Table 1 in the appendix for descriptions of the education levels.

Education level is understandably linked to income as depicted in figure 2. Despite some small fluctuations and spikes, there is a very clear overall trend that with a higher level of education comes higher income. Notably there is a plateau phase where education levels nine through 13 are all found to correspond to the same income decile of just above decile 6.

4 Discussion

Academic success is closely linked to what is happening at home which is linked to the parent's level of education. The study done in Pakistan concludes that in order for the child to be properly set up and prepared for higher levels of education, it's imperative for the parents to be highly educated (Idris, Hussain, and Ahmad 2020). Likewise, the study done in Vietnam explains that a household's economic welfare is positively correlated to higher levels of education (Vu 2020). With the data we analyzed on France as well as the supportive trends in the other two other studies, we were able to conclude that it is beneficial and pays off to have both educated mothers and fathers. Parents with higher levels of education are positively correlated with children who go on to seek higher education, which is tied to higher salaries. Father-child education has a steeper slope than mother-child education indicating that the fathers level of education is more impactful on the child completing higher levels of education in comparison to the mother.

This analysis is interesting as attending post secondary education and beyond has a large cost to it in terms of money spent on tuition, accommodation as well as time that could be spent doing something else such as going straight into the workforce. Thus this study can be helpful in proving that it is more beneficial in the long run to spend the time and money to be well educated. This is due to the increased likelihood that with the education, one will make more money than those who decide not to attend post-secondary education. Upon completion of secondary school, it may seem overwhelming and costly to embark in more schooling, certainly when you do not have a clear idea as to the end career goal. However this data clearly conveys the importance of higher education for higher academic success, the completion of higher education and finally higher earnings.

Our analysis did not focus on which parent's level of education played a greater role in the child's level of education. However this would be very interesting to look into further as the Pakistan study explains how the mothers level of education plays a more substantial role than the fathers in the child's level of education completed. This contrasts with our findings. The explanation for this is that the mother often takes more responsibility in nourishing the child in the sense of providing meals as well as connecting with the child on a deeper emotional level (Idris, Hussain, and Ahmad 2020). Although the level of parental education completed is the most consequential contributor of the child's academic achievement, there are many other factors that play a role and influence their choice to proceed with higher levels of education after secondary school. Possible further research that impacts a child's education could include

diving deeper into the role of the child's home environment, access to educational facilities as well as their parents socio-economic status.

Weaknesses of this paper include the relatively small sample size and a lack of precise income data, which for the future could be accessed through different means.

5 Appendix

Table 1: Education Levels and Their Descriptions

Code	Description
1	Not schooled or did not complete primary school
2	Primary school only
3	Primary studies certificate
4	Education followed from 6th to 9th grade
5	Elementary certificate, First cycle studies certificate, Middle school certificate
6	Education followed from 10th to 12th grade
7	Vocational training certificate, Vocational study certificate, End of apprenticeship examination
8	Nursing assistant diploma, Childcare assistant, Special education assistant, Homecare assistant
9	Vocational baccalaureate, Technician certificate
10	Technological baccalaureate, Technician's baccalaureate, Various technical certificates
11	General baccalaureate, Advanced certificate
12	Law capacity diploma, University studies access diploma (DAEU)
13	Youth worker diploma, Specialized technical educator, Professional certificate
14	First cycle university diploma (DEUG), Preparatory classes for elite schools
15	University technology diploma (DUT), Advanced technician certificate (BTS)
16	Teaching aptitude certificate, Special education diploma, Social worker diploma
17	Professional license
18	Bachelor's degree
19	Engineering school diploma
20	Advanced studies diploma, Professional master's degree (second year)
21	Master's degree, Teaching certification for secondary education, Elementary school teacher certification
22	Advanced studies diploma, Research master's degree (second year), Teaching aggregation
23	Various higher professional diplomas (notary, architect, veterinarian, journalist, etc.)
24	Grandes écoles diploma (excluding engineering schools)
25	Doctorate in medicine or equivalents (Medicine, Dental, Pharmacy, Veterinary)
26	Doctorate

References

Idris, Muhammad, Sajjad Hussain, and Nasir Ahmad. 2020. "Relationship Between Parents' Education and Their Children's Academic Achievement." *Journal of Arts & Social Sciences* 7 (2): 82–92. https://doi.org/10.46662/jass-vol7-iss2-2020(82-92).

R Core Team. 2022. *R: A Language and Environment for Statistical Computing.* Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

The European Social Survey. 2013. "The European Social Survey: A Pan-European Research Infrastructure." European Research Infrastructure Consortium (ERIC). http://www.europeansocialsurvey.org/.

Vu, Huang Van. 2020. "The Impact of Education on Household Income in Rural Vietnam." *International Journal of Financial Studies* 8 (1): 1–8. https://doi.org/10.3390/ijfs8010011.

Wickham, Hadley. 2016. *Ggplot2: Elegant Graphics for Data Analysis.* Springer-Verlag New York. https://ggplot2.tidyverse.org.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. https://doi.org/10.21105/joss.01686.

Wickham, Hadley, Romain François, Lionel Henry, Kirill Müller, and Davis Vaughan. 2023. *Dplyr: A Grammar of Data Manipulation.* https://dplyr.tidyverse.org.

Xie, Yihui. 2014. "Knitr: A Comprehensive Tool for Reproducible Research in R." In *Implementing Reproducible Computational Research*, edited by Victoria Stodden, Friedrich Leisch, and Roger D. Peng. Chapman; Hall/CRC.