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Empirical report: Does education effect happiness in America?

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Table of contents

List of Tables

List of Figures

Introduction

In this report, I will use data from the 2018 GSS to investigate the relationship between education and happiness. Specifically, I will examine whether individuals with higher levels of education are more likely to report being happy. I will also explore whether this relationship varies between different demographic groups, such as age, sex and race.

Research background

These questions are important because they can help us understand the factors that contribute to well-being and happiness. Previous research has found that education is positively associated with well-being, with individuals with higher levels of education reporting higher levels of happiness and life satisfaction. However, the relationship between education and happiness is complex and may vary between different groups of people. For example, some studies have found that the relationship between education and happiness is stronger for individuals because of social networks and involvement with the wider world, and that having higher educations means being employed and having higher income levels which are positively related with happiness.

Literature Review

Previous research has found a positive relationship between education and political ideology. For example, a study by Chen (2012) says that "In short, individuals who receive more education have more extensive social networks as well as greater involvement with the wider world; these life conditions are positively related with happiness". Another study by Cuñado & De Gracia (2012) says that "we find that people with a higher education level have higher income levels and a higher probability of being employed, and thus, report higher levels of happiness". In my research, I will build on this previous work by examining the relationship between education and happiness on americans but also include different demographic groups with data from the 2018 GSS exploring.

Hypothesis

I hypothesize that individuals in america with higher levels of education will be more likely to report being happy. This hypothesis is based on previous research that has found a positive relationship between education and well-being. I also expect that this relationship will be stronger for certain demographic groups, such as younger individuals, and individuals who identify as white.

Preview of findings

Here I will type what I find later in the empirical report.

Roadmap

The report is structured as follows. In the next section, I will describe the data and variables used in the analysis. In the following section, I will present the results of the analysis, including descriptive statistics and regression analysis. Finally, I will discuss the implications of the findings and suggest directions for future research.

Data

The General Social Survey (GSS) is a survey conducted in the United States to monitor social change and study the growing complexity of American society. The survey is conducted every two years and is designed to provide a snapshot of the opinions and behaviors of the American people. The GSS collects data on a wide range of topics, including attitudes towards social issues, political beliefs, and demographic characteristics. The data is publicly available for download from the GSS website here.

Variables

The variables going to be used in this analysis can be seen in the following Table 1.

Variable	Definition
Id	Unique respondent ID code
Sex	Sex of respondent (1 = Male, 2 = Female)
Age	Age in years at time of interview
Race	Race (1 = White, 2 = Black, 3 = Other)
Education	Highest year of school completed
Happy	Self-rated happiness (0 = Not happy, 1 = Happy)

Table 1: Variables and Definitions (GSS 2018)

Education is measured as the highest year of school completed, ranging from 0 to 20 years. Happiness is measured as a self-rated happiness score, ranging from 1 to 3, with 1 being "Very Happy", 2 being "Pretty Happy", and 3 being "Not Too Happy". In this analysis, I will use education as the independent variable and happiness as the dependent variable. I will also transform the happiness variable into a binary variable for the regression analysis, which will consist of "Not Happy" and "Happy".

Descriptive Statistics

In this section, I will present descriptive statistics for the variables used in the analysis. This will provide an overview of the sample and help to identify any patterns or trends in the data.

	AGE	EDUC	HAPPY	ID	RACE	SEX
Mean	48.93	13.63	1.71	1216.14	1.42	1.55
Std.Dev	18.11	2.83	0.45	673.31	0.69	0.50
Min	18.00	0.00	1.00	11.00	1.00	1.00
Q1	34.00	12.00	1.00	651.00	1.00	1.00
Median	48.00	13.00	2.00	1255.50	1.00	2.00
Q3	63.00	16.00	2.00	1799.00	2.00	2.00
Max	89.00	20.00	2.00	2345.00	3.00	2.00
MAD	22.24	1.48	0.00	858.43	0.00	0.00
IQR	29.00	4.00	1.00	1145.50	1.00	1.00
CV	0.37	0.21	0.27	0.55	0.49	0.32
Skewness	0.29	-0.42	-0.93	-0.09	1.37	-0.20
SE.Skewness	0.11	0.11	0.11	0.11	0.11	0.11
Kurtosis	-0.87	1.87	-1.14	-1.18	0.41	-1.96
N.Valid	536.00	536.00	536.00	536.00	536.00	536.00
Pct.Valid	100.00	100.00	100.00	100.00	100.00	100.00

Table 2: Descriptive Statistics for GSS 2018 (N = 536)

The mean age of the sample is 48.93 years, with a standard deviation of 18.11. The mean education level is 13.63 years, with a standard deviation of 2.83. The mean happiness score is 1.7, with a standard deviation of 0.45. The sample is predominantly white, which can make the results biased, if the sample is not representative of the population. The Skewness is negative for the happiness variable, which indicates that the distribution is left-skewed, this is also true for education. The Kurtosis is negative for the happiness variable, which indicates that the distribution is platykurtic. The sample size is 536, with no missing values for any of the variables used in the analysis.

Data Visualization

In this section, I will present visualizations of the data to help illustrate the relationships between the variables. This will provide a more intuitive understanding of the data and help to identify any patterns or trends.

Figure 1: Distribution of Happiness Scores

Figure 1 shows the two categories of the happiness variable, with the majority of respondents reporting being happy. This is consistent with previous research that has found that the majority of people report being happy. The distribution of the happiness variable is left-skewed, and this could be shown better before merging the "Happy" variable with "Pretty Happy" and "Very Happy". I acknowledge that this could be a limitation of the analysis, and that the results may be biased because of merging the categories.

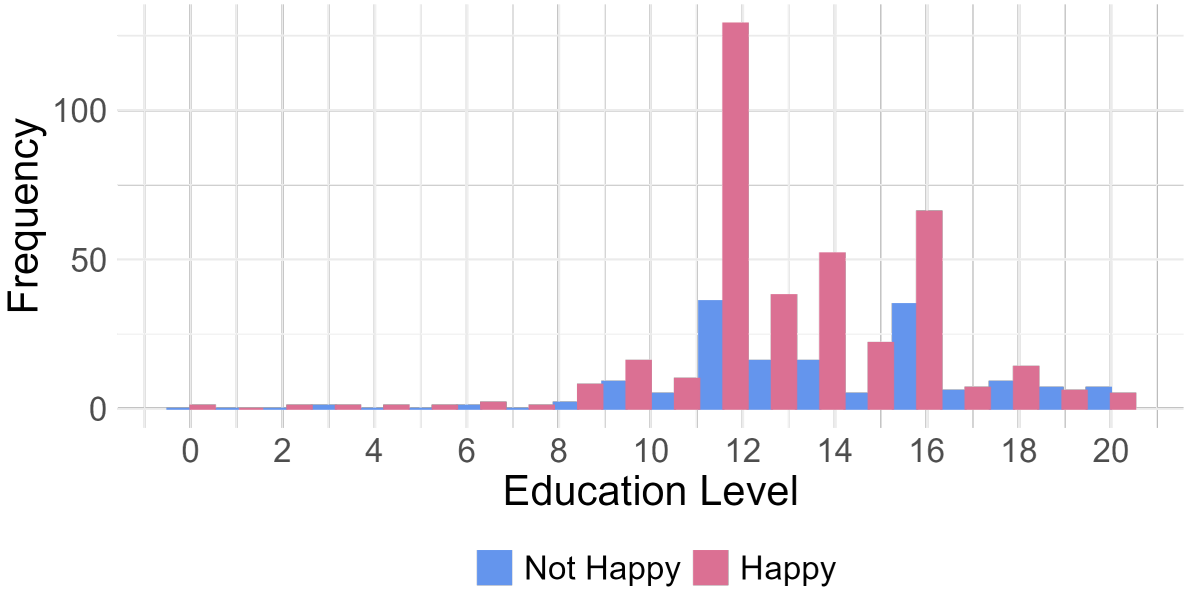

Figure 2: Distribution of Education Levels

Figure 2 shows that the distribution of education levels is roughly normal, with a peak around 12 years of education. This is consistent with the fact that most people in the sample have completed high school, which is typically 12 years of education. As the distribution of education levels is right-modal, the normality assumption for the regression analysis is not violated.

Lets look at the relationship between education and happiness.

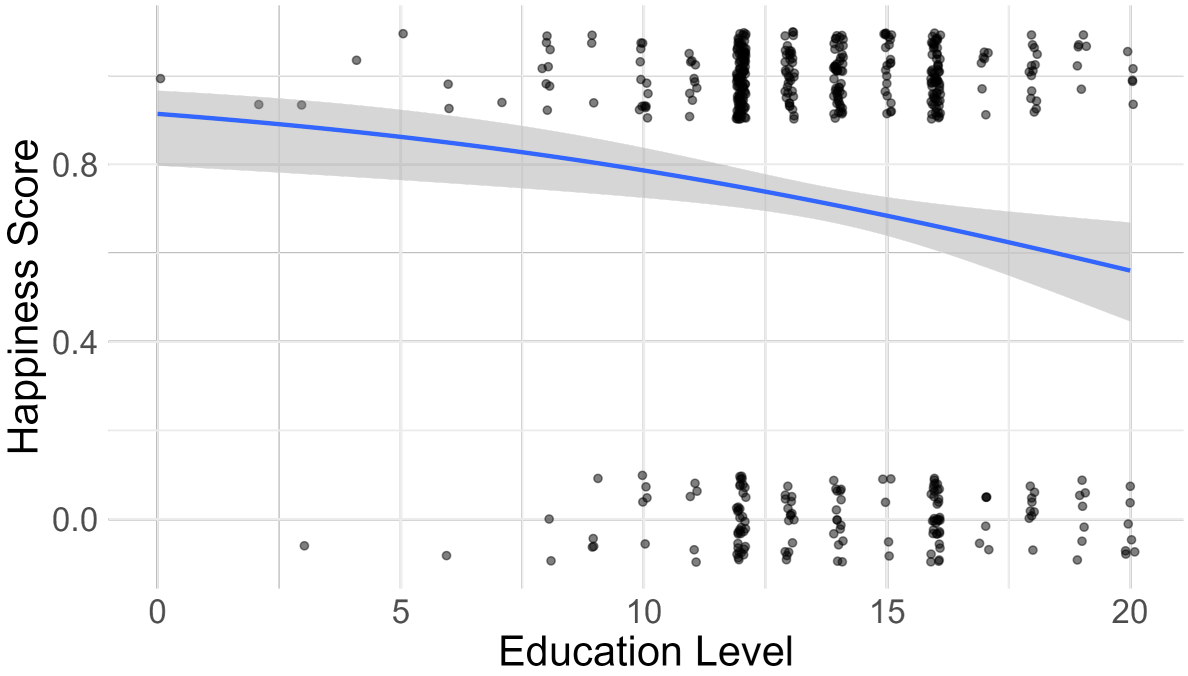

Figure 3: Relationship between Education and Happiness

Figure 3 shows the relationship between education and happiness. The scatterplot shows that there is a negative relationship between education and happiness, with individuals with higher levels of education being less likely to report being happy. This is contrary to what I expected, and could be due to the fact that the sample is not representative of the population, or that there are other factors influencing the relationship between education and happiness. More analysis is needed to understand this relationship better.

Regression Analysis

In this section, I will present the results of the regression analysis examining the relationship between education and happiness. I will estimate a logistic regression model to determine whether education is a significant predictor of happiness, controlling for demographic variables.

Usage of AI

Copilot

As I am writing this document in Rstudio, there is an integration of copilot which sometimes automatically suggests code snippets. Sometimes it works great and my latex math gets written perfectly, and other times it just gives me a bunch of random unrelevant latex math or code.

Here is a Link to copilot.

ChatGPT

Here is the link to the conversation where I asked questions:

Link to ChatGPT

Appendix

References

Chen, W. (2012). How education enhances happiness: Comparison of mediating factors in four east asian countries. *Social Indicators Research*, *106*, 117–131.

Cuñado, J., & De Gracia, F. P. (2012). Does education affect happiness? Evidence for spain. *Social Indicators Research*, *108*, 185–196.