

Exploring Relationships between Demographic Characteristics, Health, Finances, Living Arrangements, and Happiness: An Analysis of the General Social Survey (GSS) Data from 1972 to 2012*

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This paper presents an analysis of a subset of the General Social Survey (GSS) data from the year 1972, which includes information on individuals' demographic characteristics, health, finances, living arrangements, and subjective well-being. The study aimed to explore various aspects of individuals' lives during the early 1970s in the United States, such as social stratification, gender roles, family dynamics, health disparities, and subjective well-being. The dataset consists of 5 observations and 10 variables, including year, age, sex, babies, divorce, health, finance_satisfied, living_area, and happy. The study used graphical representation to analyze the relationships between different variables in the dataset and individuals' level of happiness. The results of the analysis suggest that there is a positive relationship between people's satisfaction with their current financial situation, their self-rated health, and their level of happiness in life. Additionally, being divorced may have a slight impact on one's level of happiness in life, with a small proportion of individuals feeling not too happy. Moreover, the study found that people's level of education is positively associated with their level of happiness in life, as people's education level increases, their level of happiness also gradually increases. Overall, this study provides valuable insights into various aspects of individuals' lives during the early 1970s in the United States. The findings can be useful for researchers and students interested in exploring topics such as social stratification, gender roles, family dynamics, health disparities, and subjective well-being. The study highlights the importance of considering different factors that can influence individuals' level of happiness and well-being, such as their financial

*Code and data are available at: https://github.com/lucas11333/Factor_of_Wellbeing

situation, health status, and level of education. Further research could investigate more recent data from the GSS to examine changes in these relationships over time.

1 Introduction

Surveys are a common method for collecting data on individuals' attitudes, behaviors, and experiences in social science research. One such survey is the General Social Survey (GSS), which has been conducted in the United States since 1972 to 2012. This data set is a subset of the GSS data from the year 1972, which includes information on individuals' demographic characteristics, health, finances, living arrangements, and subjective well-being. While this is a relatively small data set, it provides a glimpse into the lives of individuals in the United States during a particular period in time. This paper aims to explore various aspects of individuals' lives during the early 1970s in the United States using the GSS data set. The variables in this data set are diverse and reflect a range of aspects of individuals' lives. For instance, the variables on babies and divorce provide information on individuals' family structures, while the variables on health and finance satisfaction offer insights into their well-being and financial stability (Vlaev 2014). The data set also includes variables on individuals' living arrangements and their subjective well-being, providing a glimpse into their social context and overall happiness.

The paper presents a comprehensive analysis of the relationships between different variables in the data set and individuals' level of happiness. The analysis includes a graphical representation of the relationship between the number of children and happiness in the family, individuals' self-rated health and their self-rated level of happiness, people's satisfaction with their financial situation and their happiness, the level of happiness in life for individuals in two different states: divorced or married, and the relationship between people's level of education and their level of happiness in life. The results of the analysis suggest that there is a positive relationship between people's satisfaction with their current financial situation, their self-rated health, and their level of happiness in life (RSiahpush 2008). The analysis also indicates that being divorced may have a slight impact on one's level of happiness in life, with a small proportion of individuals feeling "not too happy." Additionally, as people's education level increases, their level of happiness also gradually increases.

Overall, this paper provides valuable insights into various aspects of individuals' lives during the early 1970s in the United States. The findings can be useful for researchers and students interested in exploring topics such as social stratification, gender roles, family dynamics, health disparities, and subjective well-being.

1.1 Methodology

This study will combine data sources, including surveys and academic literature. The collected data will be analyzed to determine the trends and changes in public attitudes towards sexual

Table 1: Table of Happy by Various Variables

year	age	sex	babies	divorce	health	finance_satisfied	living_area
1972	70	male	0	no	fair	more or less satisfied	large city
1972	48	female	0	no	excellent	pretty well satisfied	large city
1972	27	female	0	no	good	not satisfied at all	large city
1972	61	female	0	no	good	pretty well satisfied	unknown
1972	30	female	2	no	fair	not satisfied at all	unknown

happy	degree
not too happy	less than high school
happy	high school
not too happy	bachelor's
happy	high school
happy	high school

morality over time (1972 to 2012). The study will also examine differences in attitudes between men and women, as well as work attitudes, and the relationship between education levels and happiness in daily life.

2 Data Resource

Used some R language packages, such as tidyverse (Wickham et al. 2019), dplyr (Wickham et al. 2023), janitor (Firke 2023), knitr (Xie 2014), here (Müller 2020), haven (Wickham, Miller, and Smith 2022), ggplot (Wickham 2016), kableExtra (Zhu 2021) to assist in data analysis, and the data from General Social Survey (“GSS General Social Survey” 2023).

2.1 Data

After cleaning the data and selecting the main variables, the following table shows the first five rows of data and their corresponding parameters. The following data section provides a more detailed explanation of the selected variables for the data.

This data-set contains information on various personal and demographic characteristics of individuals, collected between the years 1972 and 2012. The data-set includes variables such as age, sex, number of babies, divorce status, self-reported health status, financial satisfaction, living area, and level of happiness. The data-set can be used to study the relationships between these variables and to gain insights into factors that may influence an individual’s overall life satisfaction.

- year: This variable indicates the year in which the data was collected. In this data-set, all the observations are from the year 1972 to 2012.
- age: This variable indicates the age of the individual at the time the data was collected. It is a continuous variable measured in years.
- sex: This variable indicates the biological sex of the individual. It is a categorical variable with two levels: male and female.
- babies: This variable indicates the number of babies the individual had at the time the data was collected. It is a categorical variable with different levels, depending on the number of babies: 0, 1, 2, 3, 4, or 5+.
- divorce: This variable indicates whether or not the individual had ever been divorced at the time the data was collected. It is a categorical variable with two levels: yes and no.
- health: This variable indicates the self-reported health status of the individual at the time the data was collected. It is a categorical variable with different levels, depending on the health status: excellent, good, fair, or poor.
- finance_satisfied: This variable indicates the individual's level of satisfaction with their current financial situation. It is a categorical variable with different levels of satisfaction: very satisfied, more or less satisfied, not very satisfied, and not at all satisfied.
- living_area: This variable indicates the type of living area in which the individual resided at the time the data was collected. It is a categorical variable with different levels: large city, small city, suburban, and rural.
- happy: This variable indicates the individual's level of happiness or life satisfaction. It is a categorical variable with different levels of happiness: very happy, pretty happy, not too happy, and not at all happy.

In Figure 1, this chart shows the number of people who are very happy, not too happy, and happy. Overall, the data indicates that the largest number of people are happy, with approximately 15,000 individuals falling into this category. On the other hand, the smallest number of people are not too happy, with significantly fewer individuals in this category compared to the other two variables. In summary, the data suggests that the number of unhappy individuals is a relatively small group.

2.1.1 Baby

In Figure 2, through the graph showing the relationship between the number of children and happiness in the family, it is obvious that when people have no children, the largest number of 'very happy', 'pretty happy', and 'not too happy' are shown. Although The preliminary judgment is that the number of people who are happy without children is the largest. But among the data, the data collected without children is the most. In order to ensure the accuracy of the data, it is necessary to further analyze the proportion of the number of children in the family for the next part of the analysis.

In Figure 3, which to provide a more detailed and comprehensive view of the data, the chart displays an analysis and visualization of the number of children had each year from 1972

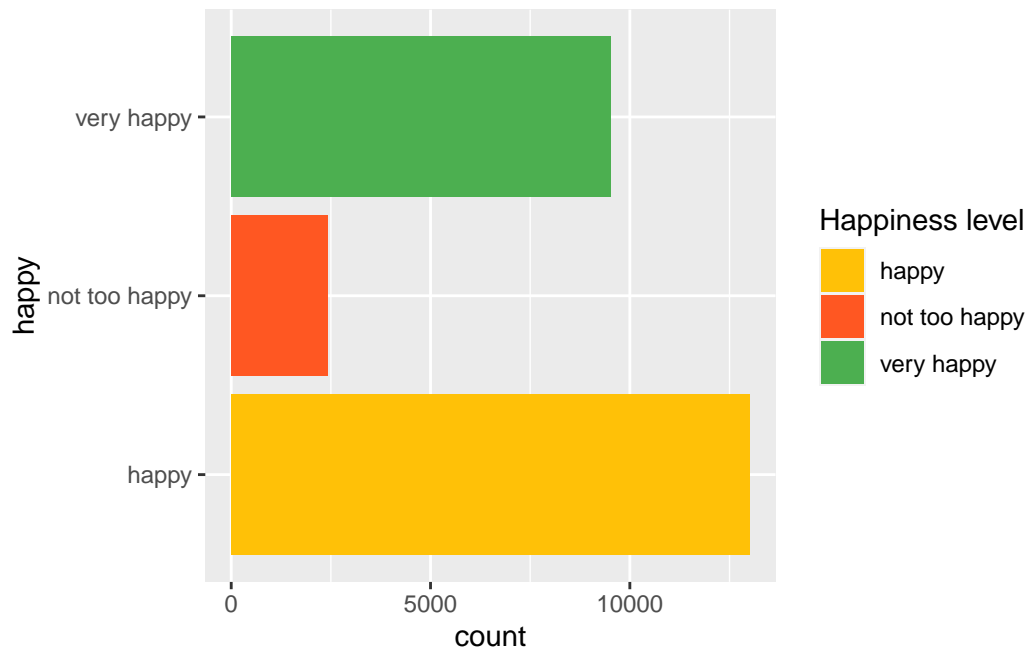


Figure 1: Counting of Happiness

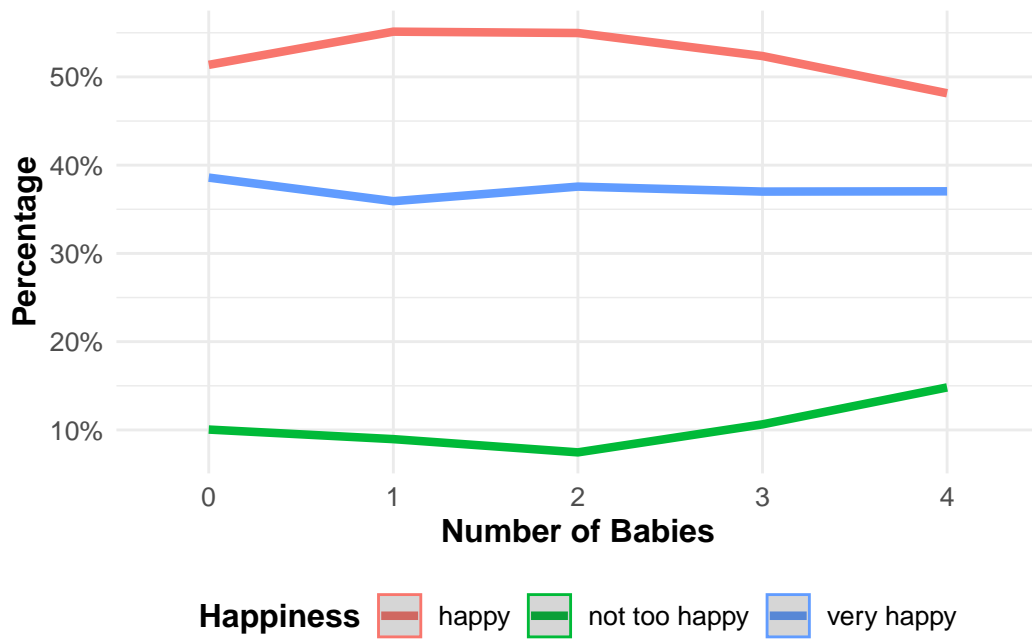


Figure 2: Relationship between Number of Babies and Happiness

to 2012, in relation to the level of happiness. In regards to the variable “not too happy,” the proportion of individuals who reported feeling unhappy was relatively high in 1974, 1985, 1993, 2004, 2006, and 2008. On the other hand, in regards to the variable “happy,” the percentage of individuals reporting feeling happy was relatively high in 1973, 1977, 1994, 2006, and 2012.

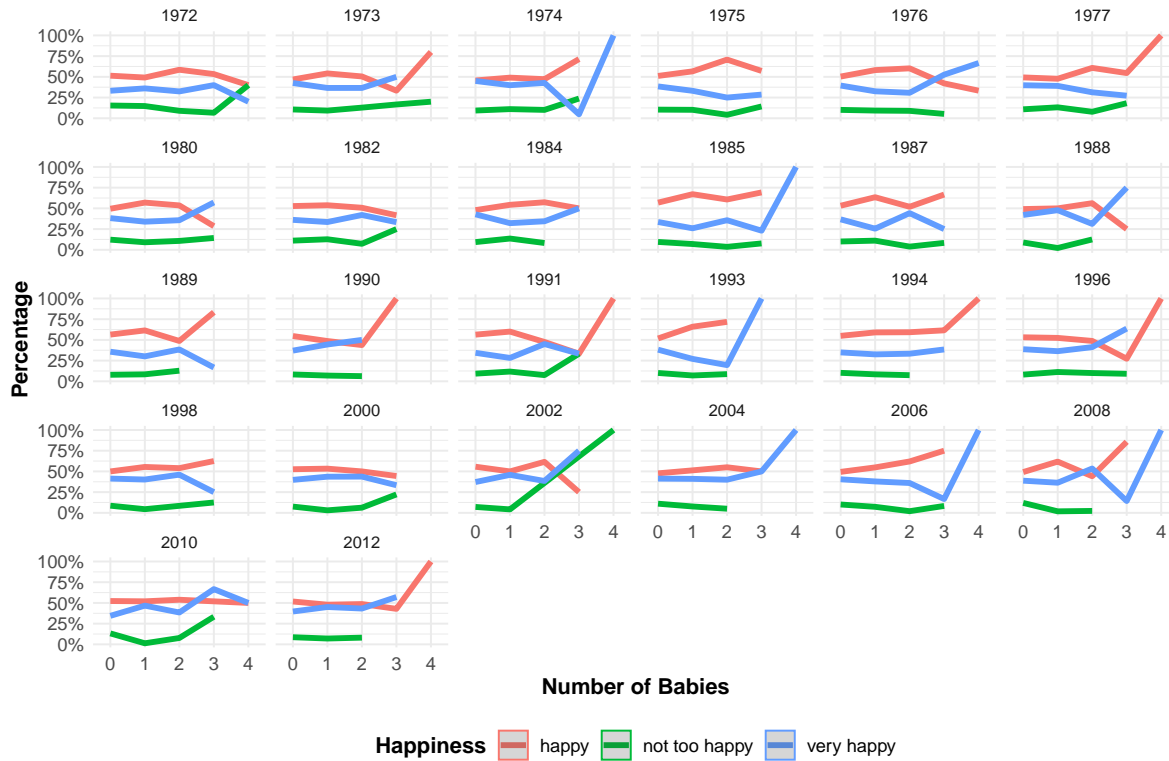


Figure 3: Relationship between Number of Babies and Happiness by Year

2.1.2 Health

In Figure 4, which represents the relationship between participants' self-rated health and their self-rated level of happiness. The chart shows that the proportion of participants who rated themselves as “very happy” was the highest among those who rated their health as “excellent”. On the other hand, the proportion of participants who rated themselves as “not too happy” was the lowest among those who rated their health as “poor”. From the overall trend, it can be inferred that the higher the participants' self-rated health, the higher their self-rated level of satisfaction with life.

In Figure 5, which spanning from 1970 to 2010, illustrates the relationship between participants' self-reported happiness levels and their health states. It is evident that when participants rated their health as ‘poor’, the proportion of those who identified as ‘very happy’ was notably lower

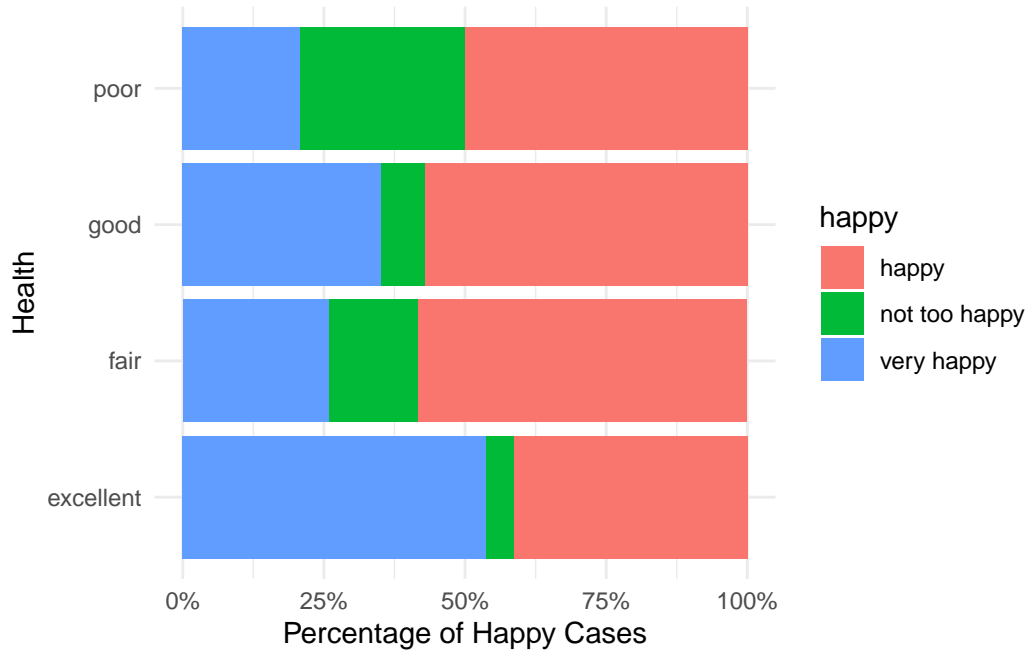


Figure 4: Relationship between Health and Happiness

compared to other health states. On the other hand, when participants reported their health as ‘excellent’ or ‘good’, the number of ‘very happy’ responses regarding their life satisfaction increased significantly. In summary, this chart suggests a positive correlation between people’s health and their happiness in life.

2.1.3 Financial Satisfaction

In Figure 6, the graph depicts the relationship between people’s satisfaction with their financial situation and their happiness. It is clear that when people are not very satisfied with their current finances, the proportion of unhappy people in their lives is the highest. On the other hand, when people are very satisfied with their finances, the proportion of happy people in their lives is the highest, and the proportion of unhappy people is also the lowest. Therefore, it can be concluded that there is a positive relationship between people’s satisfaction with their current financial situation and their level of happiness in life.

2.1.4 Divorce

In Figure 7, the graph represents the level of happiness in life for individuals in two different states: divorced or married. The graph shows that the levels of happiness in both marital

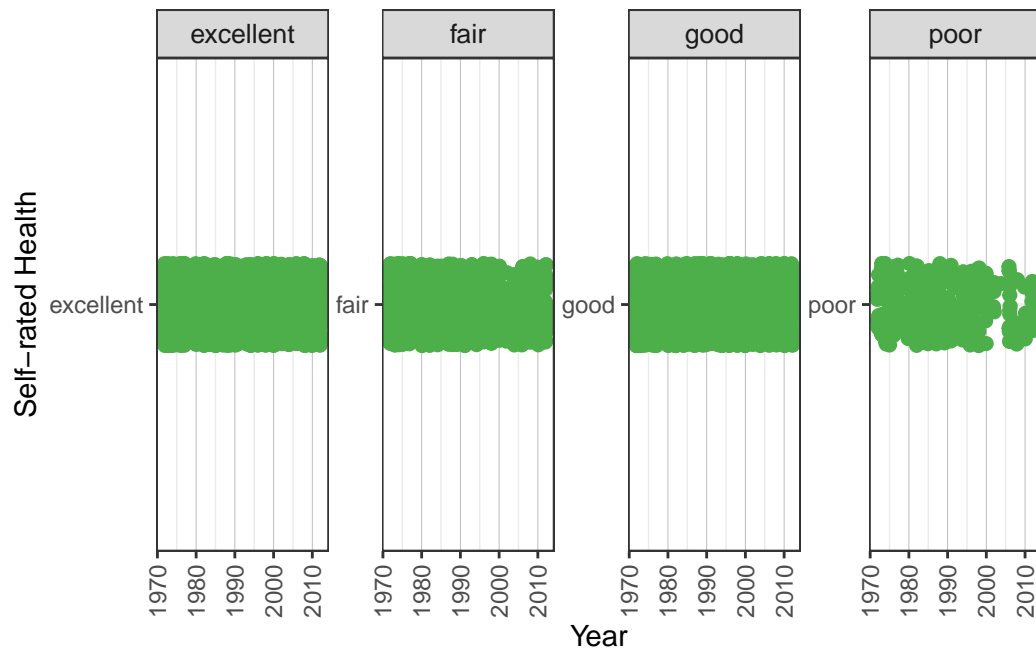


Figure 5: Relationship between Health and “Very Happy” With Year

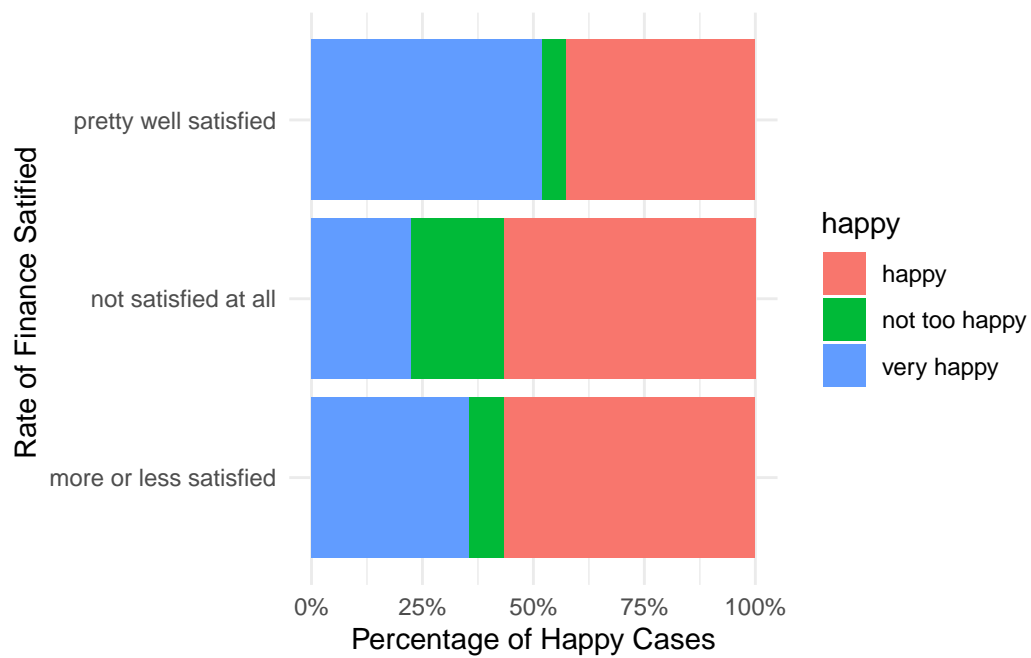


Figure 6: Relationship between Happiness and finance satisfied

states are almost similar. However, the proportion of people who feel “not too happy” in their lives is slightly higher among the divorced group than among the married group. In conclusion, being divorced may have a slight impact on one’s level of happiness in life, with a small proportion of individuals feeling “not too happy.”

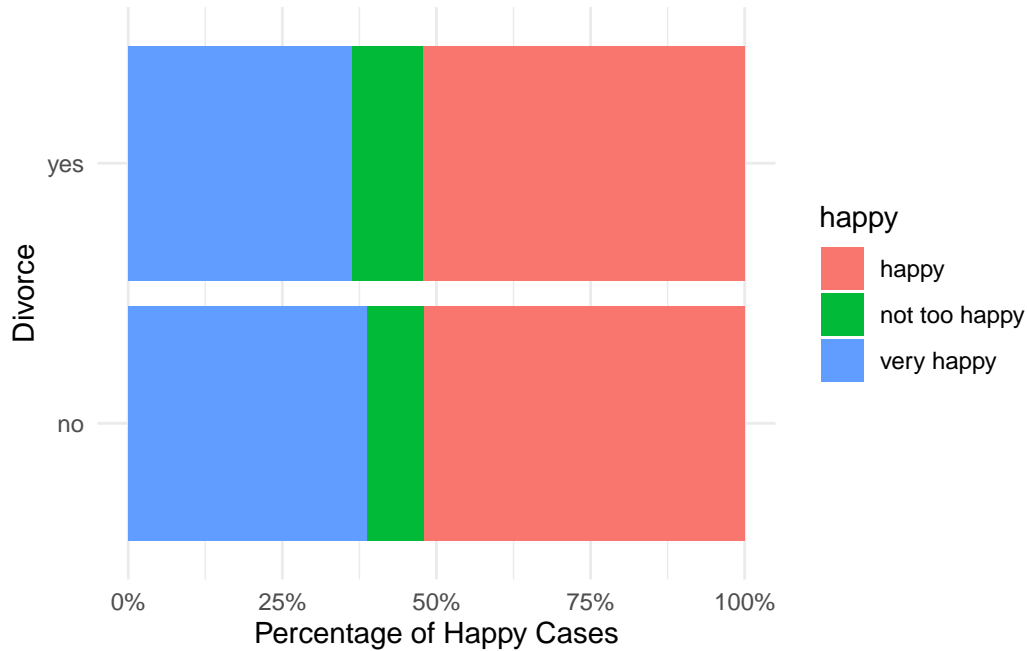


Figure 7: Relationship between Happiness and Divorce

In Figure 8, which based on the analysis of the charts, it appears that for the years 1972, 1975, 1982, 1990, 1996, 2002, and 2010, individuals who reported being divorced also reported a higher percentage of happy responses. On the other hand, for the years 1976, 1980, 1984, 1987, 1989, and 2006, individuals who reported being married reported a higher percentage of happy responses. Additionally, the percentage of individuals who reported “not too happy” was significantly higher for individuals who reported being divorced than for those who reported being married in the years 1973, 1984, 1987, 1990, 1991, 1993, 2008, and 2012.

2.1.5 Degree

In Figure 9, which shows that there is a certain relationship between people’s level of education and their level of happiness in life. From the graph, it can be observed that the proportion of people who feel “not too happy” is the highest among those with education levels lower than high school. However, the proportion of unhappy individuals is the lowest among those with bachelor’s and graduate degrees, suggesting that as people’s education level increases, their level of happiness also gradually increases.

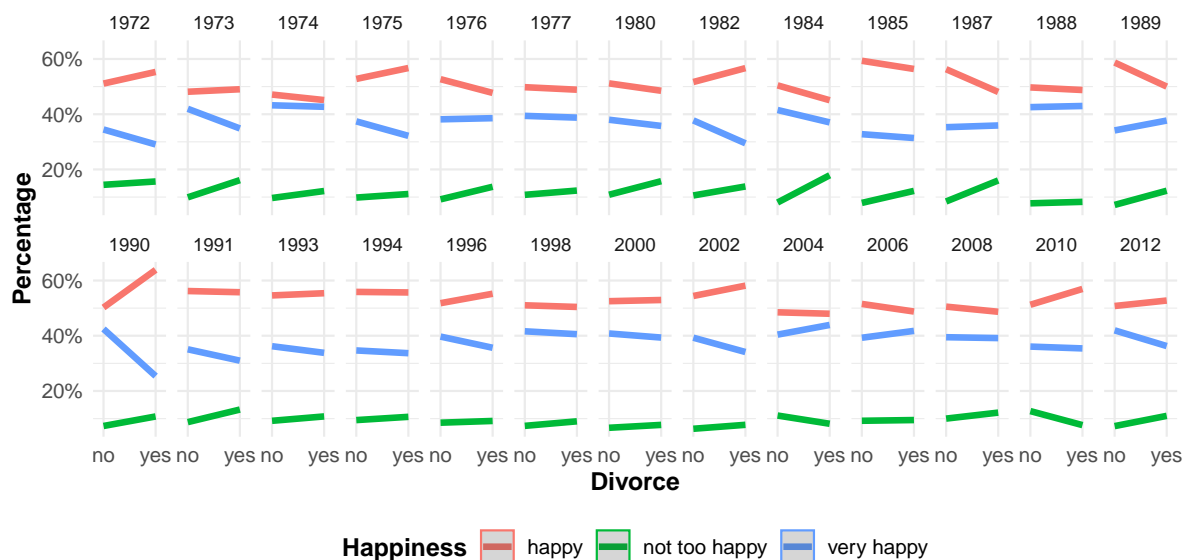


Figure 8: Relationship between Divorce and Happiness by Year

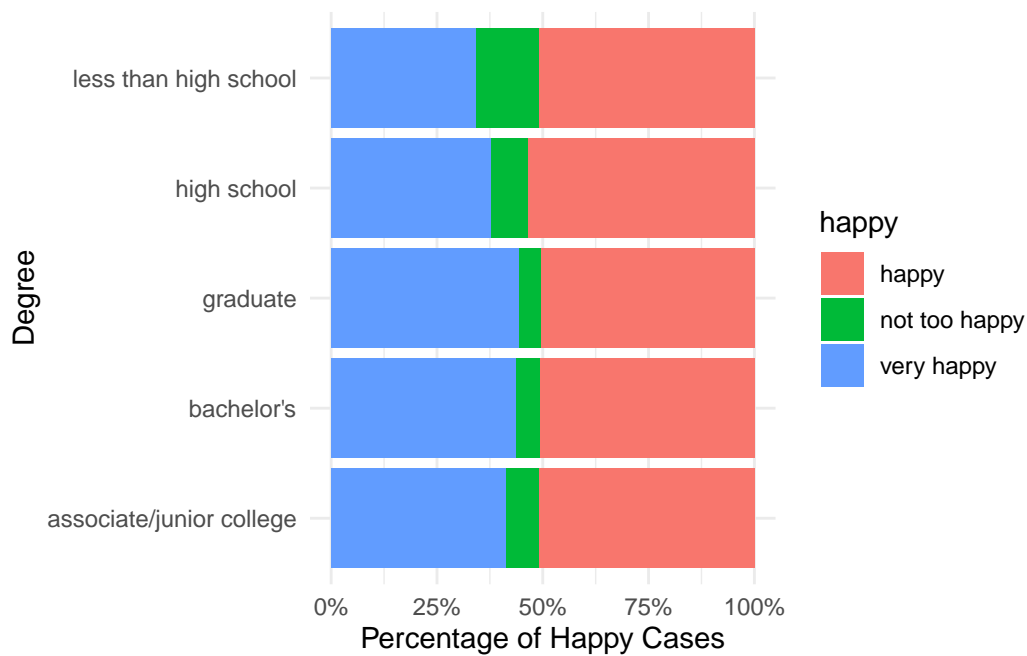


Figure 9: Relationship between Happiness and Degree

3 Model

Call:

```
lm(formula = happy_score ~ age + degree + finance_satisfied +  
    health + divorce, data = data)
```

Coefficients:

(Intercept)	age
4.951478	-0.002144
degreebachelor's	degreegraduate
0.028053	0.026886
degreehigh school	degreeless than high school
-0.005915	-0.106730
finance_satisfiednot satisfied at all	finance_satisfiedpretty well satisfied
-0.471882	0.087194
healthfair	healthgood
-0.315050	-0.063929
healthpoor	divorceyes
-0.747780	-0.018373

4 summary

4.1 Table of Relationship between Number of Children and Happiness in the Family.

In the table two, which appears to be presenting data on the happiness levels of babies, as rated by some measure or criteria, at different ages from 0 to 4 years old. The three categories of happiness levels are “not too happy,” “happy,” and “very happy.” Looking at the data for 4-year-old, we can see that 48.15% of them were rated as “not too happy,” 14.81% as “very happy,” and the remaining 37.04% as simply “happy.” This suggests that the majority of 4-year-old were not rated as particularly happy, with less than half of them falling into the happy or very happy categories.

4.2 Table of Health and Happiness in the Family

In table three, which appears to be presenting data on the relationship between the health and happiness levels of families, based on some measure or criteria. The three categories of happiness levels are “not too happy,” “happy,” and “very happy,” while the four categories of health are “excellent,” “fair,” “good,” and “poor.” Looking at the data, we can see that

Table 2: Table of Happy by Various Variables

babies	happy	not too happy	very happy
0	51.37	10.04	38.59
1	55.13	8.96	35.91
2	54.97	7.46	37.57
3	52.36	10.63	37.01
4	48.15	14.81	37.04

Table 3: Table of Health and Happiness in the Family

health	happy	not too happy	very happy
excellent	41.37	4.94	53.70
fair	58.27	15.92	25.81
good	57.14	7.76	35.10
poor	50.14	29.09	20.77

families who rated their health as “excellent” had the highest proportion of respondents who reported being “very happy,” at 53.70%, and the lowest proportion of those who were “not too happy,” at only 4.94%. In contrast, families who rated their health as “fair” had the highest proportion of respondents who were “not too happy,” at 15.92%, and the lowest proportion of those who were “very happy,” at only 25.81%.

4.3 Table of Financial Satisfaction and Happiness in the Family

In table four, which appears that the table is presenting data on the relationship between financial satisfaction and happiness levels in families, based on some measure or criteria. The three categories of happiness levels are “not too happy,” “happy,” and “very happy,” while the three categories of financial satisfaction are “more or less satisfied,” “not satisfied at all,” and “pretty well satisfied.” Looking at the data, we can see that families who reported being “pretty well satisfied” with their finances had the highest proportion of respondents who were “very happy,” at 52.0%, and the lowest proportion of those who were “not too happy,” at only 5.24%. On the other hand, families who reported being “not satisfied at all” with their finances had the highest proportion of respondents who were “not too happy,” at 20.92%, and the lowest proportion of those who were “very happy,” at only 22.5%.

In table five, which appears to be presenting data on the relationship between divorce and happiness levels in families, based on some measure or criteria. The three categories of happiness levels are “not too happy,” “happy,” and “very happy,” while the two categories of divorce are “no” and “yes.” Looking at the data, we can see that there are only small differences in the proportions of families who reported being “happy” or “not too happy” depending on whether or not they had experienced divorce. Specifically, families who reported “no” to divorce had

Table 4: Table of Financial Satisfaction and Happiness in the Family

finance_satisfied	happy	not too happy	very happy
more or less satisfied	56.76	7.74	35.5
not satisfied at all	56.59	20.92	22.5
pretty well satisfied	42.75	5.24	52.0

Table 5: Table of Divorce and Happiness in the Family

divorce	happy	not too happy	very happy
no	52.10	9.29	38.61
yes	52.23	11.53	36.24

a slightly higher proportion of respondents who were “very happy,” at 38.61%, compared to those who reported “yes” to divorce, at 36.24%. However, families who reported “yes” to divorce had a slightly higher proportion of respondents who were “not too happy,” at 11.53%, compared to those who reported “no” to divorce, at 9.29%.

In table six, which appears to be presenting data on the relationship between educational attainment and happiness levels in families, based on some measure or criteria. The three categories of happiness levels are “not too happy,” “happy,” and “very happy,” while the categories of educational attainment are “associate/junior college,” “bachelor’s,” “graduate,” “high school,” and “less than high school.” Looking at the data, we can see that families with different levels of educational attainment generally reported similar levels of happiness. The proportions of respondents who reported being “very happy” were similar across all levels of educational attainment, ranging from 41.24% for those with an associate/junior college degree to 44.28% for those with a graduate degree. The proportions of respondents who reported being “not too happy” were also similar across all levels of educational attainment, ranging from 5.26% for those with a graduate degree to 14.96% for those with less than a high school education.

Table 6: Table of Degree and Happiness in the Family

degree	happy	not too happy	very happy
associate/junior college	50.85	7.91	41.24
bachelor’s	50.66	5.63	43.71
graduate	50.47	5.26	44.28
high school	53.48	8.86	37.66
less than high school	50.90	14.96	34.13

5 Results

The analysis of the General Social Survey data-set from 1972 provides insights into various aspects of individuals' lives in the United States during that time period. The results suggest that several variables, such as financial satisfaction, self-reported health status, and level of education, have a positive relationship with individuals' level of happiness. Regarding family dynamics, the analysis indicates that individuals with no children reported the highest levels of happiness, although the data set's limitations require further exploration of the proportion of individuals with different numbers of children. Being divorced may have a slight impact on one's level of happiness in life, with a small proportion of individuals feeling "not too happy" compared to married individuals.

Furthermore, the analysis suggests that individuals' self-rated health status has a positive relationship with their self-rated level of happiness. The higher the participants' self-rated health, the higher their self-rated level of satisfaction with life. Similarly, there is a positive relationship between people's satisfaction with their current financial situation and their level of happiness in life. The higher people's satisfaction with their finances, the higher their level of happiness. The analysis suggests that there is a certain relationship between people's level of education and their level of happiness in life. The proportion of people who feel "not too happy" is the highest among those with education levels lower than high school. However, the proportion of unhappy individuals is the lowest among those with bachelor's and graduate degrees, suggesting that as people's education level increases, their level of happiness also gradually increases.

Overall, these findings provide valuable insights into the factors that may influence individuals' overall life satisfaction during the early 1970s in the United States. The results can be useful for researchers and students interested in exploring topics such as social stratification, gender roles, family dynamics, health disparities, and subjective well-being.

6 Discussion

6.1 Factors influencing individuals' level of happiness

The study's findings on the positive relationship between financial satisfaction, health, and happiness underscore the importance of financial stability and access to healthcare for overall well-being. These findings have important implications for policymakers and practitioners working to improve individuals' quality of life (Ory 1994). For example, policies aimed at increasing access to affordable healthcare and financial assistance programs can help individuals improve their financial stability and access to essential services, ultimately contributing to overall well-being.

The study's results also suggest that education is an important factor in individuals' overall well-being and happiness. As people's education level increases, their level of happiness also gradually increases. This highlights the need for policies and programs that support educational attainment, particularly for disadvantaged populations (Rothstein 1994). Such programs can include initiatives to improve access to education and financial aid for those who may face barriers to education.

Overall, this study demonstrates the importance of considering various factors that can influence individuals' well-being and happiness. By understanding the complex relationships between different variables, policymakers and practitioners can develop targeted interventions aimed at improving individuals' quality of life. Additionally, the findings can serve as a foundation for further research on the topic, particularly in examining changes in these relationships over time.

6.2 Impact of divorce on individuals' happiness

Divorce is a significant life event that can have profound effects on an individual's overall well-being and happiness. The findings of this study suggest that individuals who have experienced divorce may have lower levels of happiness than those who are married or have never been married. This could be due to a range of factors, including the loss of social support and economic stability that often accompanies divorce (Headey 1989).

One possible explanation for the association between divorce and happiness is the impact of social support. Marriage provides a source of emotional support, and individuals who divorce may experience a loss of this support network. Furthermore, divorce can result in the breakdown of extended family relationships, reducing the availability of social support. This loss of social support could contribute to lower levels of happiness and well-being. Economic factors may also play a role in the relationship between divorce and happiness (Çakar 2020). Divorce can result in significant financial upheaval, particularly for individuals who were financially dependent on their partner. This financial instability could contribute to lower levels of happiness and well-being, as financial stress can be a significant source of anxiety and depression.

Further research could explore the reasons behind the association between divorce and happiness. Qualitative studies could be conducted to explore the experiences of individuals who have gone through divorce and how this event has affected their well-being. Longitudinal studies could also be conducted to examine changes in individuals' happiness levels before and after a divorce (Lucas 2003).

Overall, the findings of this study highlight the importance of considering the impact of divorce on individuals' well-being and happiness. Policies and interventions aimed at supporting individuals going through divorce, such as access to counseling and financial support, could help to mitigate the negative effects of this life event and improve individuals' overall well-being.

6.3 The importance of historical context in understanding well-being

The historical context of the early 1970s in the United States is essential in understanding individuals' well-being during that period. Societal norms, values, and attitudes during this time were different from those of today, and these differences could have influenced individuals' well-being. These social movements may have influenced individuals' attitudes towards social stratification, gender roles, and family dynamics, which, in turn, could have affected their well-being.

Understanding the historical context is also essential in developing interventions that can address the unique challenges faced by individuals during a particular period in time (Cooper 2005). For example, the economic conditions during the early 1970s, such as high inflation and high unemployment rates, could have affected individuals' financial stability and, ultimately, their well-being. Interventions that address these economic challenges may have had a significant impact on individuals' well-being during this period.

Furthermore, the study's findings can be compared to more recent data to examine changes in the relationships between different factors and well-being over time (CBrunstein 1993). For example, the impact of divorce on well-being may have changed over time, as societal attitudes towards divorce have shifted. Comparing the study's findings to more recent data can provide insights into how societal changes have influenced individuals' well-being over time. Overall, the historical context is essential in understanding individuals' well-being during a particular period in time. The study's focus on the early 1970s in the United States provides valuable insights into the factors that influenced individuals' well-being during that period. These findings can be used to develop interventions that address the unique challenges faced by individuals during a particular historical context, as well as to compare changes in the relationships between different factors and well-being over time.

6.4 Impact of Financial Stability on Happiness

As the analysis of the GSS dataset shows, there is a positive correlation between individuals' satisfaction with their financial situation and overall well-being, an important finding. This correlation underscores the importance of U.S. financial stability in determining a person's happiness in the early 1970s. In this discussion, we will further explore the impact of these factors on individual well-being during that time.

In the early 1970s, the United States was going through a period of economic turmoil. One of the most important factors is the rapid rise in inflation. The country faces a phenomenon known as "stagflation," which is characterized by a stagnant economy, high inflation, and high unemployment. This unusual economic situation is largely attributable to the 1973 oil crisis, which caused a spike in oil prices and disrupted the global economy (Barsky 2001). The rise in inflation during this period has a direct impact on individuals' financial satisfaction. As the cost of goods and services increases, people find it a challenge to maintain their previous

standard of living (Diener 2009). This is further exacerbated by high unemployment, as many people struggle to find stable employment. Analysis of the GSS dataset highlights the importance of financial stability in determining individual well-being, emphasizing the need for effective economic policies to ensure the financial security and well-being of populations.

6.5 The Role of Education in Happiness

The study found that as an individual's education level increased, their level of happiness also gradually increased. This finding prompts a discussion on the role of education in determining one's overall happiness and well-being during the early 1970s. It would be interesting to explore the potential reasons behind this correlation, such as the opportunities for personal development, improved employment prospects, and social mobility that education provides (Warr 1992). Moreover, examining the accessibility and quality of education during that period could offer further insights into the impact of education on happiness. By understanding the role of education in shaping individuals' happiness, researchers and policymakers can better appreciate the significance of investing in education and ensuring equal access to quality education for all. One possible explanation is that education provides individuals with the tools and resources they need to achieve personal goals and fulfill their potential (Jenkins 2009). Education can help individuals develop a sense of purpose, autonomy, and mastery, which are important factors in promoting happiness and well-being. In addition, education can provide individuals with the skills and knowledge needed to pursue meaningful and fulfilling careers, which can also contribute to their overall sense of well-being.

Moreover, education can provide opportunities for social mobility, which can enhance individuals' sense of self-worth and life satisfaction. Education can help individuals acquire the social and cultural capital necessary to succeed in their professional and personal lives, which can lead to increased opportunities and social status (Keller 1964). This, in turn, can contribute to individuals' overall sense of happiness and well-being. However, it is important to note that not all forms of education may have the same impact on individuals' happiness and well-being. The accessibility and quality of education are crucial factors that can influence the extent to which education promotes happiness and well-being. For example, individuals who have access to high-quality education may experience greater benefits in terms of personal development, employment prospects, and social mobility than those who do not have access to such education (Margolis 2014).

Therefore, policymakers and educators must work to ensure that all individuals have equal access to high-quality education. Investing in education can not only promote individuals' personal and professional growth but also contribute to the overall well-being and happiness of society as a whole. By understanding the role of education in shaping individuals' happiness, we can work towards building a more just and equitable society.

7 Weaknesses and next steps

7.1 Weakness:

- The data-set used in the study is small, consisting of only 5 observations and 10 variables, which may limit the generalization of the findings.
- The study only examines data from the year 1972, which may not be representative of individuals' lives in the United States today or even in the 1970s as a whole.
- The study only uses graphical representation to analyze the relationships between variables, which may not provide a comprehensive understanding of the complex relationships between variables.
- The study only examines a limited set of variables and does not consider other factors that could impact individuals' level of happiness and well-being, such as social support, employment status, and cultural factors.

7.2 Next Steps:

- Further research could expand the data-set to include more observations and variables, which could provide a more comprehensive understanding of individuals' lives during the early 1970s in the United States.
- Future studies could examine more recent data from the GSS to investigate changes in the relationships between variables over time.
- Future studies could use more advanced statistical methods to analyze the relationships between variables, such as regression analysis, to provide a more robust understanding of the relationships between variables.
- Future studies could consider other factors that may impact individuals' level of happiness and well-being, such as social support, employment status, and cultural factors.

Appendix

A Additional details

A.1 Survey Question

Welcome to this survey on gender differences and equality in education, employment, and well-being. Your participation is crucial in helping us gain a deeper understanding of the factors that contribute to gender disparities and the potential strategies for promoting gender equality in various aspects of life. By answering the following questions, you will provide valuable insights that can be used to inform policies and initiatives aimed at creating a more inclusive and equitable society for all. Please note that your responses will remain confidential and will be used solely for research purposes. We appreciate your time and effort in completing this survey.

Contact Information: If you have any questions or concerns about this survey, please feel free to contact the research team:

NAME : SHAOHAN CHANG Institution/Department : Department of statistics (University of Toronto) Email Address : shaohan.chang@utoronto.ca

A.1.1 1. How many children do you currently have?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 4
- f. 5 or more

A.1.1.1 2. How would you rate your overall level of happiness or life satisfaction?

- a. Very happy
- b. Pretty happy
- c. Not too happy
- d. Not at all happy

A.1.2 3. How would you rate your current health status?

- a. Excellent
- b. Good
- c. Fair
- d. Poor

A.1.3 4. How satisfied are you with your current financial situation?

- a. Very satisfied
- b. More or less satisfied
- c. Not very satisfied
- d. Not at all satisfied

A.1.4 5. Have you ever been divorced?

- a. Yes
- b. No

A.1.5 6. What is your current living area?

- a. Large city
- b. Small city
- c. Suburban
- d. Rural

A.1.6 7. What is your age? (Please enter a number)

A.1.7 8. What is your biological sex?

- a. Male
- b. Female

A.1.8 9. What is the highest level of education you have completed?

- a. Less than high school
- b. High school or equivalent
- c. Some college or associate degree
- d. Bachelor's degree
- e. Graduate or professional degree

A.1.9 10. How would you rate your overall level of well-being?

- a. Very good
- b. Good
- c. Fair
- d. Poor

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