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FINANCIAL STRESS AND THE NEGATIVE EFFECTS ON AN INDIVIDUAL'S HEALTH

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FINANCIAL STRESS AND THE NEGATIVE EFFECTS ON AN INDIVIDUAL'S HEALTH

By

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A Capstone project submitted for Graduation with University Honors

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University Honors

University of California, Riverside

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ABSTRACT

According to the book *Social Emergency Medicine*, about “70% of adults living in the U.S. are experiencing or are at risk of financial insecurity”, meaning most adults are not financially prepared for any unforeseen expenses. Financial stress has become a normal responsibility throughout life for most individuals, however, an increasing number of individuals have become so stressed due to their finances that it has impacted their well-being negatively. I study the psychological effects on individuals when it comes to financial stress because I want to find out how financial uncertainty affects individuals not only mentally but also physically. By studying and finding potential causes, we can bring attention to this persisting issue and help those individuals financially struggling. I use scholarly research papers and the General Social Survey, which is a website that collects high-quality data from adults throughout the U.S. of different areas and topics that impact our society, to find any known financial stressors and relationships of income and health. This project shows how different financial stressors can cause negative consequences to an individual’s well-being and how we can use these findings to potentially alleviate financial stress for many. In my findings, I have seen evidence that supports my hypothesis of the negative relationship between financial stress and overall health. The relationships I found show, for example, a negative correlation in the amount of bad mental health days and opinion of family income & a positive correlation in satisfaction with financial situation and average real income.

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TABLE OF CONTENTS

ABSTRACT.....	2
ACKNOWLEDGEMENTS.....	3
Introduction.....	5
Literature Review.....	6
Data and Estimation.....	9
Data Analysis.....	11
Results Section.....	15
Conclusion.....	21
Bibliography.....	23

Introduction

In the U.S., over “70% of adults living in the U.S. are experiencing or are at risk of financial insecurity.” (Brown, S. B., et al., 2021). Meaning, most adults in the U.S. are not financially prepared for unforeseen expenses. Financial stress has become a normal responsibility for most individuals however, an increasing number of individuals have become so stressed due to their finances that it has impacted their overall well-being negatively. I look at the different sources of financial stress and the different impacts of each financial stressor on an individual. With most U.S. adults experiencing some sort of financial insecurity, I hope to expand our current knowledge of financial stressors to bring significant change to the lives of the individuals affected by financial stress.

For my capstone project, I extract and analyze data from a website known for their high-quality data of U.S. adults called the [General Social Survey\(GSS\)](#), generated and collected by the University of Chicago. The General Social Survey was established and has produced data from the U.S. adult population for over 50 years, since 1972. The General Social Survey monitors societal change and studies the growing complexity of American society. I use this data to analyze current trends in financial and mental health categories to find connections and sources of financial stressors as well as the impacts on mental health due to stressors.

I hypothesize that the psychological effects of financial stressors on an individual is positively correlated with the number of stressful situations an individual experiences. The more an individual is exposed to different stressors without medical attention, the more an individual’s mental and physical wellbeing deteriorates. I hypothesize that the financial stressor that causes the most psychological impact on an individual is healthcare insecurity. Although other stressors such as economic and food insecurity are equally as important as healthcare insecurity, when an

individual is healthcare insecure, it not only affects their stress but also will cause their wellbeing to deteriorate as they will not have access to reliable healthcare.

My main findings in my data analysis and literature review shows a clear correlation between financial stress and deteriorating health. For example, we compare how many days out of the month an individual has bad mental health days and compare the data with individuals' opinion of their family income. My results show that individuals with an opinion of their family income being 'far below average' have significantly higher amounts of bad mental health days than those whose opinion is 'far above average'. With the difference being a mean of around 5 days more than those with higher opinions of family income. We can see with this data that as the opinion of family income increases, the number of bad mental health days decreases showing the correlation of financial stress and deteriorating health.

Another significant correlation I found in my data is when we compare the level of education and if income alone is enough. We can see a positive correlation between if income alone is enough for the individual and higher level of education. Individuals stating that they did not receive a high school degree have about $\frac{2}{3}$ more respondents in 'NO' for the 'income alone is enough' variable. Indicating that individuals with anything less than a high school degree do not have enough income to cover their expenses. We also see individuals' opinions of their income where we compare satisfaction level of the individual's financial situation and average real income (base \$ 1986). We see as average real income starts to drop; the satisfaction level of the individual's financial situation also shows clear drops. Although the satisfaction level for everyone is subjective, these results still show that higher income tends to alleviate financial insecurity. The less satisfied an individual is, the more likely they are to experience other forms of distress.

My last major finding is the comparison between how many individuals who agree that the government should reduce income differences and individuals' opinion of how much the government is spending on healthcare. We compare what individuals believe about government actions regarding income & healthcare. Most individuals who agree that the government should reduce income differences also agree that the government is spending too little on healthcare. These results show that more individuals believe that there should be government help/intervention to help those in need of financial freedom and reliable healthcare as a right.

Literature Review

Financial Stressors

For my literature, I identify sources of financial stress for individuals to determine which factors affect an individuals' financial situation the most. The three factors that I found during my research that affect an individuals' financial situation the most are healthcare insecurity, housing costs, and food insecurity. I will expand on these factors through literature and data analysis in my paper.

First financial stressor we have is healthcare insecurity. During the COVID pandemic of 2020, many individuals saw the direct effects of a global pandemic catastrophe which also affected the financial security of individuals through income insecurity and the lack of an efficient healthcare plan. According to Ettman, C. K. et al. from the *J Epidemiol Community Health*, "40% of US adults experienced COVID-19-related financial stressors during this time period; low assets and COVID-19 financial stressor exposure were each associated with higher odds of probable depression." During the COVID-19 Pandemic, 40% of US adults were experiencing COVID-19-related financial stressors such as low/no income and health insecurity. Individuals exposed to these financial stressors were associated with higher chances of developing depression.

Second financial stressor we have is housing costs or expenses. The stress caused over cost-of-living expenses has been shown to have negative effects. According to French, D. & Vigne, S. from *International Review of Financial Analysis*, “Current income or ...debt are therefore not very informative about the degree to which households are currently experiencing material hardship. Intertemporal smoothing of consumption helps explain findings that although income is related to financial strain at any point in time changes in income over time do not generally decrease financial strain.” A household’s current income or amount of debt does not clearly show the financial insecurity of the household. We must take into account not only the expenses but the overall consumption of the household. By analyzing these areas of a household, we can more accurately see the financial strain of the household. Changes in income does not clearly show whether it has positive or negative effects in financial strain and income levels are not a clear indication of financial stress. Although an individual could be considered high income, their financial strain might be like those with lower income based on housing costs.

Third financial stressor we have is food insecurity. According to Plageron, S. et al. from *Global Public Health: An International Journal for Research, Policy and Practice*, in this study researchers found that Common Mental Disorders like depression and anxiety are associated with several insecurities such as exposure to violence, standard of living, and food insecurity. Data collected via focus groups and interviews found that individuals related mental health disorders symptoms as a broader symptom for distress and suffering that is varying among personal experiences. With food insecurity, individuals associated the symptoms of distress as a linkage to their mental health disorders. Being food insecure causes not only the deterioration of the body but also the mind. As an individual experiences more stressful situations their mental health starts taking a toll and starts affecting their health overall. For example, the financial and health

insecurity such as job insecurity and diagnosis of diseases, faced by the individuals in Johannesburg, South Africa were a major cause for the citizens developing mental disorders. According to Madden JM et al. from *JAMA Intern Med.*, in this study, individuals that are 65 years old and under have high and consistent food insecurity. On average, about 38% of individuals enrolled in the program have reported food insecurity. Individuals that are vulnerable in ways such as multiple chronic or mental health conditions or make less than \$15,000 every year, are more likely to experience food insecurity. Also, Alon Peltz & Arvin Garg from *Pediatrics*, show in their study that 15% of US children's homes are food insecure. Children who do not have access to adequate or a reliable source of food, experience negative developmental, physical, and emotional health compared to those children that are not food insecure.

With the rise in cost of consumer goods, consumers get even less food for their money than before. Rising cost of goods and services (inflation) leads to decrease in purchasing power. According to Loopstra, R. from the *Proceedings of the Nutrition Society*, Income is not the sole determinant of food insecurity. We also must take into account the different aspects of consumption and expenses for an individual such as a preexisting health condition or medical expenses. In addition, the rise in housing costs have become unaffordable for some individuals, which has been tied to food insecurity. There has not been much research involving how food costs are related to food insecurity. However, there is clear evidence from Europe as well as the US, both high-income countries, that rising inflation raises prices on food which has been tied to a variation in food costs and that leads to food insecurity.

Financial Stressors and Health

We also look at different measures of health to investigate which measures are affected with financial stressors. I have identified three measures of health: Physical, mental, and overall

health. Physical health encompasses any injury or illness that targets the individual's body. Health is generally measured by the 10-point pain scale, where a patient rates the severity of their pain on a scale of 1 - 10. There is a simpler version of this with 4 general levels of pain: mild, moderate, severe, very severe.

Mental health focuses on an individual's psyche and emotional stability. According to Cadaret, M. C., & Bennett, S. R. from the *Journal of College Counseling*, in their study of financial stress among college students, researchers also find that when financial stress increases academic and domestic stress also increase. In turn, academic stress has a strong impact on academic GPA. According to this study, for every "point" of financial stress that increases, 0.15 of GPA decreases. The results presented by this researcher supports the previous research that financial stress does not only impact psychological health.

Overall health encompasses psychological and physical(internal) health. Also considers mental health and how the individual's wellbeing feels overall. According to a study by Sinclair, R. R., & Cheung, J. H. from *Stress & Health*, the money earned by an individual from work is a very important resource and the biggest source of stress for workers. According to Sinclair, a large portion of research supports the fact that accessibility to financial resources and health have a positive correlation. This is true for individuals as well as for society as a whole.

There has not been much research done for financial stress and its impact on health, however, one study by Sturgeon, J. A., et al titled, *The psychosocial context of financial stress: Implications for inflammation and psychological health* from *Psychosom Med.*, shows evidence of physical harm caused when an individual is put into stress. In the study, the researchers showed that in severe cases of financial or overall stress, individuals are more likely to develop acute cardiac inflammation and complications which can be fatal. According to this study, there are

proteins found in the blood plasma called C-reactive protein (CRP) and cytokines like interleukin-6 (IL-6) which are associated with causing acute inflammation and poor cardiac health. When an individual is in psychological distress, it triggers a phase of acute inflammation, and those in severe stress are found to have higher levels of these proteins in their bloodstream. In the long run, chronic stress can greatly damage the overall health of the individual as the proteins will build overtime leading to more serious conditions such as poor cardiac health.

We also have a study from Brown University, from the *B'Well Promotion: Economic Stress*, in which the studies of economic stress by Brown University concluded that economic stress can cause various health problems or symptoms, such as digestive problems, trouble sleeping, weight fluctuations, etc. These symptoms can build up which can eventually cause other illnesses such as eating disorders and depression.

Although there is little research done with financial stress and an individual's wellbeing, there is clear evidence that shows the negative correlation between financial stress and wellbeing. When financial stress increases, the wellbeing of an individual decreases. Shown by Caldwell, C. H., et al., from the *International Journal of Public Health*, in their results they conclude that there is a significant relationship between stressors and severe psychological distress. This is especially significant because, according to the researcher, the study considered the socioeconomic differences of all individuals that participated in the survey and found that the results did not change despite the variations in socioeconomic status. However, this study also found that psychological distress is more likely for adults that were experiencing all the researched stressors (worrying about expenses, food insecurity, and healthcare insecurity) at once than the individuals that only experienced one.

Policy recommendations

Financial stress has gotten the attention of many professionals and policymakers especially after the COVID-19 2020 pandemic. As there were more and more individuals that were losing financial security due to the pandemic, whether that was for health reasons or job changes, policymakers started to see the severity of financial insecurity. Although they're trying to alleviate the situation, they are not directly addressing the issue. Policies made to alleviate financial stress is the C.A.R.E.S Act, which was an act passed during the COVID-19 pandemic in effort to reduce economic fallout due to the halt of businesses during that time, and the Affordable Housing and High Road Jobs Act, which established permission for affordable housing to those individuals who are making less than what is expected for their household size.

According to the academic article *High and Rising Health Care Costs. Part 3: The Role of Health Care Providers*, there has not been much effective action when it comes to addressing the cost of healthcare. The US healthcare system is very expensive compared to other countries due to the high reimbursement imposed by public and private health insurance providers. Due to this, physicians and hospitals charge high prices for their services to offset the high insurance costs. Even though, Americans visiting per capita is lower on average compared to other nations, the use of innovative and costly technology is higher in the US, hence the insurance providers can use this to increase their market power.

Recently, policymakers have tried to at least alleviate financial and healthcare insecurity, however, the health issues are not directly addressed as there is not many studies to bring it to attention. According to Londhe, S. et al., from the *Journal of Health Care for the Poor and Underserved*, "... for every percentage point increase in Medicaid enrollment from 2009 to 2012 at the county-level in an early expansion state, we see declines of food insecurity by 0.10 percentage

points in 2012.” According to this study, for every 1% of new individuals that enrolled in medicaid or some form of low cost healthcare insurance plan from the time span of 2009 to 2012, there was a decline in food insecurity (CalFresh) by 0.10% in 2012.

Unless financial stress is handled at the root of the problem, then the linkage between financial stress and negative health effects will not break. A hospital has recently implemented financial need questionnaires during routine hospital paperwork to try to help those individuals struggling financially that might be stopping them from seeking medical care. In a study by Brown, S. B., & D'Angelo, K. from *Social Emergency Medicine*, the researchers believe that there needs to be a more tangible way to help individuals suffering from financial insecurity. They hope to achieve this by bringing awareness to the important issue of financial uncertainty by implementing psychological screening courses in academia to be able to understand and offer aid to those in need. The purpose of this study was to bring awareness of the importance of the suffering of financial insecurity. These researchers believed that the best way to help alleviate financial insecurity is by directly screening individuals for it. These researchers conducted a study where a hospital implemented a financial needs questionnaire during the routine hospital paperwork to be able to identify and help those individuals financially struggling. Because, as several studies have shown, individuals suffering from financial insecurity are less likely to seek medical care due to insufficient funds.

According to Bailey, W. C. et al., from *Personal Finances and Worker Productivity*, Universal Health Services, a national hospital corporation, provided a list of their 20 behavioral hospitals, which allowed for a national sample representative of all geographical regions of the United States. Packets of questionnaires were sent to human resource directors who distributed the materials to hospital personnel which they then answered and returned the packets to the

researchers. This study uses mental health care professionals employed in a private hospital setting who provide a variety of mental health services to patients. A study of 187 professional mental health staff from 20 hospitals, where packets of questionnaires were sent to, were asked a series of mental and financial health questions in relation to work. The study showed that 50% of the personnel's overall stress was due to financial stress. The study also found that 30% of negative personal and work satisfaction was due to financial stress. The researchers suggest that by providing financial management, as much as 50% of overall stress can be significantly reduced which improves personnel and work satisfaction and overall productivity.

Data and Estimation

I use GSS data to analyze current trends in financial and mental health categories to find connections and sources of financial stressors as well as the impacts on mental health due to stressors. The [General Social Survey\(GSS\)](#) is a website known for their high-quality data of U.S. adults where you can extract and analyze data dealing with an array of topics that is generated and collected by the University of Chicago. The General Social Survey was established and has produced data from the U.S. adult population for over 50 years, since 1972. The General Social Survey monitors societal change and studies the growing complexity of American society.

All the data I use from academic articles to variables I collected and organized throughout this project took around a year to completely sift, organize, and clean up. A large portion of my data preparation and time was dedicated to data collection and cleanup that was pulled from the GSS database. A portion of the time spent on the data was spent going through the GSS database and sifting through all the variables that were relevant to supporting my hypothesis. From there, I narrowed down the list to variables that had many respondents throughout the years to give us more accurate data. After narrowing down the list to 20 variables, I organized my variables to

make them presentable to use when I input them into the R coding system. This process involved organizing the different codes and interpretations the variables had to allow the R studio application to work with the variables in its database. I also grouped variables from qualitative to quantitative variables to be able to make changes in the dataset when coding. The most difficult and time-consuming part of the data preparation process was coding using R Studio. I used R studio to clean up and organize my data for R to be able to produce comprehensive graphs. I did this by merging/collapsing interpretations of variables, editing existing results in the database, ordering variable's interpretations by levels of least to most or descending to ascending, etc. For my data set, I have separated each variable into five different categories: General, Population, Health, Finance, and Government.

Data Analysis

General (basic information of the individual such as age, sex, work status, etc.): age, cohort(year of birth), degree(respondent's highest degree earned), race, sex, and wrkstat(labor force status)

General (Table 1)			
Variable Name	Description	Interpretation	Summary Stats(Frequency), tot. 72390
age	Age of respondent	89 or older	~46 yrs old, Mean
cohort	Year of birth	Year of birth of respondent	1988(~34 yrs old), Mean
degree	R(espondent)'s highest degree	Less than high school	14192(~19.6%)
		High school	36446(~50.3%)
		Associate/junior college	4355(~6%)
		Bachelor's	11248(~15.5%)
		Graduate	5953(~8.2%)
race	Respondent's race	White	57657(~79.6%)
		Black	10215(~14.1%)
		Other	4411(~6.09%)
sex	Respondent's sex	FEMALE	40301(~55.7%)
		MALE	31977(~44.2%)
wrkstat	Labor force status	Working full time	35267(~48.7%)
		Working part time	7430(~10.3%)
		With a job, but not at work because of temporary illness, vacation, strike	1556(~2.15%)

		Unemployed, laid off, looking for work	2621(~3.6%)
		Retired	10886(~15%)
		In school	2187(~3%)
		Keeping house	10764(~14.9%)
		Other	1643(~2.3%)

Population(information of respondents' environment's population): hompop(number of persons in household) and xnorcsiz(Expanded norc size code(size of residential area))

Population (Table 2)			
Variable Name	Description	Interpretation	Summary Stats(Frequency), tot. 72390
hompop	Number of persons in household	Number of Individual(including self) in household(1-5)	~2.5 or 2, Mean
xnorcsiz	Expanded norc size code(size of residential area)	A large central city (over 250,000)	11458(~15.8%)
		A medium size central city (50,000 to 250,000)	8811(~12.2%)
		A suburban city(50,000 to 100,000)	19690(~27.2%)
		A rural area & smaller(unincorporated area, town or village)(50,000 and under)	24855(34.3%)

Health (information of respondent's physical and mental condition): health(condition of health), mntlhlth(Days of poor mental health in past 30 days), and sathealt(Health & physical condition)

Health (Table 3)			
Variable Name	Description	Interpretation	Summary Stats(Frequency), tot. 72390

health	Condition of health	Excellent	15712(~21.7%)
		Good	25651(~35.4%)
		Fair	10737(~14.8%)
		Poor	3054(~4.2%)
mntlhlth	Days of poor mental health past 30 days	Number of days where mental health was poor in one month	~3.86 or 4, Mean
sathealt	Health & physical condition	VERY GREAT DEAL	6426(~8.9%)
		GREAT DEAL	7944(~11%)
		QUITE A BIT	3618(~5%)
		A FAIR AMOUNT	3599(~5%)
		SOME	1099(~1.5%)
		A LITTLE	0(0%)
		NONE	505(~0.7%)

Finance(information of respondent's financial situation): **finalter**(changes in financial situation), **finrela**(opinion of family income), **realinc**(Family income in constant \$(base dollar from 1986)), **rincblls**(Income alone is enough), and **satfin**(satisfaction with financial situation)

Finance (Table 4)			
finalter	Change in financial situation	Better	25358(~35%)
		Worse	15457(~21.4%)
		Stayed same	26780(~37%)
finrela	Opinion of family income	FAR ABOVE AVERAGE	1519(~2.1%)
		ABOVE AVERAGE	12890(~17.8%)
		AVERAGE	32403(~44.8%)
		BELOW AVERAGE	16527(~22.8%)
		FAR BELOW AVERAGE	1519(~5.5%)

realinc	Family income in constant \$(base dollar from 1986)	\$218.00	\$32537, mean
		\$11,990.00	
		\$23,980.00	
		\$38,955.40	
		\$43,600.00	
		\$144,835.00	
		\$40,401.40	
rincblls	Income alone is enough	YES	4452(6.15%)
		NO	4770(~6.6%)
satfin	Satisfaction with financial situation	Pretty well satisfied	19726(~27.2%)
		More or less satisfied	29987(~41.4%)
		Not satisfied at all	18009(~24.9%)

Government(opinions on government intervention): eqwlth(Should govt reduce income differences), helppoor(Should govt improve standard of living?), natheal(Improving & protecting nations health), and nathelthy(government spending for health)

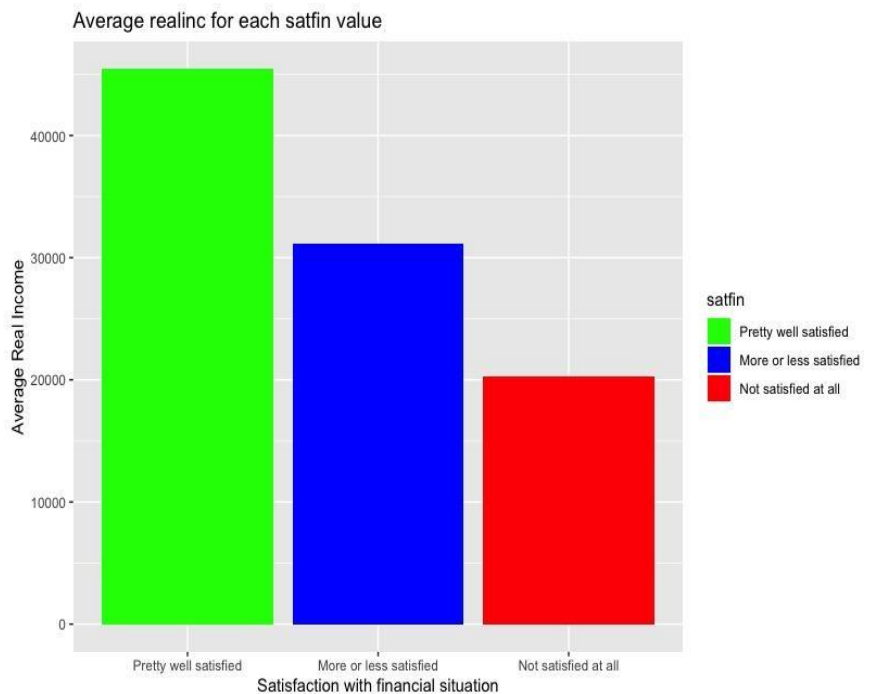
Government (Table 5)			
Variable Name	Description	Interpretation	Summary Stats(Frequency), tot. 72390
eqwlth	Should govt reduce income differences	Agree (The government should reduce income differences 1,2)	12319(~17%)
	(Scale of 1-7, 1 being the gov should interfer)	Neutral (3-5)	18423(~25.4%)
		Disagree (The government should not concern itself with reducing income differences 6,7)	8016(~11.1%)

helppoor	Should govt improve standard of living?	GOVT ACTION	7012(~9.7%)
		AGREE WITH BOTH	16419(~22.7%)
		PEOPLE HELP SELVES	4141(~5.7%)
natheal	Improving &protecting nations health	TOO LITTLE	26314(~36.4%)
		ABOUT RIGHT	10667(~14.7%)
		TOO MUCH	2614(~3.6%)
nathealy	Health: version y(government spending for health)	TOO LITTLE	18295(~25.3%)
		ABOUT RIGHT	5803(~8%)
		TOO MUCH	2871(~4%)

Results Section

Figure 1 investigates who in our data set is financially stressed. We research this by using our satfin variable, which measures an individual's satisfaction with their financial situation, and realinc, which measures family income in base dollars from 1986.

Figure 1

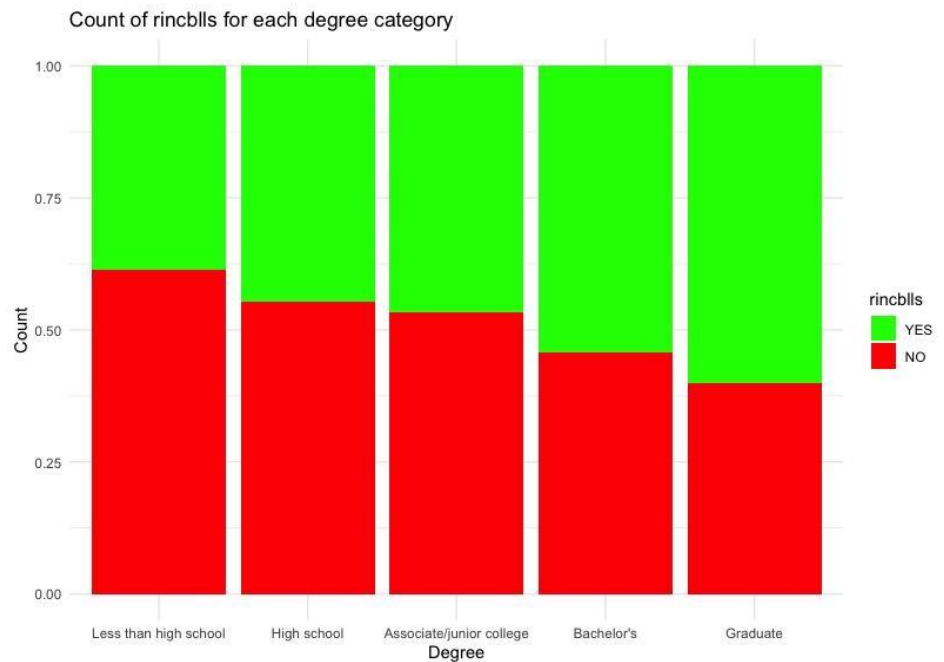


The results show that individuals with high satisfaction with their financial situation tend to, on average, have a higher family income. Shown in the graph, the opposite is true, the lower the income the lower their financial satisfaction.

Based on these results, I have learned that the average income tends to be higher when the individual is financially satisfied. Although a majority of respondents voted ‘more or less satisfied’, the comparison between ‘Pretty well satisfied’ and ‘Not at all satisfied’ when family income is taken into account, it shows that individuals with higher income generally are more satisfied than when the opposite is true. There is a clear relationship between income and financial satisfaction.

Figure 2

Figure 2 investigates if financial insecurity decreases with the level of education of an individual. We research this relationship by using our rincbls variable, which measures if income alone is enough for the individual, and degree, which measures the level of education for the individual.

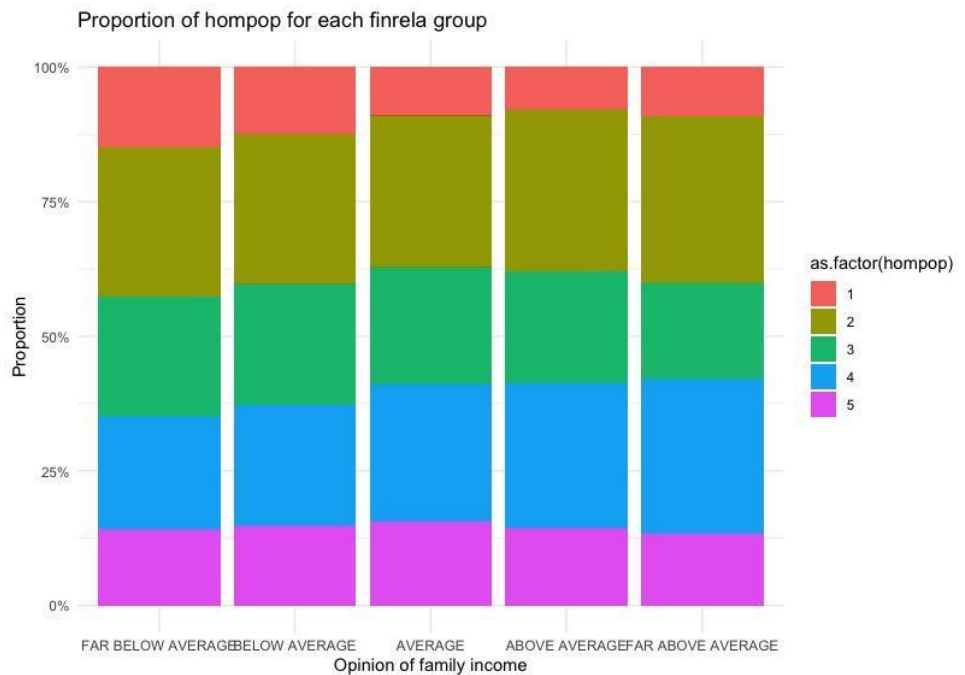


The results show that individuals with the level of education of associate/junior college or lower, on average over 50% say that income alone is not enough for expenses. In contrast to any level of education from Bachelor’s or higher, individuals tend to be satisfied with their income by over 50%.

Based on the results, I have learned that based on an individual’s level of education, their financial security is impacted as well. As shown in the chart, individuals without at least a high school diploma will be roughly 25% less financially stable than those with graduate degrees. Generally, individuals who invest in higher education can significantly higher their income which will in turn reduce their financial instability.

Figure 3 investigates the proportion of individuals that are financially insecure compared to the number of individuals in their household. We research this by using our variable hompop, which measures household size and finrela, which shows an individual’s opinion of their family income.

Figure 3

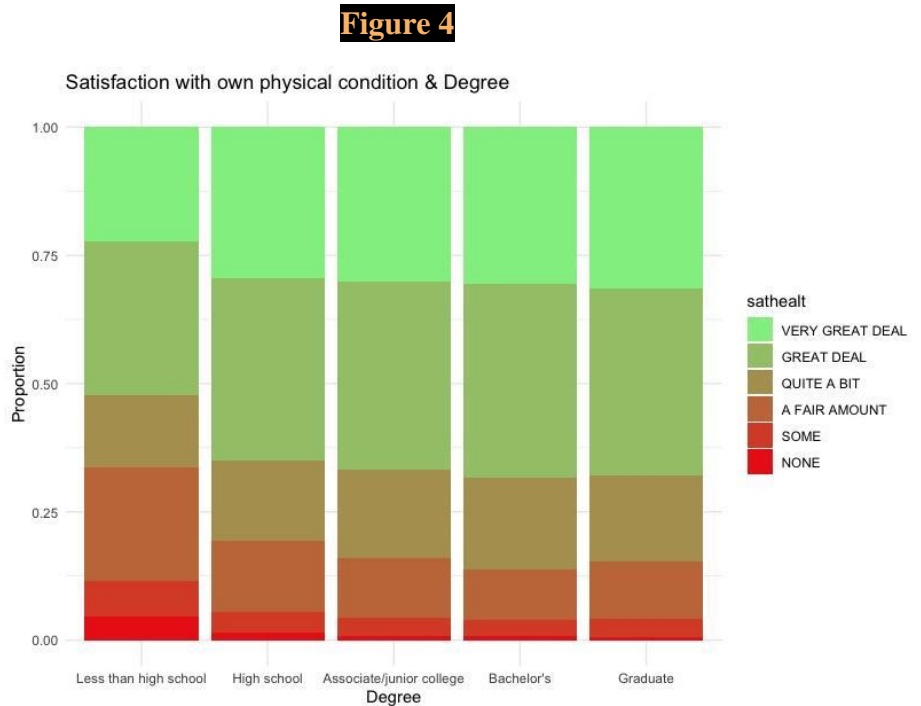


The results show that a majority of individuals that believe their family income is ‘far above average’, tend to have larger families than individuals that believe their family income is ‘far below average’. Whereas the individuals that believe their family income is ‘far below average’, tend to smaller families.

Based on the results, I have learned, to my surprise, that individuals with higher opinions of their family income were mostly made up of families of 2-4. This means that this is most likely similar to a nuclear family with parents and 2 children. Whereas, if individuals with lower opinions of their family income were mostly made up of 2 members (although ‘far above average’ has a

higher portion of 2 family households compared to ‘far below average’). Also interesting that, although not the majority, a larger portion of 1 household individuals are ‘far below average’ when it comes to opinions of their family income compared to individuals who ‘far above average.’

Figure 4 investigates the correlation between an individual’s level of education & their condition of health. We research this using degree, which measures the level of education for the individual and sathalt, which measures the satisfaction of an individual’s own health & physical condition.



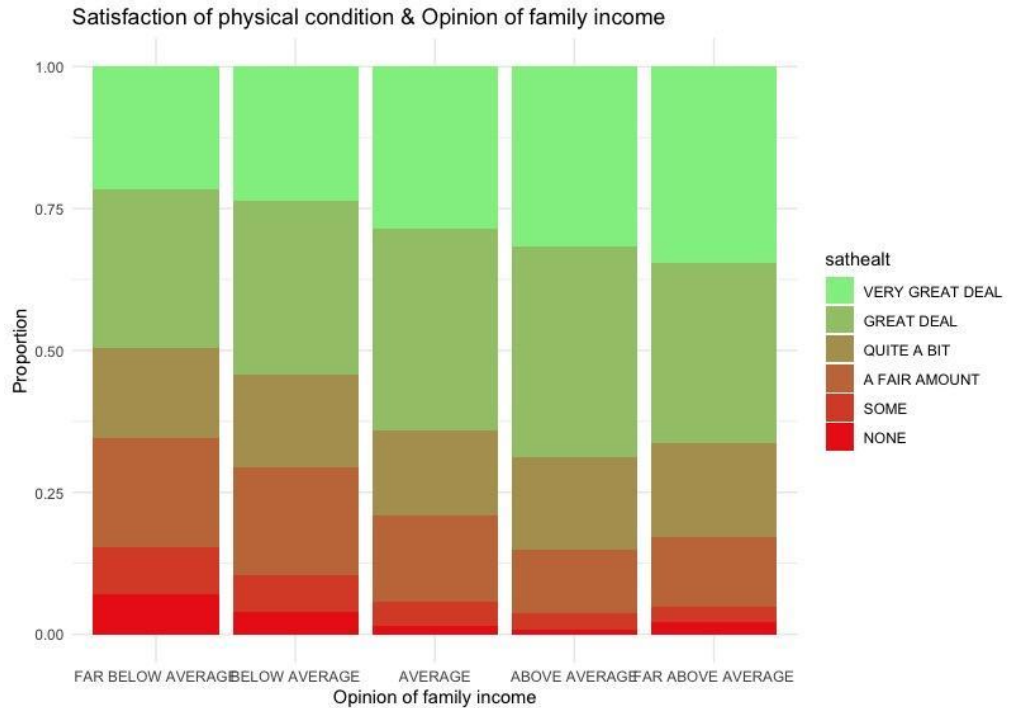
The results show that individuals with education levels less than high school have higher proportions of dissatisfaction with their health condition. In contrast, individuals with a high school degree or higher have considerably higher satisfaction with their health condition.

Based on the results, I have learned that generally if an individual finishes high school, their chances of being satisfied a ‘very great deal’ will increase. Whereas compared to individuals with education levels less than high school, they have higher proportions of dissatisfaction with their health condition, a small portion even saying that they have no health condition satisfaction.

Figure 5 investigates the relationship between an individual’s condition of health and opinion of family income. We research this by using the variables sathealt, which measures the satisfaction of an individual’s own health & physical condition, and finrela, which shows an individual’s opinion of their family income.

The results show that if an individual’s opinion of their family income is ‘below average’, generally, a big proportion of those individuals also show little satisfaction for their own health & physical condition. In contrast, most individuals with an average or higher opinion of their family income tend to be highly satisfied with their physical condition.

Figure 5



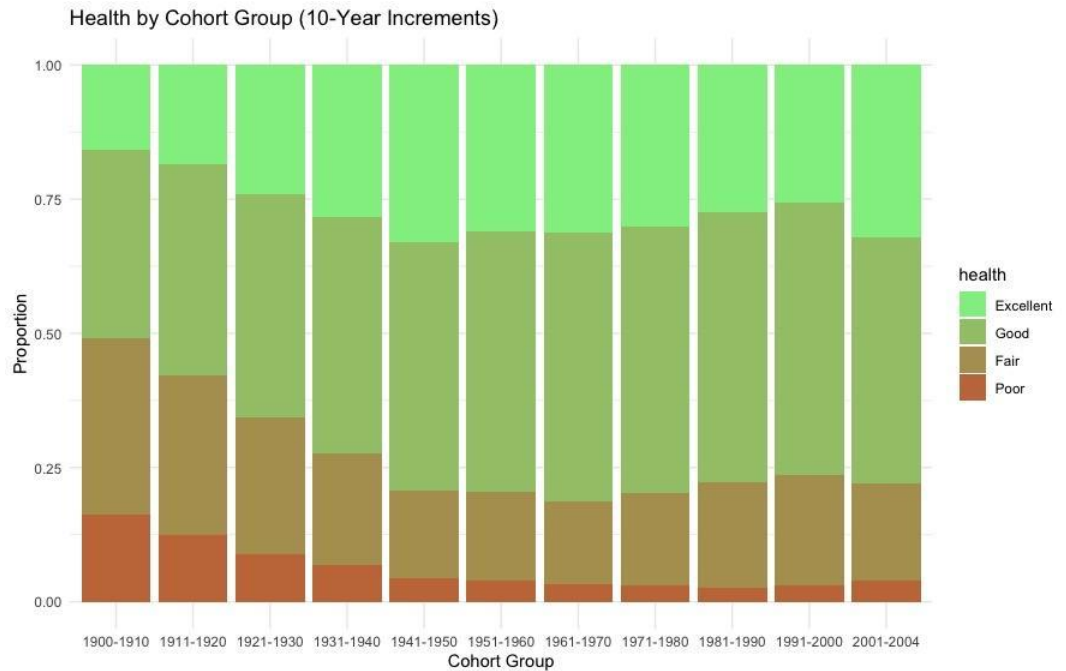
Based on the results, I have learned that individuals with lower opinion’s of their family income tend to have more difficulty/challenges with their health condition. When an individual’s opinion of family income is ‘average’ and higher, their satisfaction of their physical condition jumps to over 60%, with individuals being satisfied at least a ‘great deal’. This data shows a direct correlation between health conditions and whether an individual believes they make enough. Perhaps this can be tied back to being financially insecure leading individuals to be forced to cut out expenses that could improve their health otherwise.

Figure 6 investigates the relationship between a cohort of individuals and their opinions of their health. We research this relationship by using the cohort variable, which shows the participant's year of birth, and the health variable, which shows the participant's opinion of their condition of health.

The results

Figure 6

show that, generally, the older the individual the more likely they are to measure their health condition lower than others of a younger cohort. Prior to the 1951-1960 cohort, we can see a decline in



poor health conditions and the rise in excellent conditions of health. However, the cohort of 1941-1950 shows the highest amount of excellent health than any of the other cohorts. I believe this is an interesting result to note because during this period WWII was still happening and ended within this same period. Also, after the cohort of 1941-1950 we can see a mostly steady number of participants determining that they have at least good health while most of the poor answers have decreased.

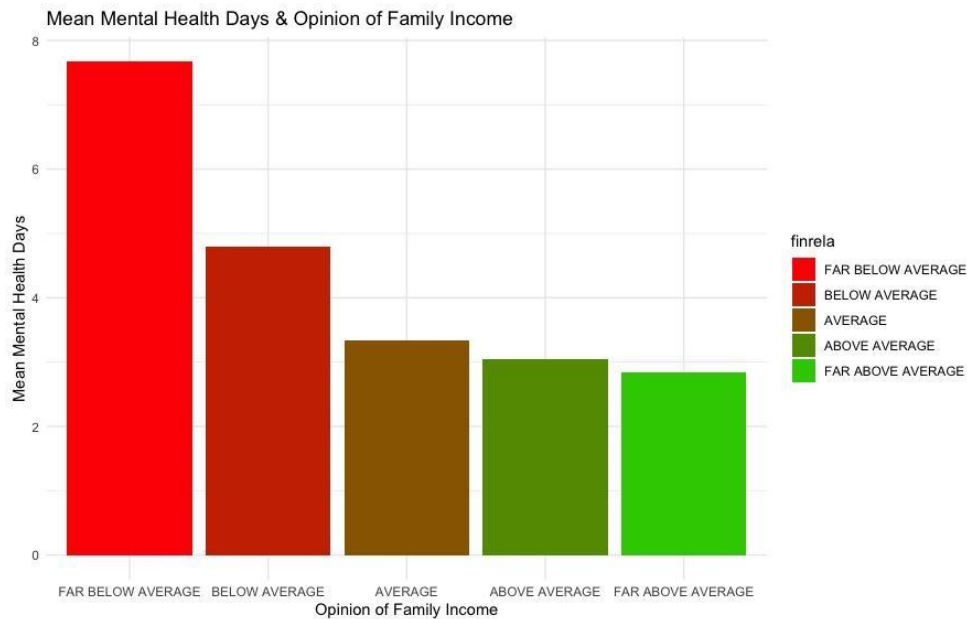
Based on the results, I have learned that age is not a clear or reliable determinant of an individual's health condition. Although we typically assume that with age the individual's health

condition deteriorates, according to the results in the graph we can see that individuals from the years 1900-1950 about half of participants were at least good in their health condition. Every 10 years we can see the conditions of individuals getting better with the highest excellent results being that of the cohort of 1941-1950 and individual's health condition being good or better by at least 75% of all participants then after. The results observed from the cohort of 1941-1950 showed that although there was both war persisting and war aftermath during this time period, it followed with economic expansion and also brought about the baby boom. The baby boom with the economic expansion is most likely the determining factor of the large number of participants that determined excellent health conditions.

Figure 7

Figure 7

investigates the relationship between family income and an individual's bad mental health days. We research this relationship by using the mtlhlth variable, which measures the



amount of bad mental health days an individual's experiences during a month, and the finrela variable, which measures an individual's opinion of their family income.

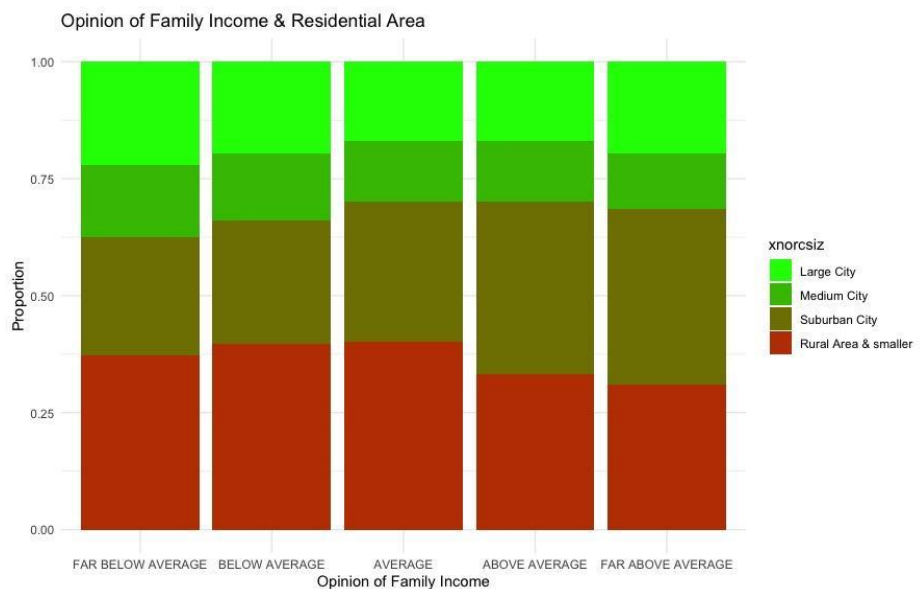
The results show that the lower an individual's opinion of their family income, the more bad mental health days the individual deals with. On average, individuals that categorize their

family income into far below average dealt with about 7 days. Compared to individuals that believe their family income was high, those participants had less than 3 days on average.

Based on these results, I have learned that individuals with a lower opinion of their family income, tend to have more bad mental health days than those individuals that have a high opinion of their family income. Although individuals with a high opinion of family income still have bad mental health days, individuals with a low opinion of family income tend to have a little over double bad mental health days compared to high income individuals. There is also a big gap from average family income to far below average family income. Using this we can deduce that individuals below average (which I assume is the poverty line) tend to have bad mental health days due to being financially insecure.

Figure 8 investigates the relationship between family income and the size of residential areas. We research this relationship by using the `finrela` variable, which measures an individual's opinion of their family income, and the `xnorsiz` variable, which

Figure 8



measures an individual's residential area's size depending on population.

The results show interesting results that I was not expecting. In the graph it shows for all levels of family income that individuals that lived in a large or medium city showed a roughly

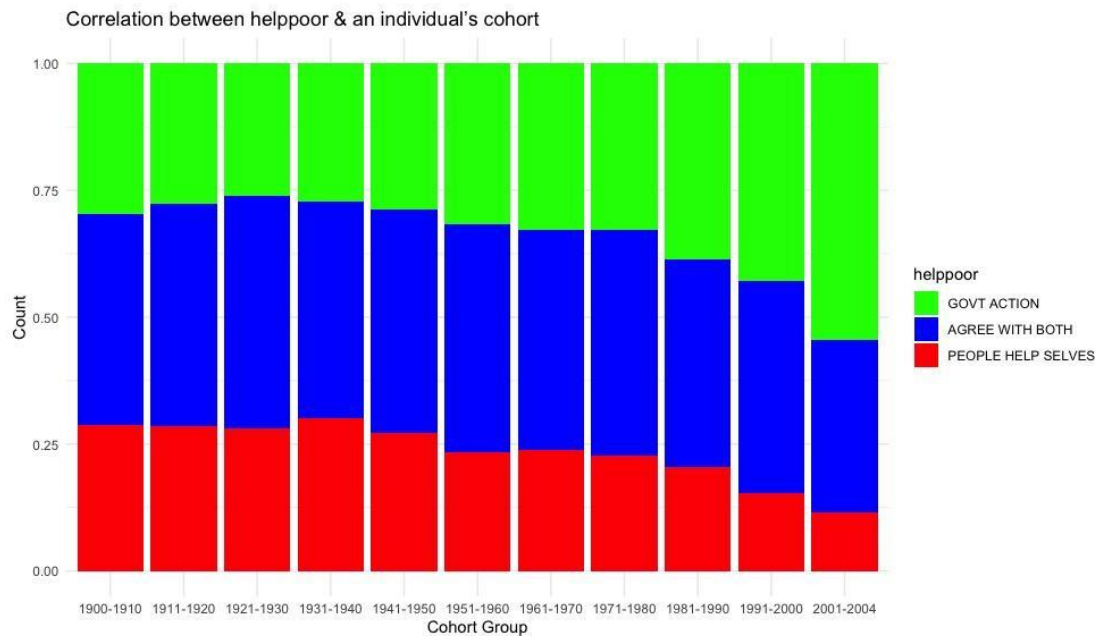
equal number of respondents for all ranges. The participants that live in a rural area, on average, have a lower opinion of family income than the individuals that live in a suburban area. More individuals that live in a suburban area also tend to have a higher opinion of their family income than the individuals who live in a rural area.

Based on these results, I have learned that individuals that live in a suburban area tend to, on average, have a higher opinion of their family income than any other group of individuals. Participants from rural areas tend to feel that they have lower income than those who live in more populated cities which can be attributed to the lower supply of industrial jobs opportunities in the areas and the higher income jobs being mainly in the city. Interesting thing to note, based on these results is that individuals who live in a large or medium city tend to have around the same amount of participants in all categories of family income.

Figure 9

Figure 9

investigates the relationship between individuals being in favor of government intervention and the cohort of the individual. We research this relationship by using



the variable helppoor, which shows which respondents believe the government should intervene

in improving the standard of living, and the variable cohort, which shows the participant's year of birth.

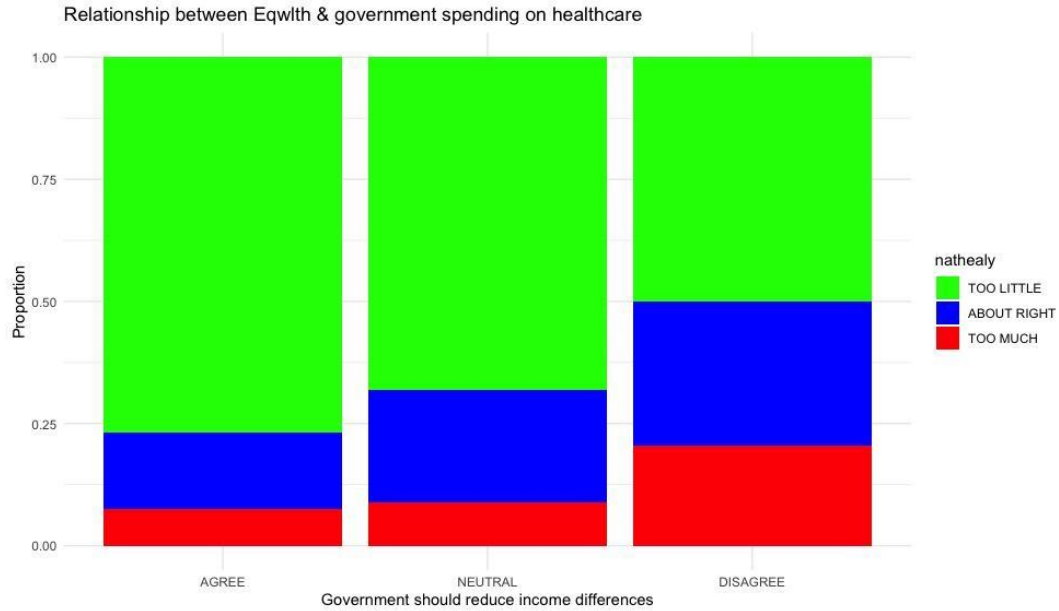
The results show that throughout the years, close to 50% of individuals agreed with both statements of "People help selves" and "Govt action." The biggest changes that can be seen throughout the years was the steady increase of individuals who said "People help selves" and "Govt action." For "People help selves", about 25% of the respondents agreed with this statement but started dropping after the cohort 1941-1950. For "Govt action", about 25% of respondents agreed with this statement at first but then jumped to about 50% in the youngest cohort(2001-2004).

Based on the results, I have learned that even from the beginning of the cohort year there was a majority of at least 70% of participants that at least agreed with both statements of government intervention. Whereas the youngest cohort has at least 80% of participants that at least agreed with both statements of government intervention with around 50% of those participants agreeing for government action. This information shows that although many are neutral when it comes to government intervention, throughout the years individuals have increased their opinion of government intervention and decreased their opinion of no government intervention by half.

Figure 10

Figure 10

investigates the relationship between government intervention and government spending. We research this by using the eqwlth variable, which measures how many individuals believe that the government should



reduce income differences, and the nathealy variable, which measures who many individuals believe that the government is spending enough on healthcare.

The results show that individuals that believe that the government needs to reduce income differences also believe that the government is spending too little on healthcare. Whereas, about 50% of individuals that believe that the government should not reduce income differences believe the government is spending just enough for healthcare. Although a large portion of individuals that believe that the government should not reduce income differences also believe that the government spends about right on healthcare. However, a majority of individuals believe that the government spends too little on healthcare.

Based on the results, I have learned that over 75% of individuals that believe the government should reduce income differences also agree that the government is spending too little on healthcare. This can possibly be attributed to the fact that lower income individuals would be more inclined to agree that the government should reduce income differences, and cannot afford

healthcare which leads to these individuals wanting the government to also intervene with spending more on healthcare and vice versa. Individuals that do not believe the government should reduce income differences, about 50% also believe the government is spending about right/too much on healthcare. Which again can be attributed to these individuals being high income and believing that others can help themselves.

Conclusion

In summary, my main findings for my research shows a clear correlation between financial insecurity and overall well being of an individual. According to my research, when an individual faces financial difficulties, various states of their health can be affected such as psychological and physical. When an individual undergoes financial insecurity, it trickles into other parts of their life. These financial uncertainties can range from food & housing insecurity to income instability. As an individual faces more and more financial insecurity, it not only negatively affects their health but also their ability to get help to prevent further deterioration. What I mean by this is that as an individual experiences financial instability, they start cutting out expenses that will hopefully allow them to gain that stability back and, unfortunately, healthcare is usually one of the biggest expenses for an individual other than living expenses such as rent, utilities, etc. This leads to individuals cutting out health expenses to make up for the lack of income but this has a downward trickle effect. The more financially insecure an individual is the least likely they are to prioritize health due to focusing on becoming financially stable.

Through my research I learned that financial insecurity not only affects an individual's ability to make sound financial decisions but also the overall health of the individual. I learned that when an individual has financial stress, they are more likely to either develop or accelerate their

health condition. There is evidence of not only mental health being affected but also the physical health and condition of the individual being negatively affected as well.

With this knowledge, I strive to bring awareness to this growing issue in our society and I hope my results will bring meaningful data to those who are hoping to make a change in financial insecurity. My results can be used for policy by implementing government help to alleviate financial stress as my results clearly show that a majority of individuals believe that bare minimum some form of financial help is needed to aid those struggling. My results can not only be used for government policy but also for the health sector. In my data we can see that financial stress affects individuals' health directly and indirectly. This happened due to the lack of funds in order to afford health insurance for health checkups and the insecurity itself making individuals' develop some form of health condition that further deteriorates their health. Overall, I hope that the results of my research will help government officials and the health sector see the urgency of the current situation of our society. With rising prices and inflation, the rate of insecurity is growing exponentially and needs to be addressed.

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