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Socioeconomic and Health Care Demands of Anxiety Disorders

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Abstract

This research paper examines the socioeconomic and healthcare demands of common anxiety disorders, specifically isolating Generalized Anxiety Disorder (GAD), and seeks to determine which socioeconomic factors have the greatest impact on the prevalence of these disorders and may widen the treatment gap and socioeconomic burden associated with GAD with the use of surveys and data analysis. Anxiety disorders can disrupt a person's way of life by impacting their relationships with others, their sleep patterns, eating habits, self-confidence, and ability to complete daily tasks at work or school (Green & Benzeval, 2013). A survey was distributed across various regions in the United States through a form utilizing digital platforms and various social media platforms. An ANOVA test was run to analyze different factors such as current income level, race, gender, education level, living situation, financial independence, and employment which characterize different socioeconomic groups; this assessed the correlation to General Anxiety Disorder (GAD) and healthcare access to treatment. The results depicted income as a defining factor which correlates with economic burdens faced due to anxiety disorders and contributes to economic barriers that make it harder to seek mental health care. There is a lack of correlation between General Anxiety Disorder (GAD) and the variable of race/ethnicity, leading to the conclusion that race does not affect the economic barriers and burdens faced due to anxiety disorder. Further implications of this study include a deeper analysis of how families of different socioeconomic status spend money on mental health compared to other illnesses, such as colds, cancers, viruses etc.

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Categories: Mental Illness, Health Care
Key Words: Generalized Anxiety Disorder, Socioeconomics, Anxiety, Rehabilitation

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Background Research

This literature review examines aspects of the healthcare and socioeconomic demands of common anxiety disorders such as Generalized Anxiety Disorder (GAD) as the illness causes a great deal of pressure for people across the country not only mentally and emotionally, but also socially and financially. Without proper treatment, anxiety disorders can severely impair the day-to-day lives of these patients. Anxiety disorders can disrupt a person's life by impacting their relationships with others, their sleep patterns, eating habits, self-confidence, and ability to complete daily tasks at work or school (Green & Benzeval, 2013). These mental disorders result in disease burdens for individuals who are experiencing symptoms like heightened stress levels, disabilities, and impairment.

These disorders have long been observed to occur more frequently among individuals who come from disadvantaged social circumstances and that socioeconomic inequalities in anxiety disorders are increased with the lack of finding adequate support and treatments (Reiss, 2013). Thus, it is crucially important to understand how such burdens develop over the life course; the individuals' socioeconomic backgrounds and access to healthcare play a major role as people are more susceptible to suffering from anxiety disorders when there are limited opportunities to find solutions to combat these mental illnesses.

Generalized Anxiety Disorder (GAD) is a psychological condition characterized by excessive worry, persistent and unsubstantiated distress with accompanying feelings of restlessness for at least six months concerning matters of healthcare, family, work, and financial status (Anxiety Disorders Association of America, 2015). GAD affects around 3.1% of the U.S population, or 6.8 million adults, where only 43.2% of these individuals are receiving treatment (Anxiety & Depression Association of America). In the U.S, treatment of GAD often includes selective medications, counseling, psychotherapy, and professional guidance. Therapy under the guidance of professional mental health counselors and the implementation of prescribed medication can be highly effective in management of GAD (Locke, et al., 2015). Medication or psychotherapy is deemed a reasonable initial treatment of anxiety disorders as both aid the individual patient with therapeutic and biological solutions. There are countless medications available for treating anxiety as antidepressants, selective serotonin reuptake inhibitors (SSRIs) and benzodiazepines are accessible from an individual's healthcare provider, pharmacist and over the counter prescription medications. However, the financial barriers prevalent in the lives of many GAD patients continue to increase as high cost of care, unmet health needs, lack of insurance coverage and inability to get preventive services lead to more severe mental health conditions. A person who suffers from GAD would be burdened with the exhaustion, tension and nausea that comes with living daily life with this mental condition. The numerous treatment options available in the U.S fall short to effective results especially due to the rise of healthcare and economic barriers in relation to mental health. When individuals do not seek care, or are unable to, their ability to live their life in a normal manner will be acutely affected (the extent of which depends on the severity of the condition).

Many of these people are often unable to actively seek help due to challenges such as affordability, stigma, lack of support, etc. Treating anxiety disorders in the United States prove to be a hefty and costly experience as the healthcare services and economic barriers prevent free

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access to all. National Healthcare Expenditure (NHE) grew 4.6% to $3.8 trillion in 2019 which can be looked at from a different angle of $11,582 spent per person; this cost accounted for 17.7% of Gross Domestic Product (GDP) of the U.S (U.S. Centers for Medicare & Medicaid Services).

In 2010, mental and substance use disorders occupied 10.4 percent of the global burden of disease and were the leading cause of years lived with disability among all disease groups (Trautmann, S., et al.,2016). The effect of a long-term mental disorder is often overlooked. A mental disorder not only drains one mentally but economically as well. Although many are familiar with the direct costs of an illness, such as hospitalization and medicine, many fails to realize the extent to which a mental illness integrates itself into one's social fabric.

Indirect costs of a disorder include lost production and income losses due to absences and disability. Higher rates of anxiety may contribute to lower work productivity and higher rates of unemployment (German, J., 2019). Based on a 2010 study, the global direct and indirect economic costs of mental disorders were estimated to be 2.5 trillion dollars with indirect costs approximately being 1.7 trillion dollars and direct costs averaged to be 0.8 trillion (Trautmann, S., et al.,2016). Even though solutions, such as universal health care, have been proposed, they have been proven to be costly and exclude mental disorders.

Moreover, the treatment gap for mental disorders is higher than any other health sector due to lack of personnel, infrastructure, and effective treatments. The economic burden brought about by mental disorders, such as anxiety, directly and indirectly cause tremendous losses in the lives of individuals affected by them and exacerbated by the lack of programs available to help those who seek it.

A link between socioeconomic status and the prevalence of GAD has already been drawn. Anxiety, along with other mental health disorders has been shown to be more noticeable among those at a lower socioeconomic status who are at a disadvantage (Reiss, et al, 2019). This increased prominence can most likely be explained by inequalities between socioeconomically disadvantaged individuals and those without a disadvantage when looking for an affordable, quality treatment for mental health disorders.

Those with a lower socioeconomic status are more likely to be prone to stress and economic hardship that can put an individual at a higher risk of a mental illness (German, J., 2019). Since one's socioeconomic status is prominent in one's life and affects living conditions and behaviors, its role in one's mental health is reciprocated since one's personal identity and social status can subject them to discrimination and difficulties. Therefore, high levels of anxiety may have a correlation with high levels of stress, which is more common in those with a low socioeconomic status. Those with a lower socioeconomic status often receive lower quality resources, such as education. In the face of literature, education is perceived as a symbol of power and honor.

Education available to people of low socioeconomic class will most likely be of lower quality than that available to a higher socioeconomic class and can reduce the number of opportunities available to those in a lower socioeconomic class in the future. (German, J., 2019) This traps them in an endless cycle of hindrance. Those with a limited education are more likely to struggle

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and obtain a lower paying job that prevents them from rising in class. Moreover, having a lower degree of education has shown to be related to reluctance in seeking adequate treatment. Studies show that individuals with no high school degree predicted to have less adequate care for their mental health (Roy-Bryne, P.,2009). In relation to early education termination, generalized anxiety disorders are more likely to occur in higher rates among individuals with a lower education level. (German, J., 2019)

Results from the National Comorbidity Survey Replication (NCS-R) indicated that unmet need for treatment among respondents who had a mental disorder in the past 12 months was greater among those with low incomes than among other respondents (Roy-Bryne, P., et.al, 2009). However, socioeconomic status has been proven to have a weak or no correlation with mental health service use, but this does not diminish the possibility that certain socioeconomic factors influence other aspects of treatment, such as the setting or types of medication in which treatment in received. Our study will examine the correlation between generalized anxiety disorder and whether one is able to meet economic and health care demands brought upon diagnosis.

Once an individual encounters socioeconomic inequality, they tend to prevail in an individual for a prolonged period of time. As one becomes older, the inequality gap between one and their peers tends to widen due to higher rates of anxiety among those with disadvantages and the likelihood that symptoms will persist for a longer period of time for those in a lower socioeconomic status when compared with people with access to mental health resources. Recent data from the British National Child Development study has shown that about 80 % of the differences by educational level in psychological distress at age 42 were already present within the same individuals at age 23 (Green, M., 2013). Moreover, anxiety and depression are considered comorbid diseases since anxiety may exacerbate and turn into depression. Understanding the relationship between worsening anxiety and depression may provide a light to whether socioeconomic factors and inequalities contribute to the development and progression of symptoms.

The socioeconomic burden on those impacted by common anxiety disorders diminishes their possibility of receiving better healthcare and support systems. With anxiety being the most common mental disorder in the United States, affecting more than 40 million adults, shame or stigma are the highest cited barriers to treatment, followed by logistical and economic barriers (Goetter et al., 2020). The economic burden on a systemic level is estimated to be over $40 billion, often due to misdiagnosis, undertreatment, medical treatment costs, indirect workplace costs, mortality costs, and prescription drug costs (Konopka, 2019).

This includes direct cost, which involves the monetary value of medical and non-medical services, and indirect cost, the monetary loss that results from a decrease in productivity on account of the disorder (Konopka 2019, Mwinyi et al., 2016). Many people who experience symptoms of anxiety often have difficulties obtaining a differential diagnosis and proper treatment for their condition due to various social and economic barriers. Factors such as income level, societal stigma, and cultural perceptions of mental health may prevent people from successfully seeking out and finding care. Furthermore, even when in the presence of a medical professional, it can sometimes be difficult to come to the proper diagnosis as there is a wide variety of conditions that the individual might be subject to. Procedures and processes to try to obtain the proper diagnosis can sometimes be tedious and time-consuming, which only makes it

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harder for these people to obtain the help they need. Due to the aforementioned difficulties, more than half of these costs when it comes to this are attributable to repeated use of healthcare services to treat somatic anxiety symptoms similar to those of physical conditions, which are often comorbid.

There is also substantial evidence for the undertreatment of anxiety disorders, which increases the economic burden on the individual as well as the indirect cost. When people face barriers in seeking professional help due to social and economic factors, and their anxiety disorder goes untreated, they typically face consequences of this in their everyday lives. For instance, an individual suffering from an anxiety disorder may find themself having a difficult time going to work and effectively doing their job. Although this is not directly a result of their anxiety disorder, it can cause the individual to struggle in their job and therefore face financial difficulty. Similarly, experiences that trigger an individual's anxiety disorder can cause an individual to go out of their way to avoid these experiences. Consider this in a real-life scenario: large crowds and being too close to people may trigger an individual's anxiety disorder. As a result of this, they may avoid taking subways, busses, or other forms of public transportation to get to where they need to go. This can make commuting a much more difficult and complicated process for them, which subsequently can have an impact on their social and financial situations (i.e., instead of taking public transportation due to their anxiety disorder, the individual might feel the need to take an Uber, which is considerably more costly than the alternative). It is crucial to identify and assess plans that already exist within the system that intend to facilitate access to professional services for individuals suffering from anxiety disorders, while also critiquing and understanding why and how these systems have often failed to help individuals.

Contributing factors lie in current systems which place all those diagnosed with mental health issues under the same umbrella. In 2008, the United States passed the Health Parity and Addiction Equity Act, which attempted to eliminate problems in a prior system that allowed insurers to restrict care for those suffering from mental conditions. However, the policy was not without fault. There were two key points to the Health Parity and Addiction Equity Act: first, it allowed health insurers to only cover medical conditions that were deemed "medically necessary" and deny coverage if said coverage increases the total cost by 1 or 2% in the first and subsequent years (Burns, 2009).The problem within this lies in the fact that it is usually in the insurer's discretion on whether or not to offer affordable healthcare for individuals suffering from mental health disorders. Policies likewise the Health Parity and Addiction Equity, enacted to cover mental health in group health insurance plans, use the concept "formal equality" which groups all people with mental health issues together (Burns, 2009).

We as society should attempt to reach "substantive equality" instead of "formal equality." Formal equality overlooks individual differences and extenuating circumstances, and thus is unable to address the roots of a problem. As such, policies enacted under "formal equality" sometimes do better than harm. One example is how the aforementioned Health Parity and Addiction Equity Act views individuals with schizophrenia. Patients with schizophrenia often require more resources, such as rehabilitative services which benefit their psychological and occupational health in the long run, but because the Act functions under formal equality, it does not provide these services (Burns, 2009). Substantive equality, on the other hand, attempts to bridge the gap between pressing concerns--I. e financial obstacles--and affordable healthcare for those who

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require treatment.

Some efforts have been made in recent years, leading to a paradigm shift. The United Nations Convention on Rights of Persons with Disabilities redefines people with disabilities as people who may not be on equal parting with others in society due to physical, mental, intellectual, sensory issues (Burns, 2009). Because this definition is so broad, it is much more inclusive; it acknowledges the wide spectrum of disabilities and warns against underestimating mental disabilities. However, institutionalized medical language which addresses mental health disorders is outdated and inaccurate. Often, medical definitions of mental disability are shallow and fail to notice the nuances in the wide spectrum of anxiety and other imposing mental health disorders. To recognize and work towards issues of intersectionality, much more must be done to continue the work for a more equitable society for those who suffer from a mental health disorder.

Participants' responses in our survey will indicate why the system is not helping them in any manner or if it is and this will allow us to propose changes accordingly. For example, exposure-based cognitive behavioral therapy (CBT), one of the more effective treatments for anxiety disorders (Deacon & Abramowitz, 2004), is inaccessible to many individuals, especially those of lower socioeconomic status (Wolitzky-Taylor et al., 2018). Not only is the cost barrier keeping people with anxiety disorders from receiving CBT, but there is a lack of institutional funding and effort to implement these services in health care centers (ex. not enough training for CBT administrators), which ultimately increases their inaccessibility. (Wolitzky-Taylor et al., 2018). A more comprehensive analysis of socioeconomic burden and cost on the individual and population level related to these disorders is required. The measures of burden include the prevalence of disorder, associated stigma, diagnosis cost as well as healthcare service treatment utilization costs. More research is needed to develop and increase access to personalized treatment as well. By identifying and quantifying the greatest factors contributing to the socio-economic barrier in treatment accessibility, this cost-of-illness analysis aims to emphasize the need for greater funding for anxiety disorder research, more efficient treatment and recovery programs, and effective public health policy.

As well as a deficiency of government-based initiative, individual factors, such as education, income, or demographics, have been shown to contribute to worsening the already prominent socio-economic barrier in treatment accessibility for mental disorders. Although previous research has drawn a connection between certain socioeconomic factors, few studies include all socioeconomic factors that may contribute to the increased prevalence of untreated mental disorders within those who hold a low socioeconomic status. Moreover, many studies disregard how each socio-economic factor will contribute differently to a mental disorder due to changes in social and economic resources and prevalence in life stages. Our survey aims to fill these gaps by drawing a clear correlation between one's age, living situation, and education level and whether they have experienced anxiety and have received adequate treatment for it. We also analyze whether our participants believe enough mental disorder related programs are implemented where they live and what more can be done in order to target gaps in treatment programs designed to aid and better assist those struggling with mental illnesses.

Materials and Methods

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By collecting original data through a large public survey, this research study assessed the number of individuals who are clinically diagnosed with anxiety disorders. The questions within this survey asked people for the extent that Generalized Anxiety Disorder (GAD) affects their daily lives. These questions displayed choices that highlight the multiple socioeconomic factors that contribute to the economic burden and cost of illness of having Generalized Anxiety Disorder and how people believe their socioeconomic status impacts their access to treatment.

We surveyed 140 respondents in total. The targeted demographic was people from the five boroughs in New York City, however the survey was still open to respondents living outside of New York City to ensure that the survey would have a variety of responses. We surveyed the background of respondents with questions in regard to their race, education status, financial independence, employment, current income level, and living situation. In regard to mental health and access to treatment, we surveyed their type of healthcare insurance plan, their support systems (i.e., reliable family and friends), whether or not they are clinically diagnosed with an anxiety disorder.

The remaining questions were heavily opinion based and asked for an answer on a subjective scale from 1 to 5. The first of these types of questions was: How would you describe any economic burdens faced due to anxiety disorders? This question is meant to assess the level of severity of economic burdens on participant's ability to cope with their anxiety disorder. The options were scaled from 1 to 3 with 1 representing minimal to no impact of economic burden on the participant's ability to cope with their anxiety disorder, and 3 representing the maximum burden on participants. "Economic barriers have significantly impacted my ability to receive healthcare treatment for anxiety disorders." was another question, analyzing the participant's own opinion and outlook on whether or not the statement is true. This question was on a scale from 1 to 5, with 1 being the least significant impact on the participant's ability to receive healthcare treatment for anxiety disorder, and 5 being the greatest impact. We then asked responders who have experienced financial and economic barriers to identify exactly what they had difficulty receiving in terms of diagnosis, therapy and counseling, and medication to give us an insight in where the lack of accessibility to treatment was most prominent.

There were also questions with yes or no answers, including: "Have you ever experienced stigma around anxiety or felt hesitant to ask for help?" and "Do you think the stigma you may have experienced has anything to do with your socioeconomic status? ", in order to allow us to draw a correlation, if any, between socioeconomic status and the stigma around anxiety and the reluctance to seek for help. The last question group in our survey were answer choice questions where participants could choose a choice that was the closest to what they believed. One such question was: What are the various ways you are seeking help for your anxiety disorder? For this question we provided an array of different ways, such as individual therapy or online resources, that one may use to treat or cope with GAD. Another question was: "What solutions would you like to see in the future regarding anxiety disorders?" Answer choices ranged from greater accessibility to treatment resources such as diagnostic services or therapy. The last of our questions was "My anxiety disorder has caused me to…" and participants were given a list of the ways an anxiety disorder may negatively impact their social lives, such as school or work or isolating oneself, asking them to choose which one they believed most related to the way their disorder had impacted them. These types of detailed questions meant that we could isolate for

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specific factors that influence access to treatment for General Anxiety Disorder (GAD) and examine how having an anxiety disorder can disrupt or negatively impact one's daily routine.

Researchers of this paper were in charge of distributing the survey to a wide range of participants through the use of social media such as Instagram, Facebook, and LinkedIn. Furthermore, researchers emailed friends, family, and teachers to share the survey to more respondents. The form was anonymous to protect the personal information collected from survey-takers, such as their annual income, race, and age. Surveys were conducted via Google Forms to effectively gain the most submissions. By having a simple survey, it was easily distributed through link sharing. Furthermore, researchers of this paper were able to distribute the survey by putting the link on social media platforms for others to access with ease.

The survey is connected to the research collected from data archival, past studies, graphs, and statistics from credible sources such as CDC and medical journals in order to increase the logos of our research paper and avoid bias. We aimed to use a comparative approach by evaluating the survey results and data sources to interpret the connection between low socioeconomic backgrounds and disease burden and lack of treatment accessibility.

To analyze the data, we utilized a one-way analysis of variance (ANOVA) test because we wanted to see if the scores vary based on income bracket, race and etc. This was the best method of data analysis as it determines if there is any statistically significant difference between how people respond to the questions based on their education status, financial independence, employment, current income level, or living situation. In other words, using an ANOVA test for our research will allow us to find out if our survey results require us to reject the null hypothesis or accept the alternate hypothesis.

Results

A one-way ANOVA was conducted to determine if the accessibility of mental health treatment for anxiety disorders was limited due to socioeconomic and health care barriers; these barriers were classified by income levels, race, economic crises, and access to treatment. Participants were classified into five groups: individuals clinically diagnosed with anxiety ($n \leq 16$), individuals not clinically diagnosed with anxiety ($n \leq 61$), individuals that are not diagnosed with anxiety disorder but are experiencing the symptoms ($n \leq 60$), individuals who are unsure ($n \leq 1$) and individuals who are diagnosed with depression as well as symptoms of anxiety ($n \leq 1$).

The anova results found there to be a statistical significance between many variables including income level, economic barriers, and economic burdens faced due to anxiety disorders. The first correlation reported to be statistically significant was income level and economic burdens faced due to anxiety disorders (fig. 1). With a significance level of 0.004, it fell below the 0.05 significance level to indicate that there was a correlation between these two variables, meaning that it is likely that either income level or the economic burden faced from anxiety disorder impact each other. One thing to note is that the graph in descriptive plots (fig 1.) shows a peak of 2 at a yearly income of 120k-140k.

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ANOVA - How would you describe any economic burdens faced due to anxiety disorders? (1- no change, 2- increased a little, 3- increased significantly)

Cases	Sum of Squares	df	Mean Square	F	p
What is your current income level? (Parent's income if you are not financially independent)	8.832	6	1.472	3.347	0.004
Residuals	55.424	126	0.440		

Note. Type III Sum of Squares

Descriptives

Descriptives - How would you describe any economic burdens faced due to anxiety disorders? (1- no change, 2- increased a little, 3- increased significantly)

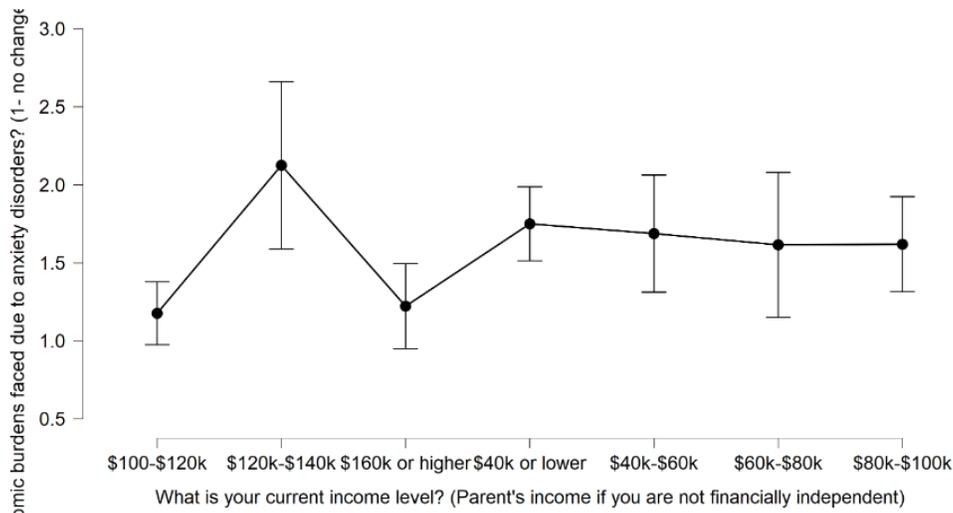| What is your current income level? (Parent's income if you are not financially independent)	Mean	SD	N
$100-$120k	1.176	0.393	17
$120k-$140k	2.125	0.641	8
$160k or higher	1.222	0.548	18
$40k-$60k	1.688	0.704	16
$40k or lower	1.750	0.742	40
$60k-$80k	1.615	0.768	13
$80k-$100k	1.619	0.669	21

Descriptives plots

Fig 1.

The second significant correlation found was between the income level and the economic burden faced due to anxiety disorders (fig 2). With a significant level of 0.016, there was strong evidence to support a correlation between these two variables, meaning that income level influences the economic burdens faced by those with anxiety disorders. One thing to note in the description plot is that the mean number of respondents who had an income of 40 k or lower indicated the highest level of increase in economic burdens for them/their families with the lowest variance, meaning that many of the respondents chose answers similar to each other. Another trend one can notice is that there is a sort of inverse relationship between income level and economic burdens faced by anxiety disorder whereas income decreases, the level of economic burden due to anxiety disorders decreases, so there is a possible relationship to note there. Finally, similarly to the same income level of 120k-140k mentioned in the previous result, these results in terms of increase in

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economic burden due to anxiety had the most variance, meaning the respondents chose a variety of answers between 1-3.

ANOVA

ANOVA - Economic barriers have significantly impacted my ability to receive healthcare treatment for anxiety disorders.

Cases	Sum of Squares	df	Mean Square	F	p
What is your current income level? (Parent's income if you are not financially independent)	24.090	6	4.015	2.711	0.016
Residuals	186.586	126	1.481		

Note: Type III Sum of Squares

Descriptives

Descriptives - Economic barriers have significantly impacted my ability to receive healthcare treatment for anxiety disorders.

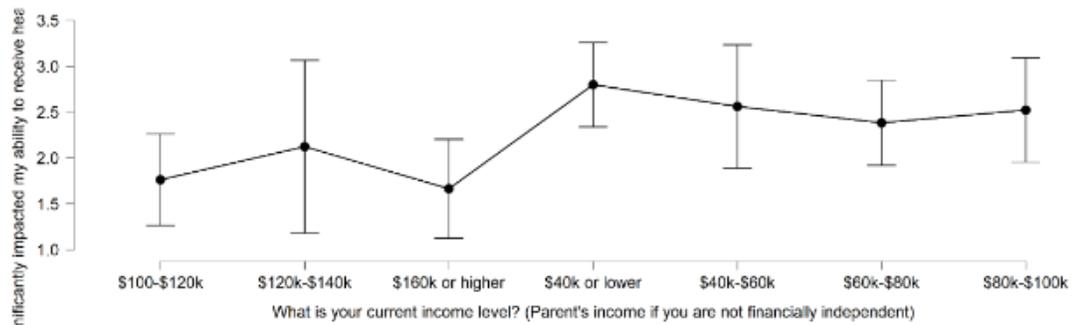| What is your current income level? (Parent's income if you are not financially independent)	Mean	SD	N
$100-$120k	1.765	0.970	17
$120k-$140k	2.125	1.126	8
$160k or higher	1.667	1.085	18
$40k-$60k	2.563	1.263	16
$40k or lower	2.800	1.436	40
$60k-$80k	2.385	0.768	13
$80k-$100k	2.524	1.250	21

Descriptives plots

Fig 2.

There was also one result from the ANOVA test that came close to being significant with a p-value of 0.0579 and it was between income level and the belief that studying mental health disorders is as important as other illnesses (such is the flu, colds, cancer, etc.). Looking at the graph, the highest mean number of respondents with an income of 40k or lower answers indicated that mental health should be studied as extensively as other illnesses compared to the respondent in income bracket 40-80k, which had the lowest mean score indicating that anxiety disorder should be as important as other diseases. For these to be income brackets right next to each other, that is an important difference to note.

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ANOVA

ANOVA - I believe that the treatment research for anxiety disorders is as important as that for other diseases (eg. cold, common flu, cancer, etc.)

Cases	Sum of Squares	df	Mean Square	F	p
What is your current income level? (Parent's income if you are not financially independent)	11.080	6	1.801	0.797	0.574
Residuals	313.134	126	2.485		

Note. Type III Sum of Squares

Descriptives

Descriptives - I believe that the treatment research for anxiety disorders is as important as that for other diseases (eg. cold, common flu, cancer, etc.)

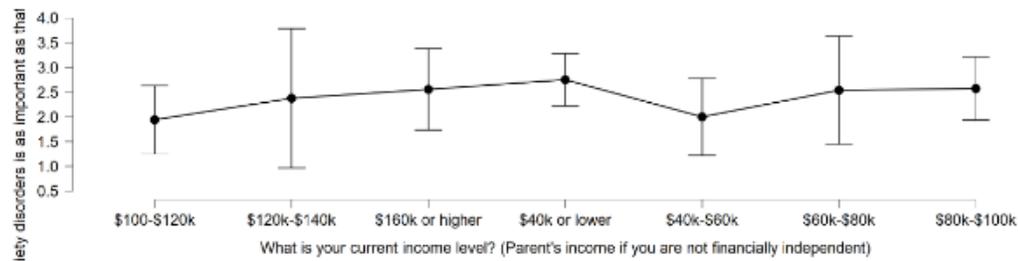| What is your current income level? (Parent's income if you are not financially independent)	Mean	SD	N
$100-$120k	1.941	1.345	17
$120k-$140k	2.375	1.685	8
$160k or higher	2.556	1.653	18
$40k-$60k	2.000	1.461	16
$40k or lower	2.750	1.660	40
$60k-$80k	2.538	1.808	13
$80k-$100k	2.571	1.399	21

Descriptives plots

Fig 3.

Finally, our ANOVA tests looking for correlations between race and other factors were found too not be statistically significant. Our first test which looked for a correlation between race and economic barriers faced due to anxiety disorders had a p-value of 0.167, which is greater than our significance level of 0.05. Therefore, we are unable to conclude that race affects the increase in economic barriers due to anxiety disorders. Similar with two other variables including research into anxiety disorders being as important as research for other illnesses and economic barriers impacting ability to receive mental health care were not significant. Overall, there seemed to be more correlations between income level and issues pertaining to anxiety disorders rather than race.

Two conclusions can be further drawn from our survey. Out of 140 participants, 34.5% claimed that their economic burdens grew under the duress of anxiety disorders. 52.5% claimed that there had been no significant impact on their financial situation, and 12.9% would state the opposite: that there had been significant strain as a result of having an anxiety disorder. 34.5% of the survey pool claimed that having an anxiety disorder did not significantly affect their ability to receive adequate healthcare for their needs, while 7.2% stated that their financial situation drastically changed due to the duress of an anxiety disorder. 18% would claim they are somewhat affected, 28.1% claimed that they were averagely impacted, and 12.2% claimed that they were slightly affected.

Discussion

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This study was run within the region of the United States taking into account numerous responses from foreign countries such as Canada, Nigeria, India, Turkey, and Azerbaijan. These foreign countries were not part of the responses and were taken out of the total participant responses in order to maintain an accurate sample of individuals facing financial and healthcare burdens due to their anxiety disorder. The distribution of this research survey took place amongst the research fellows at the International Socioeconomic Laboratory, students and faculty at each researcher's school, and individuals affected by diagnosed anxiety through social media platforms such as Instagram, Discord, Twitter, and Facebook. The purpose behind seeking responses from various places was to analyze and investigate the frequent trends between socioeconomic factors such as lack of healthcare service and financial constraints to anxiety disorder and eventually draw intricate conclusions to whether or not these factors influenced the prevalence of anxiety disorders and the stigma corresponding with them. The results of our survey would allow us to see which socioeconomic factors exacerbated the economic and mental burden associated with an anxiety disorder.

Additionally, by including questions concerning future solutions and how one is receiving adequate treatment for their anxiety disorder, we are able to accurately recognize where the treatment gap lies and what more should be done to aid those struggling with an anxiety disorder. Our anova test aimed to look for correlations between multiple socio-economic factors, such as income levels, race and percent of people who said there has been an increase in their economic barriers. We found two statistically significant relationships pertaining to income level. The first correlation reported to be statistically significant was income level and economic burdens faced due to anxiety disorders. This means that income level influences the level of economic burdens faced due to seeking help for anxiety disorders.

However, it seems there wasn't any linear relationship between these two factors, so we were unable to conclude that an increase in come led to the increased economic burden, for example. Mentioned earlier, it is interesting to note that the peak mean score of 2 at 120-140k income was the highest out of all income groups. This is because one would expect those with a lower income to experience bigger stresses economically seeking help. For an income admittedly high over the poverty line, it is slightly puzzling since these families should be able to afford mental health care given that mental health care costs an average of 1,592 dollars on average per person and should be affordable for these families (Pal, 2015). This income bracket also had the highest variation within its answer, which could mean that there is not a main consensus between the people within these groups pertaining to the economic burdens they faced due to seeking help for anxiety disorders.

One hypothesis is that the continued stigma surrounding mental health not being as important as other illnesses, which makes families think that spending money on mental health is an added burden that could be resolved without money. Moreover, the public tends to disapprove and are less likely to pity those diagnosed with a mental illness when compared to those with a physical disability, causing those with a mental disorder to self-discriminate and withhold from seeking help. (Corrigan & Watson, 2002). This brings us to another anova result between income level and the level of importance that should be placed on research into anxiety compared to other illnesses. These results were not statistically significant, but had they been, it would help us

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explain our result for the anova result between income level and economic burdens due to anxiety disorders. This is because if there is a connection between the way families of different income levels perceive mental health, we could conclude that a certain income level is more predisposed to perceive mental health as important/not important.

The second anova test comparing economic barriers stopping families from seeking mental health and income level was found to be statistically significant. Not surprisingly, it followed an inverse relationship on the descriptive since increased economic income would mean there is less worry about using money for mental health treatment. This is a relationship that would make sense. However, mentioned from our other anova tests, the 120-140k income bracket group seems to have the largest variation in answers. The emphasis on this income bracket seems puzzling because it appears that there is some sort of other lurking variable that is making respondents choose varied answers between 1-3. Our research indicates that based on the responses from each of the participants, there is the most variation from this scaling in comparison to all the other questions in the form. Therefore, for future research it would be interesting to look at and assess how high-income bracket families perceive seeking help for mental health or why they don't seek help even with the resources to do so.

In addition, it is important to note that the income bracket lower than 40k had the highest mean score, indicating the importance of affordable healthcare to low-income families. Although this has been a problem heavily stressed, research shows time and time again that there must be an affordable system developed to help low-income families have access to mental health without needing them to spend large amounts of their income doing so. In our survey, results indicated that the high mean score for low-income families correlated to those who lacked the adequate mental health service and care. It should also be noted that initially the goal of responses for this research study was centered around participants who are clinically diagnosed with anxiety disorder and not participants who were unsure of their diagnosis or are not clinically diagnosed at all. Majority of the 140 responses from this survey did not center towards clinically diagnosed anxiety patients but rather a combination of all three categories which affected our results and led to a less approachable way of assessing healthcare and financial burdens on these participants.

Finally, the lack of significance between race and other factors pertaining to anxiety disorder was a conclusion that can be interpreted in different ways. One, that anxiety disorders do not discriminate based on race, and race does not affect the economic barriers/burdens faced due to anxiety disorder. Our research paper aimed to fill in the gaps of previous research studies by attempting to examine the relationship between many socioeconomic factors and the mental and economic burden associated with an anxiety disorder. By doing this, not only were we able to determine whether individuals with a low socioeconomic status experienced more of a burden and hardship when seeking diagnosis and treatment for their anxiety disorder, but which factors exacerbated the treatment barrier the most, allowing us to recognize where current solutions for anxiety fall short and what more can be done and is needed to help the greatest amount of people struggling with their mental health.

It is important to note that future studies that focus on the socioeconomic factors that affect anxiety disorder treatments should make sure to isolate hidden variables that can alter the results from participants in the study. Solutions include making a greater range of mental health

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resources more accessible and available to the public in order to relieve some of the economic burden and normalizing mental health disorders, deeming them of equal importance as physical illnesses, and removing the stigma associated around mental health disorders to hopefully make people less reluctant and comfortable when asking for help.

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References

Ahmedani B. K. (2011). Mental Health Stigma: Society, Individuals, and the Profession. *Journal of social work values and ethics*, *8*(2), 41–416. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3248273/

Brown, C., Schulberg, H. C., Madonia, M. J., Shear, M. K., & Houck, P. R. (1996). Treatment outcomes for primary care patients with major depression and lifetime anxiety disorders. The American journal of psychiatry, *153(10)*, 1293–1300. https://doi.org/10.1176/ajp.153.10.1293

Burns, Jonathan Kenneth. "MENTAL HEALTH AND INEQUITY: A HUMAN RIGHTS APPROACH TO INEQUALITY, DISCRIMINATION, AND MENTAL DISABILITY." Health and Human Rights, vol. 11, no. 2, 2009, pp. 19–31. JSTOR, www.jstor.org/stable/25653100. Accessed 26 Apr. 2021.

Cabassa, L. J., & Baumann, A. A. (2013). A two-way street: bridging implementation science and cultural adaptations of mental health treatments. *Implementation science : IS*, *8*, 90. https://doi.org/10.1186/1748-5908-8-90

Cabassa, L. J., Gomes, A. P., Meyreles, Q., Capitelli, L., Younge, R., Dragatsi, D., Alvarez, J., Manrique, Y., & Lewis-Fernández, R. (2014). Using the collaborative intervention planning framework to adapt a health-care manager intervention to a new population and provider group to improve the health of people with serious mental illness. *Implementation science : IS*, *9*, 178. https://doi.org/10.1186/s13012-014-0178-9

Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World psychiatry : official journal of the World Psychiatric Association (WPA)*, *1*(1), 16–20.

Green, M.J., Benzeval, M. (2013). The development of socioeconomic inequalities in anxiety and depression symptoms over the lifecourse. *Soc Psychiatry Psychiatr Epidemiol 48(12),* 1951–1961. doi: 10.1007/s00127-013-0720-0

Harvey, A. G., & Gumport, N. B. (2015). Evidence-based psychological treatments for mental disorders: modifiable barriers to access and possible solutions. *Behaviour research and therapy*, *68*, 1–12. https://doi.org/10.1016/j.brat.2015.02.004

Hodgkinson, S., Godoy, L., Beers, L. S., & Lewin, A. (2017). Improving Mental Health Access for Low-Income Children and Families in the Primary Care Setting. *Pediatrics*, *139*(1), e20151175. https://doi.org/10.1542/peds.2015-1175

Locke, A. B., Kirst, N., & Shultz, C. G. (2015). Diagnosis and management of generalized anxiety disorder and panic disorder in adults. *American family physician*, *91*(9), 617–624. https://pubmed.ncbi.nlm.nih.gov/25955736/

_____

Lord, K. A., Jacobson, N. C., Suvak, M. K., & Newman, M. G. (2020). Social criticism moderates the relationship between anxiety and depression 10 years later. *Journal of affective disorders*, *274*, 15–22. https://doi.org/10.1016/j.jad.2020.05.030

Pal, S. (2015). The Economic Burden of Mental Health Care. *US Pharm. 40(11),* 20, https://www.uspharmacist.com/article/the-economic-burden-of-mental-health-care

Roy-Byrne, P.P., Joesch, J. M, Wang, P.S., Kessler, R.C. (2009) Low Socioeconomic Status and Mental Health Care Use Among Respondents With Anxiety and Depression in the NCS-R, Psychiatric Services,60(9), https://doi.org/10.1176/ps.2009.60.9.1190

Reiss F. (2013). Socioeconomic inequalities and mental health problems in children and adolescents: a systematic review. *Social science & medicine (1982)*, *90*, 24–31. https://doi.org/10.1016/j.socscimed.2013.04.026

Reiss, F., Meyrose, A. K., Otto, C., Lampert, T., Klasen, F., & Ravens-Sieberer, U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. *PloS one*, *14*(3), e0213700. https://doi.org/10.1371/journal.pone.0213700

Trautman, S., Rehm, J., Withchen, H. (2016). The economic costs of mental disorders. *EMBO Reports, 17(9),* 1245–1249, doi: 10.15252/embr.201642951

U.S. Centers for Medicare & Medicaid Services. (2019). National Healthcare Expenditure Sheet Facts. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet

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