

University of Puget Sound - CONN 345 - The Economics of Happiness - Research Paper

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1 Introduction

Legal Disclaimer

Any collected data regarding individuals under the age of 18 have been removed for legal purposes. At the start of the survey all individuals were provided with a disclaimer that "The results of the survey will be used for the purposes of a research project. Completion of the survey will be considered congruent with consent to utilize your responses as a part of the research". The information collected through the survey will be discussed and included as a part of the Data, Findings, and Conclusion sections.

1.1 Abstract

This research paper focuses on the correlation between an individual's happiness, mental health, and romantic and non-romantic relationships. Utilizing a survey of 65 individuals from the ages of under 18 to over 51 and identifying as Male (19), Female (41), Non-Binary (2), and Non-Specified (2), a set of calculations were done to find patterns in the data. The purpose of the survey was to determine whether the results of the identified population fit into the results of previous research and whether any clear trends could be picked up. After reviewing the collected data, it was determined that the correlation between happiness, mental health, and relationships fits with the general trend of previous research.

1.2 The Problem

Between the continuation of COVID-19 and tensions in the world due to the Russian invasion of Ukraine, among many other factors, mental health and happiness have taken a severe dive. The increase in interest in the negative sides of happiness and mental health led me to investigate the positive effects on both mental health and happiness. As someone that derives a lot of pleasure from the people that I hold close in my life such as my current partner and long term friends, I figured it would be interesting to see whether the individuals that I may encounter regularly through social media and daily life would perceive friendships and romantic relationships in a similar way as me. To accurately collect data on the topic, I found several scientifically and psychologically proven sets of questions.

1.2.1 Happiness

To understand how to gauge happiness, I came across a paper named The Pemberton Happiness Index from the Journal "*Medicine*" [2]. This index is a set of questions (21 total) that were proven to be an accurate determination of a person's happiness. For the study, the first 11 questions were used (the use of the first 11 rather than all 21 was discussed as a viable use of the index in the journal article).

1.2.2 Mental Health

Mental Health is an extremely broad subject that is constantly being studied and refined by psychologists/psychiatrists and researchers across the world. Due to the breadth of the subject, I determined that I needed to find the most common mental health disorders to get a generalized idea of the mental health of the population. To do this I utilized an article written by *The National Institute for Health and Care Excellence* in the UK named Common Mental Health Problems: identification and pathways to care[1]. The article breaks down the common mental health issues that affect individuals most often. The research determined that Depression and Generalized Anxiety Disorder are two of the most common mental health disorders. Due to this fact, I decided to utilize Anxiety and Depression as my deterministic factors for mental health.

Anxiety

According to the *Oxford Academic Journal of Occupational Medicine*[4], "The Generalized Anxiety Disorder (GAD-7) questionnaire is a seven-item, self-report anxiety questionnaire designed to assess the patient's health status during the previous 2 weeks". This questionnaire has been proven over a multitude of tests to be an accurate representation of Generalized Anxiety Disorder in the population as a self-reported questionnaire. Though the true accuracy is not equal to that of talk therapy, the questionnaire gives an accurate representation of an individual's possible presentation of Generalized Anxiety Disorder Symptoms.

Depression

According to *The Journal of General Internal Medicine* in an article titled The PHQ-9: Validity of a Brief Depression Severity Measure[3], "In addition to making criteria-based diagnoses of depressive disorders, the PHQ-9 is also a reliable and valid measure of depression severity. These characteristics plus its brevity make the PHQ-9 a useful clinical and research tool". Due to this information, I determined that the PHQ-9 was an accurate and proven way to represent an individual's possible presentation of Depression Symptoms.

1.2.3 Friendships

When it comes to understanding an individual's perception of friendships and non-romantic relationships, there are very few, if any forms of research regarding the exact intention that I was attempting to get across in this part of the questionnaire. Rather than attempting to find a pre-made set of questions, I came up with my own set of questions. The questions were made to give a general idea as to an individual's perception of their non-romantic friendships.

1.2.4 Committed Relationships

When it comes to committed relationships, I decided to go with a Yes or No response. The question asks whether the individual is involved in a committed romantic relationship.

1.2.5 Non-Committed Romantic Relationships

I have defined non-committed romantic relationships as a type of relationship where two individuals engage in romantic actions without being committed to one individual. This can include people that have romantic engagements with one individual or multiple at one time.

1.3 Hypothesis

While creating the survey, there were four main hypotheses. Each of these hypotheses has to do with the five main topics discussed in Section 1.2, The Problem.

1.3.1 Happiness and Mental Health

There is a correlation between happiness (Section 1.2.1) and mental health (Section 1.2.2).

1.3.2 Happiness and Friendships

There is a correlation between happiness (Section 1.2.1) and people with enjoyable friend relationships (Section 1.2.3).

1.3.3 Happiness and Relationship Status

There is a correlation between happiness (Section 1.2.1) and an individual's relationship status (Section 1.2.4).

1.3.4 Happiness and Non-Committed Relationships

If someone takes part in a non-committed romantic relationship (Section 1.2.5), then they will be happier (Section 1.2.1) than those who do not.

1.4 History of Research

Psychology is an extremely broad field. There are thousands of devoted intellectuals that have devoted their careers to understanding the mind. Because of this, there is an extraordinary amount of research about relationships, happiness, and mental health. This allows for a very broad understanding of how the mind works and commonalities between individuals when it comes to how they might think. Many of the research papers and articles that I have found all seem to agree with the premise of my hypotheses. Though this is true, it

is important to determine whether there are any differences between what was found based on the population surveyed in my research versus what was found during other research.

When looking at happiness, it is important to understand how happiness works within the brain. A wonderful example of research into how happiness is created in the brain can be found in *The Happy Movie* directed by Roko Belic[7]. It was discovered that nearly 50% of an individual's happiness can be traced back to genetics. Following that is 40% based upon intentional activities such as exercise and meditation. And following that about 10% is based upon an individual's standing. This includes money, physical health, and mental health. Though this 10% is not a significant amount compared to the other 90% of genetics and intentional activities, there is some kind of effect that mental health has directly upon happiness.

Melikşah Demir Metin Özdemir in *Friendship, Need Satisfaction and Happiness*[6], discussed how happiness and friendships are correlated as people need to be satisfied in relationships to be satisfied with themselves. This topic is very interesting as we know that personal satisfaction is a very significant part of what makes individuals happy. As discussed in the *Happy Movie*[7], 40% of an individual's happiness is built on intentional activities. These activities are made up of things that an individual may do with others. Intentional activities with others could be anywhere from sitting in the same room as a friend while watching television to going with another person on a hike. Regardless of what the activity is, as long as it brings a sense of joy to the individual, it plays into this correlation between friendships and happiness.

In the article "Romantic relationships and the physical and mental health of college students"[6] written at Florida State University, It was found that students that are involved in romantic relationships will likely have better mental health. The article states from the start that there is little change in the studied population's physical well-being. While this was also not questioned as a part of this research study, it is understood that there is no significant effect in terms of the scope of the research.

The research was done by Professors at the University of Northern Iowa on the perception of sexual regret among female students. In the article titled "Hookups and Sexual Regret Among College Women"[9], it was found that women that partook in sexual encounters, many of which were not long-lasting if not only for a day, tend to have an increased sense of sexual regret. There was found to be an extremely significant correlation between sexual regret and whether they had engaged in a sexual act within the first 24 hours of knowing the other individual. An article titled "The Regret Factor: How it Impacts Our Happiness" in *Psychology Today*[8] discusses how there is a clear correlation between an individual's sense of regret and their happiness.

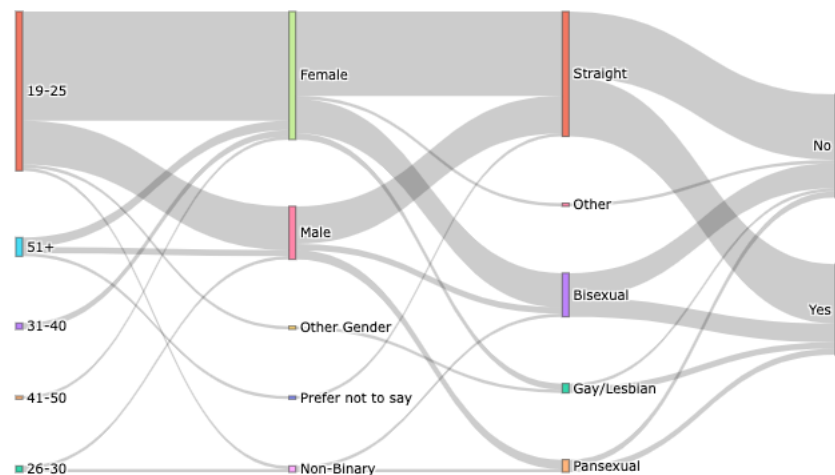
2 The Process

To collect data that could be used for this research, a survey was constructed containing each of the question sets discussed in section 1.2. The complete survey was created using Google Sheets. The platform allows individuals to use a link to access the form. The total time of the survey averaged around 3.5 minutes per respondent. Once the survey was constructed, the link was sent out through social media, word of mouth at school, through a posted sign at my current place of employment, and through family members.

3 Data

After all the data was collected, cleaned, and sorted, I was able to collect general information about the responses from the respondents. Out of the 65 total respondents, 41 identified as Female, 19 identified as Male, 2 identified as Non-Binary, and 2 identified as another gender or preferred not to state their gender. Of those respondents, 42 identified as Straight, 3 identified as Gay or Lesbian, 14 identified as Bisexual, 4 identified as Pansexual, and 1 identified with another sexuality. This can all be seen in the chart below.

Visualize Demographics



The Sankey Diagram shown above represents the Age, Gender, Sexuality, and Committed Relationship Status of the 65 respondents from the survey

As shown in the demographics data, there is a significant number of indi-

viduals within the 19-25 age range and little representation from the others. This does mean that the results of the study would more clearly be understood for individuals that fall within the 19-25 year age range and may not apply as significantly to those outside said age range. It can also be seen that nearly 50% of the respondents were involved in a committed relationship at the time of their response. These responses came from each of the different identified sexualities.

When it comes to the three main topics being analyzed, Happiness, Mental Health (via Anxiety and Depression), and Friendships, we can see how the population responded. Starting with Happiness, out of the 65 respondents, the average response was 4.91 out of a 7-point Likert scale (Strongly Disagree to Strongly Agree). This means that the average happiness level based on the Pemberton Happiness Index[2], if visualized on a -3 to 3 line, was a 1.9 with a standard deviation of 0.93. This is relatively high whereas a 0 (4 on the Happiness Index Scale) would be the middle between happy and unhappy.

When looking at Mental Health, we need to break it down into anxiety and depression. The GAD-7 and PHQ-9 are based on a four-point scale (Never, Some Days, Most Days, Every Day) where the higher the response the higher the level of anxiety or depression. Where 0 is equal to no anxiety or depression and 3 is equal to maximum anxiety or depression, the responses for anxiety averaged 1.28 and depression at 1.01 with a standard deviation of 0.64 and 0.56 respectively. The levels of anxiety and depression as they are perceived over the studies population are at the peak within the 19-25 age range and dip lower as the individuals get older. This may not be a perfect representation of the entire population as a majority of the individuals surveyed are a part of the middle to upper class based on my knowledge of the individuals that came across the survey.

Finally, when looking at Friendships, on a 7-point Likert scale, the respondents averaged 4.27 with a standard deviation of 1.29. This very high standard deviation shows that the individuals surveyed spread significantly across the scale where some individuals have much lower friendship ratings and others much higher.

4 Findings

Happiness and Mental Health

The first of the hypotheses is: There is a correlation between happiness and mental health. As discussed in Section 1.4, some studies have found a clear correlation between an individual's happiness and their mental health. The purpose of this hypothesis was to determine whether the population surveyed in this study follows along with the trends that are found within other populations.

When it comes to happiness based on mental health, there is a clear correlation between the two. An ANOVA Regression was run comparing Happiness against Anxiety and Depression. The collinearity diagnostics were not violated

as the tolerance is greater than 0.2 and the VIF is less than 5.0. The regression gave a significance value of 0.000 and an F value of 27.444. The adjusted R square value is at 0.452 meaning that anxiety and depression account for about 45.2% of the happiness of the individuals surveyed. It is also observed that the β (Beta) values for anxiety are -0.255 for anxiety and -0.477 for depression. This means that for every single standard deviation change in anxiety or depression, the happiness of the individual will change by their β . This information clearly shows that there is a correlation between an individual's happiness and their mental health, validating the hypothesis.

Happiness and Friendships

The second hypothesis is: There is a correlation between happiness and people with enjoyable friend relationships. As discussed in Section 1.4, studies have been completed that show a correlation between happiness in individuals and their friendships. It was shown that individuals that are satisfied with their friendships and that believe they have good friendships are more likely to be happy. The purpose of this hypothesis was to determine whether the population that took part in this study followed along with the trends found in other populations.

When looking at Happiness and Friendships, we can observe a clear correlation between individuals that have close friends and their perceived happiness. An ANOVA Regression was run comparing Happiness against Friendships. The collinearity diagnostics were not violated as the tolerance is greater than 0.2 and the VIF is less than 5.0. The regression gave a significance value of 0.000 and an F value of 32.141. The adjusted R square value is at 0.327 meaning that friendships account for about 32.7% of the happiness in the individuals surveyed. The β (Beta) value associated with happiness and friendships is 0.581 meaning that for every standard deviation change in an individual's friendships, there is a 0.581 increase in their happiness. This clearly shows that there is a correlation between an individual's happiness and friendships. This validates the hypothesis and coincides with the previous research that has been done.

Happiness and Relationship Status

The third hypothesis is: There is a correlation between happiness and an individual's relationship status. As discussed in Section 1.4, a Florida State University study found that students that were involved in committed relationships had an increased level of mental health. Because we have found a direct correlation between happiness and mental health, we can assume that the students that had an increased level of mental health who were involved in relationships would have an increased level of happiness.

When looking at Happiness and committed relationships, we can observe a clear correlation between individuals that are in a committed relationship and their perceived happiness. An independent t-test was run comparing respondents' answers to whether they are involved in a committed romantic relation-

ship against their happiness. It was observed that individuals involved in a committed relationship's happiness levels averaged 5.141 with a standard deviation of 0.766. It was also observed that individuals not involved in a committed relationship's happiness levels averaged at 4.656 with a standard deviation of 1.00. It was also found that there is a 0.034 2-tailed significance when comparing happiness and relationship status. This clearly shows that there is a correlation between happiness and relationship status where individuals in a relationship are significantly more likely to have an increased level of happiness assuming similar situations to those surveyed as a part of the study. This validates the hypothesis and coincides with the previous research that has been done.

Happiness and Non-Committed Relationships

The fourth hypothesis is: If someone takes part in a non-committed romantic relationship, then they will be happier than those who do not. As discussed in Section 1.4, researchers at the University of Northern Iowa found that individuals, particularly women, during college, had somewhat of a positive relationship between their sexual regret and their romantic non-committed sexual encounters with an emphasis on hook-ups. As described in Psychology Today[8], happiness is directly impacted by regret and those who have higher levels of regret tend to have a decreased level of happiness.

When looking at Happiness and Non-Committed romantic relationships, we can see a clear correlation. An independent t-test was run comparing the respondent's answers as to whether or not they are involved in romantic non-committed relationships against their self-reported happiness. It was found that there is a one-tailed significance of 1.000 and an F value of 0.000. This shows us that there is a clear negative correlation between happiness and non-committed romantic relationships. The average happiness level for individuals that responded to non-committed relationships is 4.482 with a standard deviation of 0.907 and for those who responded against non-committed relationships is 4.966 with a standard deviation of .0912. This data supports the hypotheses specified in the historical research and invalidates the hypothesis researched in this study. The correlation between happiness and non-committed relationships leads to a negative change in happiness.

5 Conclusion

Happiness, Mental Health, and Friendships are very significant parts of everyone's lives. By taking the time to focus on ourselves and increase our happiness levels through deliberate action and through prioritizing positive friendships, we can become more comfortable and happy with ourselves and with life.

This study focused on testing the relationships between happiness and mental health, friendships, committed romantic relationships, and non-committed romantic relationships. It was hypothesized that there would be a positive relationship between happiness and; a decrease in mental health disorders, an

increase in friendship satisfaction, the presence of committed romantic relationships, and the presence of non-committed romantic relationships. All but the last (non-committed romantic relationships) of these hypotheses were supported by historical research data and a survey completed by 65 individuals from an assortment of backgrounds. Though one of the hypotheses was not supported by the data, that does not mean that it may not have been supported in the presence of a different population. This research provides a deeper understanding of how important prioritizing mental health, quality friendships, and positive romantic relationships is for our happiness and well-being. Utilizing survey research to validate historical data and hypotheses is very important as it allows us to gain a deeper understanding of more broad populations.

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