The Efficacy of Technological Platforms in Alleviating Loneliness and Stimulating Happiness

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 Abstract: In order to conduct our research and better understand the underlying problem, we created the Happiness Project: a digital user-friendly application that acts as a life coach. We collected data that was submitted by each of the users on a daily basis for a period of 2 weeks. Participants self-reported that they felt more proactive and in-charge with the motivation from this project. The purpose of this research is to better understand if technological platforms can be helpful and how they can be improved to provide real value to individuals suffering from loneliness.

Keywords: Loneliness, technological platforms, happiness, purpose

I. **Introduction:**

The United States has a population of 331.9 Million people and yet, on May 3rd 2023 the "US Surgeon General Dr. Vivek Murthy released a general advisory calling to the public health crisis of loneliness, isolation, and lack of connection in our country."1 Murthy then went on to mention the physical consequences of such loneliness: "29% increases risk of heart disease, a 32% increased risk of stroke, and a 50% increased risk of developing dementia for older adults" [1] Along with this, a lack of social connection also increases risk of premature death by 60%. It has been linked to violence and increased levels of crime too, and tends to be an important red flag to recognize early on. [2]

Loneliness has multifaceted origins, with one major factor being the tendency for people to live alone at an older age and not have others to look after them. Approximately 21% of older men and 34% of older women live independently. [3] Some of the other reasons for loneliness include: divorce, re-location and the loss of someone significant. A study conducted by the University of Chicago also attributes loneliness to post trauma and exposure to violence. After surveying 500 adults living in Chicago neighborhoods with high rates of violent crime, the authors came to the conclusion that "The more violence people experienced in their community, the lonelier they are likely to be.[4]

How can we battle this Loneliness epidemic? In our modern world, with the abundance of technology and social networks we aren't just limited to connecting with people in our physical vicinity - there are currently 4.89 Billion active social media users with this number only expected to rise.[5] Surely that's enough people to take care of each other and prevent social isolation, right? Although this should work in theory, we don't seem to be seeing such results,

which raises the question: Are technological platforms effective in alleviating loneliness and stimulating happiness?

Number of social media users worldwide from 2017 to 2027
(in billions)

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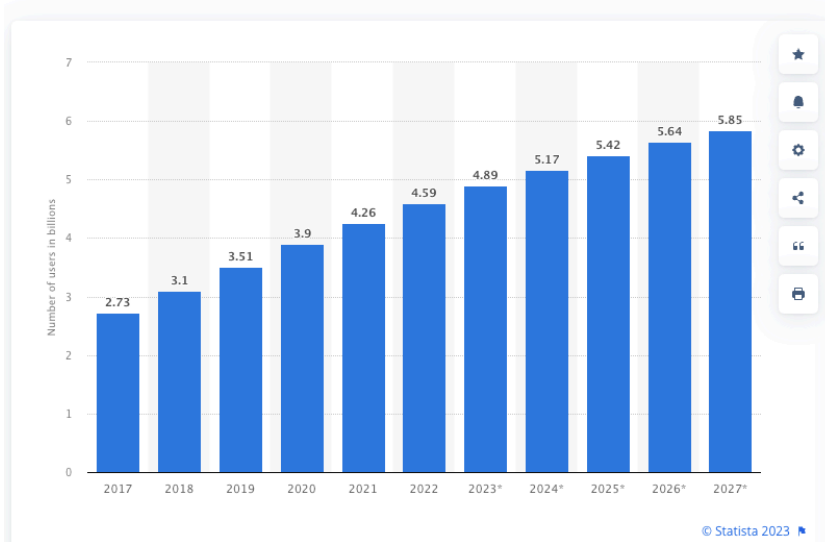
II. PRIOR RESEARCH:

With the constant increase in the daily use of technology, this has recently become a widely studied topic. "**Evaluation of the Effectiveness of Digital Technology Intervention to Reduce Loneliness in Older Adults**" **[6]** published in 2021 sheds light on similar issues but is focused entirely on older individuals and specifically the use of DTI's (Digital Technology Interventions). The findings showed a clear lack in clarity and consistency but provided a lot of insight into the problem and why it needs to be studied in more detail.

Similarly, another paper titled "**Findings from Talking Tech: A Training Pilot Intervention to Reduce Loneliness..**" **[7]** provides very encouraging information. The results from this paper pointed to a significant link between technological literacy and feeling socially connected. The analysis from this study showed a lower rate of Loneliness and increased technology use.
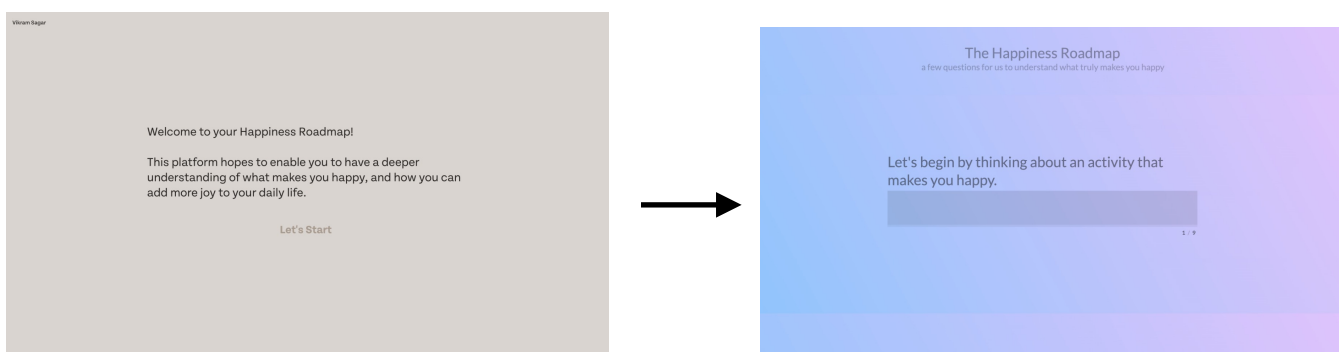
Both studies were inspiring and provided great insight into the problem that I aimed to better understand. Given this, I am excited to see the impact of the Happiness Project and how it can be improved and scaled to provide a solution or a path towards alleviating loneliness.
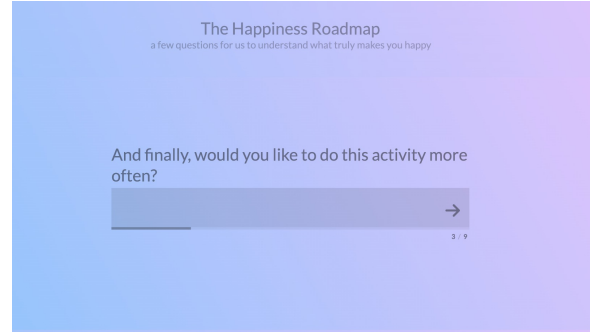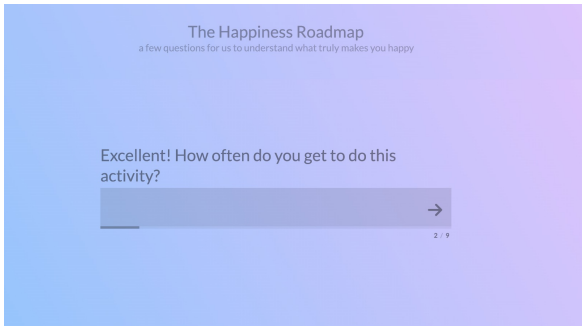
III. METHODOLOGY:

Although very subjective, the term "loneliness" is defined by Britannica as the "distressing experience that occurs when a person's social relationships are perceived to be less in quantity, and especially in quality, that desired.[8] The CDC expands on this definition by adding "Loneliness in the feeling of being alone, regardless of the amount of social connect. Social isolation is a lack of social connections".[9] This clear distinction between loneliness and social isolation points to the fact that one can be surrounded by people and still experience loneliness. There is evidence that suggests that cognitive therapies can reduce loneliness by training people to recognize the behaviors that thoughts that prevent them from forming valuable connections.[10] The first step to alleviating loneliness is being introspective, acknowledging the issue and identifying the reasons one feels this way.

In order to collect primary evidence and study this topic we will be running a beta test of the Happiness project with 47 users between the ages of 28 and 72 for 2 weeks. Before and after this 2 week period, each user will be expected to fill out a survey that identifies their levels of loneliness and happiness. The Happiness project is a web application that provides an insight into one's mental health and subsequently provides suggested activities as well as courses and discussions to take part in. In order to access all these tools and resources, each user must complete a daily survey titled "The Happiness Roadmap" that is used to obtain data and track their progress.

Section 1 - Understanding what makes a person happy

The Happiness Roadmap
a few questions for us to understand what truly makes you happy

Excellent! How often do you get to do this activity?

→

2 / 9

The Happiness Roadmap
a few questions for us to understand what truly makes you happy

And finally, would you like to do this activity more often?

→

3 / 9

Section 2 - Understanding the cause of negative emotions

The Happiness Roadmap
a few questions for us to understand what truly makes you happy

Let's begin by thinking about an activity that has recently made you unhappy. It could be watching the news, speaking with someone, or just something that has brought a little negativity to your life recently

1 / 6

The Happiness Roadmap
a few questions for us to understand what truly makes you happy

Thank you for sharing! Is this activity something that's in your control? Can your actions influence the activity? Feel free to answer with a yes/no or explain yourself

→

2 / 6

Fig 1. Screen captures displaying the prompts provided to users to answer on a daily basis

The Happiness Roadmap
a few questions for us to understand what truly makes you happy

Name one more activity that has recently made you unhappy.

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3 / 6

Upon completion of answering these prompts, the data is fed into our system and with the use of machine learning, each user is given a unique set of activities to try out in addition to suggested courses, short videos and articles.
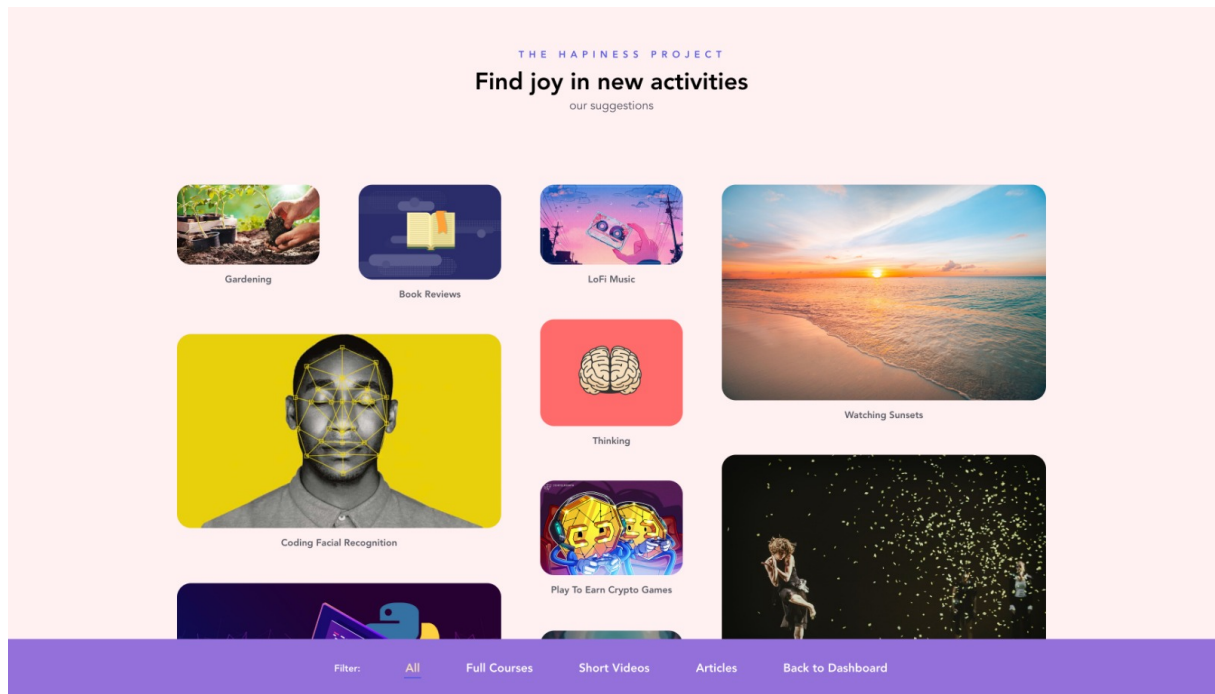

Fig 2. Screen capture of the resources and suggestions provided by the Happiness Project to users

The goal with providing alternate activities is to increase the opportunity to engage the mind and create very intentional chances to connect with others who share similar interests. Research by professors from Penn State points to the idea that "by engaging in meaningful activities during free time that demand focus, people can reduce loneliness and increase momentary happiness."[11] In today's world people are constantly occupying themselves by scrolling on social media and other such platforms on their mobile phones. Does this mean they are more engaged? Are they now less lonely than before?

Contrary to the thought that we are now well connected throughout the world, studies in fact show that loneliness has increased over recent decades. We believe that this is because most of us are

watching others actively engage in activities and simply viewing this does not provide the same level of mental satisfaction. This is why The Happiness Project encourages mindful thinking and pushes people to actively participate in the completion of a task and ultimately connect with a physical local community -
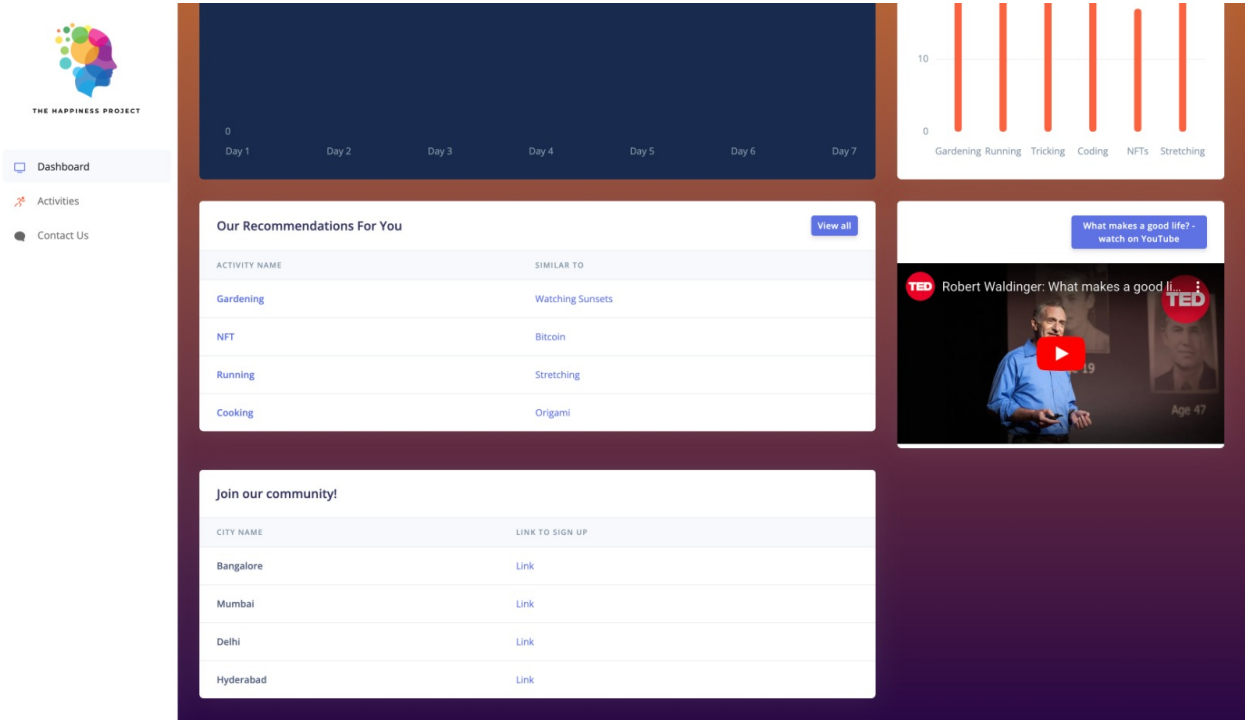

Fig 3. Screen capture from the happiness project displaying list of alternate activities along with links to group chats for individual cities in India.

IV. RESULTS:

The surveys carried out were designed to provide clear before and after data of using the Happiness Project platform for 2 weeks. The first 2 questions were focused on understanding the users' levels of digital literacy. Each individual had to answer these by selecting a number from 1 to 5. The next few questions required answering by selecting 1 of 5 options: Never, Rarely, Sometimes, Often, Always. These were used to gauge levels of loneliness and understand the knowledge that each individual had about their own mental health. Each user was then asked to

take the same survey after using the happiness project application for two weeks and we then compared the results. The second survey also included an additional yes/no question at the end. Overall the surveys were used to examine if the Happiness Project had any effect on alleviating loneliness at all.

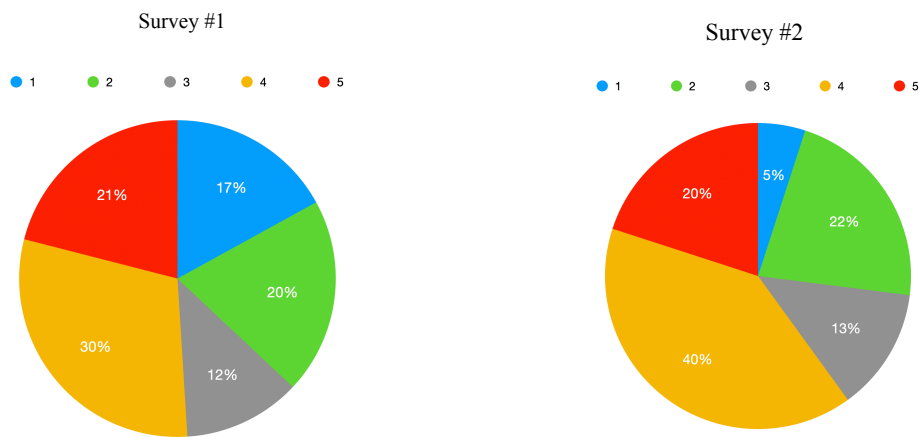1. How tech savvy would you consider yourself on a scale of 1 to 10?

Fig. 4 Pie chart representing the data collected from question 1

The pie charts above display the results of the first question when answered before and after using the Happiness Project for 2 weeks. The pie chart from survey #1 indicates that there is a clear division within the group. Very few people answered "3" and most people were on either ends of the spectrum, either they feel they are very tech savvy, or not at all. This could begin to indicate the division in terms of age. The older generations would perhaps feel less "tech savvy" than the younger population. The pie chart from survey #2 has a similar division but seems to see an upward shift, with more people answering 2, 3 or 4 than before. This indicates that after being forced to use an application such as the happiness project, individuals felt more confident with their skills and were willing to move up a level.

2. Rate your knowledge of what it means to feel lonely on a scale of 1 to 5; 5 meaning you know exactly what it is and 1 meaning you have little to no knowledge on the subject at all.

Survey #1

● 1   ● 2   ● 3   ● 4   ● 5

8%   17%   22%   53%

Survey #2

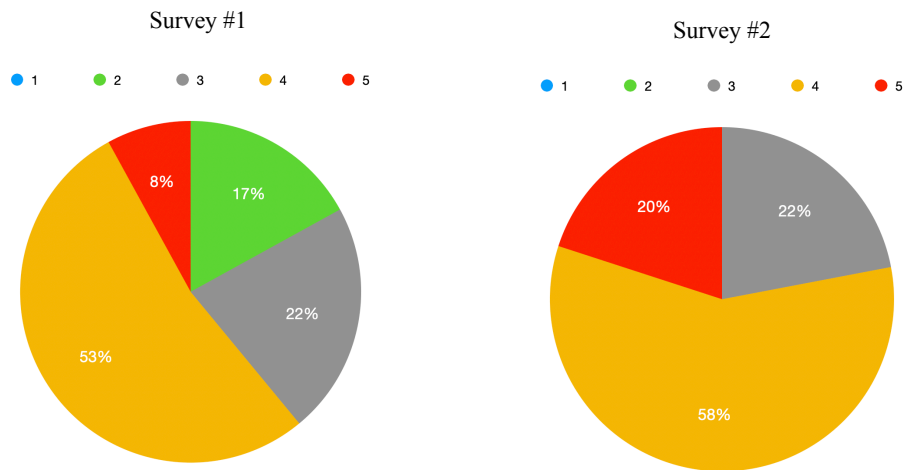● 1   ● 2   ● 3   ● 4   ● 5

20%   22%   58%

Fig. 5 Pie chart representing the data collected from question 2

This data above clearly depicts a high level of confidence in understanding what it means to be lonely. This means that loneliness is wide spread and a problem that most people seem to be aware of. Survey #2 indicates that the Happiness Project has given taught people more about the issue of loneliness and given them a better understanding overall. From this information we can conclude that while loneliness is a wide spread problem, not many are confident enough to say that the understand the complexities of such an issue.

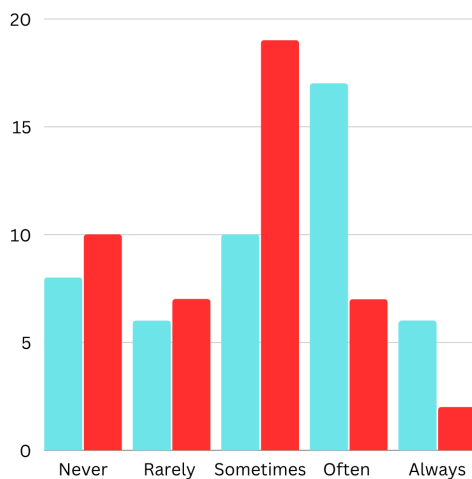3. How often do you feel like you have nobody to talk to?

Fig 6. Bar Graph representing the data from question 3

The bar graph above compares the data between the two surveys to identify how socially isolated each user was. Data from the first survey is represented in blue and data from survey #2 is in red. Looking at the blue bars we can see that initially there was a large number of individuals who felt like they often had nobody to talk to. This was a clear sign that these individuals were isolated and needed more of a social connect. After the Happiness Project, the data shifted drastically to reveal that majority of the users felt this way less and only sometimes felt like they had nobody to talk to. This displays that although the Happiness Project was successful in giving people some genuine connections it was not able to do so for everyone unanimously.

4. How often do you feel happy when actively engaged in an activity?
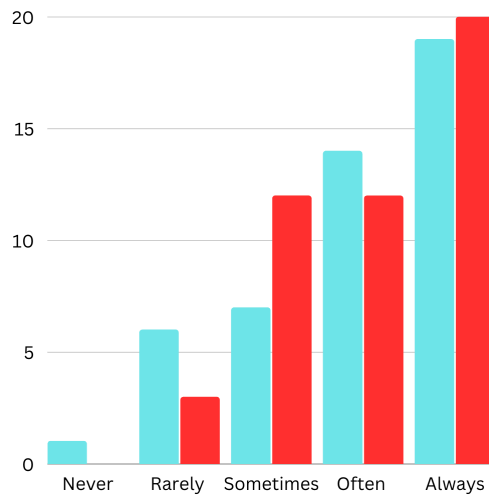

Fig 7. Bar Graph representing the data from question 4

This bar graph very clearly depicts an upward trend, with most people agreeing that

engaging in an activity makes them feel happy often or almost always. Data from survey #1 appears in blue and data from survey #2 is in red. Data also seems to be consistent for most part in both surveys. Although, there is a decrease in the number of individuals who never and only rarely felt happiness when engaging in activities. There was also a subsequent increase in the number of people who thought that they sometimes feel happiness. This could be attributed to the exposure users of the Happiness Project got to more activities. They now had a larger variety and must have liked some more than others.
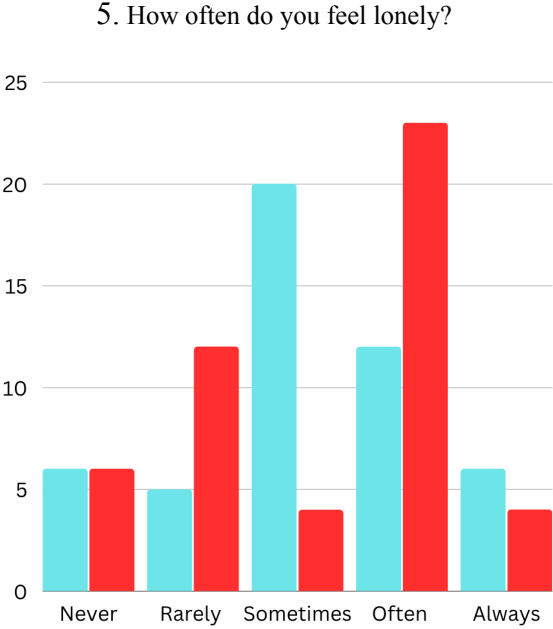
5. How often do you feel lonely?

Fig 8. Bar Graph representing the data from question 5

In the above bar graph answers to survey #1 are in blue and answers to survey #2 are in red. Contrary to our hopes, it appears as though the number of people who feel lonely often increased significantly. At the same time we do see a decrease in people always feeling loneliness and an

increase in the number of people who feel it rarely. Looking at this data we can conclude that the Happiness Project did help to reduce the feelings of loneliness for some, but also caused others to feel like they are lonely more often. Perhaps this can be linked to the fact that very few individuals were confident in their understanding of loneliness and now clearly know what it means and feels like. In order to better understand this data we added a 6th question on survey #2:

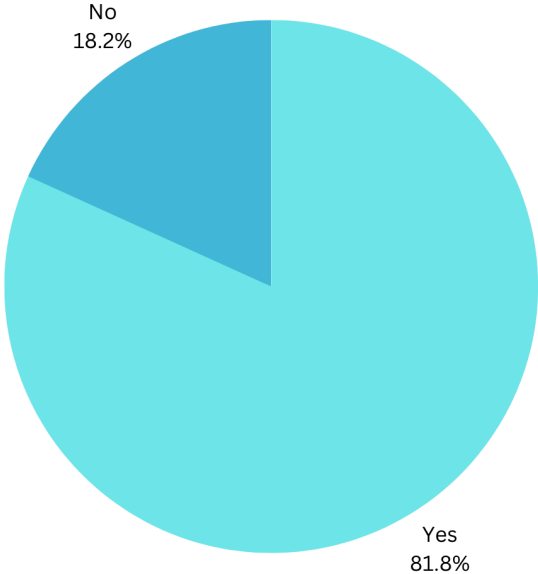5. Have you made any meaningful connections? Yes / No

Fig 9 Pie Chart representing the data from question 6

This final question helps to clarify very easily that the Happiness Project has had a positive impact on majority of the participants. 81.8% said that they made a meaningful connection during this 2 week period and that is definitely a success. Having even a singular connection with someone else can help to alleviate the feeling of being lonely and it also begins to provide a source of happiness over time.

V. DISCUSSION:

With the goal of providing a thorough review of this report, a shorter summary was formulated with the most important points. From the results compiled in this paper we can clearly see that participants had a lack of knowledge on the topic of loneliness and were able to become more informed. This along with the fact that there was an increase in the number of people who felt lonely leads to the idea that a lot of people didn't know they were lonely at first. The Happiness project provided an opportunity for participants to become more introspective by answering questions about their feelings on a daily basis and this could have given them a better insight.

When looking at the data in Fig 6. we can see that people did feel like they had an outlet now and did not feel like they had nobody to talk to. The Happiness Project provided a space for these individuals to speak and learn from others in a safe environment. This point was further strengthened by the overwhelmingly positive response to question 6 (as seen in fig. 9). A large majority felt like they had gained a connection, even in such a short period.

V. CONCLUSION:

Looking onward from the beta test of the happiness project, I think I can say that it was a definite success. We had a total of 47 participants who were active and provided great value to each other. From the results that we analyzed in this paper, it's clear that a technological platform like The Happiness Project has a lot of potential to alleviate loneliness. The fact that this research was conducted over a short period of only 2 weeks could be a large contributing factor to the results we managed to produce.

One of the major learnings from this paper was that the problem of loneliness is more complex than it seems. A large number of people don't even know what they are going through and require a lot of thinking and learning to better understand themselves. Once identified and acknowledged, it is possible to tackle this problem more effectively.

Ultimately, this paper highlights the effects of a technological platform in alleviating loneliness and fostering a sense of happiness. I am deeply confident that the work in this paper leads to the assumption that loneliness can be partially alleviated by the use of technological platforms.

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