Team:

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CPSC 4140, Spring 2018

Milestone 1 Report

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Introduction

An important idea in today's society is the idea that all people should feel safe, and, as such, a subset of people have taken it upon themselves to try and address the different aspects of a person's safety.

Our team began by asking a similar question: "What does it mean to be safe, and what can be done to improve a person's personal safety?" Through our research, we found several different avenues that could be capitalized upon in regards to the wide net that is personal safety. By the time we had finished gathering and analyzing our data, our team had determined that the area of personal safety that we wanted to target was that of mental and emotional well-being--an aspect of personal safety that can truly make an incredible impact on the livelihoods of all people from all walks of life. While the need to guard yourself against violent crime exists in varying degrees around the world, the need to guard your psychological and emotional health exists everywhere in equal measure.

Stakeholders

Due to the nature of our research our stakeholders were considered in two different phases. We categorized them as follows:

Initial Stakeholders:

During our initial research phase, the team gathered the following list of stakeholders:

Primary Stakeholders:

Primary Stakeholders are those who represent the majority of potential users of the final product. We determined our primary stakeholders to be as follows:

- College Students
- University Employees
- Student Workers

The team chose these primary stakeholders due to their desire to improve their personal safety or the personal safety of those closest to them. It is important to note that this improvement does not have to necessarily take place in the comfort of their own homes or other environments; instead, this improvement could also take place while the stakeholders are

accomplishing other goals such as exploring a foreign environment or socializing in a place where the stakeholder would generally not feel comfortable alone.

Secondary Stakeholders:

Secondary Stakeholders are those users who may be occasional users of the final product, or those who may encounter the aforementioned primary stakeholders as a result of interacting with the final product. We determined our secondary stakeholders to be as follows:

- Police Officers
- School Administrators
- First Responders / EMS
- Local Citizens

The team chose these secondary stakeholders due to their desire to provide safety (either through their occupation or through the general shared experience of humanity) to the primary stakeholders. Our secondary stakeholders are considered to be as invested, or even more invested, in the well-being of our primary stakeholders.

Tertiary Stakeholders:

Tertiary Stakeholders are those who may or may not use the final product, but have the ability to both influence its adoption among primary stakeholders, as well as influence its continued (or discontinued) use. We determined our tertiary stakeholders to be as follows:

- Parents
- Significant Others, Friends
- School Administration

The team chose these tertiary stakeholders due to their desire to uphold the safety of the primary stakeholders. These tertiary stakeholders typically show their desire by personally performing actions to increase the feeling of safety by the aforementioned primary stakeholder, or by intervening on behalf of the primary stakeholders by recommending the services of the aforementioned secondary stakeholders.

Disapproval of our final product from these tertiary stakeholders may lead to the product being used less than anticipated, or may even lead to the final product not being used at all. However, we believe that the genuine care that tertiary stakeholders express towards those users found in our group of primary stakeholders will give the final product leverage. The tertiary stakeholders

are kept in mind during the research, design, and development phases. This will encourage more primary stakeholders to adopt or continue using the final product.

Additional Stakeholders:

Due to our initial direction into a market which is already saturated with technology to solve the specific problem we were attempting to address, the team had to make a pivot. As a result of our pivot, as well as a result of the feedback given during Studio 1, we have added the following stakeholders to our initial list:

Primary Stakeholders:
- Individuals in high stress environments
- Individuals suffering from psychological disorders

Initially, our primary stakeholders were painted as having the goal of improving their physiological safety. After further exploration into the tools available to protect individuals in a physical sense, our stakeholders are now being approached as persons in search of emotional support or group bonding. We also hope to help connect people in search of better ways to meet the emotional needs of their friends, family, and peers.

Secondary Stakeholders:
- Psychological Counselors
- Individuals in emotional distress

In changing our focus from physiological safety to emotional and mental safety, the secondary stakeholders' role has not changed much. They still are poised to serve their initial purpose. However, their emphasis has shifted from one of physical well-being to one of mental and emotional well-being. That said, these new secondary stakeholders are added into the mix due to their expertise in exactly those previously-mentioned areas of safety, and they represent an important source to ensure that our final product is meeting the needs of the primary stakeholders appropriately.

Tertiary Stakeholders:
- Psychological Counselors

Much like in our appended secondary stakeholders section, the tertiary stakeholders' focus stays much the same. However, just like the secondary stakeholders, the tertiary stakeholder list is expanded to include those who will be recommending (either for or against) our final product.

It will be imperative that the team speaks to and works closely with these stakeholders to earn approval and iron out any points of concern that they might have.

Existing Solutions

Rave Guardian Analysis

As part of our data gathering efforts, we examined the Clemson University Police Department's recommended safety app: Rave Guardian, developed by Rave Mobile Safety. The app necessarily has to acquire a large amount of information in the event of an emergency, but its data collection methods leave something to be desired as they wind through long forms and don't break this task down well. Outside of this initial experience, we believe that the Rave Guardian app is a superb choice for personal safety. All of its functions can be easily accessed in a few taps, and it doesn't want for features. Being a smartphone app, users will almost certainly be able to use it anywhere at any time they feel they need it.

The app has a dedicated inbox, contact list, safety timer, and fast access to emergency services and tip hotlines. When registered as a University student, the app automatically creates connections to the University's Police Department, which is a great feature that connects users to their local community and improves these department's ability to do their job excellently. As a smartphone app, expanding the number of safety contacts is easily achieved by integrating with the user's phone's contact list, with preformatted messages inviting selected contacts to the app. Rave Guardian works best when users have a large group of safety contacts to monitor them whenever a safety timer is set, so the ease of expanding this list is vital for the app to work optimally. The app allows for easy communication while the safety timer runs, allowing for updates to be logged as the user deems appropriate. In the event of emergency, the app will instantly share important information and locational data to all of the selected emergency contacts, and the reliability of this feature is a make-or-break moment for the app. Our group did not test this (so as not to give false alarm to emergency services), but we believe that it is trustworthy and reliable based on the strength of CUPD's recommendation.

Seven Cups of Tea Analysis

Seven cups of tea is a platform designed to get individuals in need of emotional support in touch with individuals who are willing to help. One of the biggest distinguishing features of Seven Cups compared to other psychological well-being platforms lies in the fact that there are no professional counselors involved. Glen Moriarty, a clinical psychologist and founder of Seven Cups, stated in a 2014 interview that ""In therapy, you usually have to drive to the therapist, and when you get there, you're worried about being judged, But on 7 Cups, callers get right to the heart of the issue. It's incredibly healing. We're a global, social safety net" [1].

Moriarty later stated that one of the biggest challenges for Seven Cups lies in finding volunteer listeners to use the service. Generally it's people with existing problems that go to seek help. This leads to a large number of people seeking help and few volunteering their time to help others.

Seven Cups supports both a web app as well as a mobile application for both its users and volunteer listeners. The service is offered for free and is available to anyone over the age of 18 to use.

Criteria of Success and Failure

We learned from the Rave Guardian app that registration and necessary initial user information gathering needs to be broken down into smaller pieces to not dissuade users from joining. We also learned that using a similar breakdown between basic app functions makes using an app both enjoyable and efficient, we should aim to emulate this in any design of our own. We realized that utilizing existing information, such as the phone's contact list, can work dramatically in favor of the product's success. Finally, we recognized that reliability forms an extremely strict criteria for success in this field. A single failure in terms of reliability would make the entire app a failure of a product and could lead to real harm for a user, which is unacceptable.

Meanwhile, Seven Cups showed us that a very low response time can outweigh professionally-trained services in the everyday person's mind. We wouldn't want to trivialize the field of counseling, but recognize that all measures that can be taken sans professionals are most appealing when users can have immediate and on-demand access to them. Seven Cups also proved that a network of volunteers can be used to provide support for large user bases, but that this requires careful administration and thoughtful design to ensure confidentiality and larger scale success.

Conclusions from Evaluations

The Rave Guardian app showed us that the space of physical safety is already well-serviced, but it provides most of its comfort from the human connection monitoring users' safety timers. While excellent for physical safety, more commonplace issues with mental and emotional well-being remain under-served. This convinced us that the area of physical safety was not an area we should attempt to innovate in, but that emotional well-being could hold many opportunities for innovation.

Seven Cups showed us that the area of mental health support is beginning to see a number of services crop up, but that the area is still ripe for ways to better serve people. The use of volunteers to provide services can greatly reduce response times, but it takes a lot of effort and

care to implement such a system properly. The immediately available human factor, professional or not, stranger or friend, is the most important part of Seven Cup's service, so we should keep this in mind even if we attempt to serve our users in another manner.

Task Analysis

Important characteristics of the tasks performed by users:

- Tasks must be easily understood and readily available to be executed
- Tasks should not be strenuous to complete
- Tasks should be rewarding; it should not be a chore to complete the tasks

Important characteristics of the task environment:

- Environment must be encouraging and inviting; users should want to complete tasks
- Environment should be intuitive and easy to use

Data Synthesis

The team spent ample time performing research, both academic and in the field, to determine the correct course of action to take on the problem space that we had defined. What follows is the data and research that we found:

The Survey

The team hosted a general safety survey and distributed amongst family, friends, and peers. The survey received 70 responses over its lifespan, and spanned 18 different universities and colleges from around the nation. The survey consisted of multiple questions asking about the individual's general feeling of safety, along with reasons for that perceived feeling of safety, whether good or bad. Upon analyzing the results, the team came up with the following conclusions:

- People feel physically safe on campus, less so during the night than during the day, however, more than half of our responses indicated a 7 or higher feeling of safety walking around the individual's college or university campus at night (for reference, the scale was 1 [very unsafe] to 10 [very safe]).
- Abundant light is the largest contributor to people reporting that they feel safe.

- The next most important factor was the company of others or awareness that others know where they are located.

The Research:

After the team began looking into emotional well-being, we found a paper from the 2017 Center for Collegiate Mental Health Report that stated that the vast majority of mental health counseling is devoted to persons experiencing anxiety, depression, and stress (see figure 1 below) [2].
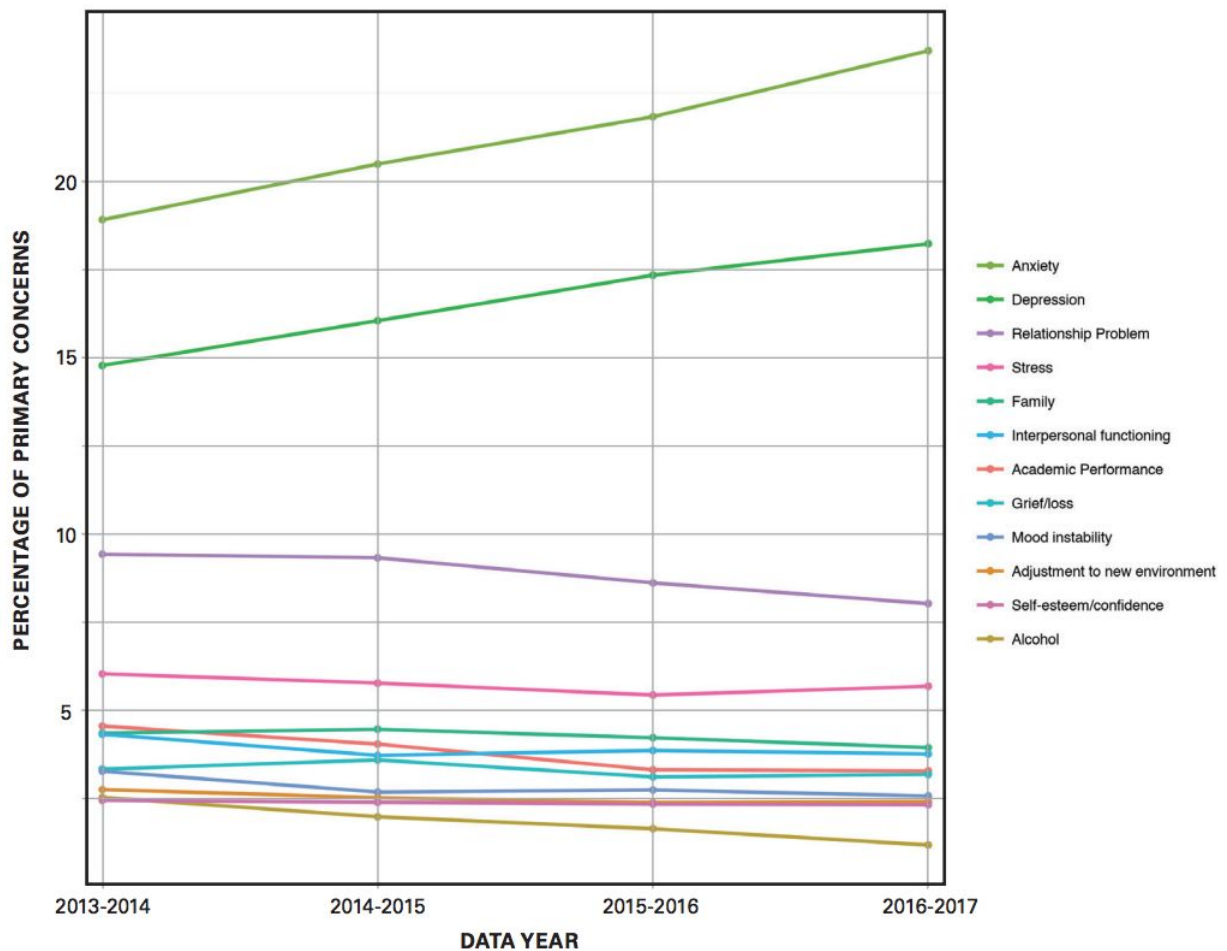
NOTE: Data from 2013-2017. N= 150,621 unique students with CLICC data.

Figure 1

From the same report we also see that many clients may experience several or all of these concerns simultaneously (see Figure 2 below). Most persons willing to seek counseling could

receive help regarding any of the three major primary concerns, meaning that any solution in part or whole across this domain would be widely beneficial to a large group of potential users.

CLICC – "Check All That Apply"
For each client, clinicians are asked to "check all that apply" from a list of 44 concerns (as one client can have many concurrent concerns). This graph illustrates the frequency of each concern across all clients during the 2016-2017 academic year, regardless of the number of concerns for each client or which concern was the primary one (N= 59,208).
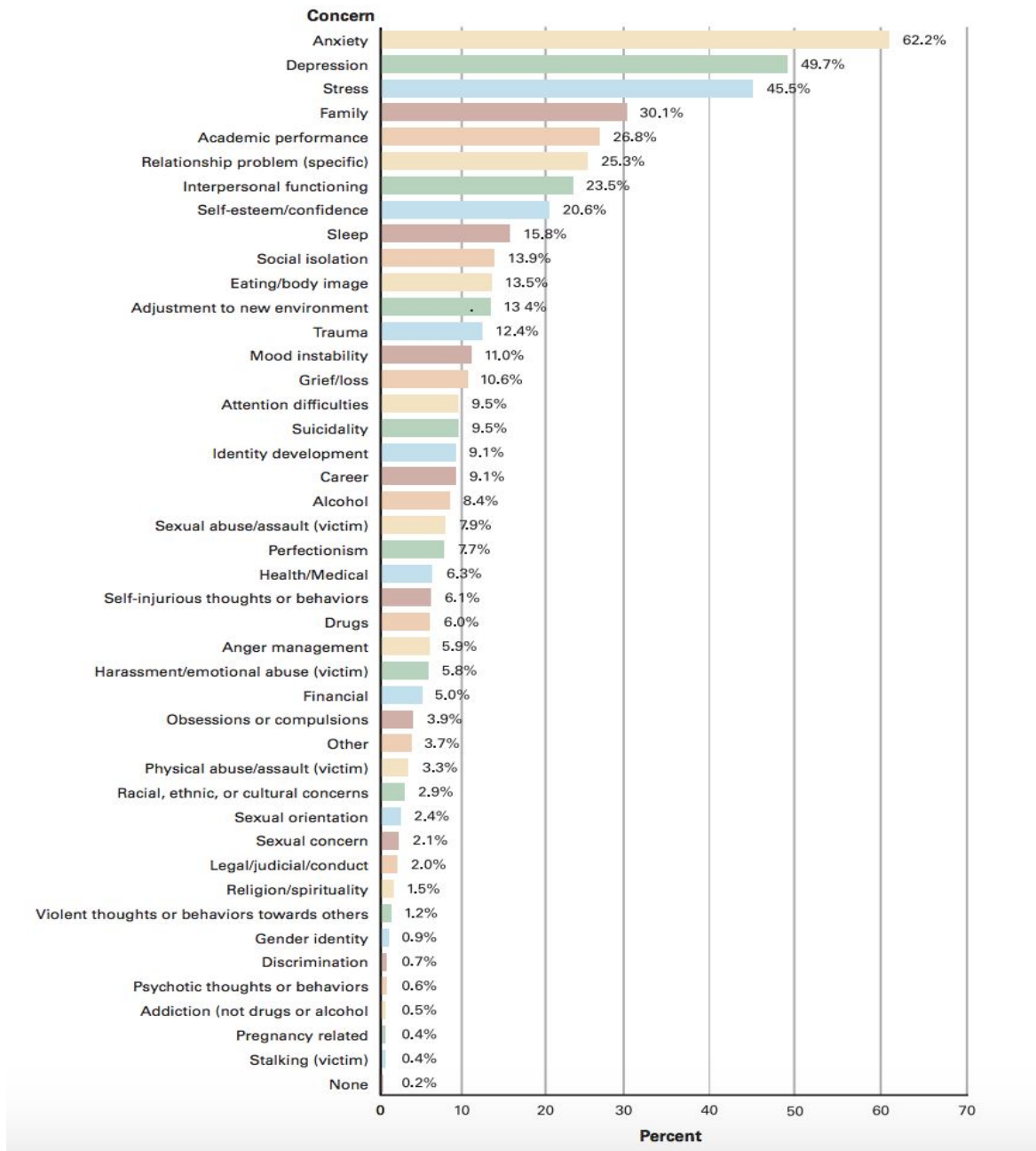
Figure 2

Just how many users could this really represent? According to Mental Health America, one in five adults have a mental health condition (representing 43 million persons in America alone) and youth depression rates have increased by nearly 40% in a five-year span [3]. MHA says specifically that 10.96% of youth (age 12-17) in South Carolina (roughly 40,000 persons) report suffering at least one major depressive episode last year, which they define as a significant period of pervasive feelings of sadness or suicidal thoughts that impair a person's ability to concentrate or engage in normal activities [4]. These are serious issues experienced by a significant portion of the population on a local and national scale, and we believe that more can be done to reach out and support these people.

The Analysis:

With our initial survey returning results that surprised us, the team quickly focused in on what people were trying to tell us by their results. We learned that people generally feel safe on their college campuses. However, digging deeper into the data showed that the vast majority of people felt safe due to the presence of others, either directly (i.e. walking with a friend or group) or indirectly (the presence of security guards or police officers on patrol).

When the team began to pivot and research other areas of personal safety, it became clear that there was also a link between our survey respondents' need for the presence of others to feel safe, and the area of emotional and mental safety. We see this link in a few different places in our society, mostly, as one member of our class pointed out in their feedback from Studio 1, in groups such as Alcoholics Anonymous, or other support groups for any sort of mental or emotional tribulation or ailment. Looking back on our research, which stated that the vast majority of mental health counseling is devoted to persons experiencing anxiety, depression, and stress, we believe that these issues can be aided in a similar manner to navigating campus at night--with another person or people coming alongside the individual to provide help and comfort when needed. Anxiety, depression, and stress are all relatively normal emotions even in their less severe forms, but they are not healthy and more can be done to aid one another in getting the help we need no matter how moderate or severe the case may be.

Moving Forward

As we continue moving within our problem space, the team intends to do a few different things:

First and foremost, we intend to continue our academic research into the emotional and mental well-being of individuals. With the help of the vast array of scholarly journals hosted online through Clemson's library, we will attempt to understand our problem space more thoroughly so that we can ask more efficient questions, and design more usable solutions.

We also will be expanding our research into personal interviews with those people who understand the problem space firsthand--on either side of the issue. As of right now, we have a meeting set up with CAPS so that we can learn from their experience in the field of mental and emotional well-being. We believe that professional psychological counselors will be able to provide the most relevant information for our research. This is information that could give us valuable clues into how we can address this problem with individuals.

We also intend to find our particular spot in this problem space where we can do the most good. Obviously, we won't be able to begin on this portion until we get more information of the space in which we are navigating, but once our individual research is on the way, we can begin to formulate possible ways in which we can jump into the space without too much resistance.

Sources

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