Sierra Romo

Diversity in STS  
Final Project

Arlene Ducao

Cortisol Patch

In continuing my midterm project, I decided to stick with the cortisol patch that monitors the levels of the cortisol hormone and then that data is collected and turned into quantitative and categorical data that users can have access to on an app on their phones. As my research has progressed I decided that I wanted to not only keep the same medical technology but I found that my technology could be used in a variety of different ways that I hadn’t previously considered. My research problem tackled mental health in the US. More specifically, it tackled the rising suicide rate in the U.S among all age groups. I chose this issue because it really hit close to home. Back in Washington my hometown has seen its fair share of casualties caused by suicide. Within the past three years I have lost too many loved ones to suicide. Furthermore, I wanted my technology to be a tool to a problem I feel is not only underrepresented, but seldom has solutions provided for it.

The Salient Identity that I used was people with mental health illnesses, or disabilities. I found that severe depression and severe anxiety disorders are direct precursors to suicide. From here my thought process was, what can I directly point to, something that can be controlled that might mediate problems of severe anxiety and depression. I found that stress the root cause of so many of these illness, and other illnesses in general. I remembered being in high school and getting extremely sick, going to the doctors and being told that I had stressed myself into an illness (depression and anxiety). So my challenge then became, how can I control stress? So many times I am in prolonged instances of stress and I don’t even realize it. Through extensive research I found that the hormone cortisol, released by the body out the adrenal glands, when released in excessive amounts causes people to have severe anxiety and depression.

In thinking about the prototype I came to my idea by accident. I was on the phone Facetiming my grandma who is diabetic when she told me about her Insulin Patch. Basically, the patch is made of a thousand microfiber needles that monitor the levels of insulin in your body and then secrete the insulin medicine when needed. This was the foundation of my prototype. I tried to take a very innovative stance when designing my technology. I see innovation as a “stacked platform” idea (Johnson). Where every good invention is innovated off of previous knowledge. Furthermore, in reading *MisMatch* by Kat Holmes she brings up the importance of being inclusive when you design something. Not just because is morally the correct thing to do but also because inclusive design merits a better innovation. You simply just add and make improvements to an idea that already exists. This is what I did with the insulin patch. I thought I would use the patch, but instead of monitoring insulin the patch would monitor your cortisol levels. My idea was, if you can see where in your life, or throughout the day rather, that your body releases this hormone in excess you can adapt and reflect about what in your life is giving you stress. And perhaps, stop so many illness from reaching fruition.

When thinking about the feedback I was going to seek from people I knew that I wanted to talk to someone who genuinely identifies with this SSI. This is because mental health is a sort of abstract concept, and though I will not deny that many do suffer from depression and anxiety, there is a distinct difference between self-diagnoses and a clinical diagnosis. More than that I knew that there is a sort of disconnect between certain demographics and the medical field (Owens) so I had to keep this in mind when not only constructing my design but also in how it was going to shape the narrative of who it is for and who will be the ones to use it. For accuracy, I need the ladder to be the focus of my interview. Because of this I knew that interviewing people was going to be a little difficult. It’s very hard to get people to open up and share about how their Salient Identity provides obstacle in their life, especially if their identity is mental health illnesses. When talking to my partners during the Persona Exercise, I found that the best way to approach this interview was going to be to first make sure that I was the only person interviewing them. As it can be incredibly intimidating to talk in front of a group of people, especially about such a personal and sensitive topic. As far as interviewing an expert, I really only needed to make sure that my questions were more about the technical side, the logistics of mental health, rather than the personal conversation I had with the person who personally identified with anxiety and depression.

First I interviewed two friends of mine, Hannah Mason and Sarah Kersey. Both girls attend the Gonzaga University, both are studying journalism and both have been my friend since I was a child. Hannah, has a severe case of clinical depression, she sees a therapist every week and has been admitted to the hospital a fair amount of times because of her mental health. Sarah, suffers from severe PTSD. Having gone through an egregious trial in her life her junior year of high school, she has had to learn to deal with the side effects of her PTSD. I talked to both of these girls separately but asked them the same questions. I asked them how their SSI has given rise to obstacles in their life and how they have learned to cope with it. Hannah explained that she finds new environments to be distinctly difficult to her. Stirring up ample amounts of stress, Hannah explains that she still doesn’t really know how to deal with her stress and is learning more and more about herself and new ways to cope every single day. Sarah said that it comes in waves. Some days she finds that she is doing really well and has a clear head and other days getting out of bed, showering, and even getting up to use the restroom can be a challenge for her. For her she finds calling her friends, therapist, and keeping up with her medicine to be the best way to cope with her challenges. I then explained to them my technology and asked me if they would use it if it was available and if they found it to be something useful. They both agreed that it would be very useful for them, but they also gave me ideas as to who else it could help.

I also interviewed the parents of a young boy I nanny for, Colin. This was my absolute favorite of all the interviews. Allow me to explain who the wonderful child Colin is. Colin, a five year old kindergartener is the smartest human being I have ever met. Being able to take care of him has been one of the best experiences of my life. Colin suffers from a severe case of ADHD and some side effects of this include; OCD and anxiety. To give a little more context I have a story to share. Back in November I was running late to pick him up from the bus stop, running from Tandon to Cadman Plaza to get him, I ended up having to pick him up from the next stop. For most kids this wouldn’t be an issue, for Colin it was really bad. He had a complete anxiety attack, didn’t know how to handle the situation and was very upset with me. His parents pulled me aside and explained to be the brevity of the situation, and from there my entire perspective changed. You see Colin will live the rest of his life having to overcome challenges that most people won’t even consider. He can’t control his emotions, small things trigger his anxiety. When talking to his parents about the patch idea they genuinely loved it. There are so many times when after school Colin is in a mood and they can’t figure out what might have caused it. It would be so convenient if they could monitor when this little boy is very stressed out.

When talking to a medical expert, it was mostly to get information about the effects of stress. In my interview Dr. Alyssa Lundberg explained to me that stress causes over 60% of illnesses. When I explained to her my idea she said it would work in the context of anxiety and depression being the best understood mental health illnesses. However, she did bring up that I couldn’t necessarily market it to help anything else, as other illnesses are not as well understood. To this I explained to her that I merely wanted to bring a tool that could help people monitor their stress. She liked that. She also talked about how everyone experiences small amounts of anxiety so it’s important to differentiate between this and a genuine anxiety disorder. She also told me that children can be treated for anxiety the same way adults can. This was important as one of my concerns was that my technology would only help one demographic.

What most influenced this technology and what really drove me to try to create something that can help everyone was going on the field trips to the Recurse Center, Brownsville, the Makerspace and so on. All of these experiences collectively taught me that everyone has something to give, something valuable to contribute to society, but not everyone is given the same opportunities. If you can create something that can reach out and help everyone, regardless of race, sexual orientation, or socioeconomic status, this world can really thrive.

Works Cited

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