

Undergraduate Thesis Prospectus

Overcoming Acrophobia

(technical research project in Computer Science)

Online Support Groups: Mental Healthcare without Healthcare Professionals

(sociotechnical research project)

by

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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General Research Problem

In the midst of the COVID-19 pandemic, how can the significant increase in depression best be mitigated?

In the US, COVID-19 has contributed to tripling in the incidence of depressive symptoms in adults, to 28 percent. Lower-income households have been especially vulnerable. Individuals in households with less than \$5000 in savings have been twice as likely to report depressive symptoms than those with more (Ettman et al., 2020). Younger adults have shown greater vulnerability to loneliness due to social isolation than persons over 65 (Koma et al., 2020).

Overcoming Acrophobia

How can the project team best develop an application capable of desensitizing an individual towards his fear of heights?

Research has found that about five percent of individuals are acrophobic. With such a large population suffering, how can this phobia best be alleviated? Prior research suggests that exposure therapy is effective in helping those with acrophobia. A variety of sources contribute to the phobia, such as a traumatic experience, witnessing parental figures express fear towards heights or natural conditioning to fear falling. Regardless, a VR experience that exposes acrophobes to virtual heights in a safe environment may help those suffering from the phobia. By creating a virtual environment where individuals can face their fears safely without consequence, users can gain control over their fears. This project was developed in Unity and C#. My faculty technical advisors are Madhur Behl, Aaron Bloomfield, and Seongkook Heo.

Online Support Groups: Mental Healthcare without Healthcare Professionals

In the U.S. since 2010, how have online depression support groups supplemented or displaced professional care?

Why won't anything work? This is a common sentiment among many who have joined online care groups for major depressive disorder (MDD). Many depressed individuals avoid online care groups outright; stigma makes depression difficult to discuss, especially with strangers. Social media use has been linked with depressive symptoms in teens and young adults (Jamieson, 2020; Brailovskaia & Margraf, 2020). The stress and anxiety it can induce may deter healthy discussion. Nevertheless, online support communities can complement professional care (Roystonn et al., 2020; Yan & Tan, 2020).

In a review of national health surveys in Singapore, Roystonn et al. (2020) determined that online support groups relieve social isolation and psychological distress, and help users learn to manage their symptoms and find treatment options. But experiences vary widely. Supportive feedback and frequent interaction promote improvement (Yan, 2020), but online interactions are generally more superficial than offline relationships. Unfortunately, due to the lack of an emotional connection between users, the interactions often prove to be less impactful than offline relationships. According to Jamieson (2020), adolescents in online communities who received less attention than others felt rejected and distressed. For depressed persons, some online communities can be valuable sources of support. Yet other online communities, and social media in particular, can also exacerbate depressive symptoms (Roystonn, 2020).

Some depressed persons turn to online support communities to supplement professional care (Depression Support, 2020); for others who avoid professional care, such communities are an alternative (Corrigan et al., 2020; Holland, 2016; Masuda et al., 2012). Support groups can be

vital sources of solace from others with shared experiences. On December 11th, a member of the Depression and Anxiety Mental Help Support Facebook Group wrote “Have been on top of my anxiety most of this year (Having suffered badly for 20 years, really bad for the last 5), but i'm starting to crack now”(Depression & Anxiety Mental Health Support, 2020). This was the user’s first post to the group. Within 4 hours they had received 25 comments, generally supportive.

Depressed persons may turn to online support groups to avoid the expense of professional care (Shah & Beinecke, 2009). One of the most prohibitive barriers is the economic burden (Shah, 2009). On April 23rd, another member of the Depression & Anxiety Mental Help Support Facebook group wrote, “I wish I could afford functional medicine, doctors, or TCMS. I know I would benefit. I just know it. Why is it so expensive?”(Depression & Anxiety Mental Health Support, 2020). Stigma may deter depressed persons from seeking professional care (Holland 2016; Corrigan et al., 2014). On April 25th, a member of the Anxiety and Depression Support Facebook group wrote “My husband doesn't understand mental illness. He sees it as a weakness”(Anxiety & Depression Support, 2020).

Administrators or moderators of online support groups often use their positions to fight mental health stigma (Male Depression, 2020). Participants in this category often promote and run campaigns aimed to remove society’s stigma against mental health. For example, one member of the Facebook group Male Mental Health Y.A.N.A, takes part each year in Movember, a movement to publicize men’s health needs, including mental health. On November 2nd, he wrote “I take part in Movember every year. Mental and physical health are important and we men suck at asking for help which is why I raise awareness about them every year”(Male Mental Health Y.A.N.A, 2020).

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