Thesis Project Portfolio

Redesign of the University of Virginia's Emergency Department Waiting Room Layout to Optimize Patient Flow and Increase Satisfaction

(Technical Report)

The "Overadaptation" of SSRIs: Negotiating the Natural and Artificial in Contemporary Psychiatric Culture

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

The relationship between my technical project and STS research paper lies in understanding the complex networks of both technological systems and human interaction. In my technical project, my team and I focused on redesigning the University of Virginia's (UVA) Emergency Department (ED) waiting room to optimize patient flow and enhance patient satisfaction. This project incorporated simulation modeling to test the impact of our proposed changes. My STS research paper delves into the societal implications of selective serotonin reuptake inhibitors (SSRIs), examining how this psychiatric drug, which is embedded within a complex medical and cultural network, is perceived and normalized within society. Both projects explore how systems, whether in healthcare design or psychiatric treatment, are shaped by technological tools and human experiences.

In my technical project, the goal was to redesign the UVA ED waiting room to alleviate patient congestion and dissatisfaction. By utilizing FlexSim HC simulation software, we modeled both the current and proposed layouts, focusing on improving key metrics related to patient flow. A primary consideration was patient psychology, specifically how spatial design can enhance a patient's perception of time. The new layout introduces "progression areas," which provide patients with a sense of moving forward through their care process rather than returning to the same waiting area after triage. This design was guided by psychological research, which indicated that reducing wait time variability and providing a clearer sense of progression can significantly improve both patient and provider satisfaction by alleviating uncertainty.

My STS research paper examines how SSRIs affect societal perceptions of mental health and emotional regulation. Through Martijntje Smits' Monster Theory, I argue that SSRIs

challenge the distinction between “natural” emotional responses and “artificial” pharmacological interventions, fostering a complex interplay of acceptance and fear. Initially introduced as a medical advancement, SSRIs have gradually become so ingrained in mainstream healthcare that their risks are often downplayed. I argue that this normalization of SSRIs has led to a process of “overadaptation,” where their disruptive potential is underestimated as they become routine, reducing critical scrutiny and increasing their unchecked use. The goal of my research is to examine the societal implications of SSRIs by analyzing their normalization in contemporary psychiatric practice.

Working on both projects simultaneously provided insights I otherwise would not have uncovered. My technical work on the ED redesign helped inform and enhance the STS research on SSRIs by providing a deeper understanding of how technology and design can influence human experience and perception. Similarly, the insights I gained from my STS research, particularly around the normalization of technologies and their societal implications, helped me appreciate the broader impact of the systems we design in healthcare. This perspective motivated me to approach the redesign not just as an operational challenge but as a chance to shape patient experiences through both technology and psychology. Exploring both the technical and societal dimensions of healthcare has strengthened my understanding of how technology shapes and is shaped by human perception.