The Utilization of Technology and Telehealth to treat Mental Illnesses

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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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Sociotechnical Synthesis

The STS Thesis final paper examines how technology and telehealth can be utilized in the treatment of mental illnesses. It begins by addressing the high prevalence of mental health illnesses throughout the world and understanding how mental health illnesses are viewed in our society. This includes discussing the stigma associated with mental health and mental health treatments, as well as citing the relatively recent efforts to increase mental health awareness. Through pop culture and other outlets, the world has begun addressing mental health care, but there still remains an incredible opportunity to help people through integrating technology and mental health care.

Before analyzing how technology can be used to treat mental health illnesses, the paper examines how technology is changing our everyday lives at a rapid pace. In doing so, recent technological advancements we have seen in merely the past decade or so that have revolutionized how we communicate and share information with each other are cited. From iPhones and mobile video calling, to social media and online classes, technology has changed our lives tremendously in recent years and will continue to do so. The dramatic shift in how technology is changing our everyday lives has been especially apparent throughout the recent COVID-19 pandemic. As schools and workplaces cease to operate normally, the rapid adoption of technology has dramatically changed how we work with others. This is a clear example of how technology has the capacity to completely alter the status quo, and mental health care is just one example of an industry that could be transformed in the coming years.

In addition, with such mentioned technological advancements, the paper aims to understand how these technologies can be used to treat mental health illnesses and how

this realm of healthcare may evolve. In order to do this, the pros and cons of telemedicine in treating mental health illnesses are discussed. By highlighting both the benefits and drawbacks of telemedicine, the paper examines what the future of telemedicine looks like and how understanding both benefits and drawbacks can facilitate the transition. This includes not only discussing the immense benefits telehealth can bring, but also the challenges that will most definitely arise in adopting telemedicine to treat mental health illnesses in the near future. Finally, the paper discusses STS frameworks that can be used to understand the overall system better and influence how we adopt telemedicine into our daily lives.

The Capstone Technical Report looked to understand and enhance human productivity through analyzing personal rhythms. The project included collecting and analyzing physiological data in order to understand the relationships between human rhythms and overall wellbeing. The collection of data was completed by state of the art technologies, the Empatica E4 and the Oura Ring, which tracked critical physiological parameters such as heart rate, activity, electrodermal activity, and various others. Through tracking such measurements over extended periods of time, the team was able to better understand each individual's rhythm. These measurements were eventually used to compare against the Oura Ring's "Readiness Score", and were used as indicators for predicting high or low scores for each individual.

After collecting data from team members, the team ran an analysis through the Chronomics Analysis Toolkit in order to better understand each participant's rhythm. Finally, the team ran correlation analyses and modeled the data against the "Readiness Score". The models proved to be an effective method of analysis by demonstrating the

viability of using data from wearable devices to characterize biobehavioral rhythms in order to gain insight into health-related outcomes.

While these two endeavors appear somewhat different, the overlying theme of utilizing technology to better individuals' health is apparent. First and foremost, both discuss the benefits of integrating technology into our everyday lives to improve quality of life. While the STS Thesis is more concerned on the benefits and drawbacks of such technologies and focused on the mental health field, methods utilized in the Capstone Technical Report show how modern technologies could measure and predict biobehavioral rhythms in our everyday lives. In understanding individuals' biological rhythms, we may be able to determine if lifestyle choices make people more susceptible to developing certain mental health illnesses. This could be crucial in the future of mental health care, and it highlights how technology can benefit those individuals. For now, only time will tell whether or not people embrace telemedicine as a method to treat mental health illnesses, but as technology advances over time the conversation will continue.

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