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Sociotechnical Synthesis

Autism is a developmental disorder characterized by challenges with social skills, repetitive behaviors, speech, and nonverbal communication. The CDC estimates that as of 2020, autism spectral disorder affects around 1 in 54 children in the United States. This prevalence is not evenly distributed among all groups of people, as boys are 4 times more likely to be identified with Autism Spectrum Disorder than girls (CDC, 2020b). Although autism diagnosis is becoming more evenly prevalent in disadvantaged communities, there is still a large disparity in the resources available to properly diagnose and care for individuals with ASD. Current methods of diagnosis include a wide variety of diagnostic screens heavily dependent on the knowledge and involvement of both the attending physicians and the patient's parents (CDC, 2020a). Thus, the accuracy of diagnosis can range heavily from case to case and disproportionately affect those with less resources. Also, since most diagnostic tools used involve behavioral screening, it is often difficult to properly diagnose due to patient age and outside influences. The goal of this research is to design an algorithm to classify ASD using data from resting-state fMRI scans.

The STS project is focused on analyzing the impact of the combination of psychology and technology on society through behavioral microtargeting and using the LTS framework to model and predict the future direction of the field. It is expected that the research will reveal the lack of public knowledge on the applications of the field relative to the increasingly large impact the field has on most members of the developing world's everyday lives. The future prediction will be that the influence of the field will only increase with time, and best practices for minimizing the negative impact of the new developments, while maximizing the potential for positive impact will be explored and presented.