

## **Thesis Project Portfolio**

### **Analyzing Efficacy of Home Electronic Incarceration on Return-to-Custody Rates for Inmates During the COVID-19 Pandemic**

(Technical Report)

### **An Analysis through Technological Politics of the Unintentional Bias of the Brief Jail Mental Health Screener within the Albemarle-Charlottesville Regional Jail**

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science  
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## **Sociotechnical Synthesis**

My technical project and STS research are connected primarily because they each analyze the impact of different technologies used within the Albemarle-Charlottesville Regional Jails (ACRJ) in an effort to combat the mental health crisis within the prison system. My technical project focuses on Home Electronic Incarceration (HEI), which is a tech-enabled alternative to incarceration that allows the ACRJ to monitor select persons who are permitted to serve their sentences at an approved location outside of the prison. My STS project focuses on the Brief Jail Mental Health Screener (BJMHS), which is a screening questionnaire administered at ACRJ to identify inmates with mental illness who require treatment. Both technologies were implemented with the hope of reducing recidivism.

In response to the COVID-19 pandemic, ACRJ began increasing the use of HEI to reduce jail occupancy and limit the spread of COVID. HEI had the potential to reduce recidivism by allowing persons convicted of crimes to continue to attend school and work and have access to community mental health resources. The technical portion of my research was a continuation of over a decade of comprehensive, quantitative analysis of a merged database containing mental health screening data from ACRJ and other stakeholders including R10, OAR, and BRACH. I conducted statistical analysis on post-release outcomes within two areas: Pre- vs Post-COVID, and HEI versus non-HEI use during COVID. The analysis suggested that HEI sentences may have a positive impact on reducing RTC rates for certain offenses, specifically misdemeanors. The felony RTC was five percent lower for HEI than for traditional custodial incarceration, while the misdemeanor RTC was 16 percent lower for HEI than for custodial incarceration. I presented these findings to a leadership panel within the ACRJ stakeholder network in hopes of

increased research and implementation of HEI in order to decrease recidivism and improve inmates' mental health.

The BJMHS is an eight-question exam administered at ACRJ to screen for mental illness with the hope that providing adequate treatment might help reduce recidivism. My STS research argues that the BJMHS performs questionable social and ethical work within prison systems, by marginalizing certain social groups due to the racial, gender, and religious biases inherent in the tool. Technological Politics argues that technological artifacts have political properties which have a direct impact on power, justice, and care dynamics in technological design. I draw on Technological Politics to support my argument that the BJMHS, which is presumably not intentionally designed to be racially and gender biased, is inevitably a relic of long-standing forms of social order that privilege certain groups over others. I also discuss the implications of the fluctuating accuracy rates concerning culture, language, and stigma barriers.

Working on these two projects in tandem greatly added value to both. My technical work gave me a better understanding of ACRJ's use of HEI and the direct influence that mental health resources have on recidivism, providing me with a more comprehensive view to bring to my STS topic. Similarly, the STS research project fueled my knowledge of how technology can aid the mental health crisis in prison systems. In summary, both my STS paper and my technical project allowed me to develop an awareness of the mental health crisis within prison systems and the importance of technologies like HEI and BJMHS to help with combatting that crisis. These projects taught me the importance of adequately testing technology for bias and preventing unintended ethical consequences that technologies may have on communities like ACRJ.