3.0: Data and Methods:

3.1: Data:

The General Social Survey (GSS) was used to discover the effect that consenting to be linked to one's data, time spent on technology at work, education level, gender, preferred mode of interviewing, and owning any phone will each have on one's beliefs about technology creating opportunities. The GSS has been conducted every other year since 1972. The GSS is representative of all adults in the United States during that year. The goal of the GSS is to serve as a comparison point over the years to notice the change in attitudes, beliefs, and opinions among US adults and serve as an additional comparison point between the US and other nations. The sample taken from the GSS to research the aforementioned relationships is representative of the US as it is the target population it attempts to generalize about. The overall GSS sample is composed of randomly selected houses throughout the US. The sample used to research this specific relationship was selected based on the respondents' answers to questions that correlate with the variables *phone, degree, mode, usetech, adminconsent, sex, and nextgen.* The 2022 GSS sample size is 4,149, and this data was collected by "in-person interviews, web self-administered surveys, and phone interviews" (NORC at the University of Chicago 2022). The 2018 GSS sample size was 2,348, and the sample size for my dataset is 663. The discrepancy between the two is due to the new addition to the GSS this year: GSS Next. This was a follow-on study to the GSS that only prompted respondents to complete it if they had completed the entire GSS prior to this. The GSS Next was offered to 1,235 people. Compared to this, my dataset is the number of respondents to the questions related exclusively to the variables *phone, degree, mode, usetech, adminconsent, sex, and nextgen.* Since *nextgen* only appeared in the GSS Next, the overall sample of respondents to compare to is only 1,235. My sample was 663, indicating that 572 respondents were missing. This could be due to invalid responses given to questions or if the question did not apply to the respondent.

3.2: Variables used:

The independent concept, experience with technology, is quantifiably measured in the GSS through the variable *phone*. This measures experience with technology by helping to determine whether or not the responded has a phone. This variable measures the information obtained when the respondent is asked if they have a phone number they would be willing to provide so they can be further contacted regarding their interview. They are then recorded as to whether or not they have a phone number, refused to provide their phone number, have a home phone, have a phone located elsewhere, do not provide their phone's location, or have a cell phone. No responses are provided for having a home phone, having a phone located elsewhere, or not providing their phone's location. Due to this, the responses are split across the other three recorded responses. 12% of respondents did not have a phone to be contacted on, suggesting that they have less experience with technology due to not owning a phone and leading to negative beliefs about technology as seen in Table 1. 9% of respondents refused to provide their phone number, which could indicate they have experience with technology due to owning a device,

creating positive technology beliefs. 79% of respondents provided their cell phone number, suggesting that they would have more positive beliefs about technology because they have more experience with technology compared to those respondents who do not have a phone.

The independent concept, experience with technology, is quantifiably measured in the GSS through the variable *degree*. This helps to measure experience with technology as the literature suggests that technology is woven into education systems and the level of education determines one's time in these technology woven education systems. This variable measures the highest current level of education the respondent indicates they have received. The respondents are asked to choose from less than high school, high school, associate/junior college, bachelor's, and graduate. 4% of respondents completed less than high school, suggesting they may have more negative views on technology due to having less time experience with it, as seen in Table 1. 38% of respondents completed high school, suggesting they may have more of a positive view on technology in comparison to those that did not complete high school. 9% of respondents obtained an associate's degree, suggesting that they may have more positive beliefs about technology in comparison to those who completed high school or less. 28% of respondents obtained a bachelor's degree, suggesting that they may have more positive beliefs about technology in comparison to those with an associate's degree or less. 21% of respondents obtained a graduate degree, suggesting that these individuals will have the most positive beliefs about technology in comparison to those with any other type of degree.

The independent concept, COVID-19, is quantifiably measured in the GSS through the variable *mode*. This measures the concept by considering one's preferences in a time of social distancing. This variable measures the mode of the GSS interview that took place. Individuals were able to pick their preferred mode of interview (Davern et al. 2024). It is recorded whether or not the GSS interview takes place in person, by phone, a combination of in-person and by phone, or on the web. 32% of respondents had their interview take place in person, suggesting that these respondents may not be concerned with COVID-19 and social distancing at this point in time, as can be seen in Table 1. 3% of respondents had their interview take place over the phone, and 3% also had their interview over the phone and in person, suggesting that these respondents are concerned about COVID-19. 62% of respondents had their interview take place online, suggesting that they may be concerned about COVID-19.

The independent concept, COVID-19, is quantifiably measured in the GSS through the variable *usetech*. This measures the concept by looking at how much time one spends on technology for their job at the tail end of a global pandemic. This variable measures the percentage of time at work that respondents indicated they spend on technology. Respondents were able to indicate the percentage they felt was appropriate, anywhere between 0-100%. The mean percentage of time that respondents indicated they spend on technology at work weekly was 62.28%, as seen in Table 1. This provides insights that as time spent on technology at work increases, with an already high average, beliefs about technology could become negative due to the effect of social withdrawal being the outcome of increased technology time at work.

The independent concept, experience with failed data security, is quantifiably measured in the GSS through the variable *adminconsent*. This measures the concept by looking at one's response

to data linkage as being potentially influenced by their experience with failed data security. This variable measures whether or not the GSS respondents consented or rejected the chance to be linked to their GSS data responses. The respondent is asked to either consent or not consent to possible data linkage. 54% of respondents consented to possible data linkage, suggesting that 54% have trust in and positive attitudes towards data security, as seen in Table 1. On the other hand, 46% did not consent to possible data linkage, suggesting these respondents do not have trust in or positive attitudes towards data security. This data shows close to an even split in answers between respondents.

The independent concept, gender roles, is quantifiably measured in the GSS through the variable *sex*. This measures the concept by evaluating one's sex and considering the stereotypical roles that come alongside that. This variable measures one's response when asked their sex. Respondents are able to select male or female. 45% of respondents are male, suggesting that these respondents may have more positive views on technology due to being more present in technology-based industries, as seen in Table 1. On the other hand, 55% of respondents are female, suggesting that these respondents may have more negative views on technology due to females not being as present in technology-based industries.

The dependent concept, beliefs about technology creating more opportunities, is quantifiably measured in the GSS through the variable *nextgen*. This variable measures whether or not the respondent agrees that there will be more opportunities for the next generation due to science and technology. The respondents are given four options to select from: strongly agree, agree, disagree, and strongly disagree. 88% of respondents agreed (either strongly agreed or agreed) with the statement asked in the GSS, as seen in Table 1. This suggests that the majority of respondents had positive beliefs about technology. 11% of respondents disagreed (either strongly disagreed or disagreed) with the statement, supporting the suggestion that the majority of respondents were in agreement.