

Technologically Savvy: Mental and Social Effects of the Covid-19 Pandemic

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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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STS Research Paper

Introduction

Pandemics have happened many times throughout history, each causing irrecoverable changes in their wake; be that the collapse of military strength or changing the course of an empire (Huremović, 2019). The modernized world seems to have eliminated the worry of some issues presented by prior pandemics (e.g. there is less worry of lack of information, personal hygiene concerns, etc.), but in an ironic twist wide-spread access to technology has created a set of issues completely novel to the coronavirus disease-2019 (Covid-19) pandemic. From Doomscrolling, to increased access to virtual options, all unique to the modernized world, Covid-19 has fundamentally changed the world as many know it.

Covid-19 is a type of coronavirus discovered in late 2019 in Wuhan, China. It is characterized by its high infection rates, and is caused by “severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)” (Casella et al., 2022). The infectiousness and severity of this disease caused multiple countries to lockdown in March of 2020 and caused around 6 million deaths worldwide. During the aforementioned lockdowns, video conferencing applications (such as Zoom, Microsoft Teams, etc.) were used in an attempt to maintain society’s function while social distancing. Social distancing is a practice of staying 6 feet apart from one another to stop the virus from spreading. These video conferencing applications among other technologies were used in schools, workplaces, and social settings. Life for many was abruptly moved from in person to virtual with the expectation of proceeding with things as if they had not changed. This research paper looks to answer the following: what are the mental and social effects of the Covid-19 pandemic, and how did technology contribute to them?

To fully understand and answer this question, it is imperative to work alongside those who have first-hand experience with the researched topics. This research paper utilizes participatory groups, a framework of research that allows for more meaningful interaction with afflicted individuals (Vaughn & Jacquez, 2020). Participatory groups grant those afflicted with a more intimate connection to the research being conducted. This more intimate connection allows for a higher likelihood of the research results being acted upon, and for the voices of participants to guide the conclusions of researchers. In regards to this research paper, these findings guide conclusions on how Covid-19 has impacted the social and mental health of society, and technology's role.

Methods

To determine the mental and social effects of the Covid-19 pandemic, this research paper utilizes documentary research tools and participatory group methods. Documentary research methods analyze several journals and articles to identify how the Covid-19 pandemic has affected parties outside of this research's direct reach. Said parties being groups such as children (due to regulations and restrictions regarding research of children), and others not in the United States of America, or in the immediate Charlottesville area. The scope of Covid-19 as a topic is rather broad, and to narrow down sources, this research focuses primarily on mental and social effects, and technology. Each topic is further broken down into areas that this research focuses on within these topics. Mental effects within this research paper pertain to how Covid-19 impacted the mental health of society, such as any mental illnesses caused directly or indirectly by lockdowns. Social effects within this research paper relate to how Covid-19 has changed society's interpersonal social interactions, or in other words how Covid-19 has impacted the way society socializes. Finally the technology section focuses on how technology might have eased or

exacerbated the mental and social effects of Covid-19. This research paper utilizes participatory groups through a survey. Participants of the survey were college students who had one or more virtual semesters due to the pandemic—forming a case study that this research paper references throughout. The survey asks participants to compare the quality of their mental health and social interactions during, prior, and after lockdowns (e.g. Prior to the Covid-19 Pandemic how frequently did you socialize with those outside of your household). When pertaining to technology participants are to indicate how beneficial or detrimental it was to their social and mental health. Each topic has a Free Word section which allows participants to speak freely and provide nuance to their responses. The survey's questions are primarily scale questions and can be found in Appendix A. Results are presented thematically in the following order: Social Effects, Mental Effects, and the role of technology. In regards to the case study, the results are referenced within the section specific results pertain to. For example, when discussing the results of the case study as they pertain to social effects, these are referenced within the Social Effects section. This research paper is divided in such a manner as to not jump from one topic too suddenly, and to maintain a consistent flow throughout.

Results

This research paper finds that lasting social effects of the pandemic to be minimal, mental effects to be long-lasting, and the role technology played to vary greatly depending on the person. During lockdowns there were many reported interpersonal social struggles. However, post lockdowns there is not many reported lasting interpersonal social struggles. Individuals reporting lasting issues tie them back to emotional distress that therein led to lasting mental issues, rather than lasting interpersonal social struggles. There are notable systematic social issues that persist since lockdowns, however with this research paper's focus being on social

issues in terms of troubles with interpersonal interactions, this topic is only briefly touched upon. The aforementioned mental effects being increased depression, anxiety, etc. that persist since the end of lockdowns. In a few cases, (e.g., health care workers) there is reported trauma from the pandemic, such as Post-Traumatic Stress Disorder (PTSD). Technology's role in both lasting social and mental effects is too varied to form a clear conclusion. Whether it has exacerbated or assisted in preventing these lasting effects depends on the person. The case-study's results greatly support these findings; specifics of each topic are elaborated in more detail in their respective subsections.

Social effects

During the height of the Covid-19 pandemic social distancing and lockdowns were enacted in an attempt to halt the spread of the virus. Social distancing was a recommended distance of at least 6 ft from others, while lockdowns discouraged the general public from going outside (Guidance and Tips for Tribal Community Living During COVID-19 | CDC, n.d.). These measures were essential in slowing the spread of the virus for those who followed them, but led to an increase in reported social isolation. In China and the United States there was an increase of 10-40% in perceived social isolation reported--- dubbed a "behavioral epidemic" by many experts (Hwang et al., n.d.). This behavioral epidemic affected everyone, regardless of age, in different ways. Teenagers to adults in their 20's were found to report more feelings of social isolation than those aged 50 or more (Clair et al., 2021). While the younger population is more likely to report these feelings, older individuals are not exempt from social isolation. Said individuals report poorer physical health when experiencing loneliness as a result of social distancing, oftentimes visiting the emergency room for relatively minor conditions (More COVID-19 Fallout, 2022). It has been proven that social isolation causes a decreased satisfaction

with life, and those who are less satisfied report more physical health concerns (Clair et al., 2021). These older individuals were likely feeling dissatisfied with life due to social isolation, which therein led to them perceiving their minor conditions as more extreme so they could seek out social stimulation via the emergency room. The case study largely supports the documentary analysis' results, with the consensus among the surveyed college students being social health and interaction prior and post pandemic was seen in a positive light whereas during lockdowns it was incredibly poor (Griffith, 2023). Results signified that 83% of participants interacted with others outside of their household before the pandemic, during the pandemic 75% of participants did not interact with others outside of their household, and a number that increased to 91% after the pandemic. The Free Word section indicated that participants felt isolated during the pandemic--- being confined to only their homes with both strained their relationships and directly led to them feeling dissatisfied with their lives.

Other age groups deeply affected are those of school-aged children, who spent some of their fundamental years of education virtually (Education in a Pandemic, 2021). Roughly 48% of parents report that their elementary aged children's emotional health has deteriorated due to social isolation, with this percentage increasing the older their children were. Of these parents, 26% report that their child's emotional health has not improved or has deteriorated further once lockdowns ended (Braga & Parker, 2022). This research paper's focus on social effects is regarding an individual's struggles with interpersonal interactions, however it would be remiss to not mention systematic social effects. It has been proven that underrepresented groups such as minorities, the homeless population, addicts, etc. have been disproportionately affected by changes enacted during the Covid-19 lockdowns; these changes have led to a decreased quality in life and intense social struggles (Hosseinzadeh et al., 2022). Groups that experience a decrease

in life quality have difficulty integrating themselves back into society. A prominent example being the rise of Anti-Asian American hate as a result of the virus originating from Wuhan; many Asian Americans were discriminated against and blamed for the virus (Gover et al., 2020). Anti-Asian American hate has directly caused a decrease in quality of life for many Asian Americans-- making integrating themselves back into society or trusting others around them difficult. This research paper does not delve more into these systematic issues as they teeter beyond the intended scope. In terms of social health 83% of the survey's participants report positive quality social interactions before the pandemic, 50% report poor social interactions, and 91% report positive quality social interactions after the pandemic. Free word indicates that after the pandemic participants valued their social interactions more, and found them to be more meaningful than they were prior.

The case study's results have clear indications that social isolation during lockdowns had a severe negative impact on social health but said impacts were not long-lasting. In fact, this study implies that Covid-19 might have positively impacted the social health of participants— making them cherish their social interactions more, and making them more likely to reach out to others. As this topic is still relatively new, it is difficult to say what the long-lasting social impact will be; it currently appears to be more minor, with many being able to return to normal social interactions once lockdowns ceased. Certain long-lasting effects of social isolation covered prior, appear to lend themselves to long-lasting mental struggles. Rather than long-lasting interpersonal social struggles.

Mental effects

Overall, the Covid-19 pandemic has been shown to have had severe negative effects on most, with severity varying depending on demographic. Social isolation and poor social health

appear to be bidirectional with mental well-being, with those reporting intense feelings of social isolation being more mentally unwell during Covid-19 lockdowns (More COVID-19 Fallout, 2022). Studies have shown that periods of isolation can have long lasting effects on an individual; these studies report that periods as short as 10 days can continue to impact an individual psychologically for as long as 3 years (Pietrabissa & Simpson, 2020). Loneliness has been a persistent issue for years prior to the pandemic, and has had links to increased depression, anxiety, etc. with there being no discrimination in regards to socioeconomic status. While socioeconomic status does not have any bearing on who is impacted by isolation, there are differences in how different demographics are affected. Roughly 41% of adults, those aged 18+, have reported new symptoms of depression and/or anxiety as a result of the pandemic (Panchal et al., 2021). This statistic is further broken down with 56.2% of adults aged 18-24 and 48.9% of adults aged 24-29 reporting symptoms of depression and/or anxiety; the data appears to trend in showing that younger adults were far more affected, or reported to be affected more frequently than other demographics. A study done by the World Health Organization (WHO) indicates that underrepresented groups, such as women, LGBTQIA+, minorities, immunocompromised, etc. are more affected; due to gaps in care or less access to said care (COVID-19 Pandemic Triggers 25% Increase in Prevalence of Anxiety and Depression Worldwide, 2022.). Minorities in the United States were found to score higher on screening tests for depression and anxiety after Covid-19 lockdowns than most Caucasians (Nguyen et al., 2022). In each of the aforementioned studies throughout this section, participants indicated that while Covid-19 lockdowns had passed (of which most cited as the origin for their mental health struggles) their mental health showed no signs of improvement—indicating the possibility of these symptoms either becoming full disorders or persisting.

The case study has similar findings, participants reported significantly worse mental health during lockdowns that has persisted beyond lockdowns (Griffith, 2023). Prior to lockdowns 8.3% of participants report symptoms of poor mental health (anxiety, depression, loneliness, etc.) and both during and after lockdowns 50% of participants report symptoms of poor mental health. Of the participants 83% considered themselves mentally healthy prior to lockdowns, during lockdowns this decreased to 33%, and after lockdowns 50% report feeling mentally healthy. Free word directly mentions that participants felt more symptoms of mental health concerns after Covid-19 lockdowns, though some indicate that this was due to poor health and not Covid-19 directly. The case study's results support the findings, there appears to be a consistent report of Covid-19 having a lasting negative impact on the mental health of society. It should be noted that while correlation is not causation, the findings strongly support a link between the two—implying that there likely is a connection between poor mental health and the Covid-19 pandemic for survey participants.

Another group of interest is that of children, who spent their fundamental years of development isolated (Araújo et al., 2020). Lockdowns have been shown to exacerbate existing mental health concerns for students returning to school—preexisting conditions for anxiety and depression were made worse with social isolation (Panchal et al., 2021). For many of these students their utility of mental health resources also declined during lockdowns, leading to these conditions going untreated. An issue compounded by a disparity in access to these resources. School districts with less funding were unable to provide the same level of care during lockdowns; this led to a decline in many students' mental well-being, and a rise in suicidal ideation. LGBTQIA+ youth being the most affected by this lack of resources, and at a higher risk of suicidal ideation or depression in general both during and after Covid-19 lockdowns

(Education in a Pandemic, 2021). The synthesis of 37 individual studies found that as of 2022, 28% of children report feeling continued anxiety and 23% report experiencing continued depression as a result of Covid-19 (Theberath et al., 2022). These results indicate that mental health concerns found in children during the pandemic are likely to persist into the future.

Essential workers such as health care professionals, grocery store clerks, etc. are among the most affected mentally by the pandemic. These workers were forced to either work closely with those who had Covid-19 or directly interact with the stressed general public during this time (Panchal et al., 2021). In a limited study, 27.4% of essential workers in Brazil reported positive screenings for both depression and anxiety (De Boni et al., 2020). There are indications that poor living conditions for these essential workers exacerbated these conditions as there was little to no escape from poor conditions in both their work life and home lives. Similarly, about 17.6% of grocery store workers reported severe mental distress during the pandemic, due to the lack of safety measures in place for them despite being essential workers (Mayer et al., 2022). Levels of mental distress were directly correlated with workplace safety, and even in the safest of workplaces workers still reported increased mental distress as a result of the pandemic. Of essential workers healthcare workers appear to have been the most affected, with staggering increases in suicidal ideation and PTSD. About 39.9% of health care workers met the criteria for PTSD, non-physicians have a higher rate of PTSD at 49.5%, and 9.5% of health care workers reported suicidal ideation during the Covid-19 pandemic (Bayazit et al., 2022). PTSD is an often life-long affliction that can cause intense disturbances in one's life; often causing them to relive the event, disassociate, have severe anxiety, etc. (Post-Traumatic Stress Disorder (PTSD) – Symptoms and Causes, n.d.). Without proper treatment these conditions can and will get worse, and are oftentimes difficult to seek assistance for. It is likely that these reported conditions

persist today. Evidence supports this for the general public, with 58% of young adults reporting psychological distress in September of 2022 (Pasquini & Keeter, 2022). While it cannot be definitively concluded that Covid-19 is the cause, there is clear evidence of a positive correlation between the two to strongly imply some connection.

Covid-19's impact on mental health is undeniably negative. Documentary research and case study results directly show that lockdowns have resulted in a mental health decline for nearly everyone involved. The strong positive correlation between lasting mental health conditions and Covid-19 cannot be ignored nor denied. It is likely that once the novelty of this situation has come to pass, thus allowing for more data to be analyzed, it will be found that there is lasting mental trauma as a direct result of the Covid-19 pandemic; of which would be similar to pandemics before Covid-19 (Huremović, 2019).

Technology's Role

When it comes to technology's role in the mental and social effects of the Covid-19 pandemic, the results are varied; with indications of it playing a positive role for some and others a negative. This research paper details the differing accounts of technology, and why its impact cannot be definitively stated as negative nor positive.

Technostress is defined as an occupational stress associated with information and communication technologies (ICT)—resulting in decreased productivity, work satisfaction, etc. (APA Dictionary of Psychology, n.d.). This is a phenomenon seen most commonly in those whose work is focused on social media platforms, but has seen a rise in those who participate in remote work. During the Covid-19 pandemic there was a large uptick in technostress cases, largely due to more groups being forced to “be online” by the situation of the world (Bondanini et al., 2020). The sudden change from virtual to remote or even hybrid has been the direct source

of stress and aggravation; largely due to user's lack of familiarity with ICT and lack of preparation for continued interaction with ICT. Many employees report feelings of increased surveillance by management due to technology allowing them to locate and contact their subordinates far easier—leading to said employees reporting difficulty in work-life balance and increased technostress (De' et al., 2020). The transition to ICT for education was difficult for both low-income and disabled students; low-income students reported internet connectivity disrupted their learning, and disabled students were far more likely to fail their courses due to the sudden loss of their pre-established support network (Education in a Pandemic, 2021). Both students and workers alike report feeling disconnected from their peers while using ICT. This disconnect has manifested for some as “Zoom fatigue,” or mental and/or physical exhaustion as a result of video conferencing applications such as Zoom. A study done into “Zoom Fatigue” reveals that formal video conferences oftentimes led to participants realizing what they had lost, and difficulty reading and providing social cues during these meetings (Nesher Shoshan & Wehrt, 2022). The hyper aware state needed to read or provide social cues in said formal setting, be that work or school, so as to not embarrass themselves was the direct source of Zoom fatigue. Zoom fatigue is associated with depressive symptoms, in other words those experiencing Zoom fatigue are far more likely to report symptoms of depression (Elbogen et al., 2022). While it cannot be conclusively stated that Zoom fatigue leads to depressive symptoms, a positive correlation exists between the two; those with higher reported loneliness also report greater Zoom fatigue after numerous teleconferences—implying the possibility of teleconferences exacerbating pre-existing poor social and mental afflictions.

Social media is another technology that exacerbated or directly worsened the social and mental health of many during the pandemic. Doomscrolling is characterized as the tendency to

intake solely negative, oftentimes traumatic, stories on social media—leading to a lack of sleep, appetite, motivation, etc. (Starkman, 2022). In the search of news to either confirm their worries or lift their spirits during Covid-19, many were led down a near endless rabbit-hole of negative news. Social isolation and the currently endless scrolling algorithms utilized by various social media aided greatly in this phenomenon. Doomscrolling of pandemic material is directly associated with increased depression, PTSD, and hopelessness, with those already vulnerable (i.e.: those with depression, anxiety, OCD, etc.) having a higher degree of association (Price et al., 2022). A further study reaffirms the negative impact of doom scrolling by analyzing a controlled group using both Twitter and YouTube (Buchanan et al., 2021). The results support the notion that nonstop negative material consumption caused the participants to become less motivated, more hopeless, and overall, less happy. These findings and accounts all support the notion that technology had a negative impact for various people during the pandemic—ranging from troubles acclimating to ICT, Zoom fatigue, or doom scrolling.

However, to definitively state that technology had a negative role in the social and mental effects of Covid-19 would be incorrect, as there are many accounts of it playing a positive role. In a study done on adults in the USA, 90% report technology as being important to their personal well-being during Covid-19 (Atske, 2021). Of this 90%, 58% report it as being essential and the lack of it would have greatly impacted their personal well-being in a negative way. One of the most cited positive impacts being the ability to easily stay connected, both during lockdowns and after. ICT's prevalence allows for a heightened sense of independence in older adults whose children can check in via video call, and an increased sense of community by allowing niche groups to connect in more meaningful ways (McCabe et al., 2021). It allowed local groups to connect during lockdowns, and those with similar health conditions to communicate with one

another. There has been an increase in the use of telehealth, outpatient care delivered virtually, since the pandemic; prior to lockdowns telehealth visits made up less than 1% of all outpatient visits, this number climbed to 13% during 2020 (Lo et al., 2022). The option for continuing or seeking healthcare from the comfort of one's home is greatly appealing, especially during the height of lockdowns where hospitals were crowded and the worry of infection was high.

Increased visibility and awareness for telehealth allows for those who might not otherwise seek assistance (such as those struggling with mental health, substance abuse, trauma, etc.), to receive care for their conditions (Lo et al., 2022). These groups are less likely to pursue in-person aid due to shame regarding their conditions, the inability to leave their house, or their own conditions preventing them from traveling. Telehealth allows for patients to receive care from the comfort of their home, allows for those who are immunocompromised to receive assistance without worry, and increases timely communication between doctor and patient (Solari-Twadell et al., 2022). While limited in what it can offer and having obvious barriers, telehealth has a net positive on the mental health of those who utilize its services. The access to previously inaccessible services (as seen with telehealth services) is something that continues to be cited as a positive role played by technology. In specific, assistive technology (AT) that aid with disabilities were also made more accessible with the creation of remote options (Layton et al., 2021). These remote options decentralize certain AT and allow for a better standard of living for those in need of these technologies, and has pushed forward for continued AT improvements based off what has been learned during the pandemic.

The case study report similar responses that concluded the role of technology varies from person-to-person, with the case study leaning towards a positive role (Griffith, 2023). Zoom was the application used by all participants for educational purposes, with Discord following close

behind. About 58% of participants report the shift from in person to virtual learning to have been difficult, 76% report technology being incredibly important to their social engagement, and 58% report technology being important to keeping them grounded mentally. The participants appear to have a positive view of technology with 75% finding technology aided them during Covid-19 lockdowns. Free word offered more nuance in these responses. There is a clear positive sentiment towards ICT allowing participants to remain connected to others, but skepticism is expressed towards how sustainable this is health-wise. Participants mention clear worry that Covid-19 might have caused society to be reliant upon technology and how healthy this might be in the future, and others mention concerns that interactions via technology feel less genuine. The case study's results support the notion reported throughout this section; that the role of technology cannot be clearly labeled as positive or negative. Technology has negatively impacted many causing undue stress and frustration, but for others has aided them in staying both mentally and socially healthy during the pandemic. The case study directly shows the varied responses even with its positive lean, participants still note worry with technology and report negative impacts from said technology even if it has assisted them in irreplaceable ways.

Limitations

Research was greatly limited by two factors: the reach of the researchers and the topic of research being new at the time of writing. Direct research could only be done on college students who experienced virtual semester(s), and even then, this was limited by those the researchers knew, or those who were willing to participate. This greatly limits the scope of the case study to being supplementary research to the documentary analysis. Documentary analysis attempted to make up for this lack of reach, however the newness of this topic also hindered further scope. At the time of writing this research paper Covid-19 is still a prevalent issue even with shutdowns

being less frequent. It is difficult to fully gauge what has been caused as a result of Covid-19 and what has not. Furthermore, given the ever-changing nature of this topic it is difficult to find documents written that reflected current changes observed by the researchers themselves. Finally, this research paper was further limited by not delving deeply into systematic issues that might be at the core of these researched topics. Once more, being limited by the sources and research participants available it is difficult to fully acknowledge and research into these. Systematic issues were mentioned where appropriate, but could not be delved into further due to the researcher's lack of reach and desire to give these topics the respect they deserve when researching into them.

Conclusion

Social health seems to have improved or returned to normal after Covid-19 lockdowns—indicating that the social effects are minimal if not skewed positive for most. Mental health meanwhile is universally reported to be on a decline since lockdowns, the mental effects of Covid-19 are undeniably negative. Technology's varied impact on social and mental well-being after Covid-19 is also undeniable; whether it is seen as beneficial or a hindrance is dependent upon who is asked. Its impact is contradictory to itself, with the main hindrances cited being fatigue and being “too connected” whereas the main benefits being increased accessibility and the ability to remain connected. This research paper signifies the importance of reevaluating oneself in a post-pandemic world. Covid-19 fundamentally changed the world as many knew it, and the lasting impacts will vary from one person to another. If one is not cognizant of how they might be affected by such a severe event, these conditions will fester and become difficult to treat. In some ways, had there been increased awareness for these lasting impacts (especially

when considering those of mental health) and better preventative measures prior to lockdowns, much suffering could've been avoided.

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Appendix A

Survey Questions

This is a participatory research survey to assist with my STS 4600 research thesis. Participation is completely voluntary and the survey is anonymous (e-mails are only collected to allow for a singular submission per participant).

There are 4 sections to this survey: Demographics, Social Effects, Mental Effects, and Technology

Sans the Demographics section, each section is roughly 7 questions long. This survey should only take 10-15 minutes to complete.

Thank you so much!

Demographics

1) Were you a college student during the March 2020 shut downs?

Yes

No

No, but I was a high school student

2) Did you experience a remote school semester during the Covid-19 shutdowns?

Yes, 2 or more semesters

Yes, 1-2 semesters

Yes, less than one semester

No, elaborate below*

*Space provided for free response

Social Effects

This section is to gauge the social effects the Covid-19 shutdowns and therefore pandemic had upon you. Each question is a simple scale question.

- 1) Before the Covid-19 shut downs, how frequently did you socialize with those outside of your household?**

Scale 1 to 5

1 Not Frequently ... 5 Very Frequently

- 2) Before the Covid-19 shut downs how would you rate the quality of your social interactions?**

Scale 1 to 5

1 Very Poor ... 5 Very Good

- 3) During the Covid-19 shut downs, how frequently did you socialize with those outside of your household?**

Scale 1 to 5

1 Not Frequently ... 5 Very Frequently

- 4) During the Covid-19 shut downs how would you rate the quality of your social interactions?**

Scale 1 to 5

1 Very Poor ... 5 Very Good

- 5) After the Covid-19 shut downs, how frequently did you socialize with those outside of your household?**

Scale 1 to 5

1 Not Frequently ... 5 Very Frequently

- 6) After the Covid-19 shut downs how would you rate the quality of your social interactions?**

Scale 1 to 5

1 Very Poor ... 5 Very Good

- 7) Free word on how your social health after the Covid-19 shut downs compared to prior. (Optional)**

Free response

Mental Effects

This section is to gauge the effects the Covid-19 shutdowns and therefore pandemic had upon your mental health. Each question is a simple scale question.

- 1) Prior to the Covid-19 shut downs, how frequently did you experience symptoms of anxiety, depression, loneliness, or other signs of poor mental health?**

Scale 1 to 5

1 Not Frequently ... 5 Very Frequently

- 2) Prior to the Covid-19 shut downs how mentally healthy did you consider yourself?**

Scale 1 to 5

1 Very Unhealthy ... 5 Very Healthy

- 3) During the Covid-19 shut downs, how frequently did you experience symptoms of anxiety, depression, loneliness, or other signs of poor mental health?**

Scale 1 to 5

1 Not Frequently ... 5 Very Frequently

4) During the Covid-19 shut downs how mentally healthy did you consider yourself?

Scale 1 to 5

1 Very Unhealthy ... 5 Very Healthy

5) After the Covid-19 shut downs, how frequently did you experience symptoms of anxiety, depression, loneliness, or other signs of poor mental health?

Scale 1 to 5

1 Not Frequently ... 5 Very Frequently

6) After the Covid-19 shut downs how mentally healthy did you consider yourself?

Scale 1 to 5

1 Very Unhealthy ... 5 Very Healthy

7) Free word on how your mental health after the Covid-19 shut downs compared to prior. (Optional)

Free Response

Technology

This section is to gauge the correlation between technology and the prior sections. This section comprises of a variety of question types.

1) What types of video conferencing applications did you use for educational purposes during the Covid-19 shutdowns? Check all that apply.

Zoom

Microsoft Teams

Discord

WebEx

Other...

2) During the Covid-19 shutdowns, many courses utilized online platforms to host learning materials such as textbooks, forums, etc. How easy was the shift from in person learning to virtual for you?

Scale 1 to 5

1 Very Difficult (ie: actively hindered learning)... 5 Very Easy (ie: didn't notice a difference)

3) During the Covid-19 shutdowns how important was technology for your social engagement?

Scale 1 to 5

1 Very Difficult (ie: actively hindered learning)... 5 Very Easy (ie: didn't notice a difference)

4) During the Covid-19 shutdowns how important was technology to keeping you grounded mentally? (ie: in preventing you from feeling hopeless, aimless, etc)?

Scale 1 to 5

1 Very Difficult (ie: actively hindered learning)... 5 Very Easy (ie: didn't notice a difference)

5) Do you believe these technologies aided or hindered you during the Covid-19 Shutdowns?

Aided

Hindered

6) Free word about technology and its contribution to the social and mental effects of the Covid-19 shutdowns. (Optional).

Free Response