Impact of the COVID-19 Pandemic on the Occupational Engagement of Young Adults Self-Identified with Anxiety and Depression Symptoms

by

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Dalhousie University is located in Mi'kma'ki,

the ancestral and unceded territory of the Mi'kmaq.

We are all Treaty people.

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ABSTRACT

The COVID-19 pandemic has caused a shift in occupational engagement, impacting young adults' overall health and well-being. With this, the study aimed to explore the occupational engagement of young adult students with mental health difficulties living with the COVID-19 pandemic. Using interpretative description (ID) methodology, the perspectives of 10 young adult students self-identifying with anxiety and/or depression symptoms were explored. Data were gathered through semi-structured interviews and analyzed using the ID analytical processes and reflexive thematic analysis. The findings showed (a) occupations "were not lived to their full potential…", (b) whirlwind of emotions, (c) increased self-awareness and (d) lasting impact of the COVID-19 pandemic. The occupational engagement was disrupted, adapted, and fluctuated, affecting their choice, identity, meaning, and perceived value and consequences. Understanding the impact of the pandemic could inform adequate mental health support, addressing the long-term consequences of the pandemic and preparing society for future health predicaments.

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CHAPTER 1 INTRODUCTION

1.1 Background

Every single day, people engage in occupations. Occupations are considered activities that individuals "need to, want to and are expected to do" (WFOT, 2012). These are person-centred, chosen, valued and have individualized meaning (Mroz et al., 2015; AOTA, 2020; CAOT, 1997, 2002). The Canadian Association of Occupational Therapists (1997, 2002) has grouped occupation into self-care, productivity and leisure. Self-care activities are done for self-maintenance, including personal care, functional mobility, and community management (Law et al., 1998). Productive occupations are activities for sufficiency which involve work, household management, school, and play participation (Law et al., 1998; McColl et al., 2015). Leisure activities are for recreation and socialization and are commonly done in a discretionary time (Law et al., 1998; McColl et al., 2015). These categorizations in occupations are created to define and group the everyday activities that people engage in. However, these categories may be insufficient in describing how holistic and individualized occupations are. Considering the inherent differences among individuals and their contexts, it may be limiting to classify occupations based on three categories with only three overarching purposes. With this, Hammell (2009) has propositioned to shift the focus on the experiential component to understand occupation profoundly.

Hammell (2009) has provided new descriptions that reflect how individuals experience occupations. These include but are not limited to "restorative, ways to connect and contribute, engagement in doing, and ways to connect the past and present to a hopeful future" (Hammell, 2009, p.107). These descriptions present the "how" and

"why" of doing more than the "what" component. Unravelling the meaning, value, and consequence allows a deeper understanding of occupation, facilitating the person-centeredness and uniqueness of the experience. According to Moll et al. (2015), there are eight dimensions of experiences when doing occupations which are: (a) to activate body, mind and senses, (b) to connect with others, (c) to contribute to the community, (d) to take care of oneself, (e) to develop and express identity, (f) to develop capabilities and potential, (g) to experience pleasure and joy, and (h) to build prosperity and security. Correspondingly, Roberts and Bannigan (2018) have identified four themes of the meaning of occupation which reflects the outcomes, namely, (a) to provide a sense of fulfillment, (b) to provide a sense of restoration, (c) to shape personal and socio-cultural identity and (d) to facilitate social, cultural and intergenerational family connections. These dimensions and themes present different meanings and experiences in doing an occupation, which can be to contribute to the self or the community.

However, Hammell (2004, 2009) has emphasized the exploration of occupations based on how people experience them without predilection to only those that have positive meaning and purposes. With this, she has suggested viewing occupation by pondering on the dimensions of occupation based on the Pan Occupational Paradigm (POP), which are doing, being, belonging and becoming (Hitch et al., 2018; Hitch & Pepin, 2021;Hammell, 2004). Doing involves activities that people participate in and spend time with, which contributes to their being (Wilcock, 1998). Being is considered the essence of the self, which may include the roles of the person and the discovery of the self (Wilcock, 1998). The state of being influences how people develop their identity, which leads to their becoming. Hammell (2004, p.302) has defined becoming as "the idea

that people can envision future selves and possible lives, explore new opportunities and harbour ideas about who or what they wish to become over the course of their biographies and how their lives might be experienced as worthwhile." Becoming entails the transformation and self-actualization of a person (Fidler, 1983, as cited in Hammell, 2014). Lastly, belonging is highlighted by Hammell (2004, 2014) as an integral dimension which pertains to relationships, social interactions, reciprocity, inclusion, and opportunity to contribute to society.

The complex interaction among the dimensions of occupation facilitates a comprehensive perspective in understanding the experiential component of the occupation in which there is diversity in the doing, being, belonging and becoming influencing the health and well-being (Hitch et al., 2018; Hitch & Pepin, 2021; Hammell 2004, 2009). Occupations are not constrained to activities that only lead to positive outcomes in health and well-being. Instead, these also include activities that may or may not produce ideal outcomes. Restricting the definition of occupation to the positive or "socially regarded activities" can cause the silencing of other experiences and promotion of hegemony, limiting the understanding of occupation (Hammell, 2004; Kiepek et al., 2019). Kiepek and colleagues (2019, p.2) have highlighted the word "non-sanctioned occupations" to describe the activities that are commonly perceived as "unhealthy, illegal, immoral, abnormal, undesired, unacceptable, and/or inappropriate." Including the non-sanctioned occupations in scholarship can allow a more holistic and inclusive understanding of occupations (Kiepek et al., 2019). Thus, occupations are all activities people do with varying purposes, meaning and outcomes without partiality to only the favourable facet of occupations. Understanding occupations through this holistic

perspective can allow people to see beyond looking and listen beyond hearing the experience of engaging in occupations.

Broadening the perspective in understanding occupations to deconstruct the constricting categories can allow a more genuine reflection of the experiential component of the occupation. Occupation is not just about the observable act of doing activities. It also includes the interaction of several factors that influence the experience regardless of its positive or negative values and outcomes. With this, the occupation's depth, diversity and uniqueness are acknowledged and valued in order to perceive the actual experience of the occupation. Thus, having a holistic understanding of occupation can readjust the focus not only on how an occupation is completed or performed but more on how the occupation is engaged.

Occupational engagement is a term commonly used in occupational science that pertains to the experience beyond the act of doing. Morris and Cox (2017) developed a framework to describe occupational engagement considering the personal value and consequences of participation. The framework suggests that occupational engagement is a complex concept considering the multiplicity and interrelatedness of factors which may directly or indirectly affect the experience (Morris & Cox, 2017). The experience of participation and non-participation in activities can lead to varying positive and negative values, and consequences (Morris & Cox, 2017). This suggests how occupational engagement can impact health and well-being. Engagement in occupations can lead to positive values, consequences, and disengagement or non-participation can lead to negative values and consequences. However, due to the diverse and varying personal and contextual factors, fluctuating state of engagement is inevitable (Morris & Cox, 2017).

On the other hand, Black and colleagues (2019, p.272) have explicated occupational engagement through the following themes: “active involvement in occupation, finding value and meaning, balanced engagement, subjective experience of engagement, developing identity through occupation, and social and environmental interactions.” These themes illustrate a more profound perspective of occupation which involves value, meaning, identity and the other factors influential to the engagement. Thus, occupational engagement emerges to be a multifaceted experience of occupation. However, Black et al. (2019) have reiterated that there is still a lack of consistency and a clearly defined construct which describes occupational engagement.

Kielhofner (2002) proposed that occupational engagement comprises objective performance and subjective experience. The initiation, development and maintenance of occupational engagement are influenced by the following elements: “(a) sense of readiness, (b) purpose or meaning, (c) participation, (d) motivation and interest, (e) mental health status and cognitive capacity, (f) challenge and feedback, and (g) environmental element” (Kennedy and Davis, 2017, p.103). These elements are similar to the factors that interact with occupational engagement identified in the other definitions (Morris & Cox, 2017; Black et al., 2019). With these, the definitions of Morris & Cox (2017), Black et al. (2019), and Kielhofner (2002) illustrate occupational engagement as an all-inclusive and multifaceted experience of doing, including the act of doing at the moment and the before and after components affecting the engagement. These include predisposing factors, meaning, reason, purpose, value, and consequences. However, it is essential to note that these factors are not inclined to either positive or negative values. Occupational engagement is the totality of the experience. It encompasses the observable

act of doing as the façade and the subjective experience beyond the façade. The subjective component results from the interaction of several factors, such as context, personal values, consequences, and others. Because of the complexity and variability of interrelated factors and outcomes of occupational engagement, occupation can directly or indirectly affect the overall well-being of individuals.

The POP highlights the association among the occupation and health and well-being and the acknowledgement of the diversity of people's experiences which generates the variations in dimensions of occupation (Hitch et al., 2018; Hitch & Pepin, 2021). With this, occupational engagement can influence the perception and experience of health and well-being. Similarly, Hammell (2017) has emphasized the importance of occupational engagement to well-being and added that well-being is a part of human rights. Well-being is defined as "a state of overall contentment- or perceived state of harmony" of one's health, self-esteem, sense of belonging, safety, self-determination, meaningful occupation, roles, and care for others" (Hay et al., 1993, as cited in Hammell, 2009; Law et al, 1998, as cited in Hammell, 2009; Wilcock et al., 1998, as cited in Hammell, 2009; Hammell, 2009, p. 108). Every individual has the right to participate in occupations that support their and their communities' well-being (Hammell, 2017). In addition, according to Wilcock (1998, 2007), occupational engagement can directly impact the health and well-being of an individual. Positive well-being may transpire if an individual engages in occupations with positive personal values and perceived consequences (Morris & Cox, 2017). This can affect a person's sense and meaning in life (Figueiredo et al., 2020). The meaning can originate from the sense of belonging, connectedness and interdependence associated with well-being (Hammell, 2014).

Every age group and population have different experience on how they engage in occupations affecting their well-being leading to differences in doing, being, belonging and becoming. One pivotal period in an individual's life is the young adult stage. Early descriptions of young adult were accounted from Erikson's stage of theory of the lifespan (1950) in which he pointed that the key psychosocial issue of young adults aged 18-29 years old is about seeking intimacy and if an individual fails to achieve this, they may experience isolation. However, this representation of young adult is found to be inaccurate considering that many young adults pursue educations and experience work related changes in the more recent context unlike the people around 1950s wherein most young adults are associated to marriage and parenthood (Montgomery & Arnett, 2020; Arnett, 2004). With this, Arnett (2004) has developed the concept of emerging adulthood highlighting the age of identity exploration, instability, self-focus, feeling in between and possibilities. Because of the contextual change and changing developmental tasks, Montgomery and Arnett (2020, p.207) have described young adult stage as a time of "maximum disorder, unpredictability and change." Similarly, Bonnie and colleagues (2015) have described young adulthood as a significant time of maturation and change. In relation to adolescents, young adults are more contemplating of their decisions, less likely to be solely influenced by rewards supporting behavior, more aware of the potential consequences of behavior and improved impulse control (Bonnie et al., 2015). These impact the activities that they participate in which major transitions are observed when they leave home, finish school, start to work, form relationship and transition to becoming a parent (Schulenberg and Schoon, 2012, as cited in Bonnie et al., 2015; Shanahan, 2000, as cited in Bonnie et al., 2015). Bonnie et al. (2015) also highlighted the

change in the timing and sequencing of role acquisition as part of the historical patterns of social roles of young adults. According to Higley (2019), many current theorists have considered how young adults differentiate from adolescents considering the changes in demographics and contexts since many of the tasks such as, increasing rates of post-secondary education and prolonged timeframe before one live independently, have a career and have children are now occurring in the young adult stage. With this, young adults are expected to engage in occupations with varying reasons and perceived value and outcomes considering their own determination, experiences and as influenced by their physical and social environment which can significantly impact their overall health and well-being.

Considering the relationship between occupation and health and well-being, the lack or disruption of occupational engagement can cause adverse outcomes, such as increased propensity to stress and psychological changes and poorer health outcomes (Hitch et al., 2018; Hitch & Pepin, 2021; Law et al., 1998). Occupational disruption is a temporary state in which occupational engagement is disrupted by significant occasions in life, environmental changes, and illness (Whiteford, 2000). These changes, limitations or withdrawal to occupation influence the quality of engagement, causing an impact on a person's health and well-being (Nizzero et al., 2017). Examples of disruption include immigration, natural disasters, and health crisis. Gupta et al. (2014) have identified how displacement can cause occupational disruption due to the need to adapt ways of living when migrating to new countries. On the other hand, Sima et al. (2017) have analyzed how environmental disasters can disrupt the normality and safety in doing occupations. Depending on the contextual shift, individuals may need to relocate or change their

engagement. Another phenomenon that can disrupt occupation, influencing health and well-being, is a global health pandemic.

The COVID-19 virus is an infectious disease caused by SARS-CoV-2 (WHO, 2021). It started in Wuhan, China, in December 2019 and rapidly spread throughout the globe, causing the declaration of a state of the pandemic on March 2020 (WHO, 2021). The most common symptoms include fever, dry cough, and fatigue (WHO, 2021). All populations are considered at risk for infection, with severe cases accounted for from vulnerable populations such as the elderly and immunocompromised. Due to this, increased infection and morbidity rates have significantly affected the healthcare system. With the instability of the healthcare system because of the volatility and severity of the virus, governments have shifted their response not only to medical management but also to public health measures, such as lockdowns and social distancing measures (Li et al., 2023). With these changes, the COVID-19 pandemic has brought forth an unprecedented transition in the healthcare, economic and social aspects of life (Haleem et al., 2020). Businesses were closed. Public gatherings were discouraged. Classes were transitioned to online or hybrid. Strict public health measures were implemented. These have caused the world to transition to a time wherein unexpected and unfathomable events became a reality, especially in the initial phase of the pandemic. These occurrences have led to the revision of the word “normal” as to how it is associated with way of life, occupations and overall health and well-being. The “normal” participation in engaging in various activities, such as work, school, leisure, social interaction, and others, has transitioned to adapt to the changing environment with the COVID-19 pandemic.

The changes in the world due to the pandemic have harmed the mental health of Canadians, as observed by the doubled stress levels since the beginning of the pandemic (MHCC, 2020). Similarly, the survey conducted by the Angus Reid Institute (2020) found that half of Canadians stated poorer mental health ever since the emergence of the pandemic because many individuals felt worried and anxious. In Spring 2021, one in every four aged 18 and older Canadians had symptoms of depression, anxiety and post-traumatic stress disorder (Survey on COVID-19 and Mental Health, 2021). There are also increased anxiety and depression levels as time goes by, with depression significantly higher than in the initial phase of the COVID-19 pandemic (Mental Health Research Canada, 2021). The pandemic has had a significant impact on mental health, especially among young adults. Research by Gruber et al. (2023) shows that the mental health challenges faced by young adults during the COVID-19 pandemic have been at crisis levels.

The BC Centre for Disease Control (2021) has found an exacerbation of the mental health of Canadian young adults for the past five years, with the COVID-19 pandemic causing a hastened adverse change. Many Canadian young adults have screened positive for mental health disorders such as anxiety and depression and reported interruption in the mental health service and inadequate support, which may be due to the closures and social limitations (Hawke et al., 2020). Moreover, high self-rated mental health reports among Canadians aged 12 and older decreased in late 2021 and early 2022 (Statistics Canada, 2022). With this, the prevalence of symptoms related to anxiety, depression, internalizing disorders, externalizing disorders, suicide ideation, attempt and mortality, substance use and eating disorders has escalated, leading to a negative mental

health experience (OECD, 2021; Chadi et al., 2022). Poorer mental health has been correlated with disruptions in living and engaging in occupations during the pandemic. OECD (2021) has explicated how the pandemic has caused mental health crisis for young people: (a) their mental health had a significant decrease in 2020-2021, (b) they are more susceptible to reporting symptoms of depression and anxiety and depression compared to adults, (c) mental health support was interrupted, and more challenging to access, (d) school closures caused the decrease of protective factors for health and (e) students experienced more challenge to transition to being an adult as they get closer to graduation. However, longitudinal studies highlighted fluctuations in the mental health experience of youth due to public health measures and the individual's personal factors (Robinson et al., 2021; Fancourt et al., 2021; Varga et al., 2021). Moreover, Graupensperger et al. (2022) have found that COVID-19-related stressors cause direct and variable impacts on the mental health and well-being of young adults in which worse effects were observed during the early phases of the pandemic, and levels decreased linearly throughout the latter phases.

For the experience of doing the occupation, the study of Werner and Jozkowsi (2021) found that young adult students have experienced during the pandemic: (a) actual occupational engagement as divergent from ideal engagement, (b) maintained time use patterns even with the existence of restrictions and (c) increased time for sleep to support health, and as a maladaptive coping mechanism. Moreover, university students had challenges in engaging in their multiple occupations such as school, work, activities of daily living, instrumental activities of daily living and other activities because of the pandemic (Tapia et al., 2022). There were also decreased social interactions and limited

group activities because of the restrictions and limitations during the pandemic, causing adverse effects on mental health (Krishnagiri & Atler, 2022). With these, the changes in home and work life, social environment, and emotional and physical health caused by the COVID-19 pandemic are significantly associated with poorer mental health (Lopez-Castro et al., 2021; Tapia et al.,2022). In addition, Granjard et al. (2021) have highlighted the significance of engaging occupation in contributing to a positive experience of mental health especially to those individuals with mental illness. With this, disrupted occupations due to the pandemic can have a negative impact with mental health.

The transition in occupational engagement and mental health has added to the population's vulnerability, considering they are at a "crucial stage of their development" (Mental Health Commission of Canada, 2020, p.2). Kessler and colleagues (2007) have identified that young adulthood is the most susceptible stage to mental health difficulties, with 75% of mental health disorders developing during this period. Based on the survey by CDC (2020), young adults aged 18-24 have the highest symptoms of anxiety and depression. Moreover, according to Pedrelli et al. (2015), anxiety is the most common mental health problem in college students at 11.9 %, while depression is the second highest, with 7-8%. Despite the high prevalence of depression and anxiety, young adults are less likely to receive mental health treatment (Watkins-Martin et al., 2021; Babajide et al., 2021). The study by Adams and colleagues (2022) found that almost half of their participants experienced mental health symptoms. Still, only 39% received treatment, and 36% had inadequate mental health counselling and therapy (Adams et al.,2022). These difficulties in mental health make the transition period to adulthood more challenging (Babajide et al., 2020).

Considering the susceptibility, risks, and consequences of having anxiety and depression, being in a formative stage with several adjustments and expectations, having multiple occupations and roles and the inexorable effect of the pandemic, it is essential to explore the experiences of young adults who self-identify with anxiety and/or depression symptoms during an unprecedented period. Those who self-identify with anxiety and/or depression symptoms reflect that these people are experiencing mental health difficulties which impact self-perception that may affect occupational engagement and overall health and well-being. It is imperative to acknowledge the experiences of this group as some of them may be facing mental health issues without adequate support due to lack of knowledge or unawareness of available resources. If these mental health difficulties continue to persist, these can proliferate into adverse health and social outcomes affecting the individuals' future development and overall health and well-being (Golberstein, 2020).

Furthermore, it is imperative to understand how the COVID-19 pandemic affected mental health and how it affects or is being affected by the occupational engagement of young adult students, especially those who are experiencing anxiety and /or depression symptoms because of their susceptibility to mental illness and substance use disorder compared to other age groups (Pearson et al., 2013) and the unfavourable impact of the COVID-19 pandemic on the mental health and experience of occupation of students (Krishnagiri & Atler, 2022; Werner & Jozkowski, 2021; Tapia et al., 2022). Understanding the reports and interpretation of the students can shed light on their experiences and challenges as young adult students experiencing anxiety and/or depression symptoms during an unpredictable time.

Most of the studies available explored "what" young adult students did during the pandemic and "what" has changed compared to before the pandemic. Few articles have generally explained occupational engagement in young adults through understanding time use patterns (Werner & Jozkowski, 2022; Salar et al., 2022), leisure experiences (Wegner et al., 2022), the association of occupational engagement and well-being through standardized measures (Tapia et al., 2022) and the relationship between disruptions, social occupations and health and well-being (Krishnagiri & Atler, 2022). With these, limited knowledge is available on "how" young adult students, especially those experiencing anxiety and depression symptoms, engage in occupation considering its experiential component, inclusive scope, and perceived value and consequences (Hammell, 2009; Morris & Cox, 2017).

Exploring the experiential component of doing of students, especially those experiencing anxiety and/or depression symptoms, can reveal a part of the reality of mental health experience and occupational engagement during the time with the COVID-19 virus. The descriptions and interpretations of young adult students who self-identified with mental illness symptoms in engaging in occupations are essential to have a more holistic understanding of the impact of the pandemic on occupational engagement on overall health and well-being. This can bring relevant information supporting the development of health, education, and overall quality of life. Without this understanding, providing the most appropriate, adequate, and holistic care to young adults, especially those experiencing mental health difficulties, may be difficult. Moreover, through developing research, quality provision of mental health services and determination of a more sustainable solution to the long-term consequences of the pandemic can be attained,

and the mistakes that occurred during the COVID-19 pandemic can be prevented (Chadi et al., 2022). In addition, the findings of the study can provide information that can support the preservation of mental health in future health crisis.

With this, this study aims to explore the experiences of post-secondary young adult students self-identified with anxiety and/or depression symptoms in engaging occupations at the time of the COVID-19 pandemic. Thus, this research study aims to answer the question, "*How did post-secondary young adult students self-identified with anxiety and/or depression symptoms engage in occupations at the time of the COVID-19 pandemic?"*

1.2 Self-Reflection

My interest in studying young adult students at the time of the COVID-19 pandemic started because of the waves of challenges, breakthroughs, and realizations that I had been a post-secondary young adult student during the pandemic. Considering the differences in context and circumstances, I was curious about how other students experienced their mental health and engaged in occupations during an uncertain time, along with the expectations involved in developing as full-fledged adults. As a young adult, many responsibilities and expectations can induce difficulties in overall health and well-being. For example, trying to manage and participate in both work and school participation at the same time can result in increased pressure leading to stress.

My interest in studying mental health was inspired by my experience working in a dry shelter and a psychiatric facility. I have met diverse people with different mental health experiences and challenges. I have noticed that some consumers are ineligible to get support because their challenges and experiences in mental health do not equate to a

particular extent of a diagnosis or have not accessed proper evaluation and care due to limiting factors such as inadequate knowledge and resources. I will never forget one of the persons whom I have interacted with whom they expressed an interest in being diagnosed with mental illness so that they can receive more support and care. They are frustrated with how the systems work, which has been causing their increased level of anxiety and stress. Indeed, there may be many reasons they have reported inadequate care or not received care due to reasons beyond my knowledge. However, these incidents sparked my interest in understanding mental health on a deeper level.

Because of inadequate support and resources or inaccessible care limited by various factors, some individuals may have worsened mental health and decreased overall health and well-being, even those with the insight to ask for care and help. With this, mental illness could have been mitigated or potentially prevented if there had been adequate and appropriate support for individuals with or without a diagnosis. Every individual has a different experience with mental health. It is my position that support should be available, individualized, and accessible to prevent chronic and long-term effects of poor mental health on overall well-being.

CHAPTER 2 LITERATURE REVIEW

2.1 Search Strategy

To explore the available research regarding the impact of the COVID-19 pandemic on the occupational engagement of post-secondary students, a comprehensive literature review was conducted in the following databases: Cumulative Index to Nursing & Allied Health Literature (CINAHL), Ovid MEDLINE ®, and PUBMED Central ®. The keywords about students, occupation, COVID-19, anxiety and depression were used (see Appendix A). The following limits were used to ensure that relevant articles were found: English language only, full text and peer-reviewed articles. The Journal of Occupational Science was included to gather more information focused on the field of occupational science. The term, COVID-19, was used as a keyword.

Articles were not included if the participants included children, the majority of the population was more than 25 years old, the majority of the participants were not students, and the study focused heavily on the prevalence and risk of mental health and intervention studies. Articles with most of the population more than 25 years old are excluded to increase the commonality with the targeted age group understanding the experiences of the young adults. The accepted articles provided relevant information in understanding the impact of the pandemic on the occupation and mental health of students at the time of the COVID-19 pandemic. Thus, 34 articles were included to inform the review (see Appendix B).

The majority of the articles (n=24) were cross-sectional study designs. Other studies were longitudinal studies (n= 3), observational study (n=1), qualitative descriptive studies (n=1), qualitative descriptive approach with descriptive statistic (n=1), grounded

theory methodology (n=1), correlational and exploratory study (n=2), and qualitative meta-synthesis study (n=1). Most of the outcome measures used in the study are through a survey to gather the level of exposure and impact of COVID-19, level of physical activity, demographic information, stress, self-image, and depression and anxiety levels. Several standardized assessments have been used to determine health, sleep quality and levels of stress, anxiety and depression. On the other hand, Huckins et al. (2020) used smartphone sensing data and EMA survey to identify the students' sedentary time, sleep, location, phone usage and news usage during the pandemic. Most of the outcome measures focused more on the objective component of answering the question, "*What did the students do at the time of the COVID-19 pandemic?*" The studies in the literature review which have tackled the subjective component or how it feels like to be living in this period were the grounded theory methodological study (Marzana et al., 2021) and the qualitative descriptive studies (Wegner et al., 2022; Krishnagiri & Atler, 2022; Werner & Jozkowsi, 2022). Marzana and colleagues (2021) gathered data through focalized approach to storytelling with self-reflection experience to unravel the emotions and community dimensions during an uncertain time. The qualitative descriptive studies used semi-structured interviews to explore the population's experiences during the pandemic. Eleven studies were conducted in Asia; ten are in Europe; ten in North America, and one in Africa. One of the studies was conducted in Turkey, a transcontinental country in which a part is in Europe and a part in Asia (Salar et al., 2022). Rainford et al. (2020)'s paper was the only study which involved participants from various countries such as Australia, Austria, Belgium, Denmark, Ireland, Italy,

Netherlands, Singapore, Slovenia, South Africa, the United Kingdom and the United States of America.

The studies provided substantial knowledge about what happened during the COVID-19 pandemic and explicated the occupations young adults participated in and their experiences with their mental health during the time of the COVID-19 pandemic. Most studies have tackled the association between engagement in activities and symptoms related to anxiety and depression. Thus, the literature review was synthesized according to the context of the COVID-19 pandemic and impact of the COVID-19 pandemic on young adult students' occupations such as school, work, sleep, leisure, physical activity and social participation. Then, the impact on mental health was explicated by analyzing the contextual differences, feelings generated, health supports and future plans of the students.

2.2. Context of the Pandemic

The COVID-19 virus case was first accounted in December 2019 in Wuhan, China (Amatori et al., 2020). The continuous and uncontrollable spread of the virus has led to the declaration of the pandemic on March 2020 (WHO, 2020, as cited in LaCaille et al. (2021). Seetan and colleagues (2021, p.1) highlighted that the pandemic has caused "signficant morbidity, mortality and psychological impact." In over more than a year of the declaration of the pandemic, there has already over 180 million people infected with COVID-19 virus and more than 3.9 million people died due to the virus (Reuters, 2021, as cited in Piya et al., 2022). The pandemic has led to several challenges, disruptions and restrictions affecting the health and well-being of all populations (LaCaille et al., 2021). Physical distancing and social restrictions were implemented to limit the spread of the

virus and to ensure the safety of the nation especially at a time when the vaccine is not yet available. Universities, establishments and recreational spaces were closed, and everyone was encouraged to stay at home and go outside only for essential needs (Tavolacci et al., 2021). Moreover, the front-line essential workers were the only ones initially allowed to participate in their work with adapted measures including personal protective equipment and social distancing (Tavolacci et al., 2021). All of these transpired during the initial phases of the pandemic and became a pivotal change in the lives of people causing an inevitable impact to various occupations.

2.3 Impact of COVID-19 Pandemic on School Participation

Due to the COVID-19 pandemic restrictions and public health measures, learning has transitioned from in-person methods to online or hybrid methods. In the study of Piya et al. (2022), 76% of the respondents received synchronous online classes regularly, while 17.9% did not participate in online education. According to Alshammari et al. (2022), college students experienced a transition in their habits and routines which was considered an inevitable phase in individuals because of the pandemic and the academic stress factor. This led to an immediate psychological and physiological development commonly referred to as part of emerging adulthood (Alshammari et al., 2022; Miller, 2017, as cited in Alshammari et al., 2022).

The educational transitions and delays, life disruptions, changes in career and life plans, housing and childcare concerns and financial difficulties resulted from the impact of the public health measures precipitated by the COVID-19 pandemic (Piya et al., 2022; Rainford et al., 2020; Lee et al., 2021). Some students experienced challenges in adapting to the new teaching methods, leading to increased anxiety and stress (Seetan et al., 2021).

Online learning became an adapted medium of education that affected learning and future employment, influencing their feelings of anxiety (Cornine, 2020, as cited in Basheti et al., 2021; Adhikari et al., 2020, as cited in Basheti et al., 2020). The students who lived alone had lower satisfaction with education and new activities and could not completely transition to the modified learning environment due to the need for stable internet and personal computers (Tahara et al., 2021). Moreover, many students have experienced a lower attention span for learning and increased time for social media, online meetings, and internet usage (Piya et al., 2021).

Most students have described the completion of the semester during the pandemic as more difficult, in which some had to take time off from school (Lee et al., 2021). One of the participants in the study of Lee et al. (2015, p.5) described his experiences as *"Everything has been so uncertain and has made me increasingly anxious,"* and another student expressed, *"It is comforting to know that every college student in the country and most around the world, are dealing with the same struggles that I am and I am not alone in being fearful and anxious."* Other educational challenges included housing, travel concerns, childcare and financial worries (Rainford et al., 2020). Financial difficulties rooted in the requirement for students to pay the same university fees despite universities being closed and offices shifting to work-from-home setups became one of the students' stressors during the pandemic (Piya et al., 2022). On the other hand, some students have had other opportunities and reported no impact on their lives (Lee et al., 2021), while some students have perceived the increased time in studying as something completed because there was "*not much else to do"* (Werner& Jozkowski, 2022, p.300).

With the modifications in how occupations are engaged and the existing transition to another age group, changes in the experience of mental health were unavoidable. Basheti and colleagues (2021) have found that students' mental health was impacted, as evidenced by the increase in borderline abnormal anxiety (22.4%) and depression (33.8%) symptoms. In addition, more than half of the students in the same study (54%) have identified adverse effects on their learning process. In Lithuania, a large proportion of female higher education students have reported symptoms related to anxiety (51.9%), depression (11%) and unexplained somatic concerns (23%) (Baranauskas et al., 2022). In Bangladesh, more than 70% of the students have experienced depression and mild to severe anxiety, with women having higher levels than men (Piya et al., 2021). In the United States, students have a more sedentary lifestyle and have increased anxiety and depression symptoms associated with the academic terms and breaks altered by the COVID-19 pandemic (Huckins et al., 2020). In addition, the transition to remote classes has been associated with higher stress symptoms (Colato et al., 2022).

Some of the studies have explored the impact of the pandemic on students in the medical field. Ismail and colleagues (2020) have found that preclinical medical students have more than 2.5 times the likelihood of developing anxiety than clinical medical students. They have inferred that one of the possible causes was that those clinical medical students have in-person clinical sessions decreasing social isolation. In addition, Seetan et al. (2021) inferred that there might be a higher impact on medical students due to their vulnerability and risk of exposure (Pandey et al., 2021, as cited in Seetan et al., 2021). This could result in significant long-term consequences on the career and mental health of the students (Seetan et al., 2021).

The COVID-19 pandemic has facilitated the transition of the conventional method and medium of learning. Students were compelled to adapt how they participate in school-related responsibilities, causing an impact on their mental health during an uncertain time. Moreover, most of the studies focused on the experiences of the students currently enrolled in a university but did not include the other post-secondary students in a community college, trade program, and other educational endeavours.

2.4 Impact of COVID-19 Pandemic on Work Participation

Only a few of the included studies have tackled the engagement of young adult students in work. According to Krishnagiri and Atler (2022), the majority of the participants in their study were working students. However, due to the pandemic, there were modifications in their work participation. Lee et al. (2021) have found that 27.1% of the students in their study have lost an internship and job opportunity, while 25.9% of the students were able to maintain their employment. Similarly, in the study of Esteves and colleagues (2021), there were students who (1) had no work, (2) were laid off, (3) had no modifications in their work routine, and (4) had a work-from-home setup.

In the study of Colato et al. (2022), both work-from-home setup and in-person work interaction increased stress symptoms. This may be due to the stressors brought by work-related and student-related responsibilities and contextual change due to the COVID-19 pandemic (Colato et al., 2022). With this, it showed the combined impact of work and school participation on the well-being of the students. Work participation can provide the necessary funds to obtain an education, resulting in improved employment opportunities and greater financial stability. Thus, the interrelatedness of these two

activities could significantly impact how individuals manage their daily life and perceive their well-being.

2.5 Impact of COVID-19 Pandemic on Sleep Participation

There has been a change in students' sleeping patterns and quality during the COVID-19 virus. Basheti et al. (2021) have identified that 78.4% of their participants experienced differences in their sleeping patterns, with 40% sleeping 6 to 8 hours a day and 32.4 % sleeping during the night. Moreover, sleep quality has decreased since the pandemic, which may result from the prevalence of sedentary behaviours and inadequate exercise (Gestsdottir et al., 2021). Alshammari and colleagues (2022) have found a correlation between poor sleep quality, separation from significant ones, and unemployment. The study has concluded that many undergraduate students experience anxiety, depression and poor sleep quality (Alshammari et al., 2022). Furthermore, the following associations were confirmed in the study of Chen et al. (2022): (1) sleep quality is a predictor for depression and state-strait anxiety, (2) increased state- strait anxiety is a risk factor for depression symptoms, (3) state-strait anxiety has caused sleep quality to have a mediated effect on depression symptoms. The sleep quality was found to deactivate the medial prefrontal cortex of the brain responsible for emotions; thus, this can lead to higher levels of anxiety (Deng et al., 2020, as cited in Chen et al., 2022).

On the other hand, Piya et al. (2022) have identified that 47.2% of students have been getting ample sleep and 20.5% are oversleeping during the pandemic compared to the 73.4% of students who had inadequate sleep before the COVID-19 virus. Moreover, some students have associated increased sleeping duration as “a strategy to improve health and a maladaptive coping mechanism” (Werner & Jozkowski, 2022,

p.300). Similarly, many of the participants in the study of Krishnagiri and Atler (2022) reported increased duration and restorative sleep. This may result from several factors, such as increased time spent at home as highly encouraged by public health officials, more flexibility in managing time to fulfill responsibilities and sleep as a coping mechanism (Krishnagiri & Atler, 2022).

Indeed, sleep quality, duration and patterns have changed during the pandemic. Most studies tackling sleep experience have found poor sleep quality and its correlation with the prevalence of anxiety and depression symptoms. Moreover, sleep quality has been affected by pandemic-related stressors, such as the ambiguity of the situation and response to the current health crisis affecting occupational engagement. However, based on the limited studies available, the research on sleep participation throughout the time of the COVID-19 pandemic has been inconsistent, and trends appeared to have changed depending on the context. Thus, it may be beneficial to understand the patterns and trends of sleep participation to understand the factors which have precipitated to identify adequate supports which can improve overall sleep and well-being as people move forward with the COVID-19 pandemic.

2.6 Impact of COVID-19 Pandemic on Eating

During the early phase of the pandemic, wherein there was inadequate knowledge about the COVID-19 virus leading to heightened public health measures, people were highly encouraged to stay at home, limit dining out in restaurants, and prepare meals at home. There were trends in which people were baking the same sourdough bread and trying meals that were popular on TikTok or other social media platforms. There was also

difficulty in accessing ingredients due to delivery and supply issues in the global market. These environmental changes have changed what, how, where, and why people eat.

In the study of Lee and colleagues (2021), they found that most respondents had increased weight and feelings of loneliness, and only 13.3% lost weight due to decreased appetite. On the other hand, there was a decrease in sugar consumption during the COVID-19 pandemic, which was inferred to be related to the students starting to live with their families, where healthier foods are more prevalent (LaCaille et al., 2021). Overall, almost half of the students described their diets as healthier and half as unhealthier when strict public health measures were implemented (LaCaille et al., 2021). Those with Mediterranean diets were found to have increased time in physical activity during the pandemic, which suggests that the environment may not significantly impact the individuals living with a healthy lifestyle (Romero-Blanco et al., 2020).

Based on the studies included, there was no consistent trend in students' eating habits during the pandemic. However, one study has shown a correlation between eating and the experience of mental health. Amatori et al. (2020) believed that unhealthy diets likely result from poorer mental health during the COVID-19 pandemic restrictions because of the decrease in exercise, which has a mediational effect on a person's mood and nutrition. Further studies are needed to confirm the validity of this assumption.

2.7 Impact of COVID-19 Pandemic on the Leisure Participation

In the study of Krishnagiri and Atler (2022), they found that some participants reported more time for leisure activities because of the decreased time necessary for transportation to school and work. Increased time due to the lifestyle changes induced by the pandemic has resulted in positive and negative consequences (Wegner et al., 2022).

Some students have allotted more time to eat and experience previously engaged, new and more leisure activities (Wegner et al., 2022). On the other hand, some students have highlighted that the pandemic-induced restrictions have been a barrier to leisure activities, causing adaptations in occupational engagement (Wegner et al., 2022).

There were also changes in how students engage and experience common leisure activities such as binge drinking, smoking and internet and phone use.

2.6.1 Binge Drinking

Due to the "Stay at Home" policies and public health measures, some students had to return home with their families. This has caused a decrease in the binge drinking behaviour of students from 35.9% before COVID-19 pandemic to only 9.3% after the COVID-19 pandemic (Tavolacci et al., 2021). Other factors that were associated with the positive change in binge drinking behaviours were the following (1) male, (2) healthcare curriculum, (3) 2nd year and above academic curriculum, (4) living with parents or living alone, (5) knowing someone who tested positive and (6) fear of severe COVID-19 infection (Tavolacci et al., 2021). On the other hand, adverse change in binge drinking behaviours was prevalent in those who are male, opt not to live with their parents and their level of depression (Tavolacci et al., 2021).

Only one of the included studies explicated the pandemic's impact on young adult students' binge drinking, which they have found a decrease in this behaviour (Tavolacci et al., 2021). Several factors can cause the observed reduction in binge drinking and may not be consistent with the experiences of the other student living with varied contextual factors. Considering the consequences of binge drinking, Tavolacci and colleagues

(2021) advocated the support and care for university students at the end of the lockdown to prevent the resumption of this unhealthy behaviour.

2.6.2 Smoking

Increased tobacco consumption was associated with a higher level of distress, anxiety, depression and support needs and a lower level of quality of life and well-being (Health Matters, n.d, as cited in Chen & Lulock, 2022; Chen & Lulock, 2022). Basheti et al. (2021) have found a positive correlation between smoking, low family income and anxiety levels. Furthermore, in the study of Tavolacci et al. (2021), they found that negative changes in tobacco use were related to the depression level and fear of not receiving academic validation, while no factors were attributed to the positive changes in tobacco use. The impact of smoking behaviour on mental illness symptoms could suggest the possible cyclical relationship between the two factors.

It was assumed that those with a more sedentary lifestyle are more predisposed to smoking and binge-watching (Romaguera et al., 2011, as cited in Romero-Blaco et al., 2020). However, Romero-Blanco et al. (2020) found that students who smoke also had increased physical activity during the pandemic lockdown. Further studies are needed to confirm this phenomenon (Romero-Blanco et al., 2020). This may be caused by several factors, such as environmental differences, personal context, and experiences.

2.6.3 Internet / Phone Usage

Huckins and colleagues (2020) found increased cellphone usage, decreased location visits, and phone unlocks. The behavioural changes, such as increased phone use and decreased location visits, were accordant with the students adhering to and practicing the public health measures (Huckins et al., 2020). In addition, due to the “Stay at Home”

policies, the engagement of activities was modified to online platforms. Education, work, grocery shopping, and communication were transitioned to hybrid or online means. According to Ismail et al. (2020), increased internet use through smartphones or computers during the pandemic was due to social distancing and public health measures among medical students. Internet facilitated the adaptation of work, school, and social participation to enable occupational engagement despite the isolating public health measures. With this, online activities supported individuals in coping with anxiety and depression symptoms (Kiraly et al., 2020, as cited in Zalewska et al., 2021). This may be due to students having the means to be connected, occupied, and feel less isolated despite the distance. However, the inappropriate and excessive use of these media could also heighten anxiety and depression (King et al., 2020, as cited in Zalewska et al., 2021).

2.8 Impact of COVID-19 Pandemic on Physical Activity

The decline in physical activity has been evident in most studies during the COVID-19 pandemic. Coughenour et al. (2021) have found a significant reduction in the duration of physical activity and a worsening of depression levels during the phase of strict social and public health measures compared to pre-pandemic. Moreover, in the study of Gestsdottir et al. (2021), they found that 76% of male students have reported a decline in physical activity and poorer physical health during the pandemic. Similarly, college students reported a limited amount of exercise and high anxiety symptoms (Han et al.,2022). One of the reasons attributed to the decrease in physical activity presented as a decline in walking and robust activity was the shift in online learning (LaCaille et al., 2021).

On the other hand, Romero-Blanco et al. (2020) have found an increase in physical activity levels during the strict social and health measures phase in the group characterized as female, students not in their final year, normal or low BMI, not having a Mediterranean diet and in the preparation and action stage of change. Physical activity level and sitting duration increased, leading to sedentary behaviour (Romero-Blanco et al., 2020). It is possible that people engaged in more physical activities when they realized they were sitting for longer periods of time, which could be a reason for this phenomenon. However, further studies are required to critically analyze the root cause of this occurrence.

During the time with strict social and public health measures, a sedentary lifestyle was more prevalent, associated with psychosocial distress, specifically depression and anxiety (Ferreira et al., 2020, as cited in Esteves et al., 2021; Huckins et al., 2020). The increase in sedentary behaviour was more significant than the norm that individuals were more active during break periods due to the pandemic measures (Huckins et al., 2020). Gestsdottir et al. (2021) have observed that both male and female students had increased sedentary behaviour, which could have transpired due to online learning. Online learning facilitated increased usage of computers and static sitting, which was dissimilar to in-person expectations (Gestsdottir et al., 2021). On the other hand, most of the students (71%) in the study by Lee and colleagues (2021) have occupied their time by watching TV and other activities, including learning new hobbies, exercising, reading books and cooking or baking. Moreover, more sedentary people are likely to smoke and watch TV, while those who exercise consistently are more likely to eat healthy foods and drink less

alcohol (Romero-Blanco et al., 2020). With this, the transition to a more sedentary lifestyle could have a long-term impact on the health and well-being of individuals.

Physical activity and an active lifestyle could support individuals' physical and mental health. According to Amatori et al. (2020), exercise facilitated healthier nutritional intake with more fresh fruit and vegetables, leading to better physical health. If there is inadequate physical activity, cardiovascular and all-cause death risks could increase (Chau et al., 2013, as cited in LaCaille et al., 2021). Furthermore, it could predispose an individual to encounter adverse health effects or "health debt" due to the connection between physical and mental health (Zalewska et al., 2020, p.7). The activities that people do that support physical health could also affect the experience of mental health. Likewise, mental health could either positively or negatively impact physical health.

Considering the connection between physical and mental health, Zhang et al. (2021) have found that high sedentary time and low physical activity directly relate to depression symptomatology. Moreover, Han et al. (2023) have observed an indirect correlation between physical activity and depression and anxiety. With this, increased sports activity could correlate with decreased depressive symptoms, as observed in Baranauskas et al. (2022) study among female students in the biomedical and non-biomedical fields. Moreover, students with more physical activity are associated with more positive well-being (Baranauskas et al., 2022). This coincided with the assumption that exercise and physical activity improve students' mental health and well-being (Amatori et al., 2020; Shpkaou et al., 2022). With this, physical activity was recommended to prevent and mitigate depression and anxiety symptoms while improving

positive emotions (Chen & Lucock, 2022; Esteves et al., 2021; Zalewska et al., 2020; Shpakou et al., 2022). However, Yang et al. (2022) have identified that physical activity does not only positively impact depressive symptoms but also can negatively impact depressive symptoms because of perceived stress and academic procrastination. Increasing time for physical activity could promote academic procrastination, leading to increased stress and depressive symptoms. This could exhibit a counterintuitive outcome of physical activity.

2.9 Impact of COVID-19 Pandemic on Social Participation

Due to the risks to health because of the virus, students experienced decreased in-person social interaction but later adapted their social interaction to the constant contextual changes. Lee et al. (2021) have found that 34.1% of the students have negative relationships with family, and 45.7% have affected relationships with friends. Lesser interaction with friends is a risk factor for poor mental health (Tahara et al., 2021). On the other hand, in the study of Colato and colleagues (2022), participants who interacted with more people while consuming alcohol were found to have decreased depressive and stress symptoms. These have shown that the increase in social interaction can positively affect mental health. This was evidenced by the benefit of social interaction with family, friends and others, which affects the quality of life based on the self-reported Patient Health Questionnaire -9 (PHQ9) (Alshammari et al., 2022).

Krishnagiri and Atler (2022) have found transitions in social occupations precipitated by the individual's context, resources in the environment and personality types. Students have used technology to adapt social participation with people outside their homes. Some participants interacted with their neighbours and designated bubble of

friends. Lastly, the experience of social interactions also differed from those with introverts or extroverts as their personality types (Krishnagiri & Atler, 2022). The adaptation to social occupation and connections is influenced by the biological drive, environment, structure, and meaning of occupation (Krishnagiri & Atler, 2022). With the transition of social interaction to social media, Piya et al. (2022) found that 54% of the student respondents have been using social media for more than 4 hours every day compared to only 144 minutes per day on average before the COVID-19 pandemic (BroadbandSearch, 2020, as cited in Piya et al., 2020). With this, technological advancement has bridged the distance among people facilitating social interaction and participation.

Despite these changes and adaptation, Marzana et al. (2020) have identified the community dimensions from the gathered narratives of the participants, reflecting their experience of social interaction. The following were highlighted: emotional sharing, connectedness and solidarity (Marzana et al., 2020). Emotional sharing was the affective component of the shared emergency experience (Marzana et al., 2020). Connectedness was the unity and the adaptation to be together despite the existence of restrictions, and solidarity was the act of helping each other (Marzana et al., 2020). These narratives have shown the general themes involved in the social engagement of the students during an uncertain time and how distance became a setback but was not a complete barrier for people to connect and interact.

2.10 Contextual Differences

Some studies have discussed the differences in the experience among gender (n=6) and race (n=2). Based on the analysis of Baranauskas et al. (2022), female students

have higher mental health problems- anxiety, depression, and somatic symptoms. Also, female students from the non-biomedical field were found to be more vulnerable, as evidenced by the increased prevalence of mental health outcomes (Baranauskas et al., 2022). Similarly, women experience more fatigue, anxiety and stress than men (Harris et al., 2021; Tapia et al., 2022).

Male students in China had higher physical exercise levels and decreased negative emotions compared to female students (Han et al., 2022). In contrast, Gestsdottir et al. (2020) found that 76% of the male respondents reported a decline in their physical activity levels and poor physical health compared to pre-pandemic. However, in the study of Romero-Blanco and colleagues (2020), there was no disparity in men's physical activity levels, which may be resulted from the varying motivational and environmental factors influencing the individual. Those with a low level of physical exercise may be more susceptible to experiencing depression and anxiety symptoms (Han et al., 2022). Factors that could have influenced these were physiology, response to adverse events and sensitivity to life events (Vuelvas-Olmos et al., 2022, as cited in Han et al., 2022). The varying results of the impact of the COVID-19 pandemic on males and females could be attributed to the changes in the personal, environmental, and occupational factors impacting occupational engagement. Nevertheless, the COVID-19 pandemic has caused significant effects on both the physical and mental health of male and female students (Gestsdottir et al., 2021).

Only two studies considered the difference in students' experiences with different racial backgrounds and ages. Coughenour and his colleagues (2021) have found that Asian students were more likely to have a reduction in their physical activity levels

during social restrictions. This could be due to the growing Asian discrimination and violence during the pandemic (Campbell, 2020, as cited in Coughenour et al., 2021; Clissold et al., 2020, as cited in Coughenour et al., 2021). In addition, Tapia et al. (2022) have also found that Hispanic/ Latinx participants have improved occupational engagement, and Black/ African American participants have more occupational balance than White students. On the other hand, first-year students were found to be more likely to have higher depression levels based on the Patient Health Questionnaire (PHQ-9) (Coughenour et al., 2021). This could be explained by the assumption that with age, the regulation of emotions and development of coping mechanisms increase (Aldwin et al., 2011, as cited in Coughenour et al., 2021). Considering that the COVID-19 pandemic changed not only the physical way of doing things but also the perception and way of thinking of people, it would be essential to analyze how individuals with varying contextual factors adapted during an uncertain time.

2.11 Feelings during the COVID-19 Pandemic

Different feelings have transpired due to the existence of the COVID-19 pandemic. The unpredictability, uncertainty and unanswered questions may have led to different emotions, impacting how people engage in their occupations.

2.11.1 Concern

Considering the uncertainty and rapid environmental changes, being concerned about the pending situation was inevitable. There was fear of significant people being sick and the implications of the rules and restrictions (Marzana et al., 2020).

2.11.2 Fear

Fear and uncertainty became common during the COVID-19 pandemic (Zalewska et al., 2021). The rapid change in society and home and the fear of getting infected with the virus have led to trauma and stress-related disorders (Esterwood et al., 2020, as cited in Lee et al., 2021). The longer the isolation and physical activity limitations, the more negative the impact on feeling depressed, anxious and fearful (Hawkley et al., 2009, as cited in Zalewsja et al., 2021). The following were the factors that caused students to worry during the time with the COVID-19 pandemic: the health of their loved ones, education, anxiety due to inadequate proactivity, finances, future employment offers and getting the virus (Lee et al., 2021).

Marzana et al. (2020) have observed how fear was characterized in the different phases of the pandemic. The emergent themes of fear include fear of increased infections, infecting others, being infected, lockdown, returning to normal, leaving the house, isolation, and not being with others (Marzana et al., 2020). After the lockdown, there were individuals whose fear increased while there were those whose fear decreased, explaining, *"I thought that people would be more fearful, but there are really a lot of people out and about even with just the first easing of lockdown' (*Marzana et al., 2020, p.363*).*

On the other hand, fear also influenced the lifestyle of individuals having inadequate physical exercise, drug use, irregular diet, and difficulty adapting to asynchronous classes (Guo et al., 2022). Tavolacci et al. (2021) have found that the fear of the COVID-19 pandemic has decreased binge eating. However, it also led to unhealthy lifestyles such as solitary substance use, smoking, and drinking alcohol (Dumas et al.,

2020, as cited in Tavolacci et al., 2021; Nguyen et al., 2020, as cited in Tavolacci et al., 2021.

2.11.3 Anger

During the lockdown, anger was attributed to the local and national institutions for instigating social restrictions and the unfathomable reality and future of the virus (Marzana et al., 2020). After the lockdown, anger was more associated with the people not adhering to the public health measures increasing the risk of contamination (Marzana et al. 2020). Nevertheless, the level of anger was lessened because of the decreasing number of restrictions and increasing knowledge regarding the virus (Marzana et al., 2020).

2.10.4 Depressive feelings

Lockdowns have caused feelings of "impotence, nostalgia, loneliness and sadness" (Marzana et al., 2020, p.366). Despite the ease of the social restrictions, new feelings of apathy and being alone surfaced, resulting from perilous feelings woven with emergencies like the COVID-19 pandemic (Marzana et al., 2020). Feelings of depression were also related to poor grades, inadequate physical activity, drug use, irregular diet, and increased screen time due to the COVID-19 pandemic (Guo et al., 2022).

2.11.5 Joy

Joy was considered a massive leap in the emotions of the participants during the lockdown and after the lockdown (Marzana et al., 2020). It was associated with being reunited with family and friends, returning to in-person work participation, and being able to go out in public places (Marzana et al., 2020).

2.11.6 Post-lockdown Anxiety

One of the students in the study of Marzana et al. (2020, p.367) has described it as *"A normality that I want and that scares me at the same time."* The anxiety attached to the possible return to reality has led to another transition in which people have to adapt again (Marzana et al., 2020). During the pandemic, there were different phases: social distancing and staying at home, while the other involved returning to pre-pandemic norms. As the situation with the virus changes daily, it would be helpful to examine how emotions have evolved during these phases.

2.12 Health Supports for Students

According to Chen & Lulock (2022), there could be a high chance that several students would be at risk of having longer-term and more severe mental health difficulties supporting the need for professional mental health care and support. During the COVID-19 pandemic, inadequate and limited access to healthcare resources contributed to heightened anxiety and stress levels, especially for individuals experiencing symptoms of depression (Basheti et al., 2021). This increased the prevalence of seeking and using medications to support mental health during the COVID-19 virus (Basheti et al., 2021). In Saudi Arabia, most universities have provided counselling services and processes to book an appointment; however, they lack adequate online resources, self-help and crisis hotline materials (Alshammari et al., 2022).

To suffice the inadequacy of health supports and resources, LaCaille et al. (2021) have suggested the prioritization of intervention for the resilience, coping mechanisms and healthy habits of students, especially the ones with a higher risk of poor mental health related to stress. Resilience interventions for students helped support well-being, mitigating mental health symptomatology, and facilitating coping strategies and

protective factors (LaCaille et al., 2021). Furthermore, Tahara and colleagues (2021) highlighted the facilitation of collaboration among students and the creation of modified learning considering the isolation and loneliness experienced by the students during the pandemic. Romero-Blanco et al. (2020) have suggested the development of more strategies to facilitate the motivation of students leading to a healthier lifestyle in which there is a decrease in sitting time and an increase in physical activity. Some activities that students engaged in to support their mental health during the pandemic were mindfulness activities, exercises, health apps, and receiving care from a healthcare professional (Lee et al., 2021).

Counselling services are recommended for college students to decrease attrition, support academic and psychosocial development, and lessen the risk of chronic physical conditions leading to mental health difficulties (Alshammari et al., 2022). Other measures to improve sleep quality and mitigate depression symptoms are cognitive behavioural therapy, comprehensive sleep management programs, consulting centers with psychotherapists and trained counsellors and extracurricular activities (Chen et al., 2022). The increase in healthcare resources and support for the population could facilitate the creation and implementation of more sustainable strategies for students' mental health and well-being. Moreover, a wide range of mental health support should be available regardless of whether they are diagnosed, considering how complex and holistic health is.

2.13 Future Plans

Considering the disruption and modifications in the daily living of individuals, it was inevitable for their perception of the future to evolve. According to Piya et al. (2022),

most of their participants (82.9%) reported changes in their plans because of the COVID-19 pandemic. Similarly, in the study by Lee et al. (2021), most students responded to changes in their plans due to the pandemic, with only 26.4% stating no effect. Some students had different career paths, lost employment opportunities, delayed or postponed education, responsibilities to support families and multiple changes in their future plans (Piya et al., 2022; Lee et al., 2021). How individuals perceive and prepare for their future could reflect the becoming dimension of occupation.

2.14 Literature Review Summary

The results of the literature review presented how participating in occupations affects the experience of mental health. According to Tapia et al. (2022), the changes caused by the pandemic to disrupt occupations negatively affected students' mental health. Most occupations tackled above found a positive and negative correlation in mental health. Some occupations increased the risk for mental health difficulties, while others improved the experience of health and well-being, decreasing the susceptibility to mental health illness. However, further studies are needed to identify how occupational engagement can result in positive or negative mental health and well-being outcomes (Hammell, 2020, as cited in Tapia et al., 2022).

Most of the studies that were found and included focused on the objective component of providing information to generally answer the question, "*What did young adult students do during the pandemic?*" Data illustrated the frequency, association with other factors and available supports, perceived health and well-being through standardized tests and surveys. Moreover, most studies have identified students with mental illness symptoms using standardized assessments. Only four studies have

explored the subjective experience in engaging in occupations. Marzana et al. (2020) analyzed students' emotional and community dimensions before and after the lockdown. Wegner et al. (2020) have identified how young adults experienced leisure activities during the pandemic. Krishnagiri and Atler (2022) have investigated the impact of the pandemic on social interactions, occupations and adaptation affecting health and well-being. Lastly, Werner and Jozkowsi (2022) have gathered data regarding the student's experience in engaging in occupations and time use patterns. These qualitative studies have described a facet of the experiences of young adults during the pandemic. With this, limited studies are available reflecting the students' occupational engagement and mental health experience considering the holistic occupational engagement framework (Morris & Cox, 2017) and the experiential component of occupation (Hammell, 2009).

Furthermore, none of the studies have explored the occupational engagement of young adult students who self-identify with symptoms related to anxiety and depression during the pandemic. Understanding the experiential component of occupation and how they perceive their mental health is affected and affected by their activities and context could shed light on a deeper facet of occupational engagement and health and well-being. Through listening to the reports of the students with mental health difficulties, a more accurate understanding of their real-life experiences can be achieved, which can lead to significant implications in facilitating health prevention, promotion and management.

2.15 Research Questions

Based on the literature review, it is essential to explore occupational engagement and how it is associated with the experience of mental health of the students experiencing

mental health difficulties during the time of the COVID-19 pandemic. Thus, this research study aims to answer the overarching question, "*How did post-secondary young adult students self-identified with anxiety and/or depression engage in occupations at the time of the COVID-19 pandemic?"*

CHAPTER 3 METHODOLOGY

In this chapter, the paradigm, theoretical approach, and methodology used in the study to answer the research question are explained. Moreover, the research design is described.

3.1 Paradigm

Constructivism is an approach which focuses on how people construct their reality divergent from others through developing meaning from interactions (Mogashoa, 2014; Lincoln & Guba, 2016). With this, realities are considered social constructions that are chosen, developed and modified by individuals (Lincoln & Guba, 2016). The construction of the world or reality continues to grow as the individual experience and reflect on the experiences (Honebein, 1996; Cashman et al., 2008; Hein, 1991). Thus, the knowledge is individualized, considering the similarities and differences among people, leading to multiple understandings.

Every person has personal factors, context, and experience, which affect how meaning and interpretation are constructed. The constructivist model of knowledge highlights the ability of the learners to construct understanding by deciphering the meaning and finding regularity and order in the world despite partial information (von Glasersfeld, 1984). Bodner (1986, p.4) stated that the knowledge constructed should fit reality compared to how a “key fits a lock.” This presumed that reality is socially constructed, which is the fundamental principle of the interpretivism paradigm (Bogdan & Biklen, 1998). The interpretivism paradigm aims to understand the person and how they perceive the world (Kivunja & Kuyini, 2017). This will be feasible by analyzing the

meanings of people which influence their actions (Schwandt, 1994, 2000). The reality is considered subjective based on the individual who experiences reality (Alharahsheh & Pius, 2020; Saunders et al., 2012). With this, the individual reports can reveal insights into their own introspective analysis of themselves and their actions. As a result, they may have different experiences and outcomes due to varying personal and contextual factors, even when engaging in the same activity. In contrast to generalizability, the information obtained through the interpretivist paradigm holds more validity as it directly comes from the individual (Myers, 2008). Due to variations among individuals, the experience is less likely to be applied to larger groups (Saunders et al., 2012). With constructivist-interpretivist paradigm, reality is constructed and individualized (Mogashoa, 2014; Lincoln & Guba, 2016; Kivunja & Kuyini, 2017)

Using the constructivist-interpretivist paradigm, the research encapsulates the following characteristics: (1) society cannot be understood only from a single individual perspective, (2) realities are multiple and socially constructed, (3) there is an interaction between the researcher and the participants, (4) context is important for knowledge and understanding, (5) knowledge is constructed through the findings, (6) understanding the individual is vital, (7) interdependence between the causes and effects, (8) understanding can be attained through considering contextual factors (Lincoln and Guba, 1985, as cited in Kivunja & Kuyini, 2017; Morgan, 2007 as cited in Kivunja & Kuyini, 2017). These characteristics reflect how knowledge is situated within the individual as influenced by the context and understood by the researcher through interaction. However, it is important to note that the information gathered from the individuals may not be a complete absolute truth but only a part of their reality, considering the multiplicity of

meanings, interpretations and realities (Saunders et al., 2012; Erlingsson & Brysiewicz, 2013).

3.2 Theoretical Perspective

Informed by the constructivist/ interpretivist paradigm, an occupational perspective was used in the development of the study. Occupational perspective is defined as "a way of looking at or thinking about a human doing" (Njelesani et al., 2012, p.1). This heavily inspired the occupational science and occupational therapy body of knowledge but also can be applied to multiple disciplines, as evidenced by the holistic definition proposed by Njelesani et al. (2012, 2013). Through this perspective, knowledge depends on people's experience in engaging occupations considering the factors that contribute to their choices, the act of doing, the meaning attached to it and the consequences of doing. Considering every human has different contextual factors, experiences and personal factors, the subjective experiences of engaging in occupations are diverse despite partaking in a similar objective occupation. This also contributes to varying impacts on the health and well-being of the individual. (Wilcock, 2004; Yerxa et al., 1989).

The common key constructs of occupational perspective from various scholarly materials, as collated by Njelesani et al. (2013), are the following (1) individual and societal doing, (2) contextual factors, (3) occupations are related to health and well-being, (4) involves the form, function and meaning of an occupation, (5) impacts being, becoming and belonging. These key constructs explicate how occupation is embedded with different components and factors such as the person, environment and occupation that impact the overall occupational performance and participation influencing well-being

and quality of life as highlighted in the principles of Person-Environment-Occupation Performance Model or PEOP model (Baum et al., 2015) Moreover, the study reflect how the dimensions of occupation such as doing, being, belonging and becoming are helpful in understanding the overall health and wellbeing which are highlighted in the Pan Occupational Paradigm (Hitch et al., 2018; Hitch & Pepin, 2021). Thus, to understand occupation is to understand people.

The PEOP model was developed due to the lack of occupation models, with biomedical models being the predominant constructs in looking at health. It considers the person as the intrinsic factor and the environment as the extrinsic factors that results to occupational performance and participation influencing the well-being and quality of life of the person (Christiansen et al. 2005, p.245; Baum et al., 2015). It is a client-centered approach which looks at the experience through analyzing the factors that affects the person facilitating a holistic understanding of occupation and relation to health and well-being (Baum et al., 2015). The intrinsic factors include the physiological, cognitive, spiritual, neurobehavioral and psychological factors (Christiansen et al. 2005; Baum et al., 2015). The extrinsic factors include the social support, culture and values, social and economic systems, built environment and technology and natural environment. (Christiansen et al. 2005; Baum et al., 2015).

All of these factors that influence the experience affects the dimensions of occupation which are the doing, being, belonging and becoming (Hitch et al., 2018; Hitch & Pepin, 2021; Hammell, 2004). These are found to be integral in analyzing occupation beyond the objective façade of it because it looks at the experience of people

through their own knowledge and interpretations (Rebeiro, Day, Semeniuk, O'Brien & Wilson, 2001; Whalley Hammell, 2004; Wilcock, 1998, 2006).

Doing is the active participation of people in activities (Rebeiro et al., 2001; Whalley Hammell, 2004; Wilcock, 1998, 2006). These include activities that people do with varying purposes, meaning and perceived value and consequences. It involves both objective performance and subjective participation in activities (Larrson-Lund & Nyman, 2017, as cited in Hitch & Pepin, 2021). Being pertains to the essence of self, which is exhibited through self-reflection (Hammell, 2004; Wilcock, 1998, 2006). Wilcock (1998, p.250) described it as "being true to ourselves, to our nature, to our essence, and to what is distinctive about us to bring to others as part of our relationships and to what we do. To 'be' in this sense requires people to have time to discover themselves, think, reflect and simply exist." Belonging is about relationships, social participation and inclusion (Hammell, 2004, 2014; Wilcock, 1998, 2006). This includes the interaction with family, friends and other people, which is considered one of the main occupations of people (AOTA, 2020). Becoming refers to the process of achieving one's potential and transforming their goals into reality in the future. This involves self-actualization and self-perception of growth and future self, as outlined by Hammell (2004, 2014). People who experience becoming are able to recognize their potential and set achievable goals for themselves. All of these dimensions of occupation provide a comprehensive understanding of how occupation is engaged, which informs a significant part of the reality of people living, especially during an uncertain time.

Understanding the different components and factors impacting occupation can result in clearer and more accurate knowledge about the reality of individuals as they

experience and live their lives. Considering the constructivist-interpretivist paradigm informed by the occupational perspective inspired by the PEOP model and Pan Occupational Paradigm, an interpretative description methodology was used to answer the research question.

3.3 Interpretative Description

The exploration of the experiences of post-secondary young adult students self-identified with anxiety and/or depression symptoms was conducted using the interpretative descriptive methodology (Thorne et al., 1997; Thorne et al., 2004; Thorne, 2008; Thorne, 2016). Aligned with a constructivist paradigm, interpretative description (ID) is considered an approach that uses inductive analysis to explore and understand a phenomenon that leads to clinical applications (Thorne et al., 1997; Hunt, 2009). It was created from the attributes and characteristics of high-quality qualitative studies in the applied world (Thorne, 2016). This methodology has described individuals' health and illness experiences through the applied health perspective (Thorne et al., 1997; Thorne et al., 2004; Thorne, 2008; Thorne, 2016).

Thorne (2004, p.7) emphasized that the findings facilitate a “sense-making structure for the eccentricities and variations that inevitably occur in the real world of health care application." With this, ID has acknowledged the uniqueness and variations in the students' experiences considering the different factors impacting occupation (Thorne, 2016). In this methodology, the clinical orientation of an occupational therapist was not separated during analysis; instead, it was incorporated to facilitate a more profound understanding of the experiences. Thus, the ID methodology's appropriateness was based on the study’s aim to explore the occupational engagement of young adult students self-

identified with anxiety and/ore depression symptoms and to apply the clinical insight to practice (Hunt, 2009; Thompson Burdine et al., 2020). Hunt (2009) informed that the clinical orientation could guide the analysis while considering the iterative process in inquiry. With this, the occupational perspective has added an additional lens of understanding, promoting the crystallization in qualitative study designs (Ellingson, 2008).

Through the dynamic interaction with the participants, there was an understanding of the reality which involves their occupational engagement during the time with the COVID-19 pandemic from their perspectives. This resonated with the theoretical framework informed by the experiential component of doing by Hammell (2009) and the occupational engagement framework of Morris and Cox (2017). With these, occupational engagement was not only limited to the "meaningful," "positive," "socially regarded," and "productive" activities but also to the "non-sanctioned," "unwarranted," and "negative" which are considered under the overarching umbrella of occupational engagement (Kiepek et al., 2019).

Considering the differences in the experiences, perceived values, and consequences of doing an occupation, it is close to impossible to have a completely similar shared experience and interpretation. Thus, a diversified and holistic understanding of these individual experiences has been integral. This transpired through considering various perspectives and acknowledging that an absolute interpretation was unattainable. The interpretation and experiences of individuals reveal a part of reality even if it is not the complete story (Charon, 2007, as cited in Oliver, 2012; Oliver, 2012). The inherent differences in contextual factors affect the common themes and variations

that emerged from reality as the participants experienced, described and interpreted. ID was used to explore the experiences of post-secondary young adult students who self-identified with anxiety and/or depression in engaging in occupations with the COVID-19 pandemic as one of the contextual factors. Using ID in this study, the exploration of the occupational engagement of the students considering the health and illness experience was feasible. This coincided with the constructivist-interpretivist paradigm, which values reality as something constructed and individualized by people leading to the multiplicity of interpretations and the possibility of clinical applications (Creswell, 2003; Mertens, 2005; Thorne et al., 2004; Thorne et al., 2016; Hunt, 2009). The goal of ID was to acquire knowledge or "tentative truth claims" that can provide insight to clinical practice, extend knowledge beyond what is known, and to facilitate ongoing practice (Thorne et al., 2004, p.6; Tracy, 2010).

3.4 Locating the Researcher

I came to the study with a background in occupational therapy. I received my bachelor's degree in occupational therapy from the Philippines and have been practicing as an occupational therapist ever since. As an occupational therapist, I was enlightened about mental health practice and how it impacts and is impacted by occupations. I have been looking at different studies, but I have realized how limited the available research is. When I moved to Canada, I worked in different mental health facilities. This experience has opened my eyes to the reality of mental health and the impact of inadequate, inaccessible and lack of support which may be due to environmental factors, individual choice or lack of knowledge and other limiting factors.

During the pandemic, I also experienced a rollercoaster of emotions and feelings and realized the impact of the context on how I live and see myself. I returned to studying and realized the importance of mental health, considering the different responsibilities of a student and an employee. Looking for mental health support was difficult because of the restrictions, and coping with mental health was challenging because of the stigma and contextual limitations. With this, I became interested in studying how post-secondary young adult students engaged in occupations, especially those experiencing anxiety and/or depression symptoms which may or may not be receiving adequate support because of the lack of a formal diagnosis. This led to the formulation of the research question.

With the constructivist interpretivist paradigm, choosing the most appropriate methodology to guide exploring the answer to the research questions was challenging. I first considered the narrative and phenomenological studies. Through analysis and constant supervisor feedback, I have realized that I want to explore the question through something beyond a narrative study but not as profound as a phenomenological study due to several limiting factors, such as inadequate time and resources. Moreover, I have also considered my clinical orientation as an occupational therapist informed by the occupational perspective. This supported the analysis leading to a broader perspective in answering the research question while being critically reflexive. Constant critical reflexivity and cultural humility (Beagan, 2015) are needed to recognize and monitor how the experiences and background as a researcher influence "what I know and how I know it" (Finlay, 2002, p. 532). Being reflexive allowed me, as a researcher, to understand the world profoundly and perceive the different facets of experience and

interpretation. This was practiced through constant analysis of the data and reflection on how my background influences my understanding of the knowledge.

3.5 The Research Design

The following sections explained the setting, participants, recruitment and sampling, participant demographics, data collection, data management, data analysis, quality criteria and rigour, and ethical considerations.

3.5.1 Setting

Participants were students in an educational institution in Canada experiencing symptoms related to anxiety and/or depression. Initially, the province of Nova Scotia was chosen to have a geographical factor common among the students. However, only two participants were gathered in two months. With this, the study was expanded to include students across Canada. In this way, the similarities and differences among the students' experiences across Canada were analyzed. The expansion of geographic location contributed to a more diverse population environment but decreased the commonality among the targeted age group, which impacted the analysis of the study and understanding the similarities and differences of the experiences. Moreover, every location has had different levels of restrictions and public health measures practiced throughout time considering the context of the pandemic. Also, in every location, there were different opportunities, available mental health resources, and cultures which can impact the choice and experience of occupation. These differences in context can constantly influence the participant's experiences and interpretations. With this, retention bias and changing environmental factors can impact the perception of the participants and their reports during the course of the study.

Different educational programs and institutions were included in the study to facilitate diversity. Despite this, most participants are studying at university (n=8), some are from college institutions (n=2), and none are in trade or certificate learning institutions (n=0) in Canada. Several factors could have contributed to this such as limited time and resources to expand the study. Communication regarding the study was done through email. Moreover, the study interview was conducted through Microsoft Teams to accommodate the difference in location and the students' varying schedules.

3.5.2 Participants

Data were gathered from post-secondary young adult students in Canada experiencing anxiety and/or depression symptoms at the time of the COVID-19 pandemic. Post-secondary students included those currently enrolled in universities, colleges, trade programs and other educational endeavours, were invited. This broadened definition is attained beyond the “socially regarded” university students. This population was chosen due to the susceptibility of the age group to experiencing difficulties in their mental health due to the multiple stressors, significant stage of development and constant contextual changes with the pandemic. Students are expected to fulfill school responsibilities while supporting other essential needs, such as financial and societal expectations and roles and adapting to life with the COVID-19 pandemic.

Post-secondary students were selected because they are on the verge of becoming adults with increased societal expectations and responsibilities. With the review of related literature, many of the studies found have been studying young adults and university students. However, limited to no studies were found that include individuals who identify themselves with anxiety and depression symptoms. Anxiety and depression symptoms

were included as part of the criteria due to the prevalence of these disorders in young adults with decreased probability of receiving support compared to different age groups (Babajide et al., 2020). Furthermore, analyzing the experiences of post-secondary young adult students self-identified with anxiety and/or depression symptoms as soon as possible could provide the opportunity to improve mental health support and resources adequate for the population to prevent adverse outcomes which can affect their development as full-fledged members of society. Also, this could recalibrate the healthcare system to focus on health prevention and promotion because it may lead to more sustainable results.

3.5.3 Recruitment and Sampling

According to Thorne (2016), representation, sample size and sampling methods were the three factors to consider in recruiting a sample. Representation in ID was not about gathering as many participants as possible to represent the general or more extensive group of people. Instead, it was about striving to reflect the different perspectives and voices through descriptions and interpretations (Salter, 2013; Thorne, 2016). Thorne (2016, p.98) described it as,

> *"This stance forces us to assume that whatever sample we come up with will not in any meaningful way "be representative," but rather will reflect, a certain kind of perspective built from an auditable set of angles of vision whose nature and boundaries we can explicitly acknowledge and address."*

With this, the sample size did not depend on the number of participants, but on the depth of information the participants willingly shared and the adequacy of the data to reflect findings. This is described as the idea that something has been frequently

identified to the point of anticipation (Thorne et al., 2016). The goal of ID was to have adequate information to suffice the research gap driven by the type of sample and data analysis methods (Thorne, 2008).

The type of sampling used in the study was purposive sampling. Purposive sampling has been used in qualitative research to identify and gather participants who can provide sufficient information exploring a phenomenon (Patton, 2015; Cresswell & Plano Clark, 2011). In the interpretative description, the ideal participants are those considered the "everyday philosophers" (Gubrium, 1988, as cited in Thorne, 2016) who are described as individuals who observe and reflect on their experiences beyond the act of living (Thorne, 2016). These participants were willing to share their experiences and opinions, imparting another angle in understanding an experience (Bernand, 2002; Spradley, 1979). They answered both the "what's" and "why's" of happening (Thorne, 2016). This was possible through the connection between the participant and the interviewer, which is an integral component of "entering the field" (Thorne, 2016, p.99).

Criterion sampling was a kind of purposive sampling with a specific criterion for identifying the participants (Palys, 2008). In this study, criterion sampling was used. Participants were eligible if they were young adults (a) aged 18-25, (b) residing within Canada during the pandemic, (c) enrolled in a post-secondary educational program that may include university, college, trade program or at least three months of educational endeavour in Canada at a time with COVID-19 pandemic and (d) self-identify with anxiety and/or depression symptoms. These criteria facilitated the gathering of participants with knowledge, experience, and interest in providing adequate information to support the study, resulting in "information-rich cases" (Palinkas et al., 2015, p.7).

Furthermore, snowball sampling was done in the study to increase the sample size. It is considered a type of purposeful sampling in which participants are asked to share the research information with their networks (Mack et al., 2005). Moreover, the participants referred the researcher to potential individuals eligible for the study or who may be interested in participating (Mack et al., 2005). Through snowball sampling, the sample size increased significantly.

Recruitment of participants occurred over five months, from September 2022 to January 2023. To recruit participants, invitation letters and recruitment posters were emailed to various student organizations, groups, and institutions in Nova Scotia to disseminate the recruitment poster to various students. When the project was expanded, the invitation letters and recruitment posters were shared with different public young adult groups across the country. These were also shared directly with students in different institutions in person and through email. Potential participants and confirmed participants were asked to share the study with their networks and refer individuals they knew who could be eligible and open to participating. The invitation letter included the (1) purpose of the study, (2) eligibility criteria, (3) voluntary participation, (4) privacy and confidentiality, (5) significance of the study and (6) contact details of the researcher (see Appendix E). The recruitment poster included the (1) title of the study, (2) eligibility criteria, (3) data collection method, and (4) contact number of the researcher (see Appendix F). Prospective participants who responded with their interest in the study received further details through their email, including the consent form and participant demographics questionnaire, to assist them in decision-making. The participants who agreed to participate in the study were asked to complete the consent form and participant

demographic questionnaire. The interview was conducted once the consent form and participant demographic questionnaire were completed. The interview dates and times depend on the participant's availability and conducted using Microsoft Teams.

The estimated sampling size in the research proposal was 6-10 participants to reach information-rich data findings leading to an understanding of the experience. The final sample size for the study was 10 participants from different educational institutions in Canada. This was chosen considering the depth and adequacy of data to provide knowledge to answer the research question considering the limited time available.

3.5.4 Data Collection

Interpretative description study design aimed to gather in-depth and rich data that explores the nuances, contradictions, similarities, and complexities of the experience beyond its outside façade (Thorne et al., 2016). Thorne and her colleagues (2016) have associated the word "construction" with the data collection process due to the active interaction between the participant and the researcher, leading to information that can uncover a deeper and more meaningful understanding. The "construction" of data will transpire with the implementation of an effective strategy which involves the identification of the data source considering the feasibility and the nature and credibility of information (Thorne et al., 2016).

One of the ways to collect subjective data informing the interpretative description study was through interviews. Interviewing participants with an experience of the phenomenon allowed the exploration of the experience from their own eyes. In this way, the experience and its meaning were determined and analyzed (Patton, 2015). This was considered an appropriate method to explore topics which individuals may not be keen to

discuss easily (Gill et al., 2008). Moreover, this explored the complexities of the experience beyond the observable experience, which may include subjective knowledge such as thoughts, feelings, and implications (Patton, 2015; Thorne et al., 2016). Thorne and colleagues (2016, p.139) have described that participants during the interview are less likely to have difficulty in identifying language that can encapsulate the experience; instead, they are more likely to use a "conceptual terminology" that will lead the interviewer to grasp the idea that the participants intended to express. In addition, interview as a data collection method was used considering the multiplicity of interpretations, protection of privacy, retrospective experience, cost and time efficient and accessible despite distance.

A semi-structured online interview was conducted among 10 participants using Microsoft Teams. The average time of the completed interviews was 30.395 minutes. These were audio recorded and provided with the consent of the participants. Open-ended questions (see Appendix G) were asked to generate rich participant data without leading them to a particular answer (Gill et al., 2008). Prompts and modifications to the initial questions were provided to ensure the conversation's smoothness and continuity according to the interview's purpose.

The first two questions focused on describing the word "pandemic" and identifying a specific time with the COVID-19 pandemic that the participants wanted to share more about. In this way, the participants had the opportunity to construct the interview context depending on their preference, choice and understanding of the phenomenon. The next set of questions pertained to the activities they engaged in during the chosen time with the COVID-19 pandemic. Questions revolved around what they did

and did not do, the reason, and the impact on them. Participants were probed to reflect and understand how this experience affected them and how they see themselves in the future. The doing and belonging component of occupation were explored through the questions about their activities during the COVID-19 pandemic. Doing was the act of participating, performing and engaging in an occupation, while belonging involved the social environment that influences the experience of occupation (Hitch and Pepin, 2021). Subsequently, the participants were asked about their experience of mental health during a time with the COVID-19 pandemic. How the experience of mental health and occupational engagement are associated with each other was explored, specifically how mental health impacts their activities as young adults and students and how these activities affect their mental health. The last set of questions focused on the being and becoming component of the occupation. The being encapsulated the abilities, roles, capacity, volition and identity individuals chose and realized about themselves due to the contextual factors (Hitch and Pepin, 2021). The becoming tackled how individuals continuously emerge, adapt, and engage with occupation considering the changes in the environment (Hitch and Pepin, 2021). The questions provided a guide in the interview but were flexible to change depending on the natural flow of the conversation.

Another data collection method used was the participant demographic questionnaire (see Appendix H). The questionnaire included data about their age, gender, educational program, year, work, residence, experiencing anxiety and/or depression, seeking mental health support, the reason for not seeking support and reason for seeking support. The participants were allowed to leave any detail blank if they decided to. The

questionnaire provided the participant's context, which helped in the data analysis and interpretation of the study.

3.5.6 Data Management

The online interview was conducted using Microsoft Themes. The participant and interviewer disenabled their video camera to decrease the risk of participant identification. Participants were informed and asked about their consent before the commencement of the interview regarding the recording, their withdrawal of consent, and their decision to stop or reschedule the interview. The interview was recorded using Microsoft Themes. The mp4 format of the saved interview was then converted to an audio record file only. The mp4 file was immediately deleted. Then, the audio-recorded file was password protected and saved to a OneDrive private account.

I transcribed the audio recordings immediately, around 1-2 days after the interview. Identifiers were removed. The participants were given randomly chosen codenames. The verbatim transcription process coincided with Thorne et al. (2016) suggestion to novice researchers to engage in the transcription process in which the researcher will try to analyze the words, pauses, and sounds and not just the gist of the story. Verbatim transcriptions translated the participant’s reports most accurately and improved the quality of translating the verbal reports into texts (Hill et al., 2022).

NVivo software was used for storing and managing the data collected. The Word documents of the transcriptions were imported into the software. Through NVivo software, the data was stored, organized, and analyzed. The data gathered from the participant demographic questionnaire were summarized in a table to have an overview of the participant’s information which can support the understanding of their reports. The

table included the following: age, gender, educational program, year, work, residence, experiencing anxiety and/or depression, seeking mental health supports, the reason for not seeking support and reason for seeking support (see Table 1).

3.5.7 Data Analysis

Data were analyzed with an inductive approach during and after the data collection. Thomas (2006) has identified the following purposes of the inductive approach in analysis: (a) making a summary of the raw data, (b) connecting the research objectives with the summary findings resulting from the raw data and (c) constructing a framework of the experiences or processes existing from the raw data. In ID, inductive analytic approaches are used to analyze a phenomenon by identifying the characteristics, patterns and structures that can result in clinical applications (Thorne et al., 1997; Thorne et al., 2016). This was done through constant comparative analysis, concurrent data analysis and iterative analysis (Thorne et al., 2004; Thorne et al., 2016). The analytical processes in ID were conducted together with the reflexive thematic analysis (Braun & Clarke, 2006) to identify the common themes presented in the data. The six phases of reflexive thematic analysis (Braun & Clarke, 2006) that were used to guide the data analysis were the following: (1) familiarization with the data, (2) generation of initial codes, (3) generation of initial themes, (4) review of initial themes, (5) defining and naming of themes and (6) production of the report. The flexibility of this framework allowed me to conduct this alongside the analytical process in ID identified by Thorne et al. (2004).

Constant comparative analysis was initially derived from grounded theory methodology (Glaser & Strauss, 1967). However, it was also found beneficial in

qualitative studies like ID because it allows the researcher to understand the participant's experience according to their context (Thorne et al., 2004; Thorne et al., 2016). I reviewed related literature before collecting data which facilitated the creation of connections based on the experiences and socialization process (Fram, 2013). The theoretical frameworks facilitated the etic perspective, which is considered as the concepts from an outsider, while the constant comparative analysis entered the emic perspective in the analysis, which incorporates the understanding from the participants (Fram, 2013).

Using constant comparative analysis, concurrent data collection and iterative process, I conducted continuous and simultaneous data analysis from start to finish, all throughout the phases of reflective thematic analysis. (Braun & Clarke, 2006). Corbin and Strauss (1990) described the process as evaluating the data as soon as they are heard and observed. This allows the data to be analyzed, explored, and expanded into different concepts (Thorne et al., 2016). The role of the iterative process in the analysis was for the researcher to have an insight and create meaning continuously and progressively, enabling analytic reflexivity (Srivastava & Hopwood, 2009). To help in promoting reflexivity, Srivastava and Hopwood (2009, p.79) suggested the following questions:

> *"What are the data telling me? What is it I want to know? What is the dialectical relationship between what the data are telling me and what I want to know."*

These questions facilitated critical thinking and profound analysis of the text, supporting the purpose of the study. Thorne et al. (2016) reiterated that focusing on the purpose was not about strictly sticking to one's initial assumptions when creating the study; instead, it was about recalling the initial reasons you want to study the

phenomenon considering your clinical background. The clinical discipline of the researcher provided another perspective to analyze the pattern (Thorne et al., 2016). To ensure the balance of exploring the data and considering the clinical orientation, the memos and journal notebook helped track the trial-and-error series in data analysis (Thorne et al., 2016). Repetitions in reading and analyzing the data transpired to understand what the data represents in relation to the research questions. This reflected the inductive analysis and contextualization of the ideas supporting data analysis (Thorne et al., 2016). Thus, the analytical methods were incorporated all throughout the reflective thematic analysis.

The line-by-line coding of the study was conducted through the NVivo software, which was part of the first 2 phases of reflective thematic analysis (Thorne et al., 2004; Thorne et al., 2016; Braun & Clarke, 2006). The initial coding of the open coding of 10 transcriptions resulted in 271 codes. Open coding was the breaking down of the data into parts to identify the similarities and differences among the concepts (Thorne et al., 2016). The organization of the codes was challenging, considering the initial number of codes resulted from line-by-line coding. For phases 3 and 4, the codes were then grouped into broader categories and merged into similar codes to have a collection of ideas. New codes were added to serve as the initial categories and to provide structure reflecting the connections among the data as reflected with the ID analytical processes. Many participants have expressed information about their occupation, mental health, feelings, future, and self which may also have been prompted through the semi-structured interview guide. These concepts were common to most of the data per interview and used as a foundation for holistically understanding the categories or themes. After this, I was

faced with the challenge of having extensive categories that did not articulate what the participants expressed in the interview. With this, I reflected and reverted back on the question of Srivastava and Hopwood (2009) and other reflexive questions such as, "*What did the participant want to express*?" and "*What does the data mean?*" I then broke down the broad categories into subcategories encapsulating the participant's experiences. To assist in organizing the data and analyzing the connections and themes, I created several concept maps to see the relationship between the categories from different perspectives. The concept map helped me focus on the meaning and connections of the participants' responses, reflecting the emergent themes to suffice the purpose of the study (Daley, 2004).

For phases 4 and 5 of reflective thematic analysis, codes and categories were analyzed comprehensively by looking at different ways to group the data and tell a story. Thereupon, eight initial categories were identified that became the overall umbrella of the specific codes. The subcategories, which include the initial codes, were continuously rearranged and analyzed regarding their similarities and differences. However, the eight categories were too broad and did not reflect the unique and relevant data generated from the interviews. Discussion with the thesis supervisor helped to analyze the codes created and ways to categorize the data into themes. The thesis supervisor provided constant feedback to support the analysis (Thorne, 2008). Themes were then chosen according to the purpose of the study and the data highlighted by the participants that are found unique and relevant in fulfilling the research question. This resulted in four significant themes that provided an additional perspective in understanding the students' experience at an uncertain time.

Thus, through ongoing inductive analysis, constant comparative analysis, concurrent data collection and analysis, and iterative process throughout the reflective thematic analysis phases, the data was explored and understood deeply, leading to the creation of the final themes. These themes reflected how post-secondary young adult students self-identified with anxiety and/or depression symptoms engaged in occupations during the time with the COVID-19 pandemic.

Memos and journal notebooks were created to track the data analysis and to reflect on the data. Memoing was considered a procedural and analytical strategy to guide the researcher in understanding the data and the connections to different concepts according to the study's purpose (Birks et al., 2008). Through memoing, data was explored, deep analysis of the data was facilitated, and tracking of the data development was possible (Birks et al., 2008). The memos reflected my thought process and thought content while understanding the data beyond the superficial level. It allowed me to have an iterative process of understanding and to immerse myself in the data. The journal notebook included my insights, opinions and thought processes during the development of the study. It has insights into how I reflect on the study. Both the memos and reflection journals helped me to incorporate critical reflexivity throughout the research process, in which I was guided on how my personal views and clinical background influenced the data and interpretation.

3.5.8 Quality Criteria/ Rigour

The eight criteria for excellent qualitative research of Tracy (2010) were used to ensure the quality and rigour of the study.

The eight criteria for excellent qualitative research of Tracy (2010) were used to ensure the quality and rigour of the study reflecting the strengths of the research study.

3.5.8.1 Worthy topic

Worthy topic is defined as relevant, timely, significant, and interesting (Tracy, 2010). The study focused on exploring the experiences of post-secondary young adult students who self-identified with anxiety and/or depression symptoms at the time with the COVID-19 pandemic. With the constantly changing context, it was deemed imperative to understand how post-secondary young adult students engaged at a time of uncertainty and unpredictability. This was a relevant and timely topic considering that almost every day, the world was entering a different phase with the COVID-19 pandemic with constant adaptation. The study population also included individuals with or without a formal diagnosis who identify themselves with symptoms related to anxiety and/or depression. This facilitated inclusivity considering that many students may be experiencing mental health difficulties but not receiving adequate support which may be due to several factors such as lack of diagnosis, inadequate knowledge, inaccessibility, and others which can impede their overall health and well-being.

3.5.8.2 Rich Rigor

Rich rigor is about the study having adequate theoretical constructs, date and time in the field, sample, context and data collection and analysis processes (Tracy, 2010). The study was constructed and informed by the paradigm and theoretical perspective. In-depth data were tried to be gathered from the participants by asking probing questions and facilitating conversational interaction despite the limited time of the participants. Moreover, participant demographic questionnaires were one of the data collection

methods to provide context about the participants informing analysis. Interview questions were created to guide the researcher, but these were flexible and modified depending on the information collected from the participants and the interview flow. The procedures, data collection and analysis methods were explained above and implemented accurately and accordingly. Also, member checking was also facilitated to assure the accuracy of the information.

3.5.8.3 Sincerity

Sincerity reflects self-reflexivity and transparency (Tracy, 2010). I have created memos and reflexive journals. The use of memos and reflexive journals reflected the decision-making process and constant critical reflexivity and analysis of the researchers' location. These helped to monitor the impact of my values and beliefs in conducting every step of the research process. Different guiding questions were created to support the analysis and reflection process. Moreover, I was transparent with the difficulty of recruiting participants, which led to the expansion of the population and difficulty in eradicating information from the reports of the participants considering the limited time to build rapport, only one interview session and limited time of the participants.

3.5.8.4 Credibility

Credibility involves having thick description, crystallization, multivocality and member reflections (Tracy, 2010). Verbatim transcription of the data gathered from the interview was conducted comprehensively. Descriptions were specific, and notable answers were quoted. These included the participants' experiences, interpretations, and contexts. Having a thick description of the data helped to ensure the credibility of the study. Moreover, the crystallization of the data was promoted by looking at the data

through the paradigm and occupational perspective and comparing the data from the interview and participant demographic questionnaire to deepen the analysis(Ellingson, 2008; Tracy, 2010).

After the study, the participants were asked to check the accuracy and completeness of the information by sending a summary of the findings to their email addresses. This allowed respondents to correct information, provide additional information, and clarify data as necessary. All of the participants agreed with the summary of the key themes and provided no additional information and corrections. Furthermore, the supervisory committee assisted in identifying blind spots and configuring different perspectives in data interpretation.

3.5.8.5 Resonance

Resonance is the aesthetic, naturalistic generalizations and transferable findings (Tracy, 2010). I have written the research study with aesthetic merit, transferability, and naturalistic generalizations. Aesthetic merit was transpired through writing the paper in a way that individuals can relate (Tracy, 2010). Transferability was attained through creating a story in which an individual can feel that information overlaps with their reality (Tracy, 2010). In-depth information helped to contextualize the experiences that can support the study's transferability. Naturalistic generalization was about the understanding of the story through the study which can lead to improved practice (Tracy, 2010). This can improve the practice of healthcare professionals in the mental health field because it can inform them about a part of the reality of the students during an uncertain time leading to quality and individualized care and support.

3.5.8.6 Meaningful Coherence

Meaningful coherence pertains to the study being able to achieve its purpose with a clear research process (Tracy, 2010). Through clear statements, rationale, and associations, I have strived to have meaningful coherence among literature, theoretical framework, questions, methodology, method, data findings and interpretations. I ensured that all the information and structures I utilized were interconnected and supported the research goal. The methods and procedures used align with this objective.

3.5.8.7 Significant Contribution

Tracy (2010) defines the study as quality if it provides a significant contribution. There were several resources and support available for young adults. However, these are found to be inadequate, as evidenced by the susceptibility of the population to experience mental health difficulties and self-perception of having symptoms related to anxiety and/or depression. Considering the significant effects of the pandemic on mental health, healthcare professionals, educators and stakeholders should be informed and prepared for emerging mental health trends, especially with the current pandemic, that can predict the future of the health and well-being of the population. Through health prevention and early management, difficulties may be managed, and disruption to occupational engagement may be controlled. Furthermore, one important step to bridging the healthcare gap is through understanding how people experience, construct, and interpret reality. Further significance of the study was explained in the implications section of the study.

3.5.8.8 Ethics

This part was thoroughly described in the ethical consideration section of the research study.

3.5.6 Ethical Considerations

The study was created according to the principles in the Tri-Council Policy Statement (TCPS, 2022). The policy guided me to ensure that the study was created with the highest ethical conduct, mainly to protect the participants throughout the process. The application for ethics approval from Dalhousie University Research Ethics Board was submitted in June 2022. The approval was received on July 19, 2022. Due to the low turnout of participants, the study was expanded to the whole country of Canada. An amendment request was made and approved last November 14, 2022.

The following files were provided to the prospective participants to assist with their decision-making regarding their participation in the study: an invitation letter, promotional poster, and consent form. The invitation letter (see Appendix E) included a brief overview of the study, an introduction of the researcher, eligibility criteria and a privacy and confidentiality clause of the study. The promotional poster (see Appendix F) included the eligibility criteria, estimated length of the interview and contact information of the researcher. The consent form (see Appendix L) included the introduction, purpose and outline of the research study, eligibility criteria, role of the participant, possible benefits, risks and discomfort, compensation/reimbursement, privacy and confidentiality protection, withdrawal of consent, obtaining results and contact information of researcher for questions. Once the participant emailed their consent to participate in the study, the participant demographic questionnaire (see Appendix H) was sent for completion.

The anonymity of the participants was protected by using codenames and removing personal identifying information. The files of transcripts, audio files, and participant demographic questionnaires were named with codenames. The consent form was stored separately with different random numbers to prevent the identification of the participants. The data was secured and will be destroyed appropriately after a 5-year timeframe if consented to by the participants.

Several issues were addressed and mitigated by considering the potential risks of using the Internet for data collection and communication with participants. I used Microsoft Teams as the videoconferencing technology to lessen the risk of others accessing information without consent. According to Dalhousie University Office of Research Services (n.d.), using Microsoft Teams rather than Zoom was recommended to ensure that the recordings are stored in Canada and not accessible in the United States. The audio-recorded files were saved with the codenames of the participants. The files of the audio-recorded interview, transcripts and other relevant data in the study were encrypted and stored in One Drive. Files were accessed and managed using a virus and password-protected laptop. Only the researcher and the thesis supervisor had access to the consent forms, transcripts and audio-recorded files.

With the possible sensitive nature of the discussion, participants were allowed to withdraw at any time or choose not to answer question/s. When the participant disclosed sensitive or alarming thoughts, I actively listened and responded through paraphrasing, validating, reflecting, or respectful silencing, whichever was deemed more appropriate. In a situation where the participant changes the topic after disclosing a personal experience, I have let the participant maneuver the flow of the conversation.

Considering the various conflicts that are commonly associated with qualitative research, such as a breach of confidentiality, dismissal of autonomy, potential damages, perplexity regarding the differences in the roles of researcher/therapist/friend, and conflicts due to project evaluation of the Research Ethics Committees, Taquette and Borges da Matta Souza (2022) suggested the importance of self-awareness, reflexivity, continuous consent and ethical mindfulness. Self-awareness involved the ability to monitor self and recognize how personal values, beliefs and emotions impact the study and how to mitigate potential conflicts it may lead to (Hubbard, 2001, as cited in Taquette & Borges da Matta Souza, 2022). Reflexivity transpired with constant communication with the thesis adviser and supervisors to evaluate the different factors impacting the study (Taquette & Borges da Matta Souza, 2022). Moreover, ongoing consent-taking continuously informed and allowed the participants to re-evaluate their decision on whether to participate in the study or not. This was reflected in the acquisition of written and verbal consent and by reminding the participants at the end of the interview regarding their opportunity to withdraw consent. Lastly, ethical mindfulness was considered as "the state that the researcher needs to sustain in conducting relational ethical research to preserve trusting relationships between researchers and their participants" (Warin, 2011, p.109). The reflection process was evident from the memos, self-reflection before, during, and after the interview, and member checking. Additionally, respectful communication with the participants was maintained throughout the research process while ensuring data protection through the explained measures.

CHAPTER 4 RESULTS

Table A presents the summary of the participant demographic information. It shows the following: age, gender, educational program, work, residence, type of residence, experiencing mental illness, reasons for seeking support and reasons for not seeking support. The total number of participants was 10, with an average age of 22.5 (SD=2.06) and all the participants identified as female. There are eight university degree students and two college diploma students. Two participants are in their first year, one is in her second year, three are in their third year, and four are in their fourth year. Some of the students are working part-time (n=5), casual (n=3) and unemployed (n=2). Most of the participants are living with their family (n=6), renting a place with others (n=3), and with family and renting a place with others (n=1).

Some students are experiencing anxiety symptoms only (n=2), depression symptoms only (n=1), both anxiety and depression (n=6) and anxiety and other diagnoses (n=1). In this study, the disclosure of any formal diagnosis is not necessary. If the students identified themselves with symptoms of anxiety and/or depression, they were eligible to participate in the study. Seven of the participants have reported that they have sought mental health support and resources. Reasons for seeking support included: (a) positive past experiences with help-seeking (n=4), (b) social support or encouragement from others (n=7), (c) confidentiality and trust in the provider (n=4), (d) positive relationships with service staff (n=3), (e) education and awareness (n=5), (f) perceiving the problem as serious (n=5), (g) ease of expressing emotion and openness (n=4), and (h) positive attitudes toward seeking help (n=7) (Gulliver et al., 2010). On the other hand, some of the reasons for not seeking support include: (a) the problem is not serious

enough (n=3), (b) resolving the problem by self (n=4), (c) difficulty accessing help (n=3), (d) difficulty to explain problem and concerns (n=1) and (e) inadequate time (n=1) (Salaheddin & Mason, 2016) (see Table 1).

Considering the aim of the study to explore on how young adult students self-identified with anxiety and/or depression symptoms engage in occupations, participants were asked about how they describe the pandemic and how they engage in occupations in a context with the COVID-19 pandemic and with their experiences related to anxiety and/or depression considering the PEOP model and dimensions of occupation explained in POP which are the doing, being, belonging and becoming. The four key themes that were highlighted in the interviews are the following: (1) occupations "were not lived to their full potential…", (2) whirlwind of emotions, (3) increased self-awareness and the (4) the lasting impact of the COVID-19 pandemic. These findings are explicated below and illustrated in Figure 1. Table 2 presents the summary of the key themes.

To understand the context of the COVID-19 pandemic, the participants were asked to describe the word "pandemic" and the environment living with the COVID-19 pandemic. These were explained first to provide context to the key themes of the study.

4.1 Context with COVID-19 Pandemic

The pandemic was commonly described as a sickness caused by a virus which affected everyone across the globe. Ann has described it as,

> *"Pandemic really is, but to me, it was kinda like a dark cloud that just kinda had me like locked in like one space just because you couldn't go outside you couldn't do uhm like all these other things you are kind of cut off from the outside world…."*

With the emergence of the COVID-19 pandemic, different phases or times have existed, considering the severity of the virus and the adaptation of people. A significant time that most of the participants attributed to the COVID-19 pandemic was during the closures and restrictions as part of the public health measures. Hospitals were in overcapacity. Schools were closed, and learning transitioned to online platforms. There was no vaccine developed yet. Travelling was restricted. A healthcare hero campaign was promoted. On the other hand, there was also a time with the COVID-19 pandemic when there were fewer to no restrictions, and the typical way of living has reoccurred.

When asked about the current context of the COVID-19 pandemic around the time of the interview from September 2022 to January 2023, most participants (n=6) described it as more "normalized." Although the virus continued to spread and cause deaths, individuals appeared to be less impacted than in the early stages of COVID-19 pandemic. Many described it as a time of returning to a sense of normalcy while still taking precautions, such as using hand sanitizer, to remain healthy and safe. Moreover, two participants have highlighted that the current context at the time of the interview, around December 2022, can be considered a point closer to the end of the pandemic. The following sections explored the participants' experiences living in the context of the COVID-19 pandemic.

4.2 Occupations "were not lived to their full potential…."

The COVID-19 pandemic has precipitated changes in participation, perceived value, and consequences of engaging in an occupation. As a result, the experience of engaging in activities has decreased, and the expected outcome of occupational engagement has been affected. Participants have identified how their school, social and

leisure participation are affected and experienced because of the existence and impact of the COVID-19 pandemic.

4.2.1 School Participation

The participants have described how their school participation and overall experience as a student have been modified during the COVID-19 pandemic, influencing their perception of how it feels to be a student.

During the peak of the pandemic, most participants have identified online classes to be a constant activity that is part of their daily routine. Mary exemplified, "*So I was still like full-time student cause I was taking like online courses so I always like study and just attend classes through Zoom yeah that was basically it….”* In addition, Mary experienced "*Like online courses for almost like two years, so basically half of my university life was in my own room, and I was very sad….”* The following statements show how young adults have shifted to online learning for school and how it has become a major activity for them while spending most of their time at home. Unfortunately, this has led to negative emotional outcomes. However, some students have reported improved academic performance due to the increased time they have for school participation while at home. For example, Mary stated, "*Uhm, I honestly I there definitely had better grade because I basically just stayed home and there's nothing much to do except studying, so I had a better grade*…." Similarly, Celia expressed, "*Uhm, I feel like academically it's been productive uhm I remained on track, and I'm graduating this year*…." Findings have indicated that engaging in school activities helped to occupy time at home while also meeting academic responsibilities.

Following the peak of the pandemic, students switched from remote learning to attending in-person classes. For some students, returning to the traditional method of education has been difficult due to the ongoing adjustments and adaptations required. Charli described it as,

> *"Oh yeah, it's uhm uh big uh big struggle I will say it felt very isolating uhm it feels like I'm not for some reason it feels so much more challenging uhm … so then I went to university in fall 2020 so during the peak I was still in high school, and that was weird haha because everything was like changing it didn't feel like I was actively going to school almost uhm because that was never what I thought what I knew of school right? So uhm versus it's kinda funny now cause it was the opposite, so I started university online completely online and now I'm like pretty much all in person besides like a few things … I'm used to being in front of my computer screen right so uhm it's kinda funny how you're so used with what you are used to, and that changes right, but yeah I would say it is definitely challenging it really messes with your routine".*

Moreover, Celia reported, "*I started taking courses online which really helped, uhm I think being at home for so long, my anxiety heightened when I was back to the world back at school…."* This highlights the struggle of constant adaptation while simultaneously fulfilling school-related roles and tasks during the period with the COVID-19 pandemic. The transition from online to in-person classes appears to be a challenge to the students despite in-person classes being considered the "traditional" or "normal" way of learning. This indicates the need for accommodation and support from

the educational institution and health department to assist the students in overcoming the academic-related challenges during the ongoing COVID-19 pandemic.

With the changes in school participation, the experience and outcome of participating in school events such as graduations, student-organized events and gatherings were deemed inadequate compared to the expectations. Charli explicated,

> "*Okay oh yeah, so obviously like what we were on going, they were really meaningful to me these events and stuff for sure however, I don't feel like they were lived to its full potential, uhm if that if that makes sense like they were definitely smaller….*"

This statement demonstrates how the perceived impact and value of school-related events have decreased because of the limitations and restrictions existing due to the COVID-19 pandemic. School-related events were limited, and experiences were constricted. A participant shared an experience of celebrating her graduation by driving her car to the entrance of her school to receive her diploma. She referred to it as a "*drive-thru*" graduation which was completely different from how she thought graduation would be.

Due to these several changes and adaptations, students have described how it feels to be a student as (a) challenging, (b) isolating, and (c) "*worst time*." Some of the struggles that students had to overcome, which made their experience challenging, are the difficulty in interacting with students and professors and the online classes. Alex stated,

> "*I feel like, uhm it was harder to connect to other students and like the professors as well while I wouldn't say that they were inaccessible, but like at the same time,*

it's like there is no like like it feels like you're only always talking to computer…."

Similarly, May explicated, "*Even during Zoom lectures, I wouldn't be paying attention just because everyone's cameras are turned off and like you can't really see the professor, and there wasn't a lot of interaction….*" These signify how the transition to online learning has not been effective for some students due to a lack of interaction that could promote learning. The decrease in school productivity has been one of the adverse outcomes of online remote learning, which impacts how a student develops as a professional and individual in the future.

Another word associated with the experience as a student was isolating. Isolation was a common feeling during the peak of the pandemic considering social restrictions and public distancing measures. Charli described it as,

"*Oh yeah, it's uhm uh big uh big struggle I will say it felt very isolating uhm it feels like I'm not for some reason, it feels so much more challenging uhm uh yeah, you gonna probably do things on your own uh a lot of the time….*"

It suggests that the lack of social interaction and increase in solitary activities led to the feeling of isolation which could affect school participation and learning. With this, isolation is associated with difficulties in fulfilling academic responsibilities.

Lastly, Mary highlighted that the context with the COVID-19 pandemic was the worst time to become a student. She explained,

"*Uhm, I think it was the worst time ever, like when I first got into the university, I only had like four months to actually like see the school and like making friends and taking in-person classes and after that four months like corona happened, so*

*I have to uhm go back to (place) and take all my courses so uhm as a new university student I think it would it was really unfair and kind of like sad you know the worst time to uhm be a university studen*t."

The frustration expressed may be due to the challenges and difficulties caused by the COVID-19 pandemic in engaging with school participation. The description of the "normal" way of living and being a student modified due to the volatility of the situation with the COVID-19 pandemic. Due to this, the how's and why's of being a student have constantly evolved as people enter different phases of life with the COVID-19 pandemic.

4.2.2 Social Participation

During the peak of the pandemic, people had to adapt their social interaction and consider several factors to maintain health and decrease the risk of getting the virus. They had to adapt to the changing rules and regulations pertaining to the management of the virus.

Many participants have identified the difficulty in interacting with people and the need to shift interaction to online platforms. For example, Mary stated, "*Uh uhm, I would say uhm I mean because of the restrictions, I can't really hang out with my friends like in person that much, but we would still like chat like do Facetime and like text each other so that that was nice…."* Similarly, Alex expressed, "*Meeting up with my friends like that was very restricted to like online uhm and then uh just like the casual social stuff that like was very much restricted*." Social interaction had to be adapted to prevent the spread of the virus. Social media became a convenient way to connect with people despite being physically apart.

Some individuals decided to interact in person despite the restrictions and limitations during the peak of the pandemic. However, they had to consider several factors to limit the risk of getting infected with the virus, which included the number of people, feelings of people and the permissibility of sharing food. Perrie explained,

> *"Yeah, or even just sharing like sharing food, you know, or everybody takes a sip of a drink, you can't really do that much anymore, or people are hesitant…then you take into account their emotions, you know if we don't include this person are they gonna be upset will they understand cause it is due to the pandemic or that sort of thing"*.

These factors highlight the importance for the students to acknowledge the health risks posed by the virus in their social participation.

4.2.3 Leisure Participation

The constant change in context resulting from the COVID-19 pandemic has significantly impacted the choice and participation in leisure activities. During the peak of the pandemic, individuals had to transition leisure participation through the online platform and situate it at home. Despite the inevitable changes, some leisure activities allowed students to experience positive feelings.

Most leisure participation involved activities at home and done alone or with limited people during the peak of the pandemic. Ann shared,

> "*Uhm, a lot of time in my room just because early part pandemic and being in Ontario … so I was mostly just sitting in my room playing with my phone and watching TV uhm I would randomly clean once in a while, uhm I would color a*

lot that would be one thing that I would do uhm and then it was just pretty much just watching TV and just sitting in my room."

Likewise, Celia experienced,

"Uhm, I was attempting to do at home workouts which wasn't I wasn't really stay on track with that uhm and I was also uhm. Also, I took an online painting course that also about it through for activities otherwise was just kind of like inside playing video games or watching TV".

These statements indicate how some young adults had adapted their leisure participation in a way that they could still experience without fully compromising their physical health with the threat of the pandemic by transitioning to online platforms. Moreover, these depicted how leisure became a consistent activity during the peak of the pandemic despite being limited in the home setting, causing increased indoor leisure activities. There were also some activities that were socially perceived as "negative," which increased at the time of the COVID-19 pandemic. Tory, expressed,

"*Uhm, like cannabis use, I use cannabis really casually, more like casually earlier before COVID at all, but like during COVID, since I was home alone all the time like I was with family …spending money, something I noticed like I remember during COVID I would sometimes order stuff online and that started me buying a lot of stuff online like in except in this last couple of years like I just haven't been a best spender for example*".

This illustrates the reality of some students in which they have experienced increased time at home allowing them to have more time to do activities they want and like to do, regardless of their positive and negative outcomes.

After the peak of the pandemic, individuals started to engage in leisure activities like how they used to be pre-pandemic and have decreased time spent at home. Tory explicated, "*Uhm, I probably spend time with eating with my best friend or my boyfriend uhm the time is spent the same way as before compared to the peak."* Similarly, Charli added, "*I am definitely more free wherever I go I don't have to me I don't have many restrictions in that I travelled uhm through the... not through the pandemic, but I'm totally comfortable travelling outside of my community outside of the country even uhm and within my own community*". The availability of more options for leisure activities outside the home has risen, along with a desire to return to pre-COVID routines. This highlights the potential influence environmental factors on the choices and involvement of individuals in leisure activities, which can ultimately result in improved health and well-being.

There were leisure activities that caused positive feelings and outcomes for the students. The participants highlighted that they engage in the activities that they like to do: (1) to recoup, (2) to boost mood and energy, (3) to escape, and (4) to be in control.

Participants have associated doing activities they like to recoup from the unpredictability and difficulties of the pandemic. Perrie described it as,

> "*Doing activities, uhm those activities were not necessarily impacted uhm by the pandemic like, for example, cross country skiing, so doing those activities is, you know is a chance to relax, take a deep breath and kind of like recoup."*

This quote represents how certain activities became an avenue for some people to recharge despite the draining impact of the pandemic. Moreover, some activities in which students participated helped their feelings of anxiety and depression. Charli explained,

"*I guess my activities were kind of into recant now my leisure activities like reading and stuff I definitely feel more accomplished like uhm so I'm uh I finished a book good for me uhm it makes me feel like super super happy and like uhm and really relaxed to it's a way of a destress for me as well and then for kind of like my social one uhm it like it energize me I get so much energy."*

Some of the activities that they like to do has developed as a means to overcome stress and improve their mood. Moreover, some participants also described how to escape from the struggles with the virus. Jane commented,

"*When we were at home, uhm we did try a lot of arts and crafts for a bit, like working on like Lego and just do a whole bunch of board games. We do love like really good movies we like finding just movies that get us thinking, so that was a nice escape for us….*"

Lastly, participants engaged in activities and sustained a routine to feel in control during great uncertainty and unpredictability. Perrie described it as "*Maintaining some activities that I can control myself uh was really beneficial for my mental health and incorporating them periodically … would help me maintain kinda of a steady mental state*". Likewise, Tory highlighted the value of routine,

"*I think definitely having more routine is has been helpful because during the peak … now I feel like I have more things to my schedule like book and go to and actually like I have to plan my day around it is easier to be productive sometimes."*

These statements indicate how activities became an avenue to attain positive feelings and to cope with the challenges brought forth by the pandemic. Thus, activities

were an effective way to support mental health, especially feelings of anxiety and depression during challenging times, considering how the pandemic has triggered varying emotions and feelings for some participants.

4.3 Whirlwind of Emotions

The changes in occupational engagement have caused fluctuations in feelings and emotions, leading to a whirlwind experience for the student's mental health, causing them to identify themselves with anxiety and/or depression symptoms. During the different phases of the context of the COVID-19 pandemic, several identified negative feelings associated with their experience of living during an uncertain time.

The negative feelings associated with the COVID-19 pandemic that the participants identified are the following: anger and frustration, anxiety, and depression.

Participants felt angry and frustrated with the changing rules and recommendations, lack of control and inadequate compensation and support as students. Perrie described how it feels with the constant change in regulations during the pandemic, *"So you just have to listen and follow the rules, but then after you start to wonder where they are coming from because they keep changing, so it makes you feel maybe angry or frustrated uhm."* Charli highlighted how frustrating the inability to control what is happening, "*I felt really angry really frustrated about that because it was completely out of my control uhm so I felt like a lot of things were like slipping through my fingers and I couldn't catch on to them uhm so that was definitely a big big struggle for sure."* Similarly, Perrie also expressed the struggle with coping with educational demands and financial needs,

"*I'd say very frustrating because of everything changing, but the university not providing compensation or understanding for the changes we are experiencing as students, uhm you, there are so many changes within university itself with classes cancelled or more mandates being put in the fact, but everybody's life outside the university is completely different, and so you know some people might be hit with financial dips because of the pandemic or family relations change but so uhm frustrating that the university uhm expects the same from you from a student when uhm the student's life changed completely.*"

The reasons behind student anger and frustration were revealed through these statements: unpredictability, powerlessness, fear of the future, and overwhelming demands.

Furthermore, the participants experienced feelings of anxiety, especially during the peak of the pandemic. For example, Perrie stated,

"*Yeah, it felt very isolating, so I think I found that difficult, and there is always the thought in my head, you know, is this ever gonna end or things gonna get better, uhm which caused some anxiety, so I definitely went through days where the entire day is a write off you know I couldn't get myself out of those thoughts...*"

Similarly, Mary has described how her feelings of anxiety resulted from thoughts about the future,

"*I think at that period of time I was very anxious and then kind of depressed, uhm and I was also worried about my future like, oh when can I go back to (school) and start like attending like class in person like am I even like able to like go back*

there, and uhm continue to study like like there was a lot of anxiety like if you think about the future so yeah…."

The uncertainty and difficulty in controlling what is happening during the time of the COVID-19 pandemic have led to anxiety. These can impact their thoughts about the future affecting their mental health experience.

Moreover, feelings of depression were identified by the participants, which were associated with increased isolation, decreased productivity demands and decreased social interaction. Ann stated,

"*Kind of dropped off of taking my medications cause I was just like I don't really need to focus, and I don't really need to do those stuff, so I stopped taking my medications which definitely didn't help, uhm but then just the severe isolation I just became more depressed….*"

She also added,

"*Uhm yeah, it was definitely very lonely because my parents are working all the time, so thus my brother, so I just kind sat inside my room fully alone and dark uhm I would barely turn on the lights I wouldn't really get out of the bed I wouldn't really change basic like hygiene became an issue…*".

These experiences show how COVID-19 pandemic has led to feelings of depression almost caused a debilitating impact on the experience of the life of individuals, especially those struggling to cope with mental health difficulties worsened by the pandemic.

4.4 Increased Self-Awareness

The participants have identified increased time for themselves due to the COVID-19 pandemic impacting their lifestyle. The emergence of the COVID-19 pandemic has

resulted in the introspection of the students leading to realizations of what they have gained, lost, and perceived in terms of growth as students and young adults during an uncertain time.

4.4.1 Gained about Self

Participants have identified the following reflections on what they have gained during the time adapting to the pandemic: more time to understand self and growth, realized the importance of life, and changed perceptions of other people.

Having additional time allowed participants to focus and understand themselves. May described it as *"I'm doing more kind of uhm like a self-learning like a self-love kind of journey just finding myself just finding out more about myself just because of because of all the extra time that I have had."* In addition, Jane has highlighted how it impacted her self-perception,

> "*It strengthened my perception of myself because I know now what is stand for and what I won't, uhm it's probably the most eventful thing I have experienced in my entire life, so if you put it that way, it is kind of nice to know where it made me draw lines and boundaries and find principle, so it definitely strengthened my perception of myself."*

During the COVID-19 pandemic, some students have used the time they spent at home as an opportunity for personal reflection and growth. They were able to understand their values, beliefs and boundaries improving their self-perception.

Moreover, the students have realized the importance of slowing down and appreciating life. For example, Tory explained that she wanted to take a break to experience life,

"*Purposefully not applying to anywhere this year, and I am gonna be taking like a year off a gap year which I have never done like after high school, so me taking time off and now, uhm I'm not really in a rush anymore … I can now I'm like you know I actually want to have other experiences in life*".

Also, Gigi has highlighted the importance of life, describing it as "*I think I've learned how to appreciate to appreciate life appreciate all the people around me*…." These statements show the value of experiencing life from a different perspective, which can be distinctive from an individual's outlook prior to the pandemic. In addition, the participants also identified how the pandemic impacted their perspective about themselves and other people. Alex expressed,

"*With the virus, there's a lot like well like like preconceived notions, you know, like other people regarding to how they believe with the virus …I think that it definitely influenced my perspective on other people, which I think I could have controlled more and be more open-minded too*."

The findings demonstrate how experiences during the COVID-19 pandemic may have contributed to people's changed perceptions, leading to more preconceived notions and modified beliefs and opinions about others.

4.4.2 Lost about Self

With several realizations, the participants also highlighted what they had lost about themselves. The COVID-19 pandemic has caused the participants to lose experiences and a sense of naivety and adventure. Many students have identified that they have lost many experiences and opportunities as part of their development as young adults. Alex described it as,

> "*Feel like I lost a lot of experiences that I would I should have gained as a 2nd-year student, and like that I I think that a lot of things we learn in life were like things we experience rather than just like, you know, like reading a book at home*…."

Similarly, Mary added,

> "*Uhm, I think I lost as like what I mentioned before, like uh, you know, an important period of university life, like when you can make new friends and join new clubs and all that to socialize with new friends in university, I think I definitely lost that period of time*…."

These provide insight into how the increase in time with self at home has uncontrollably led to a loss of time for other experiences that people expected to have at a certain point in their lives. Furthermore, some students identified the sense of naivety and adventure as part of what they lost because of their limited experience during the pandemic. Jane expressed,

> "*Yeah, I think I have lost, honestly, probably one of the most favourite part of myself was my naivety to give everyone bright and happy like, uh, you won't hurt me, I won't hurt you, you're a respectful kind of person uhm those were coloured glasses were gone uhm they it's uhm honestly oh sorry I'm sorry I didn't know I was gonna cry oh holy sorry uhm yeah uhm I used to really like that part about myself that it is like it didn't really have a bias or a stereotype, but now I am just kinda I'm tired and I am just tired on how people responded so just I don't really have that energy anymore for people that don't deserve it so so I just kind of keep it for those who are close to me."*

Perrie also described how she lost her sense of adventure, "*Yes, definitely my sense of adventure and uhm before the pandemic I travelled a lot uhm and travelled independently, but since the pandemic, I think I really held on the relationships."* These statements present how individuals lost a significant part of themselves because of their negative experience during the COVID-19 pandemic, considering the isolation, limitations, restrictions and changed perceptions among people. These have influenced how they perceive their own growth and development.

4.4.3 Self-perceived Growth

Students have expressed how they felt "regressed" during the pandemic but are hopeful of pursuing their careers in the future despite the challenges experienced during the pandemic. Regression was a word that some young adults associated with their growth and development during the time of the COVID-19 pandemic. Due to the pandemic, many people feel like they have regressed in terms of maturity as they have had to return home, resulting in a decrease in their responsibilities, opportunities, and freedom, which are typically expected of adults in society. Celia emphasized,

> "*Turning to grow and develop as a person and become more mature, and then suddenly COVID, it pulled me back to high school, so I uhm a university student yet I was still … I was falling back to like I wasn't responsible for grocery shopping or for making sure that the house was clean then or like making sure I got to places on time. I didn't have the same freedom anymore, so it was confusing having being a university student and having these responsibilities, but because of COVID, not having other responsibilities was just weird and feels like I regress was the word that I was looking for."*

This statement highlights how the pandemic has affected the traditional societal expectations for personal growth and independence as people age, resulting in a disruption of the usual milestones.

Despite the difficulties and regression brought forth by the pandemic, the students have realized how they see themselves in the future in a more positive outlook. They shared that they hope to achieve the career they want and are passionate about. Ann reported,

> *"Definitely, kind of drove my passion uhm to what I really wanted to do for the rest of my life which uhm is definitely something that I would say change me for the better uhm I was very passionate about sports and sports science that's kind of why I came up here to study Kinesiology which was in as right now has been the best decision that I have made which fully leaving (place) and kind of dropping off everything and kind of starting over and just getting that fresh start uhm but also the pandemic helped me realize that what I really wanted to do is to make a difference to people in my community…."*

Similarly, Celia added, "*Yeah uhm I'm hoping to, like if everything goes as planned, I graduate this April and hopefully get into a teaching certificate in September, so in a few years, hopefully, I'm at the point where I can be teaching uhm it when it comes in fruition."* These statements reflect how the pandemic affected the students' development and perception of the present and future, impacting their perception of self, especially self-esteem and self-actualization.

4.5 Lasting Impact of COVID-19 Pandemic

With all the changes in occupational engagement which have caused different experiences, emotions and realizations that already transpired, the participants identified that the adaptation is still unending and inexorable. With this, the post-secondary young adults self-identified with anxiety and/or depression have recognized the long-term effects of the COVID-19 pandemic, even after the widened vaccine rollout and advancement in health management, on their mental health, physical health, and occupational engagement.

4.5.1 Mental health

The COVID-19 pandemic has increased people's awareness regarding mental health and how it impacts the feelings and emotions of individuals as they continue to adapt to the pandemic. Although there have been advancements in science, easing of restrictions, and a decline in COVID-19 cases, some individuals have expressed ongoing anxiety and caution regarding the potential for infection. For example, Jane expressed,

> "*At that time I my my first niece was born, I had I had uh panic attack on the plane because I was so scared of giving it to her from she is in (city) and I that wasn't necessarily the peak like travel was permitted but uhm it just it's hidden it doesn't discriminate and uhm I felt a lot of also heartache for like people that anxiety of uhm like possibly losing somebody that I love like my dad uhm cause they are quite like they are older so just and then my heart broke for those people whom that died."*

This provides an understanding of how fear of self and significant people contracting the COVID-19 virus continuously affect individuals' anxiety, resulting in a modified

experience of a previously regarded typical activity. Anxiety was also associated with the unpredictability and long-term effects of the COVID-19 pandemic. Perrie noted,

> "*Yeah, that was stressful, but then also the long-term effects as well have been uhm stressful because it seems like some perspectives have changed uhm in school and workplaces and stuff meetings seems to be more easily rescheduled or uhm labs and events seems to be cancelled more often, so it seems to have trickled to long term effects of unpredictability uhm yeah patterns have continued which has been anxiety provoking as well,"*

Similarly, Mary has shared, "*I think at that period of time I was very anxious and then kind of depressed uhm and I was also worried about my future like oh when can I go back to (university) … there was a lot of anxiety like if you think about the future so yeah."* These statements have shown that some individuals still feel anxious about what is about to happen in the future and the long-term effect of the pandemic on their way of living.

4.5.2 Physical Health

Despite age and previous healthy lifestyle, COVID-19 pandemic has been contracted by young adults having lasting effects on their physical health. Celia described her experience as,

> "*Uhm, I think for me the biggest physical difference would be the breathing which is really frustrating because I was pre-pandemic was very much active like hiking and I was running, and I was skiing and working out and nowadays even walking up the stairs like my chest is tight and like asthmatic so physically that's a big*

thing that frustrates me cause I'm out of breath doing things that I should be capable of doing…."

This implies that the COVID-19 pandemic also resulted in negative effects on the physical health causing difficulty in breathing and decreased level of endurance despite having previous healthy and active lifestyles.

4.5.3 Occupational Engagement

The COVID-19 pandemic has changed how different occupations are engaged and experienced, influencing people's perception of living a life with the virus as they move forward with the lasting effect of the pandemic. Different health practices recommended due to the rising threat of the COVID-19 pandemic is still being incorporated into the lifestyle and routine of individuals despite being in the time after the peak of the pandemic and with a lesser infection rate. Mary reported, "*I think right now I'm in the point wherein I just uh, it's just normal for me to always use the alcohol with everything I do, like always keep clean and sanitize your hands…."* This quote illustrates how safe health promotion and prevention practices became embedded in the routine and habits individuals typically engage in. However, there are some individuals who are limiting their social interactions due to the fear of contracting the virus, despite widespread vaccination and fewer restrictions in place. Jane emphasized,

"*We are not seeking out those larger events, more us solo going out and and that is what I prefer I don't want to make it sound like there is any something and anything crazy going on, but it is just like you you almost don't want to meet new people cause you're worried about how how something might come up where it's just you don't want it."*

This exemplifies how the fear and anxiety that manifested due to the virus have been continuously influencing people's perceptions and preferences regarding social participation despite the changes in the context and the improved management of the COVID-19 pandemic.

Furthermore, a student described that the present context is figuratively with the COVID-19 pandemic but not literally. Mary explicated it as,

> "*Metaphorically, we are still in it; literally, I think we have science has done a fantastic job of getting us out of it, but I think mentally, and people are still in the pandemic it it's like shifted a lot of people, and kept people home whether that stunted them and stuff, so I feel like we are now dealing with the long-term effects of COVID so maybe not necessarily literally but metaphorically I do think we are still in it."*

Likewise, Tory expressed,

> "*I think it is just one of the things that has been a lasting effect that I don't think I don't really think that right now this far after I don't think COVID actually directly affects me anymore, but I think from that time a lot of things started to happen and they just stuck for some reason you know what I mean."*

The statements suggest that the pandemic has a long-term impact on individuals, which appears to be not as apparent compared to the initial phases affecting their daily lives and experiences indirectly.

CHAPTER 5 DISCUSSION

Through the interviews, the study explored the experiences of the post-secondary young adult students who self-identified with anxiety and/or depression symptoms in engaging in occupations during the time of the COVID-19 pandemic. The four key themes were (1) occupations "were not lived to their full potential…", (2) whirlwind of emotions, (3) increased self-awareness, and (4) the lasting impact of the COVID-19 pandemic. The information facilitated a deeper understanding of how the COVID-19 pandemic affected the experience of life and the way of living of young adults, especially those experiencing mental health difficulties, such as anxiety and depression. Moreover, the results of the study have provided a facet of reality on the occupational engagement of the students self-identified with anxiety and depression symptoms understanding the how's or subjective component of the experience beyond the what's or objective component which are generally focused on the articles gathered in the literature review. Looking at reality using occupational perspective has led to bridge the understanding of occupation as a way to understand people.

Because of the pandemic, there has been a shift in the engagement of occupation. It did not only alter the manner of doing occupation but also the perceived value and outcome. Students reported that their real-life occupational engagement did not meet their expected experience. This was also reflected in Werner and Jozkowski (2022)'s findings, in which the students have explicated how their actual and ideal occupational engagement differs during the pandemic. They had to make adaptations in occupations to allow them to participate despite the contextual changes, with adherence to restrictions and public health measures (Wegner et al., 2022).

In school participation, students have discussed how their classes have transitioned to online platforms. Similarly, Piya et al. (2022) have found that most of the respondents in their study received synchronous online classes. With this, the transition to online learning has caused decreased attention span and learning outcomes for students and increased time on social media (Piya et al., 2021). Moreover, over half of the young adults in the study of Smyth and Nolan (2022) have found it challenging to study during the pandemic wherein they have reported that they were unable to (a) take exams, (b) perform up to their expectations, (c) work or get an internship program, and (d) had to drop out from the course. On the other hand, some students have described improved academic performance during the COVID-19 pandemic. This was also identified in the study of Krishnagiri and Atler (2022), where they found that some participants were able to adapt to the changes and complete schoolwork at their own pace. This may have transpired due to increased time spent on education, which may be considered a coping mechanism to avoid negative feelings and emotions instigated by the pandemic (Werner & Jozkowski, 2022). Thus, the increased available time during the peak of the pandemic affected the productivity of students to different extents. Some students experienced a negative impact on their motivation and learning outcomes, while others had a contradictory experience. After the peak of the pandemic, there was a return to in-person classes due to decreasing restrictions and COVID-19 virus cases. Despite classroom-based being the typical way of education, some students reported increased anxiety and challenges with one reporting that she had to return to online classes because it was more difficult for her to manage in-person classes increasing her anxiety. This finding coincided with the cross-sectional study of Rashid et al. (2022), which found that

students who resumed in-person classes experienced post-lockdown classroom anxiety. This negatively affected their school and social participation and overall student experience (Rashid et al., 2022). The constant changes in context have consistently impacted school participation, leading to negative emotions for students.

Participants have described being a student during the pandemic as challenging, isolating and the worst time. Due to the constantly changing environment because of the existence of the virus, the students needed to adapt their habits and routines while fulfilling school-related responsibilities and expectations (Alshammari et al., 2021). This may have led to the upsurge of challenges faced by the students while coping with an unprecedented time. Moreover, there was a feeling of isolation due to the restrictions and incongruent experience of online classes to in-person classes. Ismail and colleagues (2020) have found that isolation has caused preclinical medical students to have an increased risk of developing anxiety compared to clinical medical students during the peak of the pandemic. This may have transpired because of similar educational expectations with limited social interaction leading to decreased student collaboration. Furthermore, some participants have described it as the worst time to be a student. Reasons that could have contributed to this statement may be related to the educational and employment stressors since most of the participants in the study were working students, and most reported feelings of anxiety during the pandemic (see Table 1). The other factors which also contributed to the negative feelings of the students were educational delays, life disruptions, changes in career and life plans, housing and childcare concerns and financial difficulties due to COVID-19-related measures (Piya et al., 2022; Rainford et al., 2020; Lee et al., 2021; Lundstrom, 2022). These negative

feelings associated with being a student during the time of the COVID-19 pandemic have directly and indirectly impacted their school participation and social participation.

In social participation, young adults had to transition the means of social interactions due to contextual changes. Krishnagiri and Atler (2022) have found that the changes in social participation are affected by context, environmental resources, and personality types. Moreover, they identified that the biological drive, environment, structure, and meaning of occupation also influenced social adaptations. In the study, the participants have explicated how they shifted social interactions to online platforms to decrease the risk of spreading the virus while maintaining interaction with their family and friends. The adaptation of social participation has led to increased social media use during the pandemic compared to the pre-pandemic (Lee et al., 2022). Based on Lee et al. (2022), excessive social media use has been correlated with more likelihood of young adults experiencing symptoms related to anxiety and depression. Moreover, the stay-at-home orders and lockdowns, which limited social interaction, have worsened mental health, causing increased depressive symptoms and decreased happiness and social satisfaction (Towner et al., 2022). On the other hand, Juvonen and colleagues (2022) have found that despite young adults enduring emotional challenges during the pandemic, they were able to adjust to the contextual changes by staying in contact with their friends, which lessened feelings of isolation. It can be viewed as a positive adaptation that people are becoming more accustomed to online communication, as reduced social interaction has been linked to negative impacts on mental health. (Tahara et al., 2021). This was evidenced by the benefit of social interaction with family, friends and others improving quality of life based on the self-reported Patient Health Questionnaire -9 (PHQ9)

(Alshammari et al., 2022). Despite the increase in social media use for interaction, it did not necessarily have a negative impact because it allowed for social participation despite physical distance, which can reduce the risk of mental health difficulties. Moreover, even most of the participants in the study (n=7) have identified social support and encouragement from others as one of the main reasons they seek mental health support. This suggested the importance of the social environment in promoting and maintaining mental health. Thus, increasing social interaction could positively impact mental health and be used as a way for students to be more open in seeking mental health support, considering that lower social connectedness is related to higher psychological distress (Wright et al., 2022). Another occupation which was heavily impacted by the pandemic influencing mental health, as reported by the participants, was leisure participation.

In leisure participation, the students had to engage in activities that they could do at home or through online platforms, especially during the peak of the pandemic. More than half of the participants in the study (n=6) have reported that they lived with their family making their immediate family members their primary social bubble and limiting their activities within the walls of their home. This resulted from the reduced opportunities for in-person leisure activities outside of the household because of the restrictions (Krishnagiri & Atler, 2022; Wegner et al., 2022). With this, a decline in physical activity was also found, which has led to poorer physical health in individuals (Coughenour et al., 2021; Gestsdottir et al., 2021). Despite the limitations, students have reported having more leisure time due to reduced school and work commitments (Krishnagiri & Atler, 2022; Wegner et al., 2022). They participated in activities that could be done alone, through the Internet and with a limited number of people. Thus,

young adults have adapted and explored leisure participation despite limitations, which impacted their health and well-being and reflected their occupational resilience (Wegner et al., 2022). The promotion of occupational resilience is vital to survive situations like the global health crisis because it is the ability of an individual to manage stressors and difficult events where modifications to occupational engagement may be necessary, contributing to health and well-being (Brown, 2021). With occupational resilience, an individual can overcome the challenges and continue to adapt with the external factors including the physical and social environment.

The perceived value and consequences of leisure activities became a sign of resiliency, a motivator and a coping mechanism during an uncertain time. Participants in the study have identified that doing activities that they like to do (1) feels like a recoup, (2) boosts mood and energy, (3) feels like an escape, and (4) makes them feel that they are in control. These statements were similar to the reported outcomes of the respondents in the study of Wegner et al. (2022), which are to (1) replenish energy, (2) reduce stress and anxiety, (3) influence health and well-being, and (4) cope with disruptions and injustices. Thus, occupational engagement in leisure activities could prevent adverse mental health and well-being, especially in an arduous time (Tapia et al., 2022). Moreover, many studies have explicated the value of physical activities as part of leisure participation for health and well-being to prevent the risk of developing mental health difficulties especially during the pandemic (Chen & Lucock, 2022; Esteves et al., 2021; Zalewska et al., 2020; Shpakou et al., 2022). However, there were still some activities that students participated in, which caused adverse outcomes to health, such as tobacco smoking and increased spending. Several studies have found a negative correlation

between smoking and mental health (Chen & Lulock, 2022; Tavolacci et al., 2021; Stroud & Gutman, 2021). These could be considered harmful coping mechanisms because these can be sources of instant gratification with adverse long-term outcomes for health. Moreover, a student from the study highlighted that her spending increased during the pandemic. She considered it a negative coping mechanism because of its unfavourable outcome on self-sufficiency. None of the literature has identified a similar impact of the pandemic on young adults' expenditure. On the other hand, after the peak of the pandemic, findings have shown the reoccurrence of previously engaged activities before the pandemic. This may have transpired due to the decreased restrictions and limitations providing more liberty for individuals to engage in activities they like and want to do. In addition, having routine, structure, and roles with decreased limiting factors like the COVID-19 pandemic-related measures can facilitate an opportunity to support well-being (McCready & Reid, 2007; Nizzero et al., 2017; Salar et al., 2022).

The COVID-19 pandemic has led to several negative feelings such as, anger and frustration, anxiety, and depression. These have resulted from the disruption and difficulties faced during unpredictability. Similarly, Marzana et al. (2020) have identified emotional dimensions that the students have experienced during the pandemic, such as concern, fear, worry, anger, depressive feelings, joy, anxiety and post-lockdown anxiety. Shanahan et al. (2020) have also found heightened perceived stress and anger during the pandemic due to the pre-COVID-19 emotional stressors such as bullying, victimization and stressful life events and COVID-19 p economic and psychosocial stressors, such as life and economic disruptions. The increase in negative emotions and decrease in positive emotions affected the individuals' occupational engagement and life satisfaction. With

this, there has been a correlation between occupational engagement and positive mental health and well-being (Sutton et al., 2012)

Negative feelings could increase the risk of mental health illness, impacting the present and future outcomes in health and well-being. Sutin et al. (2022) have identified that there were adverse changes in traits due to the pandemic in young adults over time, and if these persist, stressful events can alter the personality of the developing adults causing long-term impact (Sutin et al., 2022). This reflected how the mental health experience of young adults during the pandemic could directly or indirectly determine how they acquire risks, construct identity, and develop resilience in the future. In this study, the majority of the students have sought mental health support due to positive past experiences with help-seeking (n= 4), social support or encouragement from others (n=7), confidentiality and trust in the provider (n=4), positive relationships with service staff (n=3), education and awareness (n=5), perceiving the problem as serious (n=5), ease of expressing emotion and openness (n=3), positive attitudes toward seeking help (n=7) (Gulliver et al., 2010). The emerging awareness of the students on the significance of mental health may imply how the young adults cope with the COVID-19 related stressors through developing strategies that became embedded in their routine over time as the COVID-19 virus continue to exist (Graupensperger et al., 2022). This could be fundamental in supporting the further conceptualization and implementation of mental health promotion and prevention, improving health outcomes. Moreover, this can help to suffice the unmet mental health service needs of students in the context of the COVID-19 pandemic in Canada, which were identified in the study of Coulaud et al. (2022).

Understanding their feelings and emotions, which are enveloped by their mental health, was one of the elements which reflected their increased self-awareness.

Participants have identified the following reflections on what they have gained during the time with the virus: (1) more time to understand self and growth, (2) realizing the importance of life, and (3) changing perceptions of other people. During the pandemic, people had more time for self-awareness, causing them to understand the meaning and personal value of life and occupation (Wegner et al., 2022). Students also realized the increased sense of well-being and improved quality of life with the actual slowing down of the pace of life because of the disruptions and limitations of the pandemic (Krishnagiri & Atler, 2022). This presented a positive outcome despite the adverse effects of the COVID-19 pandemic on lifestyle and occupations. It has facilitated the self-esteem and self-actualization of individuals, which are considered the top two levels of Maslow's hierarchy of needs (Maslow, 1943, 1954). Fulfilling these needs can influence how individuals perceive themselves and their potential. Having more time for themselves during the pandemic has allowed students to understand themselves better and recognize their potential, influencing their adaptation and development as they continue living with the COVID-19 pandemic. This positively impacted their mental health and occupational engagement, as evidenced by their reports about the being and becoming dimension of occupation. Being was reflected in how they perceive themselves considering their roles and personal factors influencing their future identity and growth, leading to their becoming.

On the other hand, the pandemic has caused the participants to lose experiences and a sense of naivety and adventure. Students have lost opportunities for work, school

and social interaction (OECD, 2021; Smyth & Nolan, 2022; Lundstrom, 2022). This was similar to the findings of the scoping review of Lundstrom (2022), in which he found that young people have experienced: (1) isolation, (2) restriction, (3) loss of formative life moments and (4) ramification of structural inequalities. These findings and the study's results presented a collective experience of loss of opportunity to experience because of various limitations beyond the individual's control. The situation has led to changes in people's perceived value and consequences of engagement, which differ from their initial expectations. With this, the loss of experience due to restrictions and barriers has negatively affected the individuals' health and well-being, leading to poorer mental health (Nizzero et al., 2017; Lopez-Castro et al., 2021). Being unable to participate in the activities that are integral to them has been like being unable to fulfill a piece which has usually been part of the puzzle as described by the participants of the study when asked to compare pre-pandemic to the present context. Moreover, in the study, the participants also identified the loss of a sense of naivety and adventure. Losing the sense of naivety may have transpired due to negative experiences during the pandemic, such as health disparities, social inequities, and social divisions, which have led to hostility and fear. This could affect the perception of the individual about themselves and society and their feelings of safety. There was also the loss of adventure, primarily due to the restrictions and public health measures during the initial phase and peak of the COVID-19 pandemic. Travelling was discouraged, and group activities were limited. All of these insights have highlighted how a deeper self-awareness provided the students with an opportunity to look beyond the façade of their doing- more than the observable changes that transpired

because of the pandemic. None of the literature available has reported this kind of insight which explicates self-perception.

Another essential point that participants in the study explained was their self-perceived growth. They have acknowledged a period of regression and a period of optimism about the future. Some participants have mentioned that they felt that they have receded in terms of maturity and development due to the limitations and necessary adaptations during the pandemic. Many students experienced a disruption in their journey toward adulthood due to having to return to their hometowns, live with their families, and have less independence and responsibilities. This affected how they perceived their growth and development, which influenced how they saw themselves in the future. However, none of the studies available have identified this as a result of the pandemic on the perception of young adults. This presents a novel finding regarding the impact of the pandemic on young adult students.

Although the virus has caused disruptions in the economic and labour market, students are still optimistic about pursuing their desired careers. This contradicted the studies that have explicated only the pandemic's negative effect on students' anxiety about future employment, not including the optimistic facet of reality. David et al. (2021) have identified the following themes related to career anxiety: uncertainty, the situation of the job market and economy, personal skills and abilities, the role of peers and the role of parents. Moreover, in the study of Egger and Huber (2022), they have identified the challenges of young adults, which included feelings of worthlessness, prospective fear of difficulty in networking and loss of motivation in everyday life. Also, Li and colleagues (2023) have identified the effect of income loss and unemployment on overall well-being

as heightened by the negative perception of the pandemic. In the study, while some students acknowledged the uncertainty caused by the pandemic, they remained hopeful about achieving their life aspirations. With this, the pandemic may have counterintuitively affected the student's perception of future goals. Instead of occupational disruption and adaptation negatively impacting self-esteem, the findings of the study show how the pandemic motivated the students to take control and re-anchor their lives and future. This further reflected the becoming dimension of occupation in which students have expressed their thoughts about their future and self-transformation despite the difficulties they have experienced during the course of the pandemic. To support the self-actualization and career growth of the students, Orlando (2022) has summarized the insights of young adults to improve the quality of career support: facilitating person-centred, inclusive and quality support, increasing access to career-related information and opportunities, and more mentoring prospects. Implementing these initiatives can provide students with the support they need to achieve their employment goals and boost their confidence in their own abilities.

During the time of the COVID-19 virus, change was inevitable, as seen with the constant transformation within and outside the person. Due to this, the participants have explicated how the virus has caused a lasting impact on their mental health, physical health and occupation. Some students have expressed that even after the peak of the pandemic, they still experience anxiety about the potential of contracting the virus and concerns about the virus's unpredictability and long-term impacts. This result coincided with the post-lockdown anxiety highlighted as one of the emotional dimensions in the study conducted by Marzana and colleagues (2020). The anxiety affected the quality of

the experience, including the content and form (Marzana et al., 2020). However, it was highlighted by Graupensperger (2022) that worse effects were accounted during the early phase of the pandemic and the levels declined linearly throughout the latter phase. Moreover, Kleine et al. (2023) have found that the students without mental health difficulties before the pandemic had increased deterioration with higher levels of anxiety and/or depression symptoms compared to those experiencing mental health difficulties pre-pandemic. This presented how the effect of the pandemic on mental health varies depending on the age, gender and pre-existing depression and anxiety levels (Kleine et al., 2023). Despite this, according to Salar et al. (2022), the continuing uncertainty could influence life satisfaction and cause mental health problems for individuals in the future. The emotional turmoil of psychosocial and academic frustration could affect occupational engagement (Hagedorn et al., 2021). Thus, the pandemic's influence on an individual's mental health could procure long-term changes in how occupations are chosen and engaged.

On the other hand, limited studies were available that tackle the effect of the COVID-19 virus on the physical health of young adults. A participant highlighted how the virus caused difficulty in breathing and decreased endurance despite seeing themself as having a healthy physique. The decrease in endurance could indicate how even a mild COVID-19 pandemic in young adults can lead to lung injury (Crameri et al., 2020). Even young adults, who are often considered healthy and low-risk, can experience long-term physical health effects from the virus. It is important to be cautious about the impact on this demographic and consider the potential future impact on public health.

Despite being in a time with better managed COVID-19 pandemic through the development of vaccines and improved care outcomes, some participants have highlighted incorporating COVID-19 virus-induced health measures into daily life even with the lesser threat and risk of the virus. In the study of Krishnagiri and Atler (2022), they found that wearing masks and observing social distancing continued to transpire even when the restrictions were lifted. The pandemic has triggered a significant shift in outlook toward health prevention and promotion, which has consequently resulted in numerous new learnings and profound realizations. The COVID-19 pandemic became a turning point for society to reevaluate their health practices and perspectives because of the pending threat of the virus to life. In addition, the British Academy (2021) summarized the nine areas of the long-term impact of the pandemic, which are: (1) heightened value of local communities, (2) decreased trust, (3) increased geographic inequalities, (4) increased structural inequalities, (5) poor health outcomes and growing health inequalities, (6) improved awareness of the importance of mental health, (7) pressure of revenue streams across the economy, (8) increasing unemployment and changing labour markets, and (9) improved awareness of education and skills. These long-term effects can modify the how's and why's of living and engaging occupations of people, especially as they move forward in living life with the virus. Thus, the risk of the pandemic's long-term impact on young adults' occupations could be inevitable and significant, especially in the existence of unceasing adaptation to the environment.

Despite the differing viewpoints on the COVID-19 pandemic, one participant pointed out that although we may no longer be in the literal pandemic, we are still metaphorically affected by it due to the lasting changes and alterations in how we

perceive and live with the virus. It reflected that the pandemic still exists, but people are less apprehensive, which may be due to the transition from what appeared to be a “back to normal” state but an another “new normal” state involving the nuances of how people live while adapting to the lasting impact of the COVID-19 pandemic. The environment did not reverse back to the pre-pandemic situation; rather, it is continuously evolving with the existence of the pandemic constantly affecting occupational engagement.

The findings of the study have provided an insight of the experiences of the young adult students self-identified with anxiety and/or depression symptoms in how they engage in occupations during the COVID-19 pandemic. These have reflected how their engagement was disrupted causing deprivation, impacting identity and facilitating constant adaptation which impacted their overall health and well-being. Occupational deprivation was described as “a state of preclusion from engagement in occupations of necessity and/or meaning due to factors that stand outside the immediate control of the individual’’ (Whiteford, 2000, p. 201). In this context, the unpredictable and uncontrollable impact of the COVID-19 pandemic limited the individuals' occupational engagement, leading to decreased perceived value and consequences divergent from their expectations. Townsend and Wilcock (2004) stated that occupational deprivation occurs when people have limited choices due to their isolated environment, ability, and other circumstances. Choices in occupations did not primarily depend on personal factors, including personality, abilities, and skills, but also on the opportunity and availability of opportunities affected by the context, including the social structures and systemic inequities (Hammell, 2020a). Thus, if looking at occupational choice in the context of the COVID-19 pandemic, post-secondary young adult students had limited, altered and

varied choices in occupations depending on the context of the virus. This has led to restrictions on in-person social interactions and group activities and limitations in activities at home, especially during the peak of the pandemic. Moreover, the government and health system significantly influenced how people mobilized and participated in occupations, reflecting how the social environment and collective and contextual histories impact the choices of people (Galvaan, 2014). With this, public health measures played a significant role in determining the actions that individuals were permitted or prevented from doing as part of their decision-making process. However, after the peak of the pandemic, individuals had more choices regarding participating in school, work, social and leisure activities allowing them to engage in more activities that they wanted and needed to do. Thus, decreased restrictions and limitations have paved the way for increased occupational choices. With this, the students engaged in activities based on the context and fluctuating demands and challenges in their lives (Hammell, 2020b). Due to the changes in occupational engagement, students have experienced different emotions and feelings, which may impact their self-perception and self-actualization.

The increased awareness of young adult students suggested how their engagement in occupation during the context of the COVID-19 pandemic has facilitated the development and becoming of their identity (Maersk, 2021). According to Hansson et al. (2021), occupational identity is interconnected, temporal, meaningful and contextual. The interconnection of the students' doing, being, belonging and becoming, changes over time, perceived meaning and environment were influential on how they perceive their present and future identities (Hansson et al., 2021). During the time of the COVID-19 pandemic, the context and society became significant factors which

influenced the identity of the students. With the rise of the COVID-19 virus cases, the government's added response of restrictions and public health measures due to inadequate health management in combatting the virus presented the development of a new socially accepted way of living. People needed to wear masks, restrict travelling, and limit their social interaction. After the rollout of the vaccine and the peak of the pandemic, the restrictions were lifted, and society began transitioning back to a state of normalcy with the decreased threat from the spread of the virus. Thus, the environment has constructed what occupations are accepted and not, influencing the constant change in occupational identity (Phelan & Kinsela, 2009). With these, the students' reflections on what they gained, lost, and how they perceived their personal growth revealed how their occupational identity changed due to the different contexts they were in manifesting their continuous occupational adaptation.

The persistent change in the way of life due to the varying context reflected how individuals portray continuous occupational adaptation. Kielhofner (2008) has described adaptation as an ongoing process in which occupational identity and competence can be attained, which is part of the Model of Human Occupation. On the other hand, Schkade and Schultz (1992) developed an occupational adaptation model which shows the persisting interaction of person and environment facilitating adaptive response in occupational engagement. In the scoping review of Grajo et al. (2018, p.6), occupational adaptation was defined as "a) a product of engagement in occupation, (b) a transaction in the environment, (c) a response to change and life transitions; and (d) a formation of a desired sense of self." These four themes encapsulated what has transpired in the lives of young adult students during an uncertain time, initiating changes in occupations and

mental health. The students adapted to the contextual modification causing shifts in occupational engagement and constantly affecting their life experiences and identity development. Thus, the lasting impact of the COVID-19 pandemic has evidenced how the adaptation of the students is ongoing and integral in facilitating occupational engagement. With every change in the environment, there has been a change in participation, meaning, perceived value and consequences. This has resulted in the inexorable alteration of the dimensions of occupation, which are the doing, being, belonging and becoming, influencing the experiential component of occupation (Wilcock, 1998, 2007; Wilcock & Hocking, 2015; Hammell, 2014).

Overall**,** the findings of the study encapsulated the occupational engagement of the students who self-identified with anxiety and/or depression symptoms during the time of the COVID-19 pandemic. The themes reflected the participation in occupations with varying personal value and perceived consequences and the fluctuating state of the engagement considering the different phases of life with the COVID-19 pandemic (Morris & Cox, 2017). During the COVID-19 pandemic, students' engagement in their studies varied, which affected their health and well-being. The study found that participating in activities that students enjoyed led to positive feelings, while disrupted activities caused negative feelings among the participants. These explicated that the occupational engagement of individuals during a period involves participation and non-participation in activities with varying positive and negative values and consequences of doing which facilitates a holistic understanding of occupation (Morris & Cox, 2017). Furthermore, Hammell (2020c) has summarized the significance of occupational engagement for people with mental health problems during the occupational disruption

“to provide order, routine and structure, to alleviate stress and reallocate cognitive resources from ruminating about our problems, to distract, keep busy and manage time, to experience enjoyment and fulfilment, to build a positive sense of self-worth and to foster hope.” The reports from the study participants all aligned with these findings, reinforcing the positive benefits and outcomes of being engaged in occupations. (Morris & Cox, 2017).

Considering Hammell (2009)’s proposition of focusing on the experiential component of occupation, the study presented how young adult students experiencing anxiety and depression symptoms engage in occupations from their perspective showing a part of their experienced reality. Based on the study's results, students have reported having inadequate experience due to the modified occupation, which has negatively impacted their mental health. Additionally, this experience has increased their self-awareness and has been causing a lasting impact on overall health and well-being and occupational engagement.

This study explicated occupational engagement using the doing, being, belonging and becoming based on the POP and occupational perspective during an unprecedented time with the COVID-19 pandemic. The doing of the students was reflected in their reports on how the occupation was modified. Participants have reported how their social, school, and leisure participation were affected and fluctuated due to the constant change in the context and environment. The being of students was explicated from their perception of themselves with increased self-awareness about their feelings, emotions, and realizations throughout the pandemic. They also have expressed how their perception of being a student and as an individual has transformed because of their positive and

negative experiences in living a life with the COVID-19 pandemic. Despite facing uncertainties and challenges caused by the pandemic, the students remain optimistic about achieving their life goals, reflecting the becoming dimension of occupation. This also showed the counterintuitive effect of the pandemic on their self-actualization. Lastly, the belonging of the students was evident in their emphasis on social interaction, in which they participated with adapted means and wavering degrees of values and outcomes. Furthermore, most of the participants have highlighted the importance of social interactions in supporting mental health and occupational resilience. Despite the limitations during the pandemic, they were able to adapt their social participation and were able to regain connections easier with the decreased restrictions. Thus, the findings of the study illustrated a part of the reality of young adult students during an uncertain time and a deeper understanding of the occupation considering its experiential component and dimensions of occupation that explicated the occupational engagement of the population during the pandemic, shaping their overall health and well-being.

CHAPTER 6 IMPLICATIONS, STRENGTHS, LIMITATIONS AND CONCLUSION

6.1 Implications

6.1.1 Implications for Health Professional Practice

The findings of this study provided significant knowledge to support the emerging role of occupational therapists (OTs) and other healthcare professionals working in mental health, especially with the long-term impact of the COVID-19 pandemic. Considering the known effects of the pandemic on mental health, it may be important for healthcare professionals to assess and provide adequate intervention and support to young adults experiencing mental health difficulties throughout the mental health spectrum. Through listening and understanding young adults' perspectives and part of reality, the OTs, for example, will be informed on how mental health and occupation are interrelated and can impact each other, causing occupational performance issues. This understanding can help OTs to adjust their therapeutic use of self and tailor client-centered practice to meet the unique needs of every client.

This information can also be significant to other healthcare professionals since it can inform them about the experiences of the population during the pandemic. This can facilitate the further implementation of an individualized approach to support individuals as they cope with their anxiety and depression, limiting its negative effect on occupational engagement. Moreover, it can support them to approach the clients respectfully and appropriately by having information and understanding the part of the reality of the population. Having the knowledge of how occupation is engaged by students self-identified mental health difficulties during an uncertain time can support

healthcare professionals in understanding the person, which can promote health management and health prevention and promotion. This can further diversify and broaden the resources available. Moreover, it is important to acknowledge that there are many available resources, and these may or may not be known to some students which can affect the beneficial output of the mental health resources. Understanding the difficulties and experiences of the young adult students self-identified with anxiety and/or depression symptoms can provide clinical insight informing practice and can benefit the healthcare system in becoming more equipped for the future health predicament since they have a glimpse of the direct and indirect impact of health crises on people.

The knowledge can also assist healthcare professionals in reflecting on their practice by adhering to the standards of practice, weighing the pros and cons, and considering the connection among several factors impacting the issue (Kinsella, 2001). With critical reflexivity, individuals can become skilled healthcare professionals who genuinely care about their clients as they actively listen and strive to understand their clients' perspectives. Through understanding the experiences of the individuals, a more appropriate, diverse, accessible and adequate solution or resource for the population can be further attained considering the availability and increasing awareness about mental health support. If the mental health difficulties continue to persist and are unacknowledged, long-term impacts on the development, way of living and occupational engagement of young adults can occur.

6.1.2 Implications for Education

Knowing the occupational engagement of the students who self-identified with anxiety and depression during the time with the COVID-19 pandemic could allow

educators to provide adequate support and accommodations to students supporting learning and mental health. The self-reports of the participants with mental health difficulties resulted in several consequences, including school participation challenges. While some students found online education accessible and easy to adapt to, others faced difficulties that negatively impacted their academic performance. The transition in methods of learning precipitated during the pandemic showed how the academe adapted to the health crisis. However, the solution is not absolute and beneficial to all due to the student's individual and contextual differences. With this, it would be beneficial if teachers and school administrators are aware of the varying experiences of the students, especially during difficult times which could help in their empathetic understanding on the student's individualized experiences. Through collaborating with the students, more adequate and appropriate accommodations could be made feasible since there is acknowledgement on the root cause of the problem. Moreover, considering the lasting impact of the COVID-19 virus on the way of life, it is beneficial for educators to adapt learning and facilitate the potential of the students considering their personalized experiences. The increased awareness among educators on how mental health impacts and is impacted by school responsibilities could help promote effective learning methods and approaches.

It could also be beneficial to include the impact of the pandemic on populations, including young adults, in the curriculum for healthcare providers since it is causing a lasting impact influencing occupational engagement, as evidenced in the findings of the study. This may help in assessing, preventing and managing students with mental health

difficulties. Furthermore, increasing awareness about mental health experiences can help reduce stigma towards mental health services and improve approaches for inclusive care.

6.1.3 Implications for Research

The study also has implications for future research in understanding the experiences of young adult students with perceived mental health difficulties. Considering the exploratory findings of the study, findings of the study, it can be beneficial to further evaluate the lasting impact of the COVID-19 virus on the population using different methodological approaches, for example: phenomenological studies, grounded theory methodology, cross-sectional studies, and mixed method studies. Through phenomenological studies, researchers can describe the "lived experience" of the students during the time of the COVID-19 virus (Heidegger, 1927, 2008; Merleau-Ponty, 1945, 2006; van Manen, 1997). Through grounded theory methodology, researchers may construct a theory by analyzing the experiences of the students, which can inform future healthcare system decisions in the management of the future global health crisis. Through a cross-sectional study, the researchers can analyze the experiences of the students at a certain point in time, limiting the impact of retention bias. Lastly, through mixed methods studies, both the qualitative data from self-reports and quantitative data from the standardized assessment can be evaluated to understand the students' occupational engagement more extensively, increasing the study's credibility and generalizability.

6.1.4 Implications for Policy

This research can support the understanding of the experiences of young adults, which can help in the quality provision of mental health services and develop a more

sustainable solution to the long-term consequences of the pandemic (Chadi et al., 2022). Working with the population can increase the feasibility of achieving diverse, appropriate and adequate solutions. To promote good health and prevent further complications, it is essential to provide adequate resources and support as appropriate depending on mental health experience of the individual. Individualized care and support should be available considering that mental health is experienced by people differently even with people with same diagnosis or same mental health challenges. By understanding the students' occupational engagement, stakeholders and policymakers can gain insight into their experiences and how challenges affect their health and well-being. This can support the attainment of sustainable solutions to support the nation's preparedness for future health crises, such as the global pandemic.

6.1.5 Implications for Occupational Science

The study can support the further development of occupational science considering that the study aims to shed a light on the complexities of occupation revealing a part of reality which can influence overall health and well-being. This supports the exploration of the occupation and engagement in varying sociocultural contexts and how it fluctuates over time (Clark et al., 1991). Through this knowledge, the unraveling of the experiential component of occupation beyond the observable faced is explored facilitating the understanding of the doing, being, belonging and becoming dimensions of occupations.

6.2 Strengths and Limitations

The study resulted in significant information informing the impact of the COVID-19 pandemic on young adults with mental health difficulties. This is the only study that aimed to understand the occupational engagement of individuals self-identifying with

anxiety and/or depression symptoms during the pandemic. This acknowledges the significance of the interpretations and perceptions of individuals. Some may not have a formal diagnosis, but their challenges are as relevant and worthy to be studied considering the overall impact to health and well-being of the individual and to the whole society.

The literature review conducted helped to identify the gaps in knowledge and data collection resulting in some unique findings which establish the novelty of the study. The study provided new knowledge, such as the identification of the loss of sense of naivety and the lasting impact of the pandemic on mental health, physical health, and occupational engagement. The findings are explicated not to be generalizable for the population but rather for it to unveil a part of the reality of people with mental health difficulties. The study was conducted with a clear connection between the paradigm, theoretical perspective, and methodology to achieve its goal. These connections were thoroughly explained in the methodology chapter. To ensure accuracy, data was collected through interviews and participant demographic questionnaires, and member checking was completed. Memo and reflection journals were used to maintain critical reflexivity throughout the study, helping me to remain transparent about challenges and monitor my location in the research. Moreover, the study was able to provide an insight or a reflection of a part of reality as experienced by the students self-identified with anxiety and/or depression symptoms which coincides with the goal of Interpretative Description studies which is to facilitate the capacity to be aware and appreciate the diversity among the experience acknowledging that documenting all the possible experience or variation is impossible (Thorne et al., 2016).

Despite the relevant and unique insight that this study has garnered, there are limitations that should be recognized. There was a small sample with a limited amount of data, a narrow range of participants of the same gender, and primarily studying in a university setting. At the beginning of the study, the participants were defined to be any students in an educational endeavor. However, despite multiple attempts to increase the study's reach, no responses or interest were gathered from students outside the university cohort. Participants were also self-identified with anxiety and/or depression symptoms. This can lead to several repercussions, such as the promotion of self-diagnosis and incongruency of reported symptoms to the classification of mental disorders. Also, the study was not able to consider what are the mental health supports that the participants participated or participating in and how they perceive the accessibility and outcome of these supports to their own lives. Moreover, the interview was conducted at a time with little to no restrictions, adequate vaccine implementation and an almost “back to normal” phase despite the existence of the COVID-19 pandemic. Many participants have shared their experiences during the peak of the pandemic. Thus, the accuracy of the retroactive data depends on the participants' recall, which has a risk of being incomplete or altered due to retention bias. Also, since there is only a single online interview conducted with the participants, the establishment of rapport with the comfortability of the participants to share their experiences may be limited, and the dyadic interaction may be underdeveloped, impacting the findings of the study. In addition, only one person transcribed the interview due to limited time and funding, which can impact the credibility and trustworthiness of the study. Indeed, there is more information beyond the study.

6.4 Conclusion

This research aimed to explore the occupational engagement of post-secondary young adult students self-identified with anxiety and/or depression symptoms during the time of the COVID-19 pandemic. Students described experiences of occupation not living up to its full potential creating a fluctuating state of emotions. This also led to increased self-awareness, realizing the lasting impact of the virus on their overall health and well-being even after the peak of the pandemic. Understanding occupational engagement during the time of the COVID-19 pandemic has highlighted how occupational disruption has impacted the choice, identity development, adaptation, perceived value, and consequences of the occupation of young adult students, especially those experiencing anxiety and/or depression symptoms. This emphasized the transition in the dimensions of occupations, which are the doing, being, belonging and becoming, during the pandemic that affected the overall occupational engagement of the individuals. Furthermore, the interrelatedness of mental health and occupational engagement was explored, considering the influence of participation and non-participation in activities on mental health and well-being. Having the knowledge of the impact of the COVID-19 pandemic on the occupational engagement of young adult students who are experiencing mental health difficulties could support the development of mental health promotion and prevention, which occupational therapists, healthcare professionals, educators and policymakers can initiate and implement. Further research on the evolving change in occupational engagement and the long-term impact of the pandemic using different study designs can also inform more comprehensive recommendations and sustainable solutions for practice and education supporting emerging adults' overall health and well-being as

they continue to adapt to the post-pandemic environment and for the society to be equipped to manage future public health predicaments.

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APPENDIX A GLOSSARY OF TERMS

Young Adulthood: The age range of 18 to 25 is a critical period of development for individuals, marked by changes and growth as they transition into adulthood. (Bonnie et al., 2015; Higley, 2019; Mental Health Commission of Canada, 2020)

Pan Occupational Paradigm: This paradigm explains how the adaptive system relates to various dimensions of occupation, including doing, being, belonging, and becoming. (Hitch et al., 2018; Hitch & Pepin, 2021).

Occupational Engagement: Engagement involves more than just the act of doing. It encompasses a multifaceted experience that includes personal value and perceived consequences associated with participation. (Morris & Cox, 2017; Black et al., 2018; Kielhofner, 2002)

Occupational Disruption: It is the state where occupation is disrupted by significant occasions in life, environmental changes and illness (Whiteford, 2000).

Occupational Deprivation: "A state of preclusion from engagement in occupations of necessity and/or meaning due to factors that stand outside the immediate control of the individual'' (Whiteford, 2000, p. 201).

Occupational Identity: It is interconnected, temporal, meaningful and contextual. The interconnection of the students' doing, being, belonging and becoming, changes over time, perceived meaning and environment influence how they perceive their present and future identities (Hansson et al., 2021).

Occupational Adaptation: It is the ongoing interaction between the person and environment facilitating adaptive response, which may lead to the attainment of occupational identity and competence (Kielhofner, 2008; Schkade and Schultz, 1992; Grajo et al., 2018)

Interpretative Description (ID): A type of study that looks at people's health and illness experiences through an applied health perspective leading to clinical applications (Thorne et al., 1997; Thorne et al., 2004; Thorne, 2008).

ID Analytical Processes: It includes concurrent data collection and analysis, constant comparative method and iterative analysis (Thorne et al., 2004; Thorne, 2008; Thorne et al., 2016).

Reflective Thematic Analysis: It is an analytical method of qualitative studies to understand the experiences and interpretations of people through identifying codes, categories and themes (Braun & Clarke, 2006).

Anxiety: Experiencing anxiety is a natural response to stress. In fact, in certain circumstances, having a mild level of anxiety can be advantageous. It can serve as a warning signal for potential hazards and motivate us to be vigilant and focused. (American Psychiatric Association, 2022)

Anxiety Disorders: Feelings of anxiety start to impact their occupation limiting their ability to function optimally (American Psychiatric Association, 2022). There are different types of anxiety including generalized anxiety disorder, panic disorder with or without agoraphobia, specific phobias, agoraphobia, social anxiety disorder, separation anxiety disorder and selective mutism (American Psychiatric Association, 2022).

Depression: It is a serious mood disorder described by experiences such as: “persistent sad, anxious, or "empty" mood, feelings of hopelessness or pessimism, feelings of irritability, frustration, or restlessness, feelings of guilt, worthlessness, or helplessness, loss of interest or pleasure in hobbies and activities, decreased energy, fatigue, or feeling slowed down, difficulty concentrating, remembering, or making decisions, difficulty sleeping, waking early in the morning, or oversleeping, changes in appetite or unplanned weight changes, physical aches or pains, headaches, cramps, or digestive problems that do not have a clear physical cause and do not go away with treatment, thoughts of death or suicide or suicide attempts”(National Institute of Mental Health, 2023)

APPENDIX B Literature Review Search Terms

Database	Search Terms	Yields	Limit Factor	Limits	Title Screening	Abstract Screening	Full Text Screening	Included
OVID Medline	COVID-19 AND (exp Students/ or Post-secondary student.mp) AND (Anxiety OR Depression) AND (occupation.mp. or exp Occupations/ OR activities.mp. or exp "Activities of Daily Living"/ or exp Leisure Activities/ or exp Human Activities/)	55	Repeats	52	52	39	27	20
CINAHL	COVID-19 AND (students or college students or higher education or further education or university students) AND (occupation or activity or activity of daily living) AND (anxiety or depression)	135	English only Adult 19-44	21	21	9	4	3
PubMed	((((COVID-19) AND (occupation OR activity)) AND (student)) AND (anxiety OR depression)	526	Young adult (19-24) Full text English	83	83	33	28	7
Journal of Occupational Science	COVID-19	44			4	4	4	4
		760		**156**	**156**	**85**	**63**	**34**

Appendix C Literature Review Articles

	Type of Study	Outcome Measures	Location
Alshammari et al., 2022	Cross sectional study	Exposure to COVID-19 (Survey) Perceived impact of COVID (Survey) Physical Activity (Survey) Generalized Anxiety Disorder Scale Patient health questionnaire (Depression) Pittsburgh Sleep Quality Index	Saudi Arabia
Amatori et al., 2020	Longitudinal observational study	Dietary habits Prestructured food diary Physical Exercise CR-10 scale Positive and Negative Affect Schedule (PANAS) Patient Health Questionnaire 12 Item Short Form Helth Survey	Italy
Baranauskas et al., 2022	Comparative cross sectional study	Hospital Anxiety and Depression Scale Paatient Helath Questionnaire Baecke Physical activity Questionnaire	Lithuania
Basheti et al., 2021	Cross sectional study	Demographic (online survey) Hospital Anxiety and Depression Scale	Jordan
Chen & Lucock, 2022	Cross sectional study	Demographic Patient health questionnaire Generalized anxiety disorder questionnaire Lifestyle/living situation Brief resilience scale Brief mental wellbeing history EQ-5D-5L COVID related questions (survey)	UK
Chen et al., 2022	Cross sectional study	PSQI Sleep State Trait Anxiety Inventory Self rating Depression Scale	China
Coughenour et al., 2021	Cross sectional study	Estimate cardiorespiratry fitness Patient Health Questionnair	US
Esteves et al., 2021	Correlational and exploratory study	Sociodemographic questionnaire Depression, Anxiety and stress scale form	Rio Grande
Gestsdottir et al., 2021	Cross sectional study	Generalized Anxiety Disorder Body and self image subscale of Self Image Questionnaire SCL 90 Rosenberg self esteem scale Perceived loneliness and stress Mental health, physical health and sleep quality	Iceland

		Physical activity and sedentary behavior Demographics	
Han et al., 2022	Cross sectional study	Physical Activity Rating Scale Depression Anxiety Stress Scale	China
Harries et al., 2021	Cross sectional study	Survey (validated stress scale) - The survey was modi- fied for use in medical students to assess perceptions of the following domains: perceived impact on medical student education; ethical beliefs surrounding obligations to participate clinically during the pandemic; perceptions of personal infection risk; anxiety and burnout related to the pandemic; willingness to return to clinical rotations; and preparation needed for students to feel safe in the clinical environment.	US
Huckins et al., 2020	Longitudinal Study	Smartphone sensing data and EMA survey Sedentary time Sleep Location Phone Usage COVID-19 news usage	US
Ismail et al., 2020	Cross sectional study	Malay version of the internet addiction test - internet usage	Malaysian
LaCaille et al., 2021	Longitudinal Study	Physical Activity Questionnaire Short Form Diet Quality (Survey) Perceived Stress Scale Patient Health Questionnaire 4 Perception of change to health and well being	US
Lee et al., 2021	Cross sectional study	Survey - background and impact of COVID	US
Marzana et al., 2021	Grounded theory methodology	Focalized approach to storytelling - self reflection experience during the pandemic Emotions Community dimensions	Italy
Piya et al., 2021	Cross sectional study	We prepared the questionnaire addressing five factors: education, social life, daily life, future plans and mental health. The research group created the questionnaire, which included open-	Bangladesh

		ended, multiple- choice, and Likert scale-type questions based on applicable literature. Patient Health Questionnaire Genralized Anxiety Disorder	
Rainford et al., 2020	Cross sectional study	Survey (Impact of COVID)	12 countries
Romero-blanco et al., 2020	Cross sectional study	physical activity and sitting time, measured using the International Physical Activity Questionnaire—Short Form (IPAQ-SF). Sociodemographic questionnaire PREDIMED questionnaire (mediterranean diet) Stages of change in physical activity - Physical Activity Questionnaire Short Form	Spain
Seetan et al., 2021	Cross sectional study	Online Questionnaire Kessler psychological stress scale	Jordan
Tahara et al., 2021	Cross sectional study	Survey for demographics General Health Questionnaire Visual analog scale - health status and anxiety COPM - satisfaction	Japan
Tavolacci et al., 2021	Observational study	Sociodemographic questionnaire Academic environment COVID Infection Health behaviours (Frequency) Physical Activity (frequency)	Belgium
Zalewska et al., 2020	Cross sectional study	Survey Beck Depression Scale Physical Activity Questionnaire Kimberly Young Questionnaire (internet addiction)	Poland
Zhang et al., 2021	Cross sectional study	Structured questionnaire for: sociodemographic data, screen time and physical activity, time spent on social media, depressive symptoms (frequency)	China
Krishnagiri & Atler, 2021	Qualitative descriptive approach	Interview	US
Salar et al., 2022	Cross sectional study	Occupational Balance Questionnaire (OBQ), the Temporal Satisfaction with Life Scale (TSWLS), and a customized question about the time-use of the	Turkey

		students in specific occupational domains.	
Tapia et al., 2022	Exploratory statistical analysis	Occupational Balance Questionnaire (OBQ) PROMIS short form v 1.0 satisfaction with discretionary social activities 7a PROMIS Depression Short Form 6a PROMIS Fatigue Short Form 6a Generak Anxiety Disorder Scale 7 Perceived Stress Scale UCLA Loneliness Scale COVID-19 behaviors, beliefs and experiences	US
Wegner et al., 2022	Qualitative meta-synthesis approach	Semi-Structured interviews	South Africa
Werner & Jozkowski, 2022	Qualitative descriptive with descriptive statistics	Document time use	US
Colato et al., 2022	Cross sectional study	Depression (CES-D-10) Stress (PSS10 Covariates Social factors COVID-19 protective behaviors	US
Han et al., 2023	Cross sectional	Questionnaires for sociodemographic annd to assess PA, body image, depression and anxiety International Physical Activity Questionnaire-Short Form (IPAQ-SF), the Body Image Questionnaire (BIQ), the Self-rating Depression Scale (SDS) and the Self-rating Anxiety Scale (SAS). A descriptive and correlational approach was used, using the PROCESS macro for Statistical Package for the Social Sciences (SPSS).	China
Yang et al., 2022	Cross sectional	Physical Activity Scale (PARS-3), the Perceived Stress Scale (PSS-10), the Procrastination Assessment Scale-Students (PASS), and the Patient Health Questionnaire (PHQ-9).	China
Shpakou et al., 2022	Cross Sectional Study	Cross-sectional surveys using standardized questionnaires: International Physical Activity Questionnaire—Short Form (IPAQ-SF), Satisfaction With Life Scale (SWLS), State-Trait Anxiety Inventory (STAI), Perceived Stress Scale	Poland and Belarus

		(PSS-10), and Coping Orientation to Problems Experienced (Mini-COPE)	
Guo et al., 2022	Cross sectional	Patient Health Questionnaire 9 and General Anxiety Disorder-7,	China

Appendix D Email Script

To organizations and institutions for the dissemination

Good morning,

My name is Catherine Rose Talastas, a graduate student at Dalhousie University. I am conducting a research project named *Impact of COVID-19 Pandemic on the Occupational Engagement of Young Adults with Mental Health Problems* for my master's degree under the supervision of *Dr. Parisa Ghanouni*. The purpose of the study is to explore the occupational engagement of post-secondary young adult students who are self-identified with anxiety and/or depression during the pandemic.

I am reaching out to your organization/group to help me disseminate the research recruitment poster by sharing the poster to your email groups, distribution list or social media pages.

Through this, I will have the opportunity to reach individuals who are the following:

- Post-secondary student in Canada
- Aged 18-25
- Identify self with anxiety and/or depression
- Lives in Canada during the pandemic

The study's results can shed light on students' experiences with concerns related to anxiety and/or depression during an uncertain time. Understanding their experiences may facilitate the creation of more appropriate, inclusive and adequate mental healthcare supports for the population.

Attached here is the pdf copy of the recruitment poster. If you permit this to be posted on your respective bulletin boards, I can mail you a hard copy of the poster.

If you have questions about me or my project, please contact me by email at *catherine.talastas@dal.ca*.

Thank you for considering this request.

Kind regards,

Catherine Rose Talastas
MSc in Occupational Science Student
Dalhousie University

Appendix E Email Script

To prospective participants who communicated interest about the study

Hello,

Thank you for your interest in participating in my study. Attached here are the consent form, invitation letter, study poster, and participant demographic questionnaire. These will help to inform you about the study. Your participation is voluntary, and you may withdraw at any point before 2 weeks following your participation in the interview.

May I ask what are your available dates and times for an interview? The interview will take around 45-60 minutes and will be through Microsoft Teams. Rest assured that your identity and responses in the study will be kept anonymous, private and confidential.

Please feel free to message me if you need further information regarding the study.

Thank you for your time and consideration!

Kind regards,

Catherine Rose Talastas
MSc in Occupational Science Student
Dalhousie University
catherine.talastas@dal.ca

Appendix F Invitation Letter

Dear Invitee,

My name is Catherine Rose Talastas. I am a graduate student at Dalhousie University's Master of Science in Occupational Science program. I am kindly requesting your participation in my research project titled *Impact of COVID-19 Pandemic on the Occupational Engagement of Young Adults with Mental Health Problems* under the supervision of *Dr. Parisa Ghanouni.*

The purpose of the study is to explore the occupational engagement of post-secondary young adult students who are self-identified with anxiety and/or depression during the pandemic. The study will involve completing a participant demographic questionnaire (~5 mins) and online individual interview (~45 to 60 mins).

You may participate in the study if you are a:

- Post-secondary student in Canada
- Aged 18-25
- Identify self with anxiety and/or depression
- Has lived in Canada during the pandemic

Your participation is completely voluntary. You may choose not to answer any of the questions. you may withdraw from the study at any time before 2 weeks following participation in the interview. Your responses will be anonymous and confidential, therefore the study does not require you to provide your name and any other identifying information.

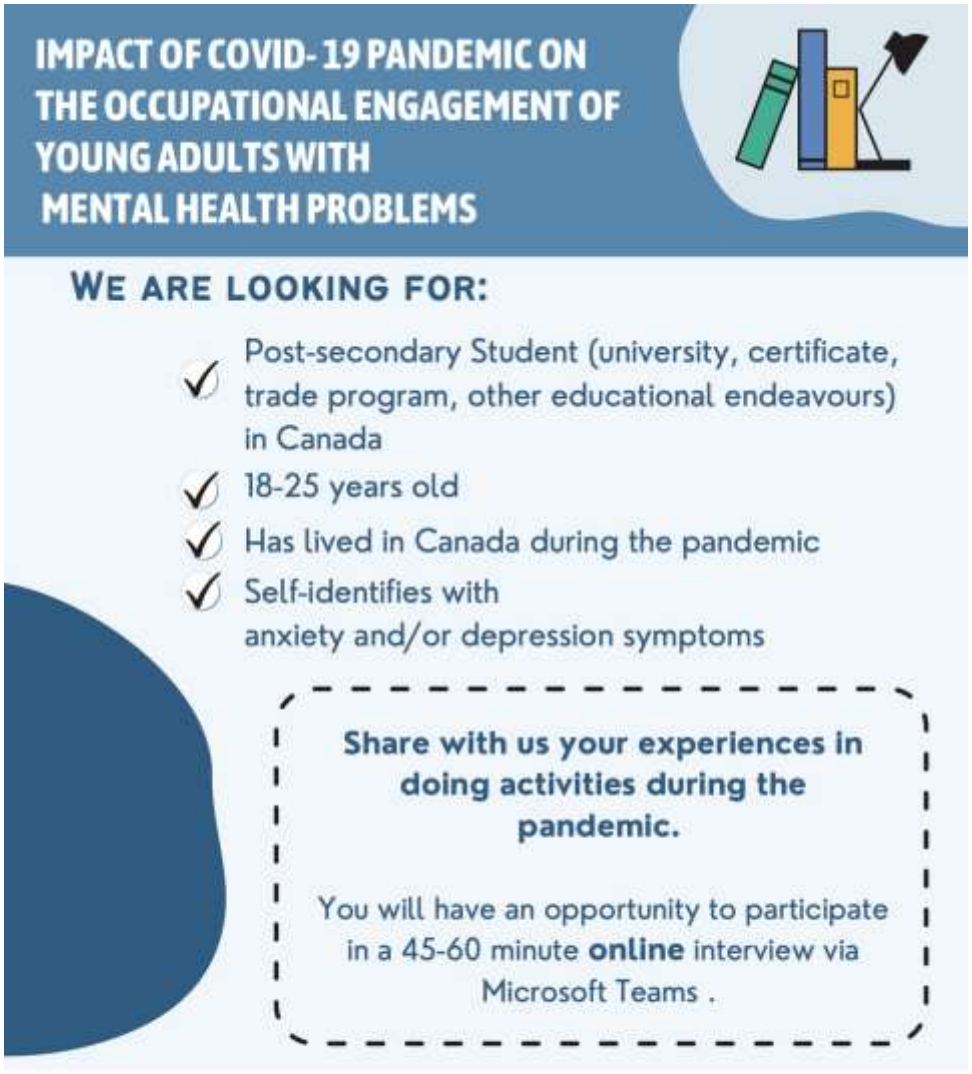
If you would like to participate in the study or have any questions regarding the study, please contact me at catherine.talastas@dal.ca.

Your participation in this research will shed light on the post-secondary students' experiences with concerns related to anxiety and/or depression during an uncertain time. Understanding the experiences may facilitate the creation of more appropriate, inclusive and adequate mental healthcare supports for the population.

Thank you for your time and participation,

Catherine Rose Talastas
MSc in Occupational Science Student
Dalhousie University
catherine.talastas@dal.ca

Appendix G Recruitment Poster



Appendix H Interview Guide

Hello,

I am Catherine Talastas, a graduate student in the program Master of Science in Occupational Science at Dalhousie University.

This study aims to explore the experiences of post-secondary young adult students who are self-identified with anxiety and/or depression symptoms in doing activities during the pandemic. Information from this study will inform health care providers, educators, and policymakers on how to provide more adequate and appropriate support and resources to the population.

In this interview, we will talk about your experiences as a post-secondary student at this time.

This interview will only take 45 to 60 minutes. If there are questions that you don't want to answer, you are free to do so. If you want to stop the interview or feel the need to reschedule due to any reasons, please let me know. You may also withdraw your consent any time before 2 weeks following this interview.

Again, I appreciate your time and participation in this study.

Before I start the audio recording, I will ask you to choose a codename or if not a random codename will be assigned to you. We'll turn off our camera and I will start audio recording

(Audio record starts)
Hello (codename),

Before we get started, I'll ask the following questions again for your consent

- Do you provide consent to be part of the study?
- Do you provide permission to record the audio of our conversation?
- Do you mind if I take notes during our conversation?

Thank you.

Hello _____ , I will ask you several questions about the study. Please do not hesitate to let me know if you do not want to answer a question, choose to stop the interview or reschedule the interview.

Interview Guide

1. What does the word "pandemic" mean to you?'
    a. Can you describe the word pandemic
2. In the following questions, we will talk about your experiences. Can you describe a time with the COVID 19 virus that you want to share more about your experiences?
    a. Is it during the peak of the pandemic? Before the vaccine? After the vaccine? No more masks? Lesser restrictions?

- **In the next questions, we will talk about your experience at that time that you described.**

3. Describe your environment at the time you have described/ at that time?
    a. Where do you usually spend time?
4. Could you tell me about your experience in doing activities at the time you have described?
    a. What has changed compared to the time before the pandemic or other times during the pandemic?
    b. Have you stopped doing activities that you used to do?
    c. Have you started doing activities that you have not done before?

d. Have you started doing activities that you used to do before?
e. Which activities do you find more challenging to do?
f. How do these changes make you feel?

5. Can you describe a typical day for you at the time that you have described?
   a. What are the activities that you do?

6. Describe how it feels after you have done these activities at the time you have described.

7. How do you feel the time has passed for you as a student and young adult at the time you have described?
   a. Was it filled with activities that you deem as meaningful?
   b. Was it filled with activities that you deem as nothing important?

8. Describe your social life as a student and young adult at the time you have described?
   a. Whom do you spend time with?
   a. How do you experience time with them?

9. Can you describe what it feels like to be a post-secondary student at the time you have described?
   a. What has changed?

10. Can you describe your mental health at the time you have described?
   a. How is your mental health while living with the COVID 19 virus and being a student?
   b. Can you describe your feeling of depression and/or anxiety while living with the COVID 19 virus and being a student?
   c. How does the COVID-19 virus impact your feeling of depression and anxiety symptoms

11. How does your feeling of depression and anxiety affect your daily life as a student?
   a. How does your anxiety and/or depression symptoms affect the things that you do?
   b. Work? School?

12. How does your ability to do activities as a student and young adult affect your symptoms of depression and anxiety or mood at the time you have described?

a. How does the limitation/ public health measures affected your feeling of anxiety and/or depression?
b. What are the activities that you did which helped to ease your anxiety and/or depression
c. What are the activities that you did that worsen your anxiety and/or depression symptoms

13. How has living with the virus influenced how you perceive yourself?

a. What has impacted you most in light of the pandemic?
b. What have you lost? Learned? Gained?

14. How do you see yourself after your program and with the existence of the virus?

And that concludes our interview. I will end the recording here.

Thank you very much for participating in this study. I will share you the results of the study after the data collection process is completed to the email address you have provided. Your participation is greatly appreciated.

If you have any further questions, please let me know. You may also withdraw your consent any time before 2 weeks following this interview.

Again thank you! Have a good rest of your day!

Appendix I Participant Demographic Questionnaire

Note: You may leave any questions you prefer not to answer ☺

1. Age : _____
2. Gender
    a. Female
    b. Male
    c. Other: _____
3. Educational Program
    a. University degree
    b. College diploma
    c. Trade program
    d. Certificate program
    e. Other: ____
4. Current year in the educational program
    a. _____
5. Employment status
    a. Unemployed
    b. Casual
    c. Part-time
    d. Full- time
6. Place of residence during the pandemic
    a. Rural
    b. Urban/ City
    c. Suburban
7. Type of residence during the pandemic
    a. With family
    b. Renting a place with others
    c. Owned place
    d. Renting a place
8. Experiencing concerns related to:
    a. Anxiety
    b. Depression
    c. Both

d. Others: ___

9. Have you sought any mental health support or resources?
    a. Not
    b. Once
    c. More than once
10. Reason for not seeking support (Salaheddin & Mason, 2016). *Please choose all the items that apply to you.*
    a. Stigmatizing beliefs
    b. My problem is not serious enough
    c. I choose to resolve problems by myself
    d. I don't know any supports available
    e. It's difficult to access help
    f. I am afraid of the negative outcome
    g. It's hard to explain my problem or concerns
    h. Other: _____
11. Reason for seeking support (Gulliver et al., 2010) *Please choose all the items that apply to you.*
    a. Positive past experiences with help-seeking
    b. Social support or encouragement from others
    c. Confidentiality and trust in the provider
    d. Positive relationships with service staff
    e. Education and awareness
    f. Perceiving the problem as serious
    g. Ease of expressing emotion and openness
    h. Positive attitudes toward seeking help
    i. Other: _____

Reference:

Salaheddin, K., & Mason, B. (2016). Identifying barriers to mental health help-seeking among young adults in the UK: a cross-sectional survey. *The British journal of general practice : the journal of the Royal College of General Practitioners*, *66*(651), e686–e692. https://doi.org/10.3399/bjgp16X687313

Gulliver, A., Griffiths, K. M., & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC psychiatry*, *10*, 113. https://doi.org/10.1186/1471-244X-10-11

Appendix J Early Coding Scheme

Main Code (with Sub-codes)	Main code definition
Positive impact to mental health • Doing activities to recoup • Doing activities that boosts mood and energy levels • Doing activities that feels familiar • Doing activities that feels like an escape • Doing activities to decrease anxiety and depression • Doing activities to occupy time	Activities have caused a positive impact on the mental health of students during the pandemic.
Negative impact to mental health • Impact of crying • Impact of Leisure • Impact of mental health support • Impact of social media • Impact of social participation • Impact of things you can't control • Impact of watching news • Impact of work participation	Activities have caused a negative impact on the mental health of students during the pandemic increasing difficulties related to anxiety and depression and causing negative emotions.
Looking forward to career growth in the future	Student reported that they are hopeful about achieving their career goals in the future despite difficulties during the pandemic
Preventing feeling of burnout in the future	Students hope to prevent feeling burnout in the future as learned with the impact of the pandemic in their lives
COVID affected my view of myself	Students reported that the COVID affected their self-perception
COVID affected my developmental years	Students expressed how the COVID-19 has disrupted their developmental years
Gained or realized during the pandemic • Had time to understand self and to grow • Had growth because of the lessons during the pandemic • Mix of good and bad moments during COVID • Pandemic forced me to try new things • Pandemic influenced perspective on other people • Realized how to slow down and experience life • Realized important things in life because of the pandemic	Despite the experiences during COVID, they have realized several positive things that transpired.

• Realized the fragility side of things in life • Realized the importance of mental health during the pandemic • Realized the negative impact of overthinking • Realized the purpose and goals in life during the pandemic	
Lost about yourself during the pandemic • Lost many experiences as a student and in life • Lost my naivety because of the pandemic • Lost sense of adventure because of COVID • There were meaningful events but they were not lived to it's full potential	Students reported that they have loss something about themselves because of the pandemic
Mental health during the pandemic fluctuated	There has been a rollercoaster of emotions throughout the pandemic
Negative feelings of mental health • Feeling angry and frustrated • Feeling anxious • Feeling confused • Feeling depressed • Feeling difficult to prepare with everything • Feeling disappointed • Feeling helpless • Feeling isolated • Feeling more fragile • Feeling of regression • Feeling panic and stressed • Feeling I lost time • Feeling weird with the changes • Feeling regretful	Students have identified their negative feelings during the pandemic
Positive feelings of mental health • Feeling more independent • Feeling stronger • Feels grateful that I am able to survive COVID • Feels like a break	Students have identified their positive feelings during the pandemic
Current time with the COVID-19 virus • COVID virus is now more normalized • We are almost done with the pandemic • We are now close to the end of the pandemic because of the vaccine • We are still in the pandemic despite developments in science	Students have described their current context with the pandemic

Different phases with COVID-19 virus • Going back to hometown during the peak of the pandemic • Hospital were full during the peak of the pandemic • I lived alone during the pandemic • Lived with others during the pandemic • Lived with partner during the pandemic • Living at home even after the pandemic but seeing more friends • Living in a world like watching movies • Moved to different places during COVID • Pandemic is like a dark cloud where everyone was locked • There was a point with COVID wherein there's healthcare hero campaign • There was a time with COVID 19 where there are closures • There was a time with COVID with less restrictions and health is getting better	Students have described the different contexts with the pandemic
Leisure • Exercise • Going to restaurants • Hobbies • Started new activities after the peak of the pandemic • Travel • Using phone • Watching TV and movies	Students explained how their leisure participation is impacted during the pandemic.
Life events • Graduation	Students explained how their significant life events is impacted during the pandemic.
Lifestyle routine • Doing activities at a time with no restrictions • Had to adapt lifestyle and routines	Students explained how their life routines are impacted during the pandemic.
School • Became hyperfocused to studying during the pandemic • COVID reduced the outcome of academic program • I have been productive academically during the pandemic • It was difficult to interact with professors and students online	Students explained how their school participation is impacted during the pandemic.

• Modified school participation due to COVID restrictions • Performed better in school during COVID since I had more time • Transition to being a student after the pandemic with different knowledge and experiences	
Social • Difficult to meet people • Going on a roadtrip with friends during the peak of pandemic • Increase socializing with friends after the peak of pandemic • Increase time with family during the peak of the pandemic • Interacted with close friends only during the pandemic • Interacting with friends through online means during the pandemic • It was challenging to socialize in large groups • Need to account what people will feel when planning social events • Need to be aware how many people when planning social events • Preferred not going to larger events or not to meet new people • You have to think about sharing food or drink during pandemic	Students explained how their social participation is impacted during the pandemic.
Work • Continued working in the frontline during the peak of the pandemic • Less reliable at work ever since the pandemic • Restricted volunteering during the peak of the pandemic • Stopped working because the pandemic	Students explained how their work participation is impacted during the pandemic.
Lasting impact to mental health	The lasting impact of the pandemic on the mental health, physical health and occupation
Lasting impact to occupation	
Lasting impact to physical health	
Feels challenging and weird to be a student	Students have described how it feels to be a student during the pandemic.
Feels chaotic to be a student	
Feels confusing to be a student	
Feels isolating to be a student	
Feels that it is the worst time to be a student	

Appendix K Revised Coding Scheme

Main Idea	Main Code (with Sub-codes)	Main code definition
Engaging in occupations impact mental health	Positive impact to mental health • Doing activities to recoup • Doing activities that boosts mood and energy levels • Doing activities that feels familiar • Doing activities that feels like an escape • Doing activities to decrease anxiety and depression • Doing activities to occupy time	Activities have caused a positive impact on the mental health of students during the pandemic.

	Negative impact to mental health
	• Impact of crying
	• Impact of Leisure
	  ○ Doing some activities that I like felt that I was unproductive
	  ○ Doing things I like did not help during the all time low of mental health
	  ○ Felt like activities done are nothing important during the peak of pandemic
	• Impact of mental health support
	  ○ Not able to seek mental health support worsen mental health
	  ○ Phone counselling felt unpersonal
	  ○ Impact of school participation
	  ○ Causing varying effects on anxiety
	  ○ Had difficulty to maintain mental health due to school related stressors
	• Impact of social media
	  ○ Social media increases anxiety
	  ○ Social media negatively affects mood and feelings
	  ○ Social media scared me about COVID
	  ○ Spending time on social media is a wasted time
	• Impact of social participation
		Activities have caused a negative impact on the mental health of students during the pandemic increasing difficulties related to anxiety and depression and causing negative emotions.

	- Social interaction worsen anxiety - Death of family or relatives worsen anxiety - Interacting with others worsen anxiety - Not seeing friends negatively impacts the individual - Shutting off from other people worsen anxiety and depression - Talking about COVID and the different perspectives is anxiety provoking - Socializing after peak feels weird, awkward and different - Some of the activities that we like to do just temporarily help depression and anxiety - Impact of things you can't control - Things you can't control are stressful - Things you can't control makes me feel angry and frustrated - Things you can't control worsen anxiety - Impact of watching news - Stopped watching news cause it is sad - Watching news affected perspective and judgment among people - Watching news during the peak scares me - Watching news increases anxiety - Watching TV feels unproductive and makes me lazy - Impact of work participation - Going to workplace after the pandemic is intimidating - Had to stop working because of anxiety and depression during the pandemic	

Future related goals	Looking forward to career growth in the future	Student reported that they are hopeful about achieving their career goals in the future despite difficulties during the pandemic
	Preventing feeling of burnout in the future	Students hope to prevent feeling burnout in the future as learned with the impact of the pandemic in their lives
Self-perception	COVID affected my view of myself	Students reported that the COVID affected their self-perception
	COVID affected my developmental years	Students expressed how the COVID-19 has disrupted their developmental years
	How it feels to be a student? • Feels challenging and weird to be a student • Feels chaotic to be a student • Feels confusing to be a student • Feels isolating to be a student • Feels that it is the worst time to be a student	Students have described how it feels to be a student during the pandemic.

	Gained or realized during the pandemic
	• Had time to understand self and to grow
	  o Empathy and selflessness are the traits that I learned about myself
	  o Have been more-self aware at the time with COVID 19 virus
	  o Having a positive outlook for the future despite COVID
	  o Finding meaning with working towards career goals
	• Had growth because of the lessons during the pandemic
	  o Having deeper thoughts during the pandemic
	  o Learned how to be present and putting effort to relationship with people because of the pandemic
	• Mix of good and bad moments during COVID
	• Pandemic forced me to try new things
		Despite the experiences during COVID, they have realized several positive things that transpired.

	• Pandemic influenced perspective on other people ○ Pandemic changed my perspective regarding the closeness of people • Realized how to slow down and experience life • Realized important things in life because of the pandemic • Realized the fragility side of things in life • Realized the importance of mental health during the pandemic • Realized the negative impact of overthinking • Realized the purpose and goals in life during the pandemic	
	Lost about yourself during the pandemic • Lost many experiences as a student and in life • Lost my naivety because of the pandemic • Lost sense of adventure because of COVID • There were meaningful events but they were not lived to it's full potential	Students reported that they have loss something about themselves because of the pandemic
Context impact mental health	Negative feelings of mental health • Feeling angry and frustrated • Feeling anxious • Feeling confused • Feeling depressed • Feeling difficult to prepare with everything • Feeling disappointed • Feeling helpless • Feeling isolated • Feeling more fragile • Feeling of regression • Feeling panic and stressed • Feeling I lost time • Feeling weird with the changes • Feeling regretful	Students have identified their negative feelings during the pandemic

	Positive feelings of mental health • Feeling more independent • Feeling stronger • Feels grateful that I am able to survive COVID • Feels like a break	Students have identified their positive feelings during the pandemic
Context with COVID-19 virus	Current time with the COVID-19 virus • COVID virus is now more normalized • We are almost done with the pandemic • We are now close to the end of the pandemic because of the vaccine • We are still in the pandemic despite developments in science	Students have described their current context with the pandemic
	Different phases with COVID-19 virus • Going back to hometown during the peak of the pandemic • Hospital were full during the peak of the pandemic • I lived alone during the pandemic • Lived with others during the pandemic • Lived with partner during the pandemic • Living at home even after the pandemic but seeing more friends • Living in a world like watching movies • Moved to different places during COVID • Pandemic is like a dark cloud where everyone was locked • There was a point with COVID wherein there's healthcare hero campaign • There was a time with COVID 19 where there are closures • There was a time with COVID with less restrictions and health is getting better	Students have described the different contexts with the pandemic
	Meaning of pandemic	Students explained how they define the word, “pandemic”
COVID-19 virus impact activities	Leisure • Exercise • Going to restaurants • Hobbies	Students explained how their leisure participation is impacted during the pandemic.

	• Started new activities after the peak of the pandemic • Travel • Using phone • Watching TV and movies	
	Life events • Graduation	Students explained how their significant life events is impacted during the pandemic.
	Lifestyle routine • Doing activities at a time with no restrictions • Had to adapt lifestyle and routines	Students explained how their life routines are impacted during the pandemic.
	School • Became hyperfocused to studying during the pandemic • COVID reduced the outcome of academic program • I have been productive academically during the pandemic • It was difficult to interact with professors and students online • Modified school participation due to COVID restrictions • Performed better in school during COVID since I had more time • Transition to being a student after the pandemic with different knowledge and experiences	Students explained how their school participation is impacted during the pandemic.
	Social • Difficult to meet people • Going on a roadtrip with friends during the peak of pandemic • Increase socializing with friends after the peak of pandemic • Increase time with family during the peak of the pandemic • Interacted with close friends only during the pandemic • Interacting with friends through online means during the pandemic • It was challenging to socialize in large groups • Need to account what people will feel when planning social events	Students explained how their social participation is impacted during the pandemic.

	• Need to be aware how many people when planning social events • Preferred not going to larger events or not to meet new people • You have to think about sharing food or drink during pandemic	
	Work • Continued working in the frontline during the peak of the pandemic • Less reliable at work ever since the pandemic • Restricted volunteering during the peak of the pandemic • Stopped working because the pandemic	Students explained how their work participation is impacted during the pandemic.
Lasting impact of COVID-19	Lasting impact to mental health	The lasting impact of the pandemic on the mental health, physical health and occupation
	Lasting impact to occupation	
	Lasting impact to physical health	

- *The codes were categorized into main codes and main ideas. In the revised code scheme, the codes were grouped and rearranged accordingly. The main ideas do not equate to the key themes of the study.*
- *The key themes were chosen based on the significance, novelty and commonality of the concepts among the reports of the participants.*

Appendix L Analysis Examples of Coding

Transcript Excerpt	Early Codes Applied
IN: Uh okay thank you very much for sharing. Can you describe how it feels like to be a student at the peak of the pandemic? PAR: Oh yeah it's uhm uh big uh big struggle I will say it felt very isolating uhm it feels like I'm not for some reason it feels so much more challenging uhm uh yeah you gonna probably do things on your own uh a lot of the time uhm so I kinda have like a unique perspective cause I was at high school during the peak peak and then I graduated in 2020 so then I went to university in fall 2020 so during the peak I was still in high school and that was weird haha because everything was like changing it didn't feel like I was actively going to school almost uhm because that was never what I thought what I knew of school right? So uhm versus it's kinda funny now cause it was the opposite so I started university online completely online and now I'm like pretty much all in person besides like a few things and it's almomost like oh this isn't feel like… I'm used to being in front of my computer screen right so uhm it's kinda funny how you're so used with what you are used to and that changes right but yeah I would say it is definitely challenging it really messes with your routine	• Feels isolating to become a student during the pandemic • Feels more challenging to be a student during the pandemic • Feels weird to be a student because of the changes • Online classes because of the pandemic • Transition to in person classes after the peak of the pandemic

Reflections:

- The students have different feelings and emotions at every phase of life with the COVID-19 virus.
- There has been a constant change in how occupation is engaged such as in school participation. At first, it transitioned to online and then it shifted back again to in-person classes.
- Do all or many of the students feel these emotions?
- Do all or many of the students describe how being a student like this?
- Under what main code:
    - School participation
    - How is it to be a student?

Appendix M Consent Form

DALHOUSIE UNIVERSITY

CONSENT FORM

Project title: Impact of COVID-19 Pandemic on the Occupational Engagement of Young Adults with Mental Health Problems

Principal Investigator:

Dr. Parisa Ghanouni
School of Occupational Therapy
Dalhousie University
Halifax, NS, Canada
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Student Investigator:

Catherine Rose Talastas
School of Occupational Therapy
Dalhousie University
Halifax, NS, Canada
catherine.talastas@dal.ca

Introduction

My name is Catherine Rose Talastas. I am a Master of Science in Occupational Science (MScOS) student at Dalhousie University. I am interested in the understanding experiences of the young adults during the pandemic, which I hope can contribute to the betterment of the support and resources for the population. With this, I invite you to participate in this research project conducted under the supervision of Dr. Parisa Ghanouni and being carried out to meet the requirements of my graduate thesis. Participation is voluntary. There will be no impact on your studies or evaluation if you decide not to participate in the research.

The information below tells you about what is involved in the research, what you will be asked to do, and any benefit, risk, inconvenience or discomfort you might experience. You may discuss any questions you have about this study with me. If you have any questions or clarification, please feel free to contact me.

Purpose and Outline of the Research Study

The COVID-19 pandemic has caused changes in the lives of everyone. The phrase “new normal” is used to describe the new ways and adjustments in how people experience at the time of the pandemic. Due to the restrictions, there have been modifications in one’s routines, interactions, and participation in occupations. *Occupations* include activities you need to do, want to do, and are expected to do. The changes in performance and participation in activities can significantly impact one’s health and wellbeing. However, limited research is available to understand young adults' experiences, especially those experiencing mental health difficulties with or without a formal diagnosis.

This study aims to explore the experiences of post-secondary young adult students who are self-identified with anxiety and/or depression symptoms in doing activities during the pandemic. Information from this study will inform health care providers, educators, and policymakers on how to provide more adequate and appropriate support and resources to the population.

Who Can Take Part in the Research Study?

You may participate in the study if you are a:

- Post-secondary student in Canada
- Aged 18-25
- Identify self with anxiety and/or depression
- Has lived in Canada during the pandemic

What You Will Be Asked to Do

If you decide to join the study, you will complete the informed consent process and participant demographic questionnaire, that may take around 5-10 minutes. Afterward, you will be asked to participate in a 45-to-60-minute individual online interview using Microsoft Teams. The questions will focus on your experiences in doing activities during the pandemic and how participation in activities impacted your mental health. You may choose not to answer questions that you are uncomfortable with. Examples of questions include: "Can you describe your typical day during the pandemic?" and "How does your mental health impact what you do at this time of the pandemic?"

With your permission, the interview will be audio-recorded, and the researcher will take notes during the session. The information will be transcribed after the interview.

After data collection, the researcher will send you the summary of the findings via email so that you can check the accuracy of the data.

Possible Benefits, Risks and Discomforts

Benefits:

The study may have no direct benefit to you. However, the information we obtain from you can help us understand the experiences of young adults with mental health difficulties during the pandemic. The study results can inform healthcare professionals, educators and policymakers to provide adequate support and resources for the population.

Risks:

The risks associated with this study are minimal. You will be offered breaks between questions to reduce these risks. Specific questions can facilitate discussion of experiences which can be emotional or sensitive. With this, you do not need to answer questions that you do not want to answer or that make you feel uncomfortable. Rest assured that the researcher will try her best to facilitate a healthy and safe conversation. You may also withdraw consent to participating in the study any time before 2 weeks following

participation in the interview.

Considering the use of the internet, there is potential for a data breach. We will attempt to minimize this by using codenames and OneDrive to securely transfer and store data.

Compensation / Reimbursement
Your time and participation are greatly appreciated. However, no compensation can be provided.

How your information will be protected:

Privacy and Confidentiality

Participation in this research will be known only to the student and principal investigator. The audio recorded files and transcriptions will be saved according to the codenames. Study communications will have no email subject line that discloses study participation.

All information from you and the other study participants will remain private and confidential. Any identifying information will not be included in the study results or publications. Codenames will be used in the recordings of the interview, transcripts and quotes contained in the study. The interview notes will be destroyed immediately after transcription of the data. The audio-recorded interviews may have personally identifiable information. These will be automatically stored in the researcher's OneDrive. Only the student and principal investigator will have access to the audio recorded files and codename list. The thesis committee members will only access de-identified data such as transcripts.

You have the right to decline to participate or withdraw from the study at any time before 2 weeks after participating in the interview. You can still participate in the study even if you choose not to answer some questions.

We will describe and share our findings in thesis, presentations, public media, journal articles and conferences. We will only report group results and not the individual findings. This means that you will not be identified in any way in our reports.

The researchers will use their Dalhousie University credentials for the Microsoft Teams meeting, ensuring that the Teams meeting recordings are securely stored in Canada. During the live Teams meeting, audio and video content are routed through the United States and therefore may be subject to monitoring without notice under the provisions of the US Patriot Act while the meeting is in progress. After the session is complete, meeting recordings made by Dalhousie are stored in Canada and are inaccessible to US authorities.

Limits to confidentiality:
We will not disclose any information in this research unless compelled to do so by law or professional obligations. If we deem that you are at immediate risk of harming yourself

or other people, we are required by our professional code of ethics to seek assistance.

Data retention:
During the study, the data will be stored in OneDrive. Once the study is over, the data will be kept in OneDrive for 5 years.

The copy of the codename and participant names will be destroyed immediately after the study's completion. The data will not be used for other research studies.

If You Decide to Stop Participating
You are free to leave the study at any time. If you decide to stop participating during the study, you can decide whether you want any of the information that you have provided up to that point to be removed or if you will allow us to use only specific information. After participating in the study, you can decide for up to 2 weeks after participation in the interview if you want us to remove your data. After that time, it will become impossible for us to remove it because it will already be anonymized and analyzed.

How to Obtain Results

We will provide a short description of group findings when the study is finished. No individual results will be provided. You can obtain these results by including your contact information at the end of the signature page.

Questions

If you have questions or need more information about the study, you may contact Catherine Rose Talastas at catherine.talastas@dal.ca or by phone at 1 250-460-0437.

You may also contact the study's principal investigator, Dr. Parisa Ghanouni, at parisa.ghanouni@dal.ca.

The Dalhousie University Research Ethics Board has reviewed this study. If you have any questions about your rights and/or your experiences as a research participant, please contact the Research Ethics, Dalhousie University at 902-494-3423, or email ethics@dal.ca

Appendix N Signature Page

Project Title: Impact of COVID-19 Pandemic on the Occupational Engagement of Young Adults with Mental Health Problems

Lead Researcher: Catherine Rose Talastas, Dalhousie University, catherine.talastas@dal.ca

I have read the explanation of this study. I have been given the opportunity to discuss it, and my questions have been answered to my satisfaction. I understand that I have been asked to complete a participant demographic questionnaire and participate in an online interview using Dalhousie University Microsoft Teams and that the discussion will be recorded. I am aware that I may allow excerpts from the interview to be included in presentations and publications related to this project, understanding that any quotations will be anonymous. I agree to take part in this study. My participation is voluntary, and I understand that I am free to withdraw from the study at any time until 2 weeks after my interview is complete.

_____	_____	_____
Name	Signature	Date

	Please Circle One	Please Initial Your Choice
With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.	YES NO	_____
I agree with the interview being audio recorded.	YES NO	_____
I agree to let my conversation during the study be directly quoted, anonymously, in the presentation of the research results.	YES NO	_____

Please provide an email address below if you would like to be sent a summary of the study results.

Email address: _____

Note: The signature of a researcher or a witness is not required. Getting participants to sign two copies is not required and may compromise privacy if the participant copy is not stored securely.

Table 1 Participant Characteristics

	1	2	3	4	5	6	7	8	9	10	Summary
Age	25	21	23	23	25	22	23	19	21	25	Mean: 22.5 SD= 2.06
Gender											Females (100%)
Educational Program	F University Degree	F University Degree	F University Degree	F University Degree	F University Degree; College Diploma	F University Degree	F University Degree	F University Degree	F University Degree	F College Diploma	University Degree n= 8 College Degree n= 2
Year	3	4	4	4	2	3	3	1	4	1	First Year n=2 Second Year n=1 Third Year n=1 Fourth Year n=4
Work	Unemployed	Part Time	Part Time	Casual	Casual	Unemployed	Part-time	Casual	Part-time	Part time	Unemployed n=2 Part Time work n=5 Casual work n= 3
Residence	Rural	Urban/City	Urban/City	Suburban	Urban/City	Urban/City	Suburban	Urban/City	Urban/City	Suburban	Living in rural n=1 Living in urban/city n=6 Living in suburban n=3
Type of Residence	Renting a place with others	With family	With family	With family	Renting a place with others	With family	With family	With family	With family Renting a place with others	Renting a place with others	Living with family n=6 Renting a place with others n=3 Living with family and renting a place with others n= 1
Experiencing	Anxiety	Depression	Both	Both	Anxiety PTSD	Anxiety	Both	Both	Both	Both	Anxiety symptoms n= 2 (20%) Depression symptoms n= 1 (10%) Both anxiety and depression symptoms n= 6 (60%)
Sought MH support?	More than once	More than once	Once	Not	More than once	Not	More than once		More than once	More than once	Anxiety symptoms and other mental illness n=1 (10%) Sought mental health support once n=1 Sought mental health support more than once = 6 Did not seek mental health support = 2
Reason for not seeking	C	E		C, E	B, C, G Time	B, C			B, E		No answer= 1 A. Stigmatizing beliefs (n=0)
							B, D, E, F				B. My problem is not serious enough (n=3) C. I choose to resolve problems by myself (n=4) D. I don't know any supports available (n=0) E. It's difficult to access help (n=3) F. I am afraid of the negative outcome (n=0) G. It's hard to explain my problem or concerns (n=1) H. Other: Time (n=1)
Reason for seeking	A, B, C, E, F, G, H	C, F, H	B, E, G, H	B, E, H	A, B, C, D, E, F, G, H				A, B, F, H	A,B,C,D, G, H	A. Positive past experiences with help-seeking (n= 4) B. Social support or encouragement from others (n=7) C. Confidentiality and trust in the provider (n=4) D. Positive relationships with service staff (n=3) E. Education and awareness (n=5) F. Perceiving the problem as serious (n=5) G. Ease of expressing emotion and openness (n=3) H. Positive attitudes toward seeking help (n=7) I. Other: _____ (n=0)

Table 2 Summary of Key Themes

Occupations "were not lived to their full potential…"	
School participation	• Online classes have been a constant activity part of their daily routine during the peak of the pandemic. • Improved academic performance during the peak of the pandemic. • There were challenges and anxiety in going back to in-person classes. • School-related events were limited. • How it feels to be a student: challenging, isolating and worst time
Social participation	• Difficulty in interacting with people during the pandemic due to the restrictions. • Shift interaction to online platforms during the pandemic due to the restrictions. • There was a need to consider several factors to limit the risk of getting the virus when interacting during the pandemic.
Leisure participation	• During the peak of the pandemic, there was a need to transition leisure participation to online platform and situate it at home. • After the peak of the pandemic, individuals started to engage in more activities like pre-pandemic and decreased time spent at home. • There were positive feelings associated after doing leisure activities: feels like a recoup, boosts mood and energy, feels like an escape and that they are in control.

Whirlwind of emotions	
Anger and frustration	• Individuals felt angry and frustrated because of the changing rules and recommendations, inability to control what is happening and inadequate support for students.
Anxiety	• They had many anxiety-provoking thoughts because of the pandemic and the thoughts about the future.

Depression	• There were feelings of depression because of increased isolation, decreased productivity demands and decreased social interaction.

Increased Self-Awareness	
Gained about self	• They had more time to understand self and growth. • They realized the importance of life. • They had changed perceptions of self and of other people.
Lost about self	• They lost many experiences. • They lost their sense of naivety and adventure.
Self-perceived growth	• They felt regressed because they need to return home and have lesser responsibilities and freedom as an adult during the peak of the pandemic. • They perceived themselves in the future as being able to achieve the career that they want and are passionate about.

Experiencing the lasting impact of the COVID-19 virus	
Lasting impact to mental health	• Individuals still feeling anxious and cautious about the possibility of infection. • Anxiety was still associated with the unpredictability and long-term effects of the virus.
Lasting impact to physical health	• Experiencing difficulty in breathing and decreased endurance as part of lasting impact to physical health of the virus .
Lasting impact to occupational engagement	• Incorporation of COVID-19 induced health measures such as using hand sanitizers and handwashing into a routine. • Decreased social interactions even at the time with lesser restrictions. • People are still being affected by the lasting impact of the virus without people recognizing and acknowledging the gravity of its impact on way of living

Figure 1 Key Themes