Quantitative Study of Upper Year Undergraduate Students at McMaster University: *Assessing the Intersection of Remote Learning, Social Experiences and Living Environments*

Isabella Batista[1], Victoria De Freitas[1], Jet'aime Fray-Samuel[1], Ashmeen Hayer[1], Theia Jamal-Sunderji[1], and Ashley O'Brien[1]

Abstract

The concentration of this quantitative study is on McMaster undergraduate students and their experiences with remote learning and the intersection between home and school life. We focused on four variables to conduct our research, including living environment, remote learning, social relationships, and well-being. The three social psychological theories that guided our research and aided in understanding our findings were social identity theory, role theory, and symbolic interactionism. Our sample size included 35 McMaster students 18 years of age and older, who responded to our 31 survey questions on the McMaster Research Ethics Board approved LimeSurvey. Our findings suggested that participants felt their environment was helpful for success in their studies. We also discovered that remote learning did not positively impact participants' well-being and that their living environment did impact their well-being. Additionally, our data was inconclusive regarding the success of the McMaster Student Wellness Center for student well-being. Our results indicate that the transition to remote learning was difficult for students as many students responded in agreement to questions or statements that outlined negative experiences. We hope that our research can make the remote learning experience more positive for McMaster undergraduate students.

Introduction

For many people, an essential part of growing up involves experiencing university. In a university environment, you tend to meet new people, you have a chance to learn more about yourself, and sometimes you get a change to move away from home and become independent. Some would say that this experience is an integral part of emerging adulthood as it is a period that plays a large part in what shapes your future. The topic we researched is the lived experiences of undergraduate students at McMaster University on remote learning. We chose this topic because we are all currently experiencing a pandemic that has reshaped our daily tasks. As students, our daily tasks previously consisted of attending school, learning, and collaborating with others. Now that in-person learning has transitioned to remote learning, we are all undergoing a transition that

[1] Undergraduate Student, Honours Social Psychology Program, Faculty of Social Sciences, McMaster University, Hamilton, Ontario, Canada

requires us to adapt. Our goal was to cultivate a more in-depth understanding of how undergraduate students managed to be at home in an environment with other responsibilities, roles, and distractions compared to an academic setting. Since we are undergoing the same challenges, we wanted to discover if and how our struggles compared to other populations of the McMaster undergraduate student body. We wanted to foster in ourselves and those who viewed our research a more diverse perspective and understanding about how complex and interconnected remote learning, home life, and school life can or cannot be.

The purpose of our research was to gain information about a topic that is not heavily researched yet. As we tried finding existing research about the impact one's home and school life has on their academics, we realized there was no substantive amount of information available in the literature relating specifically to our topic. Previous research has mentioned that students reported that one of the most prominent challenges faced by switching from in-person to remote learning was their learning environment (Khlaif & Salha, 2020). However, Khlaif and Salha's (2020) research does not discuss the specific challenges students faced in their learning environment. Similarly, the existing literature notes a relationship between university students, where they live during their studies, and their identity development (Jordyn & Byrd, 2003). Nevertheless, our research has been conducted to understand further the intersection between where students live and remote learning. Additionally, there was no literature that we could find relating to the development of social relationships during a pandemic. This research gap is one reason why we chose our topic and decided to ask the specific research question, "*how are undergraduate university students' lived experiences of remote learning impacted by the intersection of individuals' home life and school life?*" Our research addresses whether students found their home life and school life merging to be beneficial or detrimental. The recency of changes and uncertainty of the future exemplifies why we found it essential to conduct our research on this topic.

Social psychology is the organized investigation of the causes and nature of human social behaviour (Delamater et al., 2015). Social psychology's primary concern is studying and documenting human behaviour and its causes and effects (Delamater et al., 2015). Additionally, social psychologists systematically study humans' behaviours using the scientific method (Delamater et al., 2015). Our research can contribute to social psychology because we studied the contexts and influences in which individual behaviour was impacted. Everyone's experiences with remote learning vary, and by researching ordinary circumstances these students are in, we can understand micro and macro-level changes with the transition to online learning. We addressed social relationships, families, academics, living environments, and well-being in our survey, and our study allows us to recognize the interconnectedness of these multiple domains and draw conclusions on individual behaviour and outcomes.

This paper begins with a literature review that analyzes and connects existing research to our topic and findings. Emerging themes within the existing literature are Identity and Living Environment, Identity in Academic Environments, Environmental Impact on Academic Success, Living Environment Effects on Social Relationships, Environmental Influences on Mental Health, and Mental Health and Academic Success. Then in the theory section, we discuss social identity theory, role theory, and symbolic interactionism and how they contributed to the questions we asked and the results we received.

Subsequently, our methodology section explains how our survey was created, the sampling methods used, our target population, the recruitment steps, which groups were contacted, how we obtained consent, how data was analyzed, and our ethical considerations. After that, we present the findings/results of our research by including explanations of what we found and tables and graphs to illustrate our participant responses. We then have our discussion section that consists of an in-depth analysis of our findings and how they can improve the university institution and student experiences, followed by a summary of our findings. Lastly, our conclusion section that summarizes the results and includes our limitations, significant insights, concluding thoughts and acknowledgments.

Literature Review

Identity and Living Environment

Multiple variables can influence an individual's identity. An individual's identity is constructed by their role identity, social categories, and personal characteristics (Rohall et al., 2014, p. 123). It is agreed that a significant component of identity formation is experiencing the university lifestyle. Many researchers have investigated the relationship between identity development concerning individuals' thoughts, feelings, and behaviours during the transition to post-secondary education, with little to no investigation into the motivations that caused the change. A study conducted by Jordyn and Byrd (2003) focused on the impact a change in the living environment had on identity development status. Their study concluded a relationship between university students, their status of identity development, and whether they lived at home or away at school (Jordyn & Byrd, 2003). Their research findings suggested that various coping strategies were created by students that aided them in strenuous situations and moved them beyond their adolescent identities (Jordyn & Byrd, 2003). The nature of this research proves to be a critical component in understanding the correlation between one's living environment and identity.

Jordyn and Byrd's (2003) research was conducted about 20 years ago, which presents a limitation in conducting future research like ours. Due to the research gap, it would be hard to indicate whether the results still hold for current students. Fortunately, a recent study conducted by Yuan and Ngai (2018) determined that student university experiences helped construct one's identity. Students retain many role identities during their post-secondary education, contributing to the development of their overall identity. Current McMaster students' role identities include being a family member, a roommate, a student, an employee, and more. Depending on their current living arrangements, one or more of their roles may be more salient than the other. For example, when a student lives with their family but is also a caregiver to their siblings, the chances are that their caregiver role will be more salient than their role as a student. These conflicts in roles can result in a student's academic success being compromised.

Although most students decided to spend their time with family during this pandemic, some opted to live away from home. By living away from home, their salient identity becomes that of the student, and they have the chance to focus more on their studies. Consequently, their roles as friends or family members become less salient. The study conducted by Yuan and Ngai (2018) focused on the examination of social roles and their relation to identity formation. The study concluded that although students were spending

more time away from their family, their identities were still being cultivated, which led them to create new meanings for themselves (Yuan & Ngai, 2018). One's identity is formed based on their social interactions, and we can assume students at this time may be experiencing a shift or change in their social identity. As this research examined Eastern culture, the question is whether it will relate to Westernized cultures.

As family plays a massive role in shaping an individual's identity, their impact on one's social identity can be overwhelming. Price and Prosek (2019) researched the lived experiences of LGBTQ+ students who either felt rejected or supported by their parents and how they impacted their overall mental health. The findings of the research were that parents were loving and supportive of their child's sexual orientation. However, we understand that it would affect an LGBTQ+ individual's identity if the parents were not accepting. Individuals who do not have to question their identity are more likely to hold a positive self-concept about themselves, compared to individuals who feel like they are not worthy and lack a strong emotional connection with their family members.

Overall, all three articles proved essential in developing our research topic, as they discussed the relationship between identity and living environment. However, there were some oversights in the articles that must be discussed. The article by Jordyn and Byrd (2003) focused on students' identity development and not identity in and of itself. The research looks at the connection of living arrangement, as it considers leaving home during a student's university career, to the position an individual's identity development is in (Jordyn & Byrd, 2003). From Jordyn and Byrd's (2003) research, it seemed as though an identity status influenced how students thrived in different living environments, whereas Yuan and Ngai (2018) concluded that a change in one's living environment created an atmosphere where students discovered and cultivated their identity. This information prompted us to question whether the relationship between identity and living environment was causal or simply correlated. It is also essential to research all areas of a topic, which was not done by any three articles examined.

Although Yuan and Ngai's (2018) study focused on the student impact of the transition to post-secondary education, it would be ideal to see whether there were similar impacts for students still living at home. On the other hand, Jordyn, and Byrd (2003) examined students living at home and away from home. It was not reported whether students were residing alone or with peers, which would affect how their identity was progressing. A limitation to Price and Prosek's (2019) research was that they excluded bisexual individuals. Bisexual individuals are a huge part of the LGBTQ+ community, so by only focusing on lesbians and gays, Price and Prosek (2019) left a portion of a community out of the study. In recognizing the limitations of these articles, we ensured that our research included all student life areas that we felt were relevant.

We were also able to find some current barriers that were not thoroughly examined in the previous research that we thought would be interesting to investigate further. Considering the pandemic is a recent development in our lives, its effect on identity is a grey area that needs to be researched. Since all three articles were conducted before the pandemic was a significant component of our lives, our research investigated its current impact. This transition has prompted a significant increase in familial influence on students. As parents are one of several socialization agents, our research assesses whether the struggles students are having with the transition are correlated to parents' new or additional influence, which was partially examined in the article by Price and

Prosek (2019). The articles by Yuan & Ngai (2018) and Jordyn & Byrd (2003) investigated identity development, whereas the Price and Prosek (2019) article examined formed identity, which is focused on in our research. Since we had similar experiences to our target population, we recognized the various ways in which it could be researched.

Identity in Academic Environments

Changes in our normative experiences due to the pandemic have altered how identity is structured. An analysis of the pandemic's impact on medical students' professional identity development was conducted by Cullum et al., (2020). It concluded that the pandemic's widespread changes have caused medical students to lose valuable learning experiences that would have helped them develop their professional identities (Cullum et al., 2020). It is suggested that online learning and being a part of virtual student societies could significantly influence developing the professional identities of current students going through the transition (Cullum et al., 2020). As the in-person part of being a student has been taken away with the online learning transition, students' virtual experiences are necessary for their social identities to continue to develop. Students grew accustomed to the identities they created on the campus, and with the abrupt changes that occurred, students were left at a disadvantage.

A study conducted by Graupensperger et al., (2020) concluded that due to the rapidness of school closures, activities that were once central to students' identities became inaccessible, which impacted their mental health and well-being. The focus of this study was on student-athletes, and it was determined that once they were able to reconnect virtually with their teammates during the pandemic, they had better mental health as they were able to maintain their athletic identities (Graupensperger et al., 2020). Although this study examined student-athletes primarily, it gives insight into how the pandemic has influenced students' social identities.

Both Cullum et al., (2020) and Graupensperger et al., (2020) have limited research in their target populations. Cullum et al., (2020) focused solely on medical students, while Graupensperger et al., (2020) only examined student-athletes. Due to the lack of the research population, we cannot determine whether there is a correlation between students' academic environments and identities. Therefore, the investigation of its effect on all students is necessary. Our research focused on the multitude of students being affected by the transition, including a more in-depth understanding of whether the transition affects students in all faculties similarly. For this reason, our research involved examining McMaster students from multiple social groups.

Environmental Impact on Academic Success

When thinking about a student's experience with online learning, it is crucial to consider the context of their work and study environments. At the beginning of the lockdown, universities transitioned to a remote learning style, which extended through the 2020-2021 academic year. We assumed that their household roles would have significantly impacted their academic achievement with students being back in their home environments. Although surprisingly, there is limited existing research on the link between one's living arrangement and academic performance.

A relatively recent study by Simpson and Burnett (2019) examined how students' engagement and living environments impacted their academic performance. They

compared the lived experiences and academic achievements of first-year residence students and first-year commuter students (Simpson & Burnett, 2019). The results showed that out of 870 students, commuters yielded higher GPAs than those who lived in residence or other campus housing (Simpson & Burnett, 2019). The article stated that a possible reason for this was the overwhelming responsibilities that commuters managed daily (Simpson & Burnett, 2019). With the recent developments due to the pandemic, research on this topic must continue because, with in-person learning, students had a choice whether to be commuters or not. Students who had been commuting during their university career were used to managing their time appropriately, whereas students who did not commute had extra spare time. However, the transition eliminated students' choices and required all students to adopt lifestyles of managing multiple responsibilities at once. Our research was designed to understand this situation better and see how students were adjusting.

Additionally, Khlaif and Salha (2020) conducted a study focused on uncovering the challenges regarding the switch to remote learning in Libya, Palestine, and Afghanistan. They used semi-structured interviews with 60 participants and observed 60 online classes for their data collection. Results indicated that students reported the most prominent challenges were their learning environments, lack of quality digital content, digital inequality, and the concern for their digital privacy (Khlaif & Salha, 2020). It was mentioned that remote learning might be complex for some students due to different living environment issues.

The study conducted by Simpson and Burnett (2019) examined the effect of first-year students' living environments on their academic performance. Although it is essential to consider first-year students' experiences, our research was more concerned with understanding how upper-year university students adjusted. We focused on this population because they have grown accustomed to the university lifestyle, and the change impacted them the most.

Additionally, we questioned the generalizability of Simpson and Burnett's (2019) results because it was collected ten years ago, which did not consider technological advancements or the recent pandemic. Khlaif and Salha's (2020) study provided insight into students' difficulties with the new remote learning model in developing countries due to COVID-19. Although the information gathered helped provide understanding about lower socioeconomic backgrounds, the sample used may not be reliable because of the small sample size used and the lifestyle differences compared to other social classes. For this reason, our research attempted to uncover whether university students in the Western world were experiencing similar challenges in their homes and in their ability to adapt.

Living Environment Effects on Social Relationships

The transition to remote learning has dramatically impacted how students interact with each other and develop new relationships. While researching, there was a lack of studies on how remote learning impacted social relationships. Understandably, remote learning is possible because of the recent advancements in technology, so that recency could account for the lack of research on this topic.

Pan (2020) conducted an online study in several provinces of China for university students returning home due to COVID-19. According to Pan (2020), out of the 94

students who responded, 40% of them found dating at home to be boring, 27% found being with their families during this time was "so-so," while around 16% of students did not find it incredibly boring (p. 595). Additionally, 10% of students reported feeling very bored at home, 7% were thriving, many students were not happy with returning home, and some were coping fine (Pan, 2020, p. 595). This result indicates that some homes created barriers that impacted student social experiences. The study also identified students' feelings about leaving campus and returning home and how they perceived the intersection of their living environments and social lives.

Additionally, Li et al., (2020) conducted a study in China focused on changes in sexual activity and behaviours due to COVID-19. The study gathered data from various individuals, but they focused on the results of China's residents between the ages of 15-35 that had penetrative sex at least once in the past six months. The results of 967 participants indicated that changes in sexual behaviours and activities occurred (Li et al., 2020, p.2). Around 68% of participants were in an exclusive relationship, 38% of participants reported a deterioration of their relationships during the pandemic, 22% of participants reported a drop in sexual appetite, and 41% experienced a reduction in the recurrence of sex (Li et al., 2020, p.3). The study also acknowledged that engaging in masturbation and viewing pornography increased since the start of the pandemic (Li et al., 2020). It was evident that young Chinese individuals' social worlds will be different, as research indicated behaviours are changing.

Both studies provided insights into the social damages experienced by Chinese individuals due to the pandemic protocols and restrictions. Pan's (2020) study holds relevance to our research as it researched the current pandemic's impact on students' lives. Unfortunately, because Pan's (2020) study used a small sample size, it is questionable if the results are generalizable. The study by Li et al., (2020) used a larger sample size, which indicates that the results could hold for a larger population. A limitation of the studies conducted in China is that Eastern results may not apply to Westernized populations. Therefore, our research component was to see how undergraduate students at McMaster University adjusted to life at home and how their social relationships and behaviours changed.

Environmental Influences on Mental Health

Due to the urgency and recency of the transition to online learning and sending students home, there is a lack of research regarding undergraduate students' lived experiences while undergoing this transition. When we first transitioned, the sudden change and the stress of the ongoing pandemic left many confused, nervous, and trying to adjust. Gillis and Krull (2020) examined techniques being used for the transition, students' perceptions of the transition, and the barriers faced by their introduction to sociology students. The results showed that students struggled with distractions, increased anxiety, and felt less motivated (Gillis & Krull, 2020). This increase of anxiety stemmed from several significant changes that recently occurred, including the pandemic, returning home, online learning, family, or social issues (Gillis & Krull, 2020). Those from lower socioeconomic backgrounds disproportionately faced more barriers with the transition as they lacked adequate workspaces or had to worry about finances (Gillis & Krull, 2020). However, the strain of responsibilities students experienced at home were subjective, depending on their living situation. With this information, we can assume that

McMaster students are experiencing similar barriers to remote learning, compromising their mental health.

In a similar study, Tharani et al., (2017) researched how the learning environment affected undergraduate nursing students' mental health. The researchers studied 15 Pakistani nursing students and used 15 semi-structured interviews. Results indicated that if students' learning environments were favourable, their learning performance was high and that their overall well-being was good (Tharani et al., 2017). The factor that had the most influence on their mental health was their learning environment (Tharani et al., 2017). Students reported struggling with several aspects of learning, such as unaccommodated schedules, high academic expectations, and a lack of resources, all of which contributed to negative well-being (Tharani et al., 2017). A supportive atmosphere was crucial in maintaining emotional stability and managing academic stress. A learning environment should provide minimal stress, support from acquaintances and professors, and adequate educational resources.

A similar limitation of both studies was that they used incredibly small sample sizes. Gillis and Krull's (2020) sample displayed the potential for generalizable results because it included a slightly larger population. As for Tharani et al.,'s (2017) research, it was evident that the results were less likely to be generalizable, considering only fifteen participants were included. Additionally, both studies focused on specific populations, which disregarded how other populations were affected by the same problems. For results to be reliable, similar studies need to be conducted on diverse populations.

Our research further analyzed the impact of one's living environment and mental health alongside remote learning. Based on the article results, we inferred that since McMaster University students' living and learning environments had become one, similar mental health issues were being experienced. Our research helped us acquire more details about students' living arrangements and how their environments subjectively affected their mental health.

A limitation of the Tharani et al., (2017) article was that it did not explicitly address what we were looking for regarding our study. However, it did cover the basics of how a learning environment played such a pivotal role in students’ lives. In recognizing this limitation, we attempted to fill this gap by ensuring that diverse populations were contacted during the recruitment process to account for the entirety of the McMaster population.

Mental Health and Academic Success

A study of 63 students was conducted by Heiligenstein et al., (1996), which focused on understanding the correlation between depression and academic impairment in college students. Their findings determined that students with moderate to severe depression showed high intellectual impairment (Heiligenstein et al., 1996). Furthermore, 92% of students missed their classes, experienced decreased academic efficiency, and had interpersonal problems (Heiligenstein et al., 1996, p. 61-62). Awadalla et al., (2020) conducted a study to understand university students’ experiences with depression and anxiety and how these mental health struggles affected their academic performance. Participants who were screened for generalized anxiety disorder were less satisfied with their studies and had lower GPAs (Awadalla et al., 2020). The same can be concluded about participants diagnosed with major depressive disorder, as they also had lower GPAs (Awadalla et al., 2020). Awadalla et al., (2020) determined that at least one out of

three university students would suffer from moderate to severe depression. Due to how emotionally taxing dealing with mental health issues can be, it is understandable that academic performance can be compromised.

Both articles were similar in that their findings concluded that depression in college and university students could cause an academic downfall. However, they differed as one study looked specifically at college students and the other at university students. We believe it would be beneficial to have results obtained from different institutional levels as they provided a broader perspective of experiences and influences. Additionally, both articles used screening tools to measure and assess the symptoms of depression and anxiety. The use of screening tools was beneficial because they provided empirical scientific results, which was better than having participants provide information that could have implied self-diagnosis. With both studies acquiring data in similar fashions, we could make relevant comparisons between them.

However, there were a few limitations present in the research by Heiligenstein et al., (1996). Heiligenstein and colleagues (1996) published their article over 20 years ago, so college students' problems back then may not be the same issues students face today. Our research has updated information about the correlation between well-being and academic success, and the impact remote learning has on overall student mental health. It is recognized that students diagnosed with depression and anxiety already struggled with managing in-person classes. With the current circumstances, students with mental health problems may find it even harder to adjust to the new learning style. Our research was able to help clarify why it is crucial to understand how individuals are adjusting to remote learning and assists in our understanding of mental health struggles during these difficult times.

Another drawback was that the sample size for the Heiligenstein et al., (1996) article was small, which caused a greater risk of the sample size being unusual by chance. Small sample sizes are less likely to be generalizable to the population, which is why our goal was to reach out to several student clubs and organizations to attain data on a diverse subset of students. A limitation in the Awadalla et al., (2020) research was that the researchers conducted the study in the United Arab Emirates. Due to the drastic cultural and lifestyle differences, multiple variables can affect university students' mental health in the UAE. Thus, our research sought to understand how mental health affected university students' academic success in Western cultures.

Theory

Introduction

During the initial phases of our research process, we selected three theories that we thought would help us understand the data that we collected from participants. The theories that we chose included social identity theory (SIT), role theory (RT), and symbolic interactionism (SI). These three theories were selected because they helped us decipher and comprehend the vast transitions students had experienced since the pandemic began and school was moved to an online format. Moreover, these theories were essential to our understanding of the intersection of academic and home life concerning remote learning.

Social Identity Theory

Social identity theory (SIT) was founded in the early 1970s by cognitive psychologist Henri Tajfel (1986) and social psychologist John Turner (1986). A social identity can be described as a part of a person's self-concept, derived from their knowledge of membership within a particular group and the emotional significance of that association (Scheepers & Ellemers, 2019). Individuals can have multiple social identities that depend on the social group that is most prominent in any given situation (MacKay et al., 2019). For example, when an individual is at school, their social identity may be more prominent concerning the program they are in or the clubs they are associated with. When the same student is at home with their family, their salient social identity may align more with that aspect of their lives. Social identities can also come from the peer groups that individuals associate with at school or from the school itself (MacKay et al., 2019).

SIT maintains that individuals strive to hold a positive self-concept consisting of personal and social identities (Delamater et al., 2015). Thus, there is an acknowledged relationship between individuals' self-esteem and intergroup differentiation (Brown, 2000). In other words, maintaining and developing a positive social identity depends on the groups the individual is associated with, and the comparison of one's in-group (the group they belong to) to other groups known as out-groups (Delamater et al., 2015). An individual will be motivated and pressured to positively evaluate their in-group to maintain a positive self-concept (Delamater et al., 2015).

We chose to use SIT to understand how students identified with others in their living environments now that learning is online. We also found that this theory was vital in determining how our participants felt about their school or "in-group." It was also essential to our understanding of individuals who felt that they could not build or maintain their social relationships or felt that they were no longer part of previous social relationships due to new in-group identifications. To understand if individuals still felt socially connected to their peers at McMaster from a remote learning environment, we asked questions such as *"I am still able to connect with like-minded individuals from McMaster during the transition to online learning."* We also asked if it had been more complicated for participants to sustain connections with others during the transition. These two questions gauged our understanding of how participants' identities evolved due to the drastic changes experienced. Social identity is a crucial part of having a positive self-concept, so when individuals feel their connectedness with their interpersonal relationships has weakened or become harder to maintain, it can diminish a positive social identity.

Role Theory

Another theoretical framework our research used was role theory (RT). Throughout the literature, the responsibility for developing RT is a grey area as the theory emerged from the work of multiple theorists. Although RT is addressed in multiple forms of literature, there is no clear indication of who the critical theorist is. RT can explain the different social positions people occupy and the associated behaviours of themselves and others that are expected to be upheld (Hindin, 2007). Additionally, there is an assumption in RT that predictable behaviours are context-specific depending on one's position and situation (Hindin, 2007). As RT can be interpreted and applied in multiple contexts, our research focuses on the concepts of role strain and role conflict.

Sociologist William J. Goode developed the theory of role strain in 1960 (Hopper, 2020). Goode (1960) recognized tensions between roles among one single status and

defined role strain as "the felt difficulty in fulfilling role obligations" (Goode, 1960, p. 483). Our research focused on learning about the strain undergraduate students felt with the increased workload and responsibilities associated with remote learning. For example, professors decided to do fewer examinations and more assessments, which resulted in students having to do more work than anticipated. These added pressures exemplify the concept of role strain because the student role involves balancing multiple classes with assessments, examinations, lectures, readings, and labs at one time. Students being pulled in multiple directions to satisfy everything required of them demonstrates the concept of role strain.

Additionally, role conflict was a significant component of our research. Role conflict looks at the tensions between the multiple statuses we hold (Khan Academy, 2014). Typically, individuals take on the role of a student outside of their home environments; however, students face being students in their living environment with remote learning. Corresponding to our research, we examined the intersection of everyone's multiple identities and roles to understand the concerns, difficulties, and limitations associated with the transition. For example, students were expected to adhere to the same academic requirements as in-person and their roles as a son or daughter, employee, parent, or sibling. Before remote learning, some students learned in an environment specific to their academic success and were not expected to assume multiple roles during that time, although this was not a universal experience.

With the transition, there was a demand for students to resume their alternative responsibilities during school hours because many resided in environments that required students to perform other roles. Some of our survey questions held importance in our understanding of role conflict. For instance, we incorporated RT into our survey by asking questions that identified if student responsibilities had changed during the transition from in-person to remote learning. One of our questions asked if participants felt as though they were a fundamental part of their household, and another asked if students felt that their role in the household had drastically changed with remote learning. Unfortunately, we could not ask questions regarding the amount of change or the specific aspects of their roles that had changed due to the pandemic. We believed this theory and the questions we asked to address participants' roles provided us with better insights into the impacts of individuals' fluctuating roles concerning online learning.

Symbolic Interactionism

Symbolic interactionism is a theoretical framework born out of the work of Chicago School sociologist George Herbert Mead (Huebner, 2012). Although Mead (1934) is thought of as the primary founder of symbolic interactionism, Herbert Blumer (1980) was the one who came up with its name. Both theorists focused on symbolic interactionism, though they approached this theory in divergent ways. While Mead's (1934) work is grounded primarily in pragmatism, Blumer has been coined as a realist and idealist in his work (Blumer, 1980). As Blumer (1980) has stated, there is a reality out in the world with a nature to be discovered, and he sees the world as being dependent on how it is perceived. Mead (1934), on the other hand, saw the world and human interaction through the lens of pragmatism. As Blumer (1980) noted, Mead (1934) believed that there is a world out there but that it may be perceived by individuals uniquely. Mead (1934) also presumed that the real world does not have a fixed or fundamental nature but may be

changed based on an individual's perception, the individual concerning another, and the context of the situation at hand (Blumer, 1980). Particularly, we used Mead's (1934) pragmatic symbolic interactionism lens to understand the meaning-making processes and subjective interpretations of our participants' current situations.

The most basic premise of symbolic interactionism is that social order and human nature are products of symbolic communication among individuals (Charmaz et al., 2019). Society is produced and reproduced in the language used during interactions with others and the interpretation of that language, where interaction involves the shared use of symbols through verbal language and non-verbal communication (Charmaz et al., 2019). According to Blumer (1969), there are three main premises of symbolic interactionism. The first is that individuals act towards things based on the meanings attached to them (Blumer, 1969). Second, meanings are not natural but are negotiated and agreed upon through interactions with other individuals (Blumer, 1969). Lastly, individuals manage symbolic meanings through an interpretive process (Blumer, 1969). We learn about the meanings of various things by interacting with others, and meanings can shift over time based on the nature of the social interaction and the context in which they occur (Blumer, 1969).

In our research, we tried to understand how individuals dealt with this transition to online learning and their perceptions of their well-being, their relationships with others, and their current living environment. This theoretical framework helped us examine students' responses to our survey questions while considering the meaning they attached to their current circumstances. We asked students various questions to gauge whether their social worlds had drastically changed since the transition to remote learning. By asking questions such as *"how would you rate the quality of the content being delivered online,"* we tried to understand if the meanings they attached to the education they were receiving had changed.

Moreover, the first premise of symbolic interactionism states that individuals act towards objects based on the meanings attached to them (Blumer, 1969). Our study explored if the meaning of "student" had changed for individuals now that school was online based on their answers to our survey questions. Our research also offered valuable information on how individuals had negotiated the meanings they attached to their current circumstances. We also addressed participants' negotiated meanings through questions about whether they had a positive or negative experience, whether their social relationships had changed, and the state of their mental health (Blumer, 1969). For example, we found information about negotiated meanings by asking students questions such as *"the quality of education provided online this year for most classes is on par with previous years,"* as well as *"online schooling has positively impacted my well-being."*

Concluding Statements

SIT, SI, and RT were integral in understanding and discussing the data we collected from participants. These theories helped us interpret and understand how students dealt with the transition to online learning regarding the intersection of one's academic and home life. SIT improved our understanding of how individuals identify with their school, their peers, and their home life now that schooling is remote. RT supported us with our insights into participants' role statuses and their current role strains. Also, SI theory was vital to us when interpreting the meanings that participants held relating to this transition.

Methodology

Our research was a quantitative study that focused on McMaster undergraduate students' lived experiences regarding remote learning. Specifically, our research question was "*how are undergraduate university students' lived experiences of remote learning impacted by the intersection of individuals' home life and school life?"* The research was approved by the McMaster Research Ethics Board (MREB#: 0327), which allowed us to begin the research process. We conducted our research through an anonymous online survey hosted on the MREB approved platform, LimeSurvey. Snowball and convenience sampling methodologies were used to gather our data (Clancy, 2020). The domains we focused on were living environment, remote learning, social relationships, and well-being. The survey consisted of multiple choice and Likert scale questions, and the response options were between *strongly agree, agree, neutral, disagree, strongly disagree,* and *no response*.

Our survey was activated on November 16th, 2020, and recruitment began on November 27th, 2020. Since we had to recruit participants online instead of in-person, we used three recruitment scripts tailored to each club/society and distributed them via email. The first recruitment script was labelled "*Email/Facebook Recruitment Script for Holder of Participant's Contact Information*." This script was used to request club directors or presidents to facilitate emails and posts about our research to a larger body of students that fit our sample population criteria on our behalf. The second recruitment script was labelled *"Email/Facebook Recruitment Script Sent on Behalf of the Researchers by the Holder of the Participants' Contact Information*." This script allowed other individuals and clubs to email or post on our behalf for our research. The final recruitment script was labelled *"Email/Facebook Recruitment Script for Direct Post by Group Members (after securing permission from administrators).*" This script allowed us to directly send an email or post about our survey research to a particular body of students. Additionally, we sent a recruitment poster alongside the scripts above, which was used at the discretion of the individuals overseeing the clubs, societies, and Facebook pages.

Initially, the clubs and societies that we contacted included the BSA- Black Students Association, Nu Omega Zeta Sorority, COPE: A Student Mental Health Initiative, McMaster Pre-Law Society, Socialist Fightback Student Association, McMaster SocSci, The Social Psychology Society, McMaster Relay for Life, McMaster Diabetes Association (MDA), McMaster PNB (Psychology, Neuroscience, and Behaviour) Society, and McMaster Engineering Society. Upon realizing that an overwhelming number of groups were unresponsive, we sent a reminder email and recruited from other groups. The other groups contacted were the McMaster Italian Cultural Club, McMaster official accepted (2021, 2022, 2023) class pages Facebook, McMaster Actuarial Society, Society of Off-Campus Students, FirstGen McMaster, McMaster Association of West Indian Students, McMaster Chinese Student's Association, McMaster Medicine and Health Society, McMaster Undergraduate Women in STEM Club, McMaster Humanities Society, McMaster Linguistics Society, Biochemistry and Biomedical Science Society, Biology Society, Human Behaviour Society, PNB Mental Health Society, McMaster Anthropology Society, Health, Aging, and Society Student Association, McMaster Social Work Student Collection, McMaster Sign Language Club, McMaster Vietnamese Student's Association, McMaster Hindu Students Association, 35 Mil's McMaster's Student Cinema Society, McMaster Unspoken, Zero Waste McMaster, and McMaster Sociology Society.

Unfortunately, after contacting over 30 clubs, societies, and groups, we received only five group responses.

Our sample population consisted of 2nd to 5th-year and above Undergraduate McMaster students. We chose to include students in their 5th-year and above to account for the varying degree completion timelines for individuals. All survey participants were McMaster students ages 18 and older, with no other specified characteristics included in the sample population. The estimated time that it took participants to complete the 31-question survey was approximately ten minutes. The survey included our letter of information, which covered participant consent and withdrawal guidelines. After participants read the letter of information, they selected whether they agreed or did not agree to participate, which provided us with implied consent. Additionally, the letter of information included a disclaimer informing participants that we would be unable to retrieve their information once their survey was submitted due to our survey's anonymity. Our goal was to keep our survey active until February 12th, 2021, or close it sooner if we reached 75 submitted surveys. On February 12th, 2021, we expired our survey with only 35 responses.

On February 19th, 2021, we began our data analysis using LimeSurvey, Microsoft Excel, PSPP, and the Statistical Package for the Social Sciences (SPSS). These software packages were available through Mac iOS. One student investigator was put in charge of data analysis and received help from other student investigators from time to time. The data was safely stored in a file on student investigators' personal computers and was password-protected only for researchers who were part of this project to access. Any data analysis that was done and deemed inadequate or not useful was deleted. As of April 30th, 2021, all data from this research project was deleted to ensure participants' confidentiality and safety.

Initially, we experienced difficulties using SPSS and transitioned to PSPP. To properly use PSPP or SPSS, we coded our data into numerical values. For every question analyzed using one of these programs, the data was recorded onto a Microsoft Excel document. Data coding followed the basic format of assigning a number between one to six depending on the question to one of our survey options (ex: agree, disagree, neutral). This coding process was done for many of the survey questions that we thought were of interest. Then, as a group, we chose which questions to focus on in our poster presentation. We initially used PSPP to generate basic descriptive statistics but did not have satisfactory results with the final graphs and tables. We then used SPSS, but due to our minimal knowledge of SPSS, we accessed and utilized several online video tutorials through YouTube to work with the software.

Using SPSS, we created several bar graphs and histograms for the data we chose to analyze. We also looked at the mean, mode, median, range, frequency, and standard deviation of our data responses. As of March 5th, 2021, we had coded the questions we deemed most relevant to our study, which concluded our data analysis process. However, because we had to code our data from qualitative responses to numerical values, the diagrams, and tables generated from SPSS were not easily understandable to anyone outside our research group. As a result, we recreated our graphs on excel to reflect our findings in a digestible format.

The updated bar graphs had the advantage of being easily absorbable for other viewers while being visually appealing. The four questions we transformed into bar graphs

for our poster presentation were question 8, "*I feel as though my role in my household has changed significantly due to online schooling,*" question 14 "*it has been harder for me to sustain connections with others during the transition to online learning,*" question 19 "*online schooling has positively impacted my well-being,*" and question 21 "*how would you rate the quality of the content being delivered online?*" We thought these questions emulated some of our most exciting findings and reflected some of our data's recurring themes. Additional graphs of other survey responses are included in this final paper and were created on Microsoft Excel.

Some possible ethical concerns were presented to participants taking part in our research. Possible psychological risks included feeling demeaned, embarrassed, worried, or upset, and possible social risks included a loss of status, privacy or reputation, and economic risks. We employed a variety of techniques that mitigated the psychological risks of participants. Firstly, data was gathered through an anonymous online survey which ensured participant comfort, protection, and anonymity. To further support participants, the survey was completed online in an environment comfortable to the participants, which mitigated any chances of social risks. As the participants completed the survey, they skipped any questions they felt uncomfortable answering and were given the option to avoid submitting the survey they began. Although the chances of social risks were lower than the chances of psychological risks, steps were taken to ensure they were as minimal as possible by protecting participants' identities in this study. Finally, to minimize psychological and social risks encountered when participating in this study, the letter of information included at the beginning of the survey had contact information for the McMaster Student Wellness Centre for further support. The survey's psychological and social risks were below minimal risk and posed no risks more significant than those encountered in everyday life.

Additionally, one of our student investigators was a member of a sorority we recruited from. Since she was a part of the overall recruitment process, we ensured no conflict of interest or bias by appointing another student investigator to recruit the sorority. All other student investigators had a peer-to-peer relationship with the sampled population, which is why our way of avoiding biases and minimizing our conflict of interests was by having our participants' responses and engagement anonymous.

Overall, our research process has been discussed in as much depth as possible. Through a troubling recruitment process, we received 35 anonymous responses from our online survey. The time-consuming process of completing our research included ethics board approval, data collection, and data analysis. To ensure this research was conducted appropriately and ethically, all risks were addressed, and steps were taken to minimize them as best as possible.

Results

In total, 35 student participants at McMaster University, ages 18 years and older, responded to 31 online survey questions about the intersection of one's home and school life regarding the remote learning model. The following figures illustrate some of the most relevant demographic and interesting findings from our survey results.

For gender, an overwhelming number of participants identified as female (65%), followed by participants identifying as male (3%), and others unwilling to disclose by selecting no response (31%).

Figure 1
Frequency Chart – Gender

GENDER	FREQUENCY
Male	1
Female	23
No Response	11
	n=35

Figure 2
Frequency Chart - Faculty

FACULTY	FREQUENCY
Social Science	17
Science	4
Engineering	3
No Response	11
	n=35

The participants belonged to a select few faculties at McMaster University, where the majority were from the Faculty of Social Sciences (49%), then the Faculty of Science (11%), followed by the Faculty of Engineering (9%). Our survey also allowed participants to refrain from responding by selecting the no response category (31%).

Figure 3 illustrates question 4, "*the people that I am currently living with influence my academic performance in a positive way*." The results show that 11.43% (n=4) answered with *strongly agree*, 20% (n=7) answered with *agree*, 40% (n=14) answered with *neutral*, 5.71% (n=2) answered with *disagree*, and 22.86% (n=8) were grouped into the *no response* category. *Strongly disagree* was omitted from the graphing analysis as participants did not select it. From these results, we see that the participants' living environments and those they were living with did have a neutral to a positive impact on their academic performance.

Figure 3
Living Environment and Academic Success

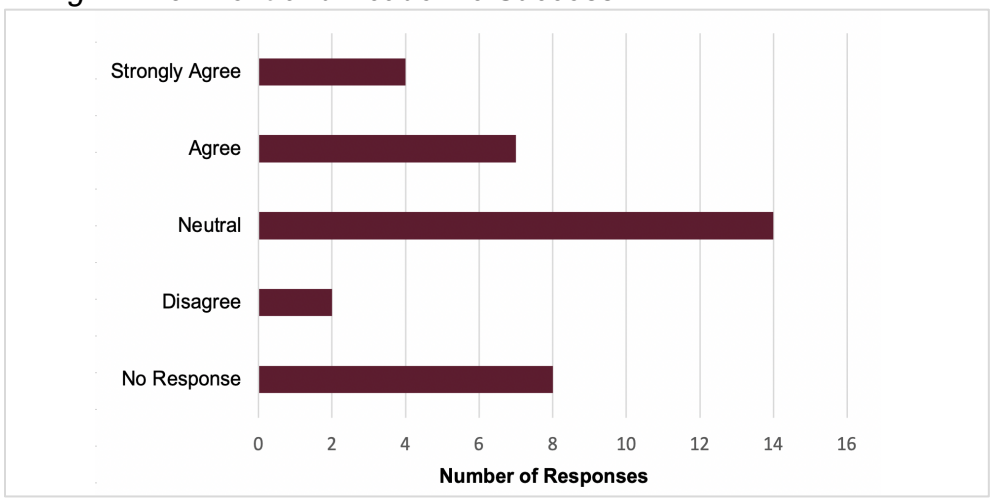


Figure 4 compares question 7, "*I feel as though I am an integral part of my household*," and question 8, "*I feel as though my role in my household has changed significantly due to online schooling*." The results for question 7 show that 11.43% (n=4) answered with *strongly agree*, 40% (n=14) answered with *agree*, 11.43% (n=4) answered with *neutral*, 11.43% (n=4) answered with *disagree*, and 25.71% (n=9) were grouped into the category of *no response*. In question 8, the results show that 17.14% (n=6) answered with *strongly agree*, 22.86% (n= 8) answered with *agree*, 11.43% (n=4) answered with *neutral*, 20% (n=7) answered with *disagree*, 5.71% (n=2) answered with *strongly disagree*, and 22.86% (n=8) were grouped into the *no response* category. Question 7 displays that most of the respondents indicated they have a prominent role in their households. However, in question 8, 40% (n=14) of the respondents selected *agree* and *strongly agree*, while 25.71% (n=9) of the respondents selected *disagree* and *strongly disagree*. We can deduce from these results that participants felt they were a fundamental aspect of their functioning households and felt they had increased responsibilities due to the transition.

Figure 4
Role Identities and Online Learning

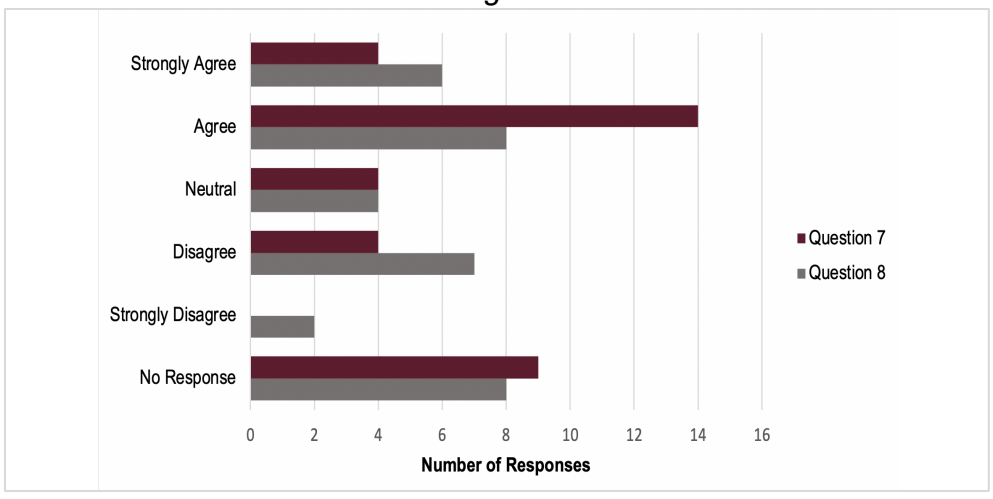


Figure 5 compares question 10, "*my social relationships have been negatively impacted by everything being transitioned to online*," and question 14, "*it has been harder for me to sustain connections with others during the transition to online learning*." The results for question 10 show that 20% (n=7) answered with *strongly agree*, 34.29% (n=12) answered with *agree*, 8.57% (n=3) answered with *neutral*, 8.57% (n=3) answered with *disagree*, and 28.57% (n=10) were grouped into the category *no response*. The results for question 14 show that 28.57% (n=10) answered with *strongly agree*, 28.57% (n=10) answered with *agree*, 8.57% (n=3) answered with *neutral*, 2.86% (n=1) answered with *disagree*, 2.86% (n=1) answered with *strongly disagree*, and 28.57% (n=10) were grouped into the category of *no response*. The results indicate that with students transitioning to online learning, their social relationships were left at a disadvantage and that throughout their remote learning experience, it has continued to be difficult to sustain relationships.

Figure 6 illustrates question 19, "*online schooling has positively impacted my well-being*." The results show that 8.57% (n=3) answered with *agree*, 8.57% (n=3) answered with *neutral*, 31.43% (n=11) answered with *disagree*, 20% (n=7) answered with *strongly disagree*, and 31.43% (n=11) were grouped into the category of *no response*. *Strongly agree* was omitted from the graph analysis as participants did not select it. The results indicate that a substantial number of our participants did not feel that online learning had positively impacted their well-being. A total of 51.43% (n=18) of respondents indicated that they *disagreed* or *strongly disagreed* with the statement posed. As this is the current learning model utilized at McMaster University, it is essential to recognize if the students are experiencing compromised mental health because of it.

Figure 5

Maintaining Social Relationships

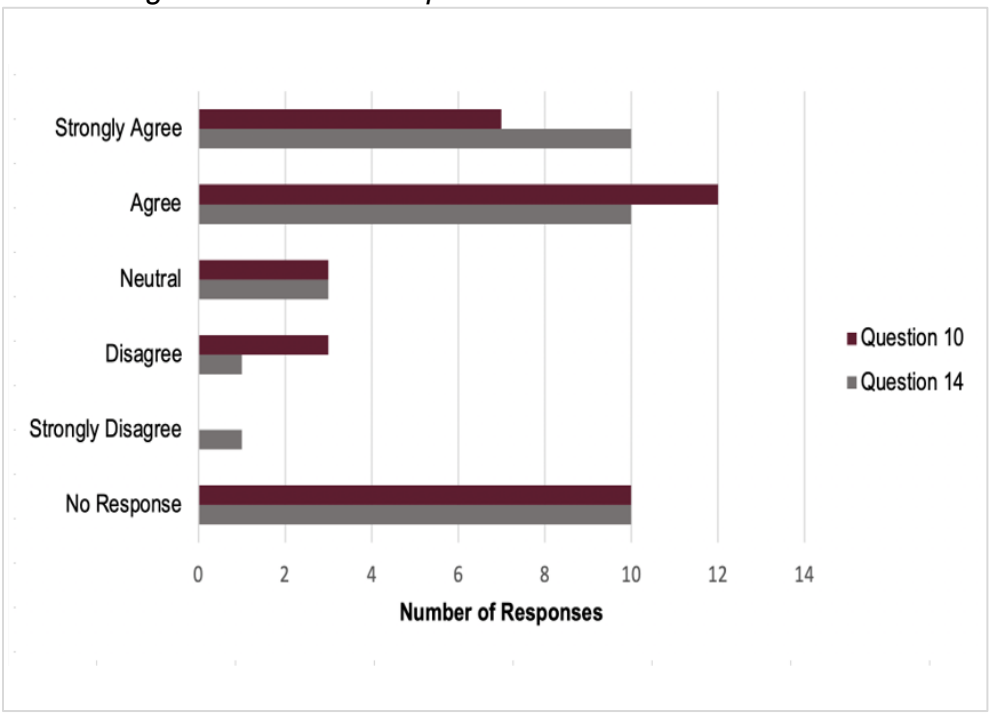


Figure 6
Online Schooling and Well-Being

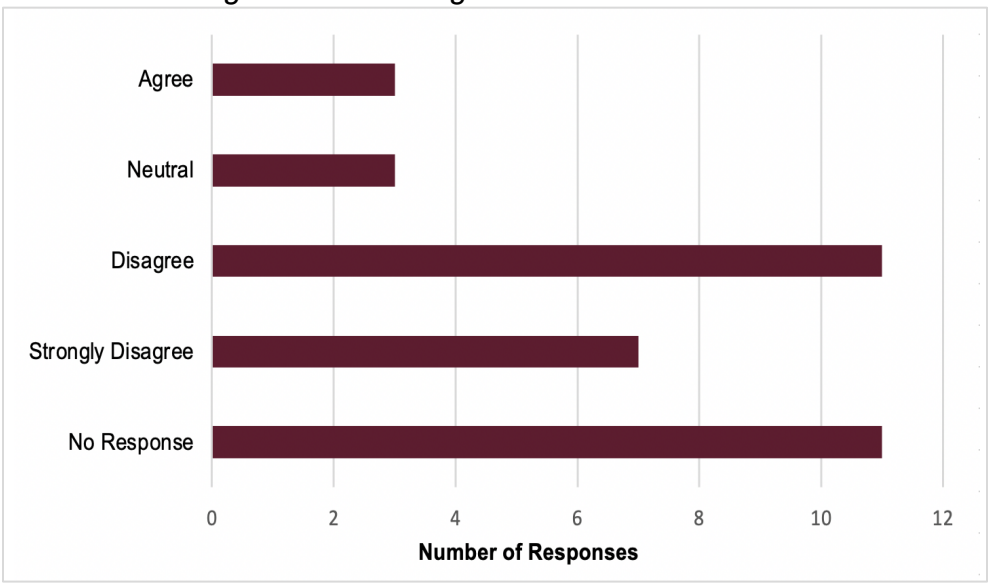
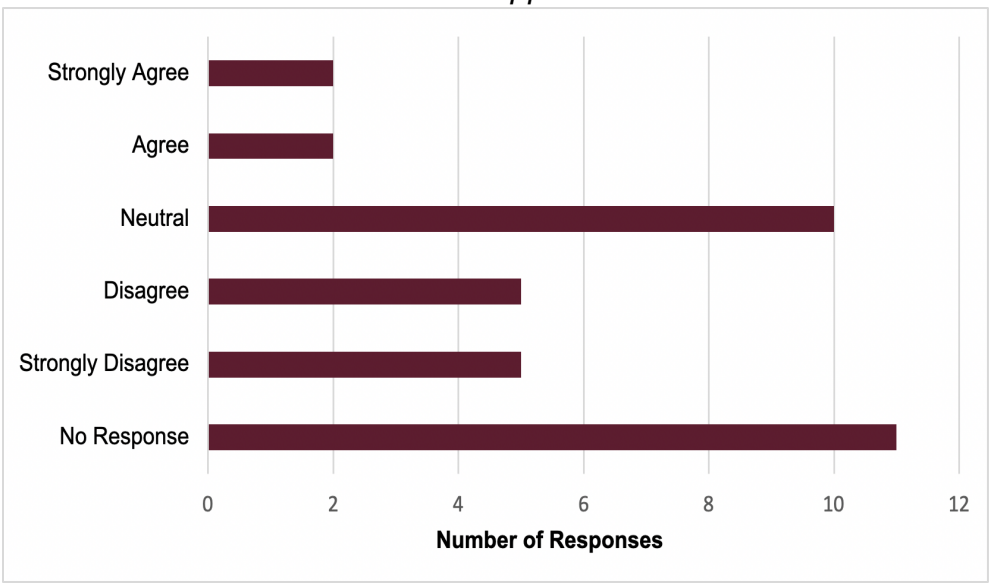


Figure 7 illustrates question 20, "*the McMaster Wellness Centre has been a beneficial support for me during the pandemic*." The results show that 5.71% (n=2) answered with *strongly agree*, 5.71% (n=2) answered with *agree*, 28.57% (n=10) answered with *neutral*, 14.29% (n=5) answered with *disagree*, 14.29% (n=5) answered with *strongly disagree*, and 31.43% (n=11) were grouped into the category of *no response*. The results are very mixed with this question as 28.57% (n=10) of participants *disagreed* and *strongly disagreed*, while 28.57% (n=10) of our participants remained *neutral*. With these mixed results, we can infer that most participants have negative or indifferent feelings about the care being offered by a student service expected to support students in their time of need.

Figure 7
The McMaster Student Wellness Support Services



Discussion

Living Environment

Asking about one's living environment is essential in understanding student remote learning experiences because, with campus closure, students spend most of their time in their living environments rather than in academic settings. Our assumption before receiving the results was that students' living environments would have a severely negative impact on their academics and well-being. However, our data shows that most students felt indifferent about their living environment or felt it had positively influenced their academics, as illustrated in Figure 3. These results may be because the university is a stressful environment and that stress could be detrimental to students' mental health, which negatively impacts their academic success. However, being home in a safe and familiar space may provide a sense of comfort and relaxation. Additionally, Simpson and Burnett (2019) proved that commuters had higher GPAs than those who lived in residence or other campus housing. This supports our results on how students felt their living environments fostered academic success.

On the other hand, our personal experiences allow us to recognize that being in a living environment consisting of family or friends has its downsides. Therefore, we asked participants to respond to the statement, *"I feel as though my role in my household has changed significantly due to online schooling,"* illustrated in Figure 4. This allowed us to refrain from being invasive but also helped us gauge whether students had to take on multiple roles due to remote learning. Our results indicate that 51.43% (n=18) of participants *strongly agreed*, *agreed*, or felt *neutral* that the transition to remote learning had impacted the roles they had to manage. Additionally, when we asked participants to respond to *"I feel as though I am an integral part of my household,"* illustrated in Figure 4, 62.86% (n=22) *strongly agreed, agreed*, or felt *neutral*, indicating that they viewed themselves as essential in maintaining their households, which came with added responsibilities. These findings confirm the theory of role conflict when there are difficulties between individuals' multiple roles (Khan Academy, 2014). Based on our findings, we infer that the participants who agreed their role had changed due to remote learning struggled in their living environments to maintain statuses of being a student, sibling, friend, daughter, son, and more. Each role included a set of responsibilities, and when they emerged one at a time, it was easier to manage, whereas compared to remote learning, students were expected to assume multiple roles at the same time.

Our overall findings of living environments and remote learning are not as clearly defined as we had hoped. Our findings' ambiguity in this section is mainly because our sample was incredibly small and biased in gender, faculty, and other demographics. Therefore, we are unable to determine if these results hold for diverse populations. Unfortunately, when our participants were asked, *"where are you currently located? If you select "other," please specify where,"* 68.57% (n=24) identified being in North and Central America, while 31.43% (n=11) chose not to respond. Because we were unable to ask in detail about their beliefs and traditional practices in their living environments, we inferred that most families living in North and Central America had adapted to Canadian culture, limiting our understanding of Eastern living environments. As noted above, Eastern and Western cultures and traditions differ, and those differences include family life, responsibilities, work, and education expectations.

We expect future researchers to conduct studies on diverse populations' lived experiences on this topic to find the similarities and differences between Eastern and Western student experiences. By doing this, social psychological research can expand the understanding of traditional and Western cultural experiences and contribute to teaching and learning methods in post-secondary settings.

Social Relationships

As discussed earlier, social identity is created through one's group membership and the emotional significance that the identity holds for the individual (Scheepers & Ellemers, 2019). During a student's time at university, their social identities are created by the peer groups they associate themselves with. As the transition from in-person learning to remote learning took place, we assumed that the transition would result in students no longer being able to identify with their peer groups, which would negatively impact their social identity. For this reason, the question, *"I am still able to connect with like-minded individuals from McMaster during the transition to online learning,"* was asked. Our research indicated that our assumption was correct as 40% (n=14) of students *strongly disagreed, disagreed*, or felt *neutral* about being able to connect with students on campus. There was a pattern observed that connected the social relationships students had and the transition to remote learning. While there was a decline in connecting with like-minded individuals from campus, there was also a decline in sustaining social relationships, as seen in Figure 5. A university campus is a place where students create and cultivate social relationships to develop their social identities. Unfortunately, students could not access societies and clubs in their original environments (on-campus, in-person group meetings) because of the transition.

Existing research by Graupensperger et al., (2020) showed how the lack of access to in-person groups negatively impacted students. Findings suggested that student-athletes had positive mental health when they could reconnect with their peers, and when they were unable to connect with them, their mental health suffered (Graupensperger et al., 2020). This makes sense because in school, group membership influences one's identity, and without being able to maintain those relationships, individuals were essentially disconnected from some parts of themselves.

We hope that McMaster uses our findings to implement better teaching methods during the pandemic. As students at this university, we recognize how most professors have chosen to upload pre-recorded lectures instead of hosting live lectures. We feel that by incorporating more live lectures or interactions throughout students' learning experiences, they will be able to better maintain relationships with classmates and their fellow peers. As university students tend to lead busy lives, seeing friends in classes or between classes was a way to sustain their friendships, but with remote learning, that became challenging. Therefore, even though it is in a new environment, live online lectures bring back interacting with peers and classmates. This avoids the negative impact on students' mental health when they feel disconnected.

Remote Learning and Well-Being

Understanding students' experiences with remote learning was a crucial aspect of our research. We found that the well-being of students significantly intersects with students' experiences with online learning. We made some assumptions before collecting data from

participants suggesting that remote learning and not being able to go to classes in-person would impact students' well-being and other aspects of their lives. Based on the data outlined below, we can say that our assumptions were correct, but that we also found more interesting information that was not initially anticipated.

As stated in Khlaif & Salha's (2020) study, learning environments and the quality of online schooling were students' main concerns. As we also know from Tharani et al.,'s (2017) study, the learning environment was a primary factor concerning participants' well-being, and most of our participants shared similar results. When asked, "*the environment you are currently living in has impacted your well-being,"* 42.86% (n=15) of our participants *agreed*, and 17.14% (n=6) *strongly agreed*. With this data, we concur that one's living environment is a predominant contributor to their well-being. Additionally, considering the sudden transition to remote learning, we can infer that the urgent switch had adverse effects on their well-being.

Furthermore, our results demonstrate that more than half of the participants reported that online schooling had not positively impacted their well-being. As revealed in Figure 6, 31.43% (n=11) *disagreed*, and 20% (n=7) *strongly disagreed* when asked if there was a positive impact. Our interpretation of these findings is that a significant number of students were not having a positive experience with remote learning. However, since 31.43% (n=11) of participants chose not to answer this question, we cannot assume that this is a generalizable result amongst all McMaster students. It is also important to note that although students disagreed that online schooling had positively impacted their well-being, this does not necessarily mean that it had been negatively impacted. Unfortunately, we were unable to gain further insight into the nature of most of the participants' disagreement with online learning without posing more detailed and intrusive questions. Since we can see some ambivalence regarding the impact of online learning, it is a grey area that would benefit from further analysis in future studies.

A significant struggle that we found students had been with the McMaster Wellness Centre. As shown in Figure 7, 14.29% (n=5) *disagreed*, and 14.29% (n=5) *strongly disagreed* when asked if the McMaster Wellness Centre had been a beneficial service. Only 5.71% (n=2) of participants *agreed*, and 5.71% (n=2) *strongly agreed* to this statement. Here we notice that the participants had mixed experiences regarding the support they received from McMaster's Wellness Centre. With 28.57% (n=10) of our participants indicating they felt *neutral* and 31.43% (n=11) of our participants choosing not to respond, it was difficult to determine whether McMaster's Wellness Centre provided adequate support or if students were attempting to access these resources.

These new understandings that we gained have implications for the quality of well-being support at our university. Awadalla et al., (2020) determined that at least one out of three university students would suffer from moderate to severe depression. With that being said, we think it is vital that students are receiving adequate support for their well-being. As stated previously, participants largely *disagreed* or *strongly disagreed* when we asked if remote learning has positively impacted their well-being. With these results, it was unclear whether the meanings students attached to the McMaster Wellness Centre were positive, negative, or somewhere in between. Due to this, we are unsure if students had been accessing the centre, if they had been having trouble accessing it, or if they had an unpleasant experience altogether.

These findings are essential for McMaster to recognize the quality of their services and make necessary changes. We hope our results can push the university to improve how mental health and other services contribute to student wellness. Services like the Wellness Centre are meant to support students in their time of need, and a pandemic is a significant event that students need help getting through. The fact that students felt unsupported is concerning and is something that needs to be addressed immediately.

We also asked participants if they felt that "*the transition to online schooling has been difficult*." The majority, 34.29% (n=12), indicated that they *agreed*, and 25.71% (n=9) *strongly agreed*. Simultaneously, 8.57% (n=3) did not feel this way about the transition by indicating that they *disagreed* with the statement. However, due to ethical restrictions when we asked the participants about their living environment and whether they had to move home, we could not determine the extent of the transition. The data that we collected from our sample is like the study by Gillis and Krull (2020), where they examined techniques that sociology students used to deal with the transition to online learning, their perceptions of the transition, and the barriers they faced. They found that students had struggled with increased anxiety, distractions, and decreased motivation due to this transition, where those with lower socioeconomic statuses were disproportionately impacted (Gillis & Krull, 2020). We infer that our participants were likely feeling the same way considering most of them *agreed* or *strongly agreed* that the transition was difficult.

We also found that when participants were asked, *"how would you rate the quality of the content being delivered online?"* there were mixed results. For instance, 34.29% (n=12) of participants rated the quality of content *fair*, 22.86% (n=8) rated it *poor*, and 11.43% (n=4) rated it *good*. Symbolic interactionism theory connects well to these findings because of the split results we obtained. Some individuals that participated in our study may have found that remote learning and the content being delivered online were unfavourable because of their learning style, while others saw it as positive and beneficial. In turn, individuals were more likely to attach different meanings to the quality of content and the transition to online learning. In many ways, these results provide us insight into individual differences and meanings attached to learning in general.

Further, these mixed results indicate additional research needs to be conducted to address why some students found the quality of content to be good or fair and why some found it to be poor. These mixed results can be due to different classes that students took or even different faculties that students belonged to. More qualitative data on questions like this could provide the university and faculties with a better understanding of how to make the quality of content better now that schooling is being conducted online and for future emergencies that may have similar circumstances.

Conclusion

Summary of Results and Findings

When assessing the results for student living environments, we noticed that most of our participants felt their environment was conducive to their academic success. Additionally, we saw that students experienced merging roles in their households and concluded that there were both positive and negative impacts. For the most part, one's living environment was not as hostile of an experience as we expected, which is essential to recognize.

Concerning social relationships, our research indicated that most participants felt that they experienced difficulties connecting with students on campus, sustaining social relationships and that their social relationships had been negatively impacted due to the transition to online learning. It appears that overall, student relationships suffered from the implementation of the remote learning model.

In terms of remote learning and well-being, we found that participants felt their living environments had impacted their well-being and that online schooling did not positively impact their well-being. We also noticed that the McMaster Wellness Centre was not beneficial to many participants during the pandemic. However, some were neutral on this matter, indicating that they may not have tried to access the centre. Additionally, most participants felt that the transition to online schooling was difficult, which is plausible, as the change was sudden. Lastly, we obtained mixed results about online learning quality, which could be due to various factors.

Based on our results, we can generally conclude that the transition to remote learning has heavily impacted McMaster students. Our findings show that students had difficulty managing the transition to remote learning, as many of our participants responded in agreement with statements and questions about negative experiences.

Limitations

Although our group took the necessary measures to mitigate the chances of having biased or skewed data, we were unsuccessful. The first limitation of our research is our small sample size, where we received 35 responses, and of those, 11 were partial. A small sample size with only 24 fully completed surveys makes it difficult to determine if our results represent the McMaster undergraduate population. This university is incredibly diverse with students from various countries, yet our results came only from North and Central America. We recognize that Western and Eastern cultures have different values, beliefs, living environments, traditions, and lifestyles; therefore, we cannot understand international students' experiences with the lack of diversity in our results.

Additionally, our findings are unbalanced by gender as 23 individuals identified as female, one identified as male, and the remaining participants chose not to disclose their gender. We hoped to have an equal number of participants in the gender category, but unfortunately, that is not the case. In turn, our data is skewed to represent female experiences while leaving us with very little understanding of the remote learning male experiences.

We also encountered difficulty during the recruitment process, as mentioned in the methodology section. We noticed that our survey lacked participants; therefore, we reached out to groups on multiple occasions to increase our sample size. Not only did we want more participants, but we wanted different participants that belonged to a variety of groups at McMaster University to have diverse and relatable findings. Even though we dedicated time to the recruitment process, only five groups chose to acknowledge our study. They were the Student Mental Health Initiative, McMaster Social Psychology Society, Human Behaviour Society, McMaster Social Science Society, and Nu Omega Zeta Sorority. Although we appreciate their involvement in our research, we were still left with a small sample size that hinders our ability to generalize the results to the entirety of the McMaster undergraduate population.

Moreover, the faculties in which our participants belonged skew our data as they only came from the Social Sciences, Science, and Engineering faculties, where 49% (n=17) of our participants were Social Science students. In university, it is recognized that each faculty and department has varying workloads and types of assessments, making it difficult to compare one faculty to the other. These differences are why we strived to have members from various faculties contribute to our research, although we know that our results do not account for even half the faculties at McMaster University. Additionally, we were restricted from recruiting Health Science students due to ethical protocols, which separated them from the undergraduate population. It seemed unfair to skip a portion of the population when our goal was to understand the entirety of McMaster's undergraduate student experiences.

Furthermore, the inability to ask students specific questions that were deemed invasive and above minimal risk made for limitations as our findings were ambiguous due to the need to interpret obscure questions and results. For example, our findings were inconclusive in determining whether there was an improvement in student experiences due to their living environment. Although we asked students whether they felt as though they were an integral part of their household, we cannot determine whether their involvement in their household was beneficial or detrimental to their academic performance because those questions were deemed invasive.

Additionally, because the campus was closed, our study was conducted in an online environment. With time constraints and our recruitment and data collection's online nature, it was more efficient for us to conduct a quantitative study. A significant limitation of a quantitative study is that we could not ask open-ended questions apart from a few demographic questions. Our study would have been more encompassing of participants' experiences if they could elaborate on their perspectives in greater detail. Also, by conducting a quantitative study with listed options to choose from, we essentially expected participants to fit into one of those categories. The reality is that individuals might have wanted to answer a question differently but were restricted from doing so. Because we conducted a quantitative study and have a small sample size, our results are not generalizable. Unfortunately, with the pandemic, there were limited options available to us, as we were restricted from using a more qualitative approach regarding data collection, leaving us to make use of what was approved for our research.

Significant Insights

A fundamental component of undergraduate students' experiences that our research provides insight into is the positive and negative effects of remote learning in multiple domains of their lives. Undoubtedly, the university is an increasingly intense environment that requires students to learn how to navigate. With our research on the impacts of the transition from in-person learning to remote learning, we have learned more about whether students can adjust and adapt for better or worse. One of the primary issues we focused on was how students navigated the intersection of their life as a student and their life as a family member, friend, or group member. Notably, we found that most participants felt strongly about how their social relationships had been impacted negatively due to the transition. Participants also conveyed that it was challenging to sustain connections with the new learning model. We expected students to have varying opinions about remote

learning because of our access to technology and how that can contribute to sustaining relationships, but the distance impacted people even with technological advancements.

An academic environment typically offers students quiet study spaces with no distractions, resources to utilize for their academic work, and other students to collaborate with. Our research provides insight into how students felt their academic success was either compromised or benefited from having a new learning environment. Interestingly, our research suggests that the people participants lived with had primarily impacted their academic performance positively. Participants also reported that the people they lived with were supportive, although a few individuals did not feel this way. Regardless, it is comforting to know that some aspects of the transition were positive; however, these were unexpected findings as we assumed the results would have indicated the opposite.

Additionally, a remote student's role comes with household, family dynamic, and social relationship tensions. Students must prioritize their education, and it can be challenging to do that while managing multiple responsibilities. Our research confirms in some ways the tensions that we were feeling when adapting to the transition from being a student on campus to being a student at home. This research provides insight into how students coped with the transition, and if they could manage their daily intersecting roles. From what we have learned, an overwhelming number of participants reported that their household roles had changed significantly because of remote learning.

Another aspect of our research was learning how students' dating lives had been impacted since the significant transition to learning remotely. We asked, *"how often are you using dating applications?"* and found that only four participants infrequently used dating applications while the rest never used them. Furthermore, we asked if *"having access to online dating options has made finding and maintaining relationships during the pandemic easier,"* and participants did not agree with this statement most of the time. These findings provide us with further awareness of student dating lives and the fact that dating applications may not be the most popular method for finding romantic relationships. It also provides insight into how students prefer to create relationships, as the online dating option existed. Still, they chose not to use applications, even though a large portion of their dating pool (students on campus) were not accessible. However, although we obtained exciting insights, they were ambiguous questions that would benefit from further research into a more comprehensive understanding of student dating lives and romantic relationships during a pandemic.

A further fascinating insight was the current processes and changes that need to be made at an institutional level. Our research can help the institution recognize the areas that students are struggling in and restructure them to bridge the gap. Furthermore, remote learning comes with a different educational style that may or may not work for specific individuals. Remote learning requires students to maintain a particular level of responsibility and time management, as they must adjust to being more independent learners rather than collaborative learners. In this area of inquiry, we found a couple of interesting points to consider. Firstly, we noticed that participants were quite split when rating the quality of content being delivered online. When we asked participants about this, some said that the quality was poor, and others thought it was good or fair. We found similar results when we asked, *"the quality of education provided online this year for the majority of classes is on par with previous years."* Although more people disagreed with this statement, some participants indicated that it was either the same or neutral.

Concluding Thoughts

In conclusion, our goal was to research a relevant topic for current and future students at McMaster University. With the uncertainty of the duration of the COVID-19 pandemic, students' experiences in post-secondary education will be different, and we felt it was essential to support students and bring awareness to the impact remote learning has on their lived experiences. Incoming students can use our study to determine if attending post-secondary education is something they want to do while the online learning model is employed at the university or if they want to defer and continue their studies once things return to normal. Current students can use our study to recognize that their feelings are shared with their peers and know that they are not alone.

Additionally, these results show that there are varying experiences in the McMaster population, so our research can help the university make necessary changes to improve the student experience. Our research proves beneficial because we are aware that there will be long-term implications for students due to the transition; therefore, our research can be used to understand student experiences during the pandemic and be further studied to understand how students have been affected in the long term. We also hope that future research uses a more extensive and more diverse sample to produce generalizable results.

Overall, our study has been incredibly insightful for learning about student experiences when significant changes occur to their learning environments, and we hope the findings of this study can be used to make improvements for all students.

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References

Awadalla, S., Davies, B. E., & Glazebrook, C. (2020). A longitudinal cohort study to explore the relationship between depression, anxiety and academic performance among Emirati university students. *BMC Psychiatry, 20*(1). doi:10.1186/s12888-020-02854-z

Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Berkeley: University of California Press.

Blumer, H. (1980). Mead and Blumer: The convergent methodological perspectives of social behaviourism and symbolic interactionism. *American Sociological Review, 45*(3), 409-419. doi:10.2307/2095174

Brown, R. (2000). Social identity theory: Past achievements, current problems and future challenges. *European Journal of Social Psychology, 30,* 745-778. doi:10.1002/1099-0992(200011/12)30:6<745::AID-EJSP24>3.0.CO;2-O

Charmaz, K., Harris, S. R., & Irvine, L. (2019). *The social self and everyday life: Understanding the world through symbolic interactionism.* Newark: John Wiley & Sons, Incorporated.

Clancy, S. (2020). *Lecture 4: Methodological approaches in social psychological research*. [PDF Document]. Retrieved from https://avenue.cllmcmaster.ca/d2l/le/content/333750/viewContent/2735218/View

Cullum, R. J., Shaughnessy, A., Mayat, N. Y., & Brown, M. E. (2020). Identity in lockdown: Supporting primary care professional identity development in the COVID-19 generation. *Education for Primary Care*, *31*(4), 200–204. doi:10.1080/14739879.2020.1779616

Delamater, J. D., Collett, J. L., & Myers, D. J. (2015). *Social Psychology* (8th ed.). Boulder, CO: Westview Press.

Gillis, A., & Krull, L. M. (2020). COVID-19 remote learning transition in spring 2020: Class structures, student perceptions, and inequality in college courses. *Teaching Sociology*, 1-17. doi:10.1177/0092055X20954263

Goode, W. (1960). A theory of role strain. *American Sociological Review*, *25*(4), 483 – 496. doi:10.2307/2092933

Graupensperger, S., Benson, A. J., Kilmer, J. R., & Evans, M. B. (2020). Social (un)distancing: Teammate interactions, athletic identity, and mental health of student-athletes during the COVID-19 pandemic. *Journal of Adolescent Health*, *67*(5), 662–670. doi:10.1016/j.jadohealth.2020.08.001

Heiligenstein, E., Guenther, G., Hsu, K., & Herman, K. (1996). Depression and academic impairment in college students. *Journal of American College Health*, *45*(2), 59–64. doi:10.1080/07448481.1996.9936863

Hindin, M. (2007). Role theory. The Blackwell Encyclopedia of Sociology. doi:10.1002/9781405165518.wbeosr078

Hopper, E. (2020, August 29). What is role strain? Definition and examples. Retrieved from https://www.thoughtco.com/what-is-role-strain-in-sociology-4784018

Huebner, D. R. (2012). The construction of mind, self, and society: The social process behind G. H. Mead's social psychology. *Journal of the History of the Behavioural Sciences, 48*(2), 134-153. doi:10.1002/jhbs.21544

Jordyn, M., & Byrd, M. (2003). The relationship between the living arrangements of university students and their identity development. *Adolescence*, *38*(150), 267–278. Retrieved from https://go.gale.com/ps/i.do?p=AONE&u=ocul_mcmaster&id=GALE|A109027879&v=2.1&it=r&sid=AONE&asid=c33e6e5b

Khan Academy. (2014). Role strain and role conflict. Retrieved from https://www.khanacademy.org/test-prep/mcat/individuals-and-society/social-interactions/v/role-strain-and-role-conflict

Khlaif, Z., & Salha, S. (2020). The unanticipated educational challenges of developing countries in Covid-19 crisis: A brief report. *Interdisciplinary Journal of Virtual Learning in Medical Sciences*, *11*(2), 2-6.

Li, G., Tang, D., Song, B., Wang, C., Qunshan, S., Xu, C., Geng, H., Wu, H., He, X., & Cao, Y. (2020). Impact of the COVID-19 pandemic on partner relationships and sexual and reproductive health: Cross-sectional, online survey study. *Journal of medical Internet research*, *22*(8). https://doi.org/10.2196/20961

MacKay, J. R. D., Hughes, K., Marzetti, H., Lent, N., & Rhind, S. M. (2019). Using National Student Survey (NSS) qualitative data and social identity theory to explore students' experiences of assessment and feedback. *Higher Education Pedagogies, 4*(1), 315-330. doi:10.1080/23752696.2019.1601500

Mead, G.H. (1934). *Mind, self, and society.* Chicago: University of Chicago Press.

Pan, H. (2020). A glimpse of university students' family life amidst the COVID-19 virus. *Journal of Loss and Trauma*, *25*(6-7), 594-597. doi:10.1080/15325024.2020.1750194

Price, E. W., & Prosek, E. A. (April 11, 2019). The lived experiences of GLB college students who feel supported by their parents. *Journal of GLBT Family Studies, 16*(1), 83-102. doi:10.1080/1550428X.2019.1593278

Rohall, D. E., Milkie, M. A., & Lucas, J. W. (2014). *Social psychology: Sociological perspectives* (3rd ed., pp. 123). Boston: Pearson Education.

Scheepers, D. & Ellemers, N. (2019). Social identity theory. In K. Sassenberg & M. L. W. Vliek (Eds.), *Social psychology in action: Evidence-based interventions from theory to practice* (pp. 129-143). Springer Nature Switzerland. https://doi.org/10.1007/978-3-030-13788-5

Simpson, D. B., & Burnett, D. (2019). Commuters versus residents: The effects of living arrangement and student engagement on academic performance. *Journal of College Student Retention: Research, Theory and Practice, 21*(3), 284-304. doi:10.1177/1521025117707516

Tajfel, H., & Turner, J. (1986). The social identity theory of intergroup conflict. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (2nd ed., pp.7-24). Chicago: Nelson-Hall.

Tharani, A., Husain, Y., & Warwick, I. (2017). Learning environment and emotional well-being: A qualitative study of undergraduate nursing students. *Elsevier, 59*, 82-87. https://doi.org/10.1016/j.nedt.2017.09.008

Yuan, R., & Ngai, S. S. (2018). "My youth, I call the shots": A qualitative examination of university students' perspectives on life transition and identity development in China. *Children & Youth Services Review*, *94*, 140–147. doi:10.1016/j.childyouth.2018.09.042