

**Project: Attending (to) Class:  
An intersectional study of COVID-19 Adaptation in Canada, Kenya and Sierra Leone  
Universities**

**A) Report on the Carleton University research**

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## Table of Contents

<b>TABLES AND FIGURES.....</b>	<b>i</b>
<b>I. INTRODUCTION TO THE PROJECT .....</b>	<b>1</b>
<b>II. SUMMARY OF MAIN CONCLUSIONS.....</b>	<b>2</b>
<b>III. CARLETON UNIVERSITY RESPONSE TO THE COVID-19 PANDEMIC.....</b>	<b>4</b>
UNIVERSITY PANDEMIC DECISION-MAKING: .....	5
STUDENT DIFFERENCES AND PANDEMIC PLANNING.....	6
<b>IV. STUDENT EXPERIENCE OF CARLETON’S SHIFT TO REMOTE LEARNING: SURVEY AND INTERVIEW DATA .....</b>	<b>9</b>
INTERVIEW AND SURVEY OVERVIEW:.....	9
ACCESS TO TECHNOLOGY/ TOOLS NEEDED FOR UNIVERSITY STUDY .....	12
DIFFERENCES IN TECHNOLOGY/INTERNET ACCESS .....	14
UNIVERSITY SERVICES AND SUPPORTS .....	17
HOME LIFE.....	23
PAID WORK/FINANCIAL IMPACT OF COVID-19 AND LOCKDOWN.....	28
<b>V. CONCLUSION AND RECOMMENDATIONS.....</b>	<b>29</b>
RECOMMENDATIONS .....	31
<b>REFERENCES.....</b>	<b>34</b>
<b>APPENDIX – SURVEY: (CANADA) ATTENDING (TO) CLASS: AN INTERSECTIONAL STUDY OF COVID-19 ADAPTATION .....</b>	<b>36</b>

## Tables and Figures

<u>List of Tables</u>	<u>Page</u>
1. Interviews (overview)	9
2. Demographic Overview of Survey Respondents	9
3. Technology problems encountered	12
4. Access to Reliable High-Speed Internet March – April 2020	14
5. Technology issues faced by students with or without disability	15
6. Able to access university services and supports needed to complete online studies	17
7. Received enough support from university to enable transition to online	17
8. Supports University offered	18
9. University Supports to enable transition to online – Income	19
10. University Supports Accessed – Race	21
11. University Supports Accessed – Gender	21
12. Support System for navigating educational challenges in pandemic	22
13. People (race) in household during March-April	25
14. People (gender + race) in household during March-April lockdown	25
15. How Pandemic affected daily responsibilities in home	26
16. Estimate hours/week spent on home (non-school) responsibilities	27
17. Economic impact (by gender, race and disability)	27

<u>List of Figures</u>	<u>Page</u>
1. Survey Student Profile: Faculty and Year of Study	10
2. Income of Survey Respondent and their Parent/Spouse	11
3. Location of Primary Residence	13
4. Co-residents in Primary Residence	22
5. Quiet Designated Work Space	23
6. Residence Conducive to Studies	23

## I. Introduction to the project

This pilot study examines how intersecting differences – in gender, socio-economic status, rural/urban residences, and disability - shaped students’ experience of the shift to distance university education resulting from the COVID-19 pandemic and lockdowns in 2020-2021. Focused on three universities - Carleton University, (Ottawa, Canada), University of Nairobi, (Kenya, Mombasa campus), and University of Sierra Leone (Fourah Bay College, Freetown) - research teams based at each institution conducted surveys, interviews and focus groups with students to explore differences in students’ experience of remote learning, attentive to issues such as access and use of technology (phones, computers, internet), time available for study, other gendered, socio-economic roles including caregiving, and access to appropriate spaces for study. Supplementary interviews with university administrators were also conducted to better understand the decision-making process in which the move to remote learning took place, and the extent to which issues of gender, race, class, and disability impacting students’ experience of distance learning were considered.

The goal is to provide preliminary evidence on how social inequalities shape students’ ability to continue their university courses when these are delivered remotely, and if and how universities are responding to these inequalities. The objectives are: 1) analyse how gendered social inequalities, including class and rural/urban divides, shape how and within what limits university students' access and participate in distance teaching in Canada, Sierra Leone and Kenya; 2) examine how universities have taken these inequalities, if at all, into their decisions to continue teaching during the pandemic and in their delivery of remote teaching; and, 3) draw from this pilot study of universities in different national and urban contexts and histories to provide lessons for university administrators enabling a transnational mutual learning. This research treats each university as equivalent case studies, resisting the norm of using global North countries as the base from which to (often negatively) assess African countries. In fact, some African countries have rich and recent experiences addressing pandemics, like Sierra Leone with Ebola, with lessons for the Global North (Mokuwa and Richards 2021; Comaroff and Comaroff 2012).

This report is focused **only on** the research results from Carleton University, with additional reports from the other research sites forthcoming.

### Methodology and Overview of Research at Carleton

The research was carried out between August 2020 and April 2021 and comprised:

- A survey of 181 students
- Interviews with 30 students
- Interviews with four members of the administration at Carleton who were involved in the day to day decision-making about the University’s response to the pandemic.

A draft survey was piloted among 15 students enrolled in summer-term courses in August 2020 with three additional interviews to test the survey questions. The revised survey was placed on the Qualtrics site from September – November 8, 2020, fall semester 2020. Student participants were solicited using emails from their professors in different departments and faculties. Those professors were contacted by Professors Rutherford and Buss asking them to send notices to their students in specified classes. The professors and classes were selected to ensure students from a cross section of faculties, programmes and stages of education were invited to participate. In total, 181 students completed the survey.

Initially, three pilot interviews with students were carried out. Interviews were carried out with a further 27 students (bringing the total student interviews to thirty), over the course of October 2020 – April 2021. The interviews were carried out by a team of Carleton graduate students with two research assistants (RAs) present at each interview.

Four additional interviews were held with senior administrators at Carleton University who were involved in different committees and decision-making structures as part of the pandemic response. Doris Buss and Blair Rutherford conducted these interviews.<sup>1</sup>

## II. Summary of Main Conclusions

1. Unequal access to high-speed, reliable internet impacted students during the March-April 2020, and particularly students living in rural locations, students who identified as BIPOC (Black, Indigenous, People of Colour), and those reporting lower personal incomes.

Viewed in terms of gender and race, BIPOC men had the least access to reliable high-speed internet and white men the most.

2. Students with disabilities reported unequal impacts of the shift to remote learning and the technology gap in the range of material formats available and in instructor access to and facility with technology. The interviews demonstrated that students were provided supports from the Paul Menton Centre to mediate this shift and this was helpful in some cases.

3. Access to technology, including home desks and computers, was crucial in enabling students to complete their studies. But ‘access’ for students was more complex than simply ‘having or not having’ computers, internet or desks.

Family and financial supports, including access to homes with sufficient space, provided some students with ready-made home offices, or the means to purchase furniture, internet, computers and other tools needed to do university studies remotely. Students reported that they and/or their parents (where involved) spent money on desks, setting up home offices, upgrading computers and internet. Some of the interviews and qualitative survey answers suggest that even students with constrained personal and family incomes spent money on

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<sup>1</sup> Email invitations were also sent to representatives of Carleton University Students’ Association (CUSA) and the Graduate Student Association but we received no response, which may have been because the invitations were sent out near the end of the winter semester.

computer and internet upgrades. Other students appear to have drawn from social contacts to navigate access to the technology and tools needed for remote study.

Understanding more about the circumstances in which those expenditures were made, and with what effects (and limits), is needed. The same is true for other kinds of expenditure, such as social capital, that students may have had to make to be able to navigate remote learning.

4. Students' living situations were important contexts shaping how students did their courses and navigated the emotional toll of loneliness and separation from their peer and academic communities. Home-life also posed challenges for some students who had access to less space (either because of the size of the residence or the numbers of household members or both), had to share internet access with others (thereby reducing quality of connection), and/or had to balance their university study with caring and other (cleaning, cooking) responsibilities in the home.

The differences in living situations reflected urban/rural, racial, and gendered differences.

- a) Rural students were far less likely than urban-based students to have space in their residences conducive to study.
- b) BIPOC students were far more likely than white students to live in larger households (with implications for access to time and space conducive for study);
- c) BIPOC and white women were more likely to experience an increase in their home responsibilities and particularly time spent on child care and cleaning and cooking.
- d) BIPOC men and women experienced an increase in time spent on caring for other family members, and in doing other, non-school related work in the home.

Interviews and qualitative survey answers point to this household work as limiting some students' time, space, internet, and quiet, thinking time needed for their studies. While the data from this study is suggestive only, BIPOC women students seem particularly impacted by these greater household demands.

5. Contact with course professors, along with emotional supports were key resource for students, and this continued throughout the lockdown. But here seems to be unevenness in how different categories of students viewed and/or access university supports. Women more so than men, White more so than BIPOC students indicated they accessed University supports.

6. A sizeable number of students, across all categories, said they were unaware of any university supports available and this was echoed in interviews. There is an urgent need to know which students were able to access university services, and which students were not and why. This information is needed to better understand the barriers that may exist for some students in accessing University supports, as well as provide needed information to the University to ensure it is adequately funding the services needed.

7. Carleton University moved quickly, once government lockdowns were announced in March 2020, to established decision-making bodies within the University. Some of these bodies were described as collegial and well-functioning.

The University's decision to align its approach to a public health framework is laudable as is the low numbers of COVID cases reported on campus. But one of the drawbacks to this otherwise commendable approach is that it unintentionally reproduced the failings found in public health approach to considering race, socio-economic, and less-so gender dynamics of the experiences of COVID 19 and the impacts of lock-down measures. Health, as our interviewees confirmed, was understood by University decision-makers as physical, rather than mental health, and the unequal impacts of COVID and pandemic adaptations, like the shift to remote learning, were not considered.

8. The double-invisibilities of a-typical students: University students, at Carleton and elsewhere, generally reproduce patterns of social advantage found in the broader society, coming from households with secure incomes and parents who themselves have university degrees (Hamilton, Roksa, and Nielsen 2018). Not all students, however, reflect these trends. It is important not to assume that all students share the same demographic profiles of the majority. When administrators assume that all students enjoy the same range of advantages (that are seen as flowing from being in "modern Canada," as one interviewee put it), then already disadvantaged students are further marginalized.

The preliminary data from this study suggests that some students – who are not from Canada, are racialized, come from poorer households, are in rural locations, have disabilities, or gendered caring responsibilities – experience a range of challenges in conducting their studies remotely. This data is relevant both for planning for further lockdowns, should they emerge, but may also have implications for how the university designs future online or blended learning formats.

### III. Carleton University Response to the COVID-19 Pandemic

In Canada, the pandemic lockdown measures began in mid-March 2020, with the Government of the Province of Ontario, in which Carleton is located, declaring a state of emergency<sup>2</sup> on March 18. Classes at Carleton were cancelled for March 16 and 17, 2020 to enable teaching staff prepare for alternative modes of content delivery, and by March 18, 2020, the University had transitioned to online learning for the remainder of the term initially and then for the foreseeable future.

In May and June, the Ontario Government began lifting some restrictions but with others staying in place as numbers of people testing positive for the novel corona virus (COVID 19) persisted. Carleton delivered its Spring and Summer courses 2020 online. Come September, most universities in the Province, including Carleton were delivering all or almost all their courses and services online. A second wave of the pandemic was underway in the Province by the end of September. Further, incremental lockdown measures were put in place to different degrees in

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<sup>2</sup> <https://globalnews.ca/news/6859636/ontario-coronavirus-timeline/> (accessed 15 June 2021).

parts of the province depending on infection rates, though these were largely criticized for not being very restrictive. By January 2021, infection rates in Ontario were soaring to new highs (ranging from 3,000 – 5,000 new infections/day), marking the third wave of the pandemic.

Vaccinations in the province did not fully get underway until January 2021, with Health Canada (a federal agency) approving the first vaccine, Pfizer BioNTech, on December 9, 2020. By 24 April 2021, the end of the winter semester at Carleton, just under 30% of the Ontario population had received at least 1 vaccine,<sup>3</sup> with most vaccinations targeted towards those over the age of 70 years, and/or with complicating health factors. By June 5, 2021, over 60% of people in Ontario had received at least one vaccine.<sup>4</sup> On June 11, the Ontario Government announced yet another plan to begin lifting restrictions in the Province but with some limitations on public gatherings still in place and with primary and secondary schooling taking place by distance until the end of the school year.

Carleton University, like others in the Province of Ontario, delivered almost all classes through distance, online learning since March 18, 2020, which included the semesters of: Spring/summer 2020; Fall 2020-2021; Winter 2021; Spring/summer 2021. As of June 2021, the University is preparing for “a significant return to on- campus activity in Fall 2021” and for “normal campus activity” by Winter 2022 (Carleton University 2021, 2).

### University Pandemic Decision-Making:

In the first part of the pandemic, starting in March 2020, the University instituted 3 special committees to address pandemic issues.

1. Steering Committee, which was led by Benoit-Antoine Bacon, Carleton University President, Suzanne Blanchard, Vice-President (Students and Enrolment) who was the COVID-19 lead.
2. Operations Committee, which was described as the ‘back bone’ of the University’s efforts, overseeing all aspects of campus operations such as health services, residences, sourcing safety equipment, to name a few. The committee was co-chaired by the Vice-president (Students and Enrolment) and the Vice-president (Finance and Administration).
3. Academic Continuity Committee, which was tasked with dealing with issues arising linked to teaching and research (such as alternative grading options for students and ensuring classes were offered through online and other methods of distance learning) and which included all deans, the University President and Provost, Assistant Vice-President Teaching and Learning, and the University Librarian.

As the pandemic continued, and with a felt-need for more methodical, informed decision-making about how best to operate in the pandemic, a fourth body was established in April 2020: the University Scenario Planning group (CUSP), which held its first meeting on April 13. CUSP

<sup>3</sup> <https://health-infobase.canada.ca/covid-19/vaccination-coverage/> (accessed 15 June 2021).

<sup>4</sup> <https://www.canada.ca/en/health-canada/news/2020/12/health-canada-authorizes-first-covid-19-vaccine0.html> (access 15 June 2021); <https://www.canada.ca/en/health-canada/news/2020/12/health-canada-authorizes-first-covid-19-vaccine0.html> (accessed 15 June 2021).



issued a series of reports and recommendations to guide decisions on holding classes on-line or in person in subsequent semesters.<sup>5</sup>

The initial decision to move to online learning, we were told, was made quickly, over the weekend of March 14/15 as Canadian and Ontario governments began to institute lock down measures. There was no time for consultation, one interviewee told us, and by Monday, March 16, the Academic Continuity Committee and Operations Committee started meeting daily (or even twice a day in one case). Navigating the upcoming April exam period “was the biggest issue” for the Academic Continuity Committee, one interviewee told us. As several interviewees noted, the initial expectation was that the pandemic was a short-term problem; “we weren’t expecting that 14 months later we would still be dealing with this.” As the pandemic persisted, the need for more systematic approach to decision making about the Fall semester 2020 and beyond was needed.

The University’s approach was described to us as very much framed in terms of public health, with Carleton University President Benoit Bacon in ongoing contact with the Chief Medical Officer for the City of Ottawa. The University held its Spring and Summer semesters 2020 online and upon the recommendation of CUSP it also held the Fall and Winter semesters (2020-2021) and the 2021 Spring and Summer semesters online.

As part of its response to the shift to online learning, Carleton’s Teaching and Learning Services coordinated a range of supports, financed partly by reallocated budgeted money, partly by the Pandemic Contingency fund, and a \$3 million extraordinary budget:

- hired 10-12 term educational technologists (about \$1 million);
- Collaboration in course development (\$950k) - e.g. Students as Partners & Shared Online Projects Initiative;
- Educational technology (\$1m) - to ensure instructors, TAs (Teaching Assistants) and students could go online and to provide Zoom licences for instructors and TAs;
- TA Development (\$50k);
- Held multiple training sessions online for instructors.

## Student Differences and Pandemic Planning

As part of its mandate for more systematic decision making, the Carleton University Scenario Planning Group (CUSP), in its first<sup>6</sup> of four reports, identified 9 guiding principles that would inform its decision making.

1. **We will place the health and wellbeing of students, staff, and faculty above all other considerations.** (emphasis in original);
2. We will continue to provide the best possible learning experience for our students throughout the pandemic.

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<sup>5</sup> Other committees and working groups have since been established to assist in the return to campus for students, faculty and staff.

<sup>6</sup> *Planning for Fall 2020*, May 2020.

3. Decisions regarding modes of learning within given constraints will be driven by learning outcomes.
4. Student support services will continue to be delivered in accordance with our Service Excellence standards.
5. Equity across student groups will be a key factor in decisions.
6. Research activity will be maximized to the extent possible.
7. We will foster collaboration within the university and with peer institutions to create and share academic programming where possible to enhance academic quality.
8. Decisions will support the long-term success of the university.
9. We will provide as much certainty as possible to students, faculty and staff by making and communicating decisions as early as possible.

These principles were collectively decided by CUSP, informed by presentations to the Committee from “public health and epidemiological sources.” While some of the administrators interviewed noted that “health and wellbeing of students” in this first principle could include mental health, others said it was understood as physical well-being. It “was always about public health and aligning ourselves with guidelines from Ottawa Public health,” as one put it. A “critical piece” in the University’s pandemic response, we were told, was to be “guided by public health advice and [this principle is] clearly signalling we were not going to circumvent those guidances.”

The fifth principle – “equity across student groups” – was understood as referring to international versus domestic students. There was an early recognition that international students were particularly impacted by the measures to counteract the pandemic; with the closing of Canada’s borders, they could not get back to their home countries or get to Carleton, for example.

In mid-May 2020, Carleton conducted a survey of Undergraduate and Master’s students about their experience of the shift to remote learning. The survey did not collect any demographic information about the students, such as their racial/ethnic identity or socio-economic status. The University was able to cross reference the results to its own records to determine gender and location of home address of the respondents, but no further information was gathered and differences among students was not the focus of the survey.

The question of collecting more specific demographic information on campus as part of monitoring the potentially uneven effects of the pandemic was an issue of some debate and disagreement. Some administrators felt strongly this information should be collected in order to understand how, for example, race or gender inequalities were impacting students. As one interviewee underscored for us, “students in different racial and ethnic environments engaged with online environment differently; they don’t have same home and support structures... that shape their engagement with university. This wasn’t factored in at the time. We didn’t have enough data then to say that this matters – and we still don’t but we have some indicative data ...” Others disagreed, arguing the data should not be collected for reasons that can undermine the quality and standards of survey design. First, the University was not in a position to be able to address the systemic inequalities at issue. As another interviewee argued, “One of the big rules in surveying if you are not going to do anything with the answer and you have no ability to do anything with the data, then you shouldn’t ask it because it raises expectations.” Second, this

interviewee continued, collecting data on race or ethnicity that is attentive to different categories of identity would lead to small cell sizes and “you can’t do anything with it. The questions now can lead to too many groups and one is breaching confidentiality as it is easy to identify them.”

Further concerns were that adding in demographic information would slow down the survey at a time when information was needed. The survey was needed, this interviewee suggested, to “show concern from the institution and partly to get information for planning but it was not intended to differentiate between groups some of whom likely would have been disadvantaged.”

The pandemic, as several respondents noted, overlapped with the highly-publicized killing of George Floyd in the United States of America by a police officer on May 25, 2020, which galvanized a large public call for increased reckoning of racial inequality including in Canada. This event and its reverberations were described by administrators as influential in changing the approach to gathering data on racial difference amongst students.

Another factor highlighted was a change in the range of voices from within the University participating in decision making and guidance bodies. Carleton’s Department of Equity and Inclusive Communities, which was not part of the first wave of decision-making bodies, is now included. This has helped to strengthen attention to issues of inequality and inclusion. As part of its Equity, Diversity and Inclusion Action Plan<sup>7</sup>, launched in March 2021, the University has now committed to “prepare Implementation Plans for the collection of demographic data relating to Gender Identity, Racialized Persons, Indigenous Persons, Persons with Disabilities and Sexual Orientation on a disaggregated, intersectional basis” (p.23).

Some of the strengths of the Carleton University response to the pandemic that were highlighted to us were:

- a. Collegial decision making particularly within the CUSP;
- b. Very few cases of COVID on Carleton campus;
- c. The public health focus of decision making that put health above financial returns on student recruitment in University decision-making;
- d. Institution of compassionate grading;
- e. The rapid roll out of teaching and learning supports from Teaching and Learning Services (TLS) (though the Education Development Centre);
- f. TLS was a “big success.”

Some of the concerns raised relate to the issues noted above:

- a. The resistance to collecting data on inequalities between students and considering inequalities in the University responses;
- b. Bureaucratic decision-making that was heavily determined by non-academic administrators; and
- c. A narrow range of voices included in decision-making bodies that did not include enough input from the academic side of the university, nor from other bodies such as Equity or student groups.

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<sup>7</sup> <https://carleton.ca/edi-plan/> (accessed 1 June 2021).

Carleton established various structures to assess a range of evidence and make decisions regarding the pandemic as it shifted to remote learning. The consequences for the learning experience of differentiated students are examined next.

#### IV. Student experience of Carleton’s shift to remote learning: Survey and Interview Data

##### Interview and Survey Overview:

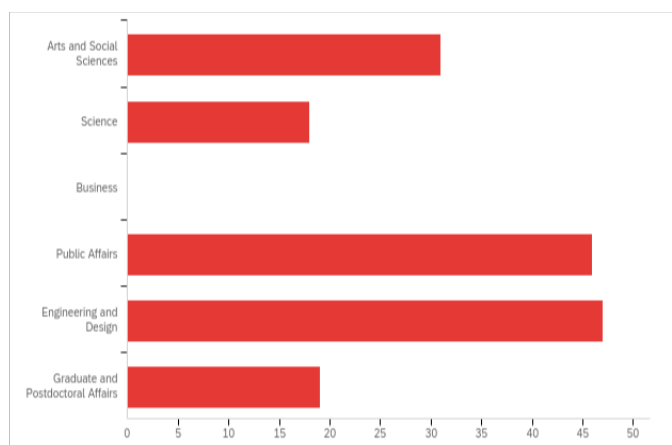
After the pilot interviews and starting in September 2020, letters were sent to professors in various faculties asking them to look for volunteers in their classes to do an interview of about 30 – 45 minutes long. Due to budget limits, volunteers were not offered any type of compensation or inducement but some professors may have awarded participation credits for those who volunteered. Thirty students were interviewed over the period October 2020 – May 2021.

29 women	1 man
5 BIPOC	25 white
3 Married	27 not married (single, divorced)
4 with children	26 no children
4 LGBTQ	26 not LGBTQ
5 with disability	25 without a disability
3 International students	27 domestic students
1 Graduate Student	29 Undergraduate

Of the **181 surveyed students**, 65.3% identified as women and 32.9% as men. Most (137) were under the age of 24 years, 80 of whom (or roughly 46%) were 20 years or younger. Demographic information on a range of variables (see Table 1) was gathered. The survey asked students their racial/ethnic identity based on 13 categories (including ‘other’), drawn from Statistics Canada “Ethnic Origin Reference Guide” used in the 2016 Census (<https://www12.statcan.gc.ca/census-recensement/2016/ref/guides/008/98-500-x2016008-eng.cfm>). For the purposes of this report, however, we grouped together into one category – BIPOC - respondents who answered that they identified as Indigenous, South Asian, Chinese, Black, Filipino, Latin American, Arab, Southeast Asian, West Asian, Korean, Japanese and those who identified as ‘white’, while recognizing that the category ‘BIPOC’ is itself problematic (Deo 2021). Over 90% of respondents were undergraduates but coming from a range of Faculties in the University including Science, Public Affairs, Arts and Social Sciences, Engineering and Design and Graduate and Postdoctoral Affairs except from the Sprott School of Business, which had no respondents (see Figure 1).

Table 2: Demographic Overview of Survey Respondents		
Gender	65.4% women	32.9% men
N=	111	56
Disability	12.4% long term disability	82.9% no LT disability
	21	141
Race	28.7% BIPOC	64.1% white
	52	116
Sexuality	19.9% LGBTQ2I+ identified	74.9% not LGBTQ2I +
	34	128
Marital status	15.8% married/common law	83.5% single
	27	142
Children	5.9% with children	94.12% (no children)
	10	160
Parent/guardian job	61.73% professional	25.55%
	56	23 skilled trade/retail/hospitality <sup>8</sup>
Spouse (where married)	52.94% professional	22.53%
	9	4 skilled trade/retail/hospitality
International	6.59% (paid international fees)	93.41% (paid domestic fees)
	11	167

Figure 1: Survey Student Profile: Faculty and Year of Study

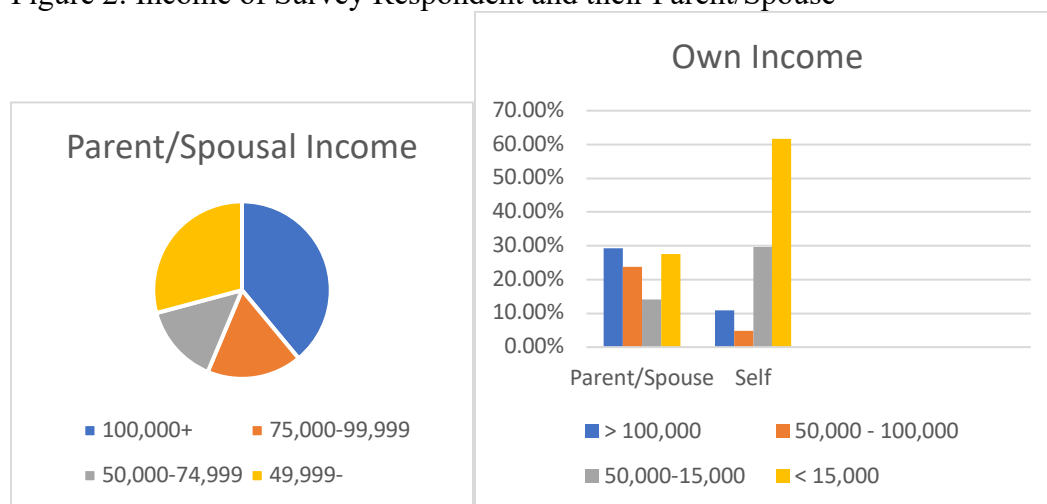


	Undergraduate	Graduate
Level		8.3%
Year 1-2	63.3%	
Year 3	13.0	
Year 4	9.3%	
4+	5.0%	

<sup>8</sup> A further eleven respondents (about 12%) said their parents were either unemployed or retired.

The majority (61.8%) of the students in the survey reported incomes of less than \$15,000. At the same time, the majority of students said the income of their parent or spouse was over \$100,000 (see Figure 2).

Figure 2: Income of Survey Respondent and their Parent/Spouse



The survey and interviews explored student experiences during the first lockdown in March and then the return to university studies in the fall term, 2020, focusing on four main areas<sup>9</sup>:

- access to technology/tools needed for university study;
- perceptions of and access to university supports;
- home life – and the challenges that might arise in the living arrangements, home and care work obligations;
- Paid work/financial impacts of the COVID lockdowns.

### Access to technology/ tools needed for university study

The survey asked about challenges students faced in the shift to remote learning first in the March – April period and then in the semester commencing September 2020, using different question formats. For example, the survey provided a list of technology challenges from which to choose (see Appendix) and then asked respondents to rank the top 3 problems encountered. A Likert question then included some statements about sufficient access to technology for distance learning, asking respondents to respond on a scale of strongly agree, agree, neutral, somewhat disagree, disagree. It was not uncommon for students to indicate on the Likert survey questions and in interviews that they had sufficient access to technology, but in response to other questions they provided answers indicating they did not, in fact, have good, reliable or consistent access to the internet, other technology, study space, a desk, and so on. The discussion that follows endeavours to read across the different survey questions, paying attention to qualitative answers as well as the results from interviews.

Most students - 83.8% - agreed or strongly agreed that they had sufficient access to technology needed for distance learning, and 74.4% agreed or strongly agreed they had sufficient access to

<sup>9</sup> While the survey was aimed at students who had been enrolled in the winter term 2020, a small number of students completed the survey in the fall were not enrolled in this earlier term.

the internet (with 16.8 disagreeing, indicating they did not have sufficient access to internet and 8.8% neutral). But when asked about the technology challenges they faced in the March-April period, access to reliable high-speed internet was the second most common answer. The top three reported technology issues students said they experienced in March were instructor discomfort or lack of familiarity with technology, access to reliable high-speed internet and own discomfort or lack of familiarity with technology. By the September period, this ranking had shifted somewhat. Instructor discomfort was still the most identified challenged, but own discomfort ranked second, and online-only access to course materials third (see Table 3).

Table 3: Technology problems encountered					
	March-April 2020		Fall Semester 2020		
	Responses N	% of cases	Responses N	% of cases	
Instructor discomfort or lack of familiarity with technologies, applications	78	59.5%	52	55.9%	
Access to reliable, high-speed internet	69	52.7%	38	40.9%	
Own discomfort or lack of familiarity with technologies, applications	61	46.6%	46	49.5%	
Access to library resources	56	42.7%	25	26.9%	
Online only access to course materials	55	42%	41	44.1%	
Adequate digital replacement for face to face	47	35.9%	32	34.4%	

**Green** indicates the option received fewer proportionate responses in the September period

**Yellow** indicates the option received more proportionate response in the September period

As noted in Table 3 above, access to reliable, high-speed internet and access to library resources received fewer proportionate responses concerning the September period suggesting some improvements in these areas.

But a more complex picture emerges beyond these descriptive statistics. The interviews and qualitative answers to survey questions provide some insight to how students experienced and continued to experience technological issues. The students interviewed overwhelmingly noted that technological challenges arose in the shift to remote learning. Many of the problems identified echo the list from the survey: internet was slow and/or unreliable; poor software interfaces (i.e., Big Blue Button); professors who were unfamiliar with the technology; and deficient home computers.

Of the 27 students interviewed starting in October 2020, eight said in passing (this was not a question we asked) that they purchased new computers and/or upgraded their internet in response to the lockdown. As one female respondent explained, the lockdown meant students no longer had access to “the proper set up... like having a printer, and all the other things you have access



to at the University campus.” Others similarly noted they used to rely on internet access on campus or did their school-work on campus. The lockdown meant that these all had to be provided in the home with significant resource implications. For example, an international student interviewed had been living with two roommates, both of whom moved back to their family homes once the pandemic started. Unable to maintain the rent, the international student moved to smaller, cheaper lodgings. Living alone, the student could not afford to pay the cost of internet (which used to be split with the roommates) and would go visit friends and neighbours to access internet needed to attend synchronous classes. The student’s laptop also broke during the lockdown and all course work had to be done by cell phone until the insurance coverage for the repair came through. Finally, this student also relied on paid work in the front lines of the service sector, while noting this placed them at risk of contracting COVID.

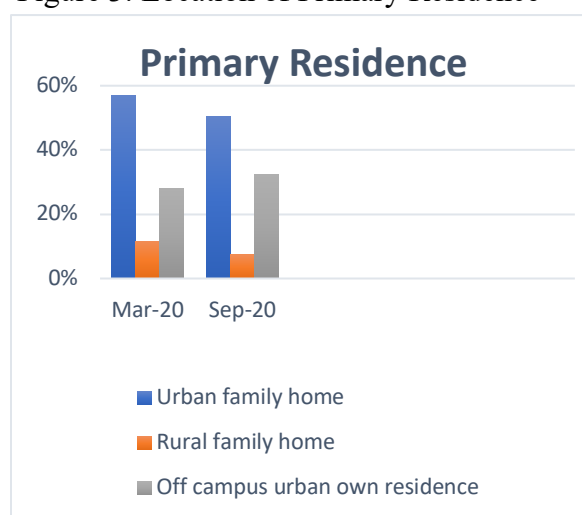
This student’s story is suggestive about how students who lack familial supports (in this case, as an international student living away from family) and financial resources may be experiencing increased challenges in securing access to the technology needed for their courses. But this example also points to the range of strategies students deploy to navigate the shift to remote learning. Another student, for example, living in a rural family home (which, as discussed below, are more likely to report problems with internet and study space access) and who was interviewed in the early part of the Fall semester said she would use publicly available internet, at the local library for example, to complete her course work. What is not clear is what happens to students’ strategic ‘work arounds’ to technology problems, like internet access, when, for example, lockdowns increased later in the Fall semester 2020 and into the winter term, and public spaces like libraries closed, or when friends or neighbours were not amenable to sharing their internet.

## Differences in Technology/Internet access

### *Rural/urban residence and technology:*

In both periods, most students lived in urban areas. Nearly 60% (57%) lived in an urban family home during the March-April 2020 period and 50.5% lived in this type of residence in September 2020. In the first period, 11.9% lived in a rural family home and 7.4% in the latter (see Figure 3). Students living in rural areas encountered more technological and internet issues than their peers living in urban areas (and the same is also true for access to conducive study space, addressed below). Students in rural family homes were far more likely – 68% – to not have access to reliable high-speed internet at home, as compared to only 14.5% students in urban family residences. These numbers appeared to improve in the September period (50%) but the numbers of students in rural dwellings is quite low making comparison difficult.

Figure 3: Location of Primary Residence



### *Race and technology*

While students said they had access to technology and internet (at least those living in urban settings), there are distinct gender and racial differences in access. In response to the Likert question – Did you have sufficient access to internet for your studies in the first lockdown – BIPOC students were more likely than white students (80.9% vs. 71.4%) to agree or agree strongly. But, when asked directly if they had access to reliable, high-speed internet in their place of residence, more BIPOC students than white students said they did not, with BIPOC men having the least access (33.3%). Importantly, over 90% of BIPOC students who did not have access to high-speed internet in their homes said it was available in their area, suggesting that they could not or would not access it. While more research is needed to know why this was the case, we can speculate that financial limitations may have been one reason. White men had the most access to high-speed internet in their place of residence (see Table 4).

Table 4: Access to Reliable High-Speed Internet March – April 2020			
Did <b>not</b> have access to reliable high-speed internet in residence March – April			
White men	12.9%	White students	20.2%
White women	22.6%		
BIPOC men	33.3%	BIPOC students	28.2%
BIPOC women	22.7%		
Did <b>not</b> have internet, but it was available in the area of residence			
White men	81.8%	White students	78.4%
White women	80%		
BIPOC men	83.3%	BIPOC students	93.8%
BIPOC women	100%		

### *Students with disabilities and technology access*

Students with disabilities also appear to have experienced impacts that we might link together as ‘technology’ problems in the move to remote education. Students indicating they had a long term disability generally tended to have access to a computer, said they had enough technology (95% agreeing/strongly agreeing) to transition to remote learning (as compared to 82.6% for those without a disability), with sufficient access to internet for their studies (75% agreeing/strongly agreeing versus 73.6% for those students without a disability). But technology difficulties arose in other ways. In response to questions about the kinds of challenges students experienced in the move to remote education, students with disabilities were particularly impacted by reliance on technology (online only access to course materials) or the technology lag in the shift to remote learning (Table 5).

Table 5: Technology issues faced by students with or without disability				
Tech issues encountered in move to remote learning	March-April 2020		September-November 2020	
	With Disability	Without	With Disability	Without
Reliable, high-speed	52.6%	53.3%	47.1%	40.8%
Laptop, computer	5.7%	16.2%	5.9%	15.5%
Course material access on line	57.9%	38.1%	58.8%	40.8%
Access library resources	47.4%	42.9%	41.2%	25.4%
Access specialized software <sup>10</sup>	31.6%	29.5%	35.3%	18.3%
Adequate digital replacements for face to face collaborations (ie white boards)	52.6%	34.3%	47.1%	32.4%
Instructor's access to technology for online classes	36.8%	18.1%	52.9%	18.3%
Own discomfort, lack of familiarity with required tech	42.1%	47.6%	52.9%	46.5%
Access to reliable communication software (ie Zoom etc)	21.1%	16.2%	5.9%	11.3%
Screen size because using phone for courses	15.8%	6.7%	17.6%	9.9%

These answers align with what some students with long term disabilities reported to us in interviews and in qualitative answers on the survey. One student said that the Paul Menton

<sup>10</sup> e.g., Adobe products, statistical packages

Centre-provided adaptive technology,<sup>11</sup> to assist with reading, slowed down their computer and while useful, did not entirely mitigate the increased reading requirements of courses that are delivered online. “I am dyslexic, and I have to read everything and interpreting everything is very difficult when you are not in a class atmosphere. School work has increased greatly so that it is a little difficult in making sure that everything is in on time, and I understand all the requirements and when they are due.”

In a written response to the survey question about technological issues encountered, one student explained:

*“I rely on captions for audio content, and the courses that need proper captions most (instructor with a heavy accent or bad mic) use auto captions that are completely incomprehensible. I’ve completely given up on attending half my classes, because I’d just be watching my prof move his cursor around the screen for three hours. I might as well have dropped out and spent my time watching Khan Academy. I’d be better off.”*

Finally, in a further written response to the survey question asking respondents to rank “the three most significant technological issues you faced?”, another student replied:

*“Why did you think it was a good idea to release audio-only content without captions? Do you know deaf people exist? Have you ever heard of deaf people? I’m paying 9000/year to learn entirely from Khan Academy. I can do that for free”*

Several students noted in interviews that they were registered with the Paul Menton Centre and received help with some of their technology problems.

## University services and supports

More students agreed or strongly agreed (44.8%) than disagreed or somewhat disagreed (29.4%) with the statement that they were able to access university services and supports needed to complete online studies in the March-April period. A similar difference occurred in the September-November period, though interestingly fewer seemed to be satisfied, with 41.2% strongly/agreeing and 26.8% somewhat/disagreeing (Table 6). Yet, more were critical of the University’s initial efforts to support them in this transition (Table 7), with 39.7% somewhat/disagreeing with the statement they received enough support to transition to remote learning (with 39% agreeing/strongly) in the March-April period, with some improvement in the September-November period (37.1% somewhat/disagreeing, and 46.4% agreeing/strongly).

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<sup>11</sup> The Paul Menton Centre at Carleton University coordinates supports and services for students with disabilities (<https://carleton.ca/pmc/>).

Table 6: Able to access university services and supports needed to complete online studies				
	March-April 2020		Since start Sept 2020	
	Frequency	Valid percent	Frequency	Valid percent
Strongly agree	23	16.9	16	16.5
Agree	38	27.9	24	24.7
Neither agree nor disagree	35	25.7	31	32
Somewhat disagree	31	22.8	17	17.5
Disagree	9	6.6	9	9.3

Table 7: Received enough support from my university to enable me to transition to online learning				
	March-April 2020		Since start Sept 2020	
	Frequency	Valid percent	Frequency	Valid percent
Strongly agree	14	10.3	16	16.5
Agree	39	28.7	28	28.9
Neither agree nor disagree	29	21.3	18	18.6
Somewhat disagree	32	23.5	19	19.6
Disagree	22	16.2	16	16.5

When asked about the supports offered by the University in March-April (Table 8), the three most commonly selected answers by survey respondents were: meetings with professors/instructors online, access to emotional support, and access to library resources. Of concern is that the option – “I am not aware of any supports” - was selected 36 times, making it the 4<sup>th</sup> most common selection. For September-November, however, “not aware of any supports” was the second most commonly selected option, suggesting that students were not receiving or digesting information about the options for support available to them. In both periods students indicated that they had a support system of friends, family and community that helped them navigate the pandemic with 26.4% somewhat/disagreeing, 53% strongly/agreeing, and 20.6% neutral in the March period, as compared to 20.6% somewhat/disagreeing, 62.9% strongly/agreeing and 16.5% neutral in the September period.

Communicating with professors was pivotal for students. While the survey responses to questions about university supports indicates that a significant portion of students were able to meet with their professors (by phone or online interface), interviewed students said they found it hard not being able to speak with their professors in person during classes. For example, one student said the biggest “technological” challenge she faced was communicating with her professors.

*“A lot of them have been trying to, like, get in touch and find, like, the good mode of communication that I would normally have in person, like at the end of the class I would*

*go and talk to my professor. [But] they sign off right away and sometimes it isn't the most efficient so it's mainly just communicating that's been the biggest thing for me."*

Table 8: What supports did the University offer you				
	March-April 2020		Since start Sept 2020	
	Frequency	Valid percent	Frequency	Valid percent
Meetings with professors/instructors online or by phone	65	26.21	38	25.8
Access to emotional support	40	16.13	12	8.16
Access to library resources (e.g., digital materials; loans of books/materials; online assistance with research materials)	38	15.32	25	17
Not aware of supports	36	14.52	27	18.3
Access to additional supports such as writing or editing assistance	23	9.27	9	6.12
Access to careers supports (e.g., letters of reference, guidance on post-graduate opportunities, etc.)	11	4.44	8	5.44
Free or reduced cost for online access of university course materials	10	4.03	13	8.84
Financial assistance (bursaries, additional employment opportunities)	7	2.82	7	4.76
Access to housing support (e.g., financial, information, access to accommodation)	6	2.42	3	2.04
Ability to borrow a computer for use at home	2	0.81	1	0.68
Free or reduced cost for data	1	0.4	1	0.68
Access to a camera or microphone for use at home	0	0	1	0.68

**Green** indicates the option was lower in ranking of top 4 options selected for September period

**Yellow** indicates the option was higher in ranking of top 4 options selected for September period

But student experience of university supports may vary for different categories of students. Women students were more likely than men (36.1% compared to 21.4%) to identify emotional supports offered by the University. Lack of supports for international students was highlighted by one student, noting "There is almost no service that truly helps international students." Students' place of residence also yields significant variance in levels of satisfaction with University supports. Nearly half (46.8%) of students in an urban family residence agreed/strongly they had enough support from Carleton to transition to online learning, with 31.2% disagreeing/somewhat. This contrasts with 62.5% of students in a rural family residence disagreeing/somewhat (and 18.8% agreeing/strongly). Similarly, 55% of students in urban family residence agreed/strongly they were able to access the University services and supports needed to complete their studies (21% somewhat/disagreeing), as compared to 35% of students living un

rural residences, an additional 33% of whom somewhat/disagreed with the statement indicating they were not able to access the services needed.

Students who report higher self income levels perceive university supports more favourably than those in lower income brackets. While the numbers of respondents in these different categories are low, making firm extrapolations difficult (Table 9), it is striking that students making less than \$15,000 were more likely to indicate they did not receive enough support from the university. Students at the upper end of the income ranges (making \$50,000 or more) were far more likely to strongly/agree with the statement they had received enough support from the university (60% for those in the \$50,000-99,999 income bracket and 72.8% for those making over \$100,000), and far less likely to disagree that they received enough support (only 9.1% of those in the highest income bracket somewhat disagreed). This outcome may not be surprising in a context where, as the interviews suggest, many students bought upgrades to their home computing to facilitate online learning. Having access to personal financial resources may have meant that these students did not need to rely on the University to assist them in ways that students in lower income brackets or facing other kinds of challenges may have. But equally, this suggests that students in lower income brackets needed, but did not receive, the supports required from the University.

Table 9: Income and University Support: received enough support from my university to enable me to transition to online learning				
Student income level	< \$15,000	\$15,000 - 49,999	50,000 - 99,999	100,000+
Strongly agree	3 6.0%	0	2 40%	3 27.3%
Agree	13 26%	4 20%	1 20%	5 45.5%
Neither agree nor disagree	11 22%	3 15%	2 40%	2 18.2%
Somewhat disagree	14 28%	6 30%	0 0	1 9.1%
Disagree	9 18%	7 35%	0 0	0 0

Students with disabilities also seemed to be less satisfied with the supports received from the University to transition to online learning in the March/April period. Half (50%) of the students with a disability said they somewhat/disagreed that the University provided supports needed, as compared to 37% of students without a disability. The same is true for students who identified as LGBTQ2+, half of whom somewhat/disagreed, as compared to 39% of those not so identifying.

BIPOC students viewed university supports more favourably than white students (47% strongly/agreeing compared to 35%) about the university supports received in March/April to facilitate their transition to online learning. The same is true for the September/November period

(50% of BIPOC students and 43% of white students strongly/agreeing) that they received university services and supports.

The top four services that students said they accessed in the first lock down were meetings with professors, emotional support, access to library materials, additional supports (writing, editing), and these were generally the most common supports students said they accessed in the September – November period though with far fewer students saying they accessed emotional support in this later period. Generally, students indicated they did not access technological supports (computer loans for example), but in the September – November period, more students compared to the first wave, accessed free or reduced cost for online access of university course materials.

Access to University supports reflected gendered and raced differences. Women, more so than men (Table 11), white students more so than BIPOC students (Table 10), accessed University supports. The most significant gaps in accessing services by women versus men were: meetings with professors/instructors (56.6% women compared to 40.5% men), emotional support (36.1% versus 21.4%), and writing/editing supports (29.5% versus 11.9%). Men were more likely than women (35.7% compared to 24.1%) to indicate they were not aware of any supports in the March/April period. The biggest gaps in supports accessed by BIPOC compared to White students were library resources (22.5% versus 33.3%) and meetings with professors/instructors (42.5% compared to 52.2%). BIPOC students were more likely to indicate they were not aware of supports in the March/April period (30 versus 26.4%) (see Table 10).

Importantly, a large percentage of students indicate they were unaware of supports offered by the University and this percentage, for some students, increased (albeit slightly) in the September-November period. The consistency in this finding raises concerning questions for the University about how students receive (and absorb) information about University supports, but also whether the range of services offered (or the means by which they are offered) are meeting the needs of all students. The results from this study also raise questions about how and if the University is adequately resourcing the supports that students appear to access the most, such as counselling (for emotional support) or library services. Finally, speaking with professors/instructors appears to be the most sought-after University support for all students. The pandemic and lockdown measures impacted University personnel just as they did students, raising questions about how professors/instructors with family responsibilities juggled the needs of their students during this time and with what implications. This finding also has implications about the need to build in more ‘one-on-one’ meeting time for instructors and students in any future developments of on-line or blended learning options. These questions are beyond the scope of this current study but warrant additional consideration (see Recommendations below).



Table 10 University Supports Accessed - Race <sup>i</sup>	March-April		Sept-November	
	BIPOC	WHITE	BIPOC	WHITE
Meetings with professors, instructors online or phone	42.5%	52.2%	40%	44.4%
Emotional support	30 %	32.2%	20%	11.1%
Library resources (digital, physical loans, assistance, etc)	22.5%	33.3%	24%	30.2%
Additional supports such as writing or editing	17.5%	18.4%	20%	6.3%
Free or lower cost online material	7.5%	8.0%	8.0%	17.5%
Career (letters of ref; guidance incl for graduate study)	2.5%	11.5%	8.0%	9.5%
Financial Assistance (bursaries, additional employment)	7.5%	4.6%	4.8%	16%
<b>Not Aware of Supports</b>	<b>30%</b>	<b>26.4%</b>	<b>32%</b>	<b>30.2%</b>

Table 11 University Supports Accessed - Gender	March-April		Sept-November	
	Female	Male	Female	Male
Meetings with professors, instructors online or phone	56.6 %	40.5%	50%	34.5%
Emotional support	36.1 %	21.4%	14.3%	10.3%
Library resources (digital, physical loans, assistance, etc)	32.5%	21.4%	32.1%	20.7%
Additional supports such as writing or editing	20.5%	11.9%	10.3%	8.9%
Free or lower cost online material	8.4%	7.1%	14.3%	17.2%
Career (letters of ref; guidance incl for graduate study)	8.4%	7.1%	10.7%	6.9%
Financial Assistance (bursaries, additional employment)	7.2%	2.4%	12.5%	0%
<b>Not Aware of Supports</b>	<b>24.1%</b>	<b>35.7%</b>	<b>25%</b>	<b>37.9%</b>

When asked more generally about ability to access university services needed, BIPOC students were also more positive in their answers than white students (52.4% versus 41.5% agreeing/strongly). What is not clear is if BIPOC students are in fact able to access University services needed, or if their needs are fewer, or if their expectations of what the University could and should provide are different. BIPOC students, for example, were more likely to say they had a support system in place to navigate educational challenges in a pandemic.

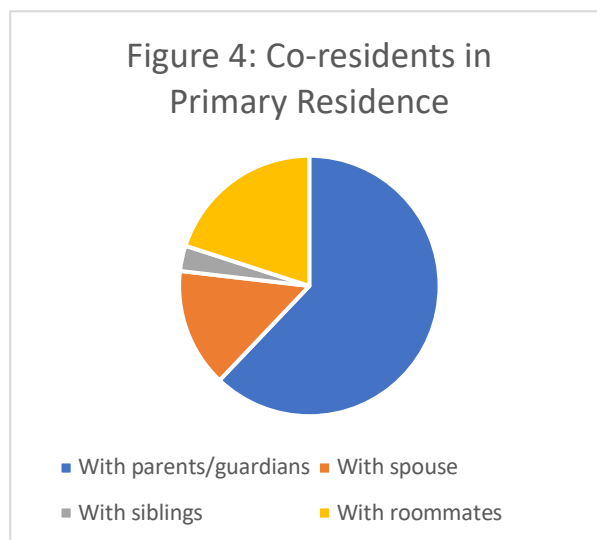
Table 12: Had access to a support system for navigating educational challenges in a pandemic (i.e. family, friends and community)					
	Agree strongly	Agree	Neither agree disagree	Somewhat Disagree	Disagree
White Men	19.4%	25.8%	22.6	19.4%	12.9%
	45.2%			32.3%	
White Women	14.5%	38.7%	19.4%	16.1%	11.3
	53.2%			27.4%	
BIPOC Men	26.7%	40%	13.3%	6.7%	13.3%
	66.7%			20%	
BIPOC Women	24%	32%	24%	12%	8%
	56%			20%	

When viewed in terms of gender and race, the category of student most dissatisfied with university supports needed to transition to online learning, and most likely to indicate they did not have an access to a support system were white men (51.7 % disagreeing/somewhat with the statement that they received university supports needed to transition to online learning, and 32.3% disagreeing/somewhat they had access to personal support systems).

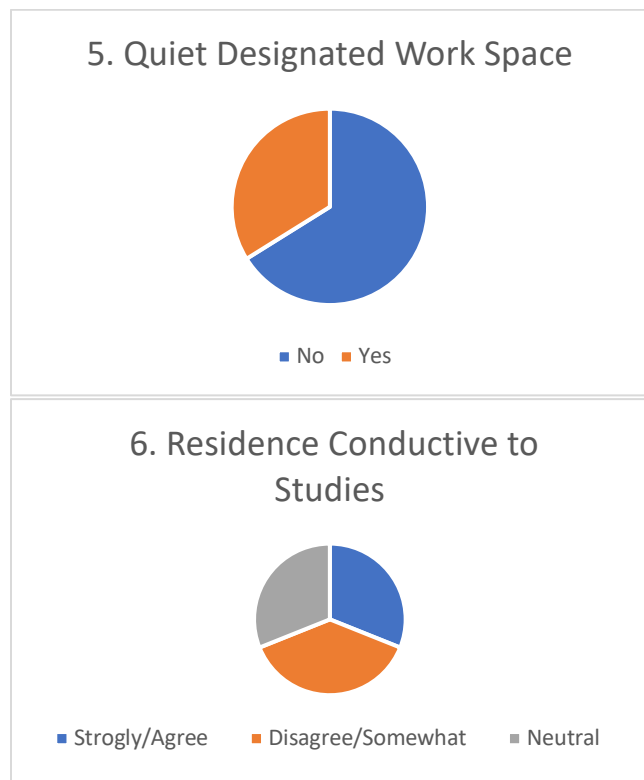
## Home Life

The research explored issues that might arise for students when undertaking their studies – from attending classes through to completing all their assignments and exams – in their homes. In some cases, home might still be living in university residence, or with roommates in an apartment in Ottawa, but without access to university spaces and resources (e.g., computer labs). In other cases, students may have moved to a parents’/guardians’ home when the lockdown was announced (26% of survey respondents said they moved) and conducted their studies in the family home. The survey and interviews explored issues such as: access to a space conducive to study; the numbers of people with whom students share their living arrangements; and the amount of time they spend on responsibilities in the home.

### Study space



As illustrated by Figure 4, the primary residence for most students was with parents/guardians, followed by roommates and spouse. The vast majority (81%) of students reported that their study conditions changed in the first lockdown. Over 30% of the survey respondents said that they did not have access to a quiet designated space appropriate to do their studies in the March-April period, with a further 52% indicating that their work space was not conducive for their studies.



Of students who said they had access to quiet, designated study space (see Figures 5 and 6), 64 provided short written explanations in the survey that overwhelmingly point to the benefits of larger homes (and/or smaller households), and resources to create offices. Twenty-one of the 64 respondents who provided written answers had separate office spaces/ work stations available to them, and a further 33 said they were able to work in their bedrooms. Students who did not have access to quiet study space overwhelming identified busy households and/or a lack of appropriate technology, desk, chair or internet (28/34 answers), while two students noted that their family responsibilities interfered with their ability to focus on their studies at home. As one BIPOC respondent described their situation evocatively in their written survey answers:

*I shared a small room that could only fit a tiny desk. I didn't have a proper desk or a computer set up, except for a broken laptop. I lived in affordable housing with a lot of family and everyone was really loud without any space to get work done. My parents are intrusive.*

In a later question on changes in study space, this student further explained:

*I moved in with my boyfriend so I could have a study space, which was more financially burdensome but luckily I had savings. My family moved in June and I moved back in with them. I got my own room, and invested over \$4000 on new computers, camera, headphones, ergonomic chair, new laptop because it was such a challenge before just working in a kitchen table with an unreliable laptop and a chair that didn't suit my back injury.*

Other written comments, while shorter, echo some of these themes:

*I do not have a quiet, designated work space in my house. I worked at the dinner table with life going on around me. (and then in further explanation of changes to study conditions): My son was home, sharing my space and my technology as he transitioned to online learning as well.*

*Thin walls, three kids in the household, 5 adults*

*Lots of family members as well did not have my own room.*

There was a small gap between men and women in access to study space (63.1% versus 61.4% saying they had access), but a significant difference between students living in urban family residences, 61% of whom said they had did have a quiet designated space, compared to those in rural family homes (7%). A gap is also found between BIPOC and white students, with more racialized students (68.4%) saying they had access compared to 58.5% white students. But, as we discuss more below, BIPOC students were more likely than white students to reside in larger households and as the data discussed above indicates, housing and household size and dynamics were key in impacting students' ability to do their studies remotely. Students who cared for small children were particularly impacted. For example, one racialized woman, who has two small children under the age of 3 years, said in an interview that she did her school-work on the dining table so she could watch the kids while studying. For her, the closure of physical spaces at the University, along with the closure of daycares, meant she no long had quiet time for her studies. "I don't have quiet time! I don't have time on campus alone to really just focus on studying so it takes me longer to finish my assignments and go through my notes and everything, just because I'm taking care of my family and I'm a mother of toddlers."

Study conditions in the September-November period did seem to improve, with only 20% of respondents saying they did not have access to a quiet, designated study space. Of the 31 students who explained in written answers how their study conditions had changed, 11 said their studying conditions were now quieter or less busy (usually because they had moved residences), 11 pointed to negative challenges in working online, most often because of the isolation from colleagues and meaningful interaction in the classroom (one notable response in this vein: "I see no one, I do very little, and it's hard. Send help"), and nine students said their living conditions were busier (more people) making it difficult to have a quiet study space. Once again, however, some of the responses point to the importance of access to resources: to move house, to move out of shared housing and into their own apartment, or to invest in furniture and equipment to construct workable home offices. In the written survey responses, some illustrative examples:

*moved homes with less people and more space*

*more people in house, less quiet time, hard to access quiet and alone space/ time;*

*More people sharing my study space, making it harder to focus.*

*Yes; I've moved, I now live alone*

*Better as I have a desk, and more access to quiet areas in other parts of the house.*

### *Households and Responsibilities*

Given the age range of students responding to the survey (see Tables 1 and 4), it is not surprising that the majority (57%) reported that in their primary residence they lived with one or more parents/guardians. BIPOC students, however, were more likely than white students to live in larger household (Table 13), with 54% of BIPOC students reporting they live in households with 4 or more people compared to 33.2% white respondents (the survey categories included 4 and 5+ other household member but these are combined here for ease of reference). This figure is even greater for BIPOC women at 59% and lowest for white women at 29.1% (Table 14).

Table 13: People (race) in household during March-April lockdown (in addition to respondent)			
	<3	3 others	4-5+
White	41.9%	24.7%	33.2%
	39	23	30
<b>BIPOC</b>	<b>27%</b>	<b>16%</b>	<b>54%</b>
	10	6	20

Table 14: People (gender + race) in household during March-April lockdown (in addition to respondent)			
	< 3	3 others	4-5+
White Men	39.4%	12.9%	38.7%
White Women	40.3%	30.6	29.1%
<b>BIPOC men</b>	<b>33.3%</b>	20	<b>47%</b>
<b>BIPOC women</b>	<b>22.7%</b>	18.2	<b>59.1%</b>

The size of the household can have a number of effects for students doing their university courses at home, including positive effects like having company and support. But a busy household can also make it harder for students to find quiet time and space for study. A third of student surveyed indicated they did not have access to a space conducive for study during the first lockdown period.

Students with caring responsibilities are particularly impacted by lack of access to study space. One interviewee, mentioned above, is the primary carer for two children. When asked about how many hours a week she spent on household responsibilities, she laughed “like all day every day... I have a toddler, just to put in perspective for you... the only time I get any rest would be at night.” Another interviewee, who moved back into her family home during the March-April lockdown period, took care of her two younger siblings while the adults in the household worked

outside the home. In addition to her extra household responsibilities, this student also noted that internet access was an issue because there were so many additional users. “Mom had to keep calling to upgrade and it was expensive.”

Both these interviewees were BIPOC women and the survey results revealed gendered and racialized patterns in size of households and responsibilities in the home. Most students reported that their household responsibilities had increased or increased significantly (49.6%), with 41% saying there had been no impact. Home responsibilities appear to have landed in distinctly gendered ways. White men were far more likely than other categories of students to say their household responsibilities had stayed the same (61.5%), BIPOC and White women were most likely to report a significantly/increase in their daily responsibilities, with 65% and 43.7% respectively (Table 15).

Table 15: How did the pandemic affect your daily responsibilities in the home?					
	Remained same	Significantly decreased	Decreased	Increased	Significantly Increased
<b>Male White</b>	61.5%	3.8%	3.8%	23.1%	7.7%
		7.4%		30.8%	
<b>Male BIPOC</b>	40%	0	13.3%	20%	20%
		13.3%		40%	
<b>Female White</b>	38.9%	1.9%	0	35.2%	18.5%
		1.9%		43.7	
<b>Female BIPOC</b>	25%	1.4%	0	30%	35%
		1.4%		65%	

The survey asked students to estimate the hours spent weekly on child-care, caring for family members, cooking, cleaning and other household duties. Once again, the results reveal the distribution of work in the home as having both gendered and raced dynamics with white men doing the least amount of caring for children and other family members, cleaning and cooking. BIPOC women who answered this question spent the most time on household responsibilities (an estimated 12.19 hours per week) of the raced/gendered intersections (Table 15), followed by BIPOC men (7.9 hours) and white women (7.6 hours). White men estimated that they spent 4.2 hours, the least amount among the student categories. The overall distribution of time spent on other responsibilities points to the importance of both gender and race, and to the ways in which these vectors of social location intersect in the home. Once again, our results are preliminary and underscore the need to look more closely at home life as part of the context in which students navigate time, space and mental energies needed for their academic study.

	Hours spent on child care (mean)	Hours spent caring for family members (mean)	House-hold tasks (cleaning, cooking) (mean hours)	Hours on other not school related (mean)	
Male- white	.83	2.8	8.36	4.20	
Male - BIPOC	.40	<b>12.91</b>	11.20	7.90	
Female - white	1.81	6.57	<b>12.82</b>	7.76	
Female - BIPOC	8.31	12.19	<b>14.31</b>	12.19	

## Paid Work/Financial Impact of COVID-19 and Lockdown

Of the surveyed students, 46% said they had paid work in the period January – February 2020, with 58.8% working less than 20 hours/ week, and just over half reporting their income had decreased or significantly decreased as a result of the pandemic. As shown in Table 17, students with disabilities were more likely to have lost their employment than other categories of student, and none of the students with disabilities were able to get another job. Women, more so than men, lost their jobs, and were less likely to get another job. More white students compared to BIPOC students lost their jobs, but where some white students found replacement employment, none of the BIPOC respondents had. Those BIPOC students who kept their job, were more likely than white students to have their hours reduced. Students with disabilities and white men were more likely than other categories to have had their hours increased.

	Males	Females	White	BIPOC	No Disability	With Disability
My job ended	25%	33.3%	33.3%	23.5%	25%	<b>46.2%</b>
My job ended but got another	<b>7.1%</b>	2.2	5.3%	0	5%	0
Got a job during pandemic	<b>17.9%</b>	11.1	8.9	25	15%	7.7%
Hours reduced	14.3%	15.6	14%	<b>23.5%</b>	18.3	7.7%
Hours increased	10.7%	8.9	10.5	5.9%	8.3	<b>15.4%</b>
Type of work changed	<b>14.3%</b>	11.1%	12.3	11.8	13.3%	7.7%
No impact	<b>25%</b>	22.2%	22.8	23.5	23.1	23.3%

Of the students who had paid employment for the above duration, service industry jobs were the most common (e.g. server), followed by retail, working at Carleton (e.g., as TAs or Carleton bookstore) and working for the government.<sup>12</sup> This pattern is true also for the interview respondents. Of those interviewed, nine said they lost their jobs during the pandemic with five getting another job or hired back to their old job within a few months. Four said they couldn't get a lasting replacement position. Three people said they retained their jobs (and/or increased their hours), two of whom worked for large retail chains that also sold groceries.

Our data is not conclusive about how these experiences of employment may have distinctive gendered and racialized patterns, though this may also be a dynamic that should be explored further. The research on the effects of COVID 19 in Canada more broadly has revealed troubling racialized patterns in 'essential' work during the pandemic, and which exposed racialized communities to higher rates of infection and death (Guttmann et al. 2020, Statistics Canada 2020, Subedi et al. 2020). Among our interviewees, the students in front line work (specifically grocery stores, hospitals/personal care) were disproportionately BIPOC, but the size of our interview pool is too small to draw definitive conclusions.

Students with disabilities also seemed to have particular experiences with employment in the context of the pandemic. They were far more likely to lose their employment relative to other categories of students, but also more likely to have their hours increased. This too suggests the need for more study on how students with disabilities navigated the conditions, and the isolation, of the shift to remote learning.

## V. Conclusion and Recommendations

This pilot study points to some trends in the ways in which the move to remote learning, and the University's shift to 'crisis' response mechanisms, impacted students differently depending on their social location. As a pilot study, there are limits to what we conclude but we offer the following insights, with suggestions for follow up research.

1. Unequal access to high-speed, reliable internet impacted students during the March-April 2020, and particularly students living in rural locations, students who identified as BIPOC (Black, Indigenous, People of Colour), and those reporting lower personal incomes.

Viewed in terms of gender and race, BIPOC men had the least access to reliable high-speed internet and white men the most.

2. Students with disabilities reported unequal impacts of the shift to remote learning and the technology gap in the range of material formats available and in instructor access to and facility
-



with technology. The interviews demonstrated that students were provided supports from the Paul Menton Centre to mediate this shift.

3. Access to technology, including home desks and computers, was crucial in enabling students to complete their studies. But ‘access’ for students was more complex than simply ‘having or not having’ computers, internet or desks.

Family and financial supports, including access to homes with sufficient space, provided some students with ready-made home offices, or the means to purchase furniture, internet, computers and other tools needed to do university studies remotely. Students reported that they and/or their parents (where involved) spent money on desks, setting up home offices, upgrading computers and internet. Some of the interviews and qualitative survey answers suggest that even students with constrained personal and family incomes spent money on computer and internet upgrades. Other students appear to have drawn from social contacts to navigate access to the technology and tools needed for remote study.

Understanding more about the circumstances in which those expenditures were made, and with what effects (and limits), is needed. The same is true for other kinds of expenditure, such as social capital, that students may have had to make to be able to navigate remote learning.

4. Students’ living situations were important contexts shaping how students did their courses and navigated the emotional toll of loneliness and separation from their peer and academic communities. Home-life also posed challenges for some students who had access to less space (either because of the size of the residence or the numbers of household members or both), had to share internet access with others (thereby reducing quality of connection), and/or had to balance their university study with caring and other (cleaning, cooking) responsibilities in the home.

The differences in living situations reflected urban/rural, racial, and gendered differences.

- a) Rural students were far less likely than urban-based students to have space in their residences conducive to study.
- b) BIPOC students were far more likely than white students to live in larger households (with implications for access to time and space conducive for study);
- c) BIPOC and white women were more likely to experience an increase in their home responsibilities and particularly time spent on child care and cleaning and cooking.
- d) BIPOC men and women experienced an increase in time spent on caring for other family members, and in doing other, non-school related work in the home.

Interviews and qualitative survey answers point to this household work as limiting some students’ time, space, internet, and quiet, thinking time needed for their studies. While the data from this study is suggestive only, BIPOC women students seem particularly impacted by these greater household demands.

5. Contact with course professors, along with emotional supports were key resource for students, and this continued throughout the lockdown. But here seems to be unevenness in how different categories of students viewed and/or access university supports. Women more so than men, White more so than BIPOC students indicated they accessed University supports.

6. A sizeable number of students, across all categories, said they were unaware of any university supports available and this was echoed in interviews. There is an urgent need to know which students were able to access university services, and which students were not and why. This information is needed to better understand the barriers that may exist for some students in accessing University supports, as well as provide needed information to the University to ensure it is adequately funding the services needed.

7. Carleton University moved quickly, once government lockdowns were announced in March 2020, to established decision-making bodies within the University. Some of these bodies were described as collegial and well-functioning.

The University's decision to align its approach to a public health framework is laudable as is the low numbers of COVID cases reported on campus. But one of the drawbacks to this otherwise commendable approach is that it unintentionally reproduced the failings found in public health approach to considering race, socio-economic, and less-so gender dynamics of the experiences of COVID 19 and the impacts of lock-down measures. Health, as our interviewees confirmed, was understood by University decision-makers as physical, rather than mental health, and the unequal impacts of COVID and pandemic adaptations, like the shift to remote learning, were not considered.

8. The double-invisibilities of a-typical students: University students, at Carleton and elsewhere, generally reproduce patterns of social advantage found in the broader society, coming from households with secure incomes and parents who themselves have university degrees (Hamilton, Roksa, and Nielsen 2018)). Not all students, however, reflect these trends. It is important not to assume that all students share the same demographic profiles of the majority. When administrators assume that all students enjoy the same range of advantages (that are seen as flowing from being in "modern Canada," as one interviewee put it), then already disadvantaged students are further marginalized.

The preliminary data from this study suggests that some students – who are not from Canada, are racialized, come from poorer households, are in rural locations, have disabilities, or gendered caring responsibilities – experience a range of challenges in conducting their studies remotely. This data is relevant both for planning for further lockdowns, should they emerge, but may also have implications for how the university designs future online or blended learning formats, as well as ensuring that all students at Carleton have access to the supports they need to achieve the best education they can.

## Recommendations

1. Further research that is designed and resourced to facilitate participation by international and BIPOC students is needed to gain a better understanding of how racialized inequalities operate to shape students' access to education and services, and how they are impacted by emergency situations.
2. Carleton is starting to collect differential data about its students in terms of race (and ethnicity). Our findings show the importance of doing this. However, this research also highlights some of the limits of viewing student issues, around remote learning for example, in categorical terms. Our research suggests, for example, that issues of access to technology are more complex than simply 'having' or 'not having' access. Students' use of high-speed internet, for example, is mediated by a range of factors, including the nature of their living conditions, their ability to find space and time to use the internet, the people with whom they share internet, and the steps they take to use the internet at different times and within various limitations. These factors reveal the operation of intersecting social determinants.

We recommend that data on students should be gathered with clear attention to intersecting social variables such as gender, race, place of birth, sexuality, disability, location of principal dwelling, socio-economic status of students and their families.

3. Data on students' knowledge and use of university services, from counselling through to writing supports and equipment loans, should be gathered with attention to race, gender, rural/urban location, sexuality, socio-economic status, and disability. It is clear from our research that large numbers of students were unaware of the range of University supports offered. More information is needed on why this was the case, which students were able to access services, which services were accessed, and which were not. This information will help to better understand the barriers that may exist for different students in accessing the supports needed and to ensure that student services and supports are available and adequately funded for all students.
4. Students with children and/or caring responsibilities appear to have faced distinct challenges during the COVID-19 pandemic and the move to online learning. We recommend that the University gather and monitor data on students with children to determine the challenges they face and the possible supports the University can provide.
5. Given our findings on the difficulty some students faced in securing reliable internet and the space and time for their school work, Carleton should consider these factors when designing future online or blended learning formats. For example, the University could consider making space available on campus for such students to use for their course work. If, by chance, this is due to a future pandemic, then working with public health authorities to enable safe access for such students to campus could alleviate some of these inequities that adversely affected some students in 2020 due to COVID-19.
6. Meeting with professors/instructors was identified by students as among the most important University support they accessed. This attested need for one-to-one contact with professors/instructors has implications not just for pandemic planning (ensuring that

these meetings are still possible and mediating the impacts on professors/instructors who have their own caring and home responsibilities) but also for any initiatives to develop further on-line or hybrid learning formats. Such efforts need to build in sufficient time and resources to ensure that student-professor/instructor contact is maintained and possibly enhanced.

### *Research Limitations*

As noted in the discussion above, the interviews were over-representative of white, able-bodied, women in undergraduate programs, paying domestic (rather than international) fees. While the survey was completed by a greater range of participants than the interviews, it too only reached a relatively small number of international and BIPOC students, and only a very small number of married students or those with children. The survey included some qualitative answers which provide additional data on how racialized students and or students with disabilities, for example, undertook remote learning during the pandemic, but the smaller number of participants means that some data is indicative, pointing in some important directions but which need to be followed up with more study. One of these areas is around caring work (household responsibilities like food preparation, cleaning, and caring for others such as children or other family members). The results of the survey, and the comments provided in interviews and qualitative answers, suggest that BIPOC women in particular, along with BIPOC men, do more caring and household work, with white men doing the least. While the numbers of BIPOC women completing this portion of the survey is comparatively small, making definitive conclusions difficult, the results suggest that more attention is needed to the home-life for students doing their studies remotely, and how care and the tasks of caring, shape the time and space available for university study.

Another limitation of the study is around socio-economic status. The survey asked students about their incomes and that of their parents, and their parents' education backgrounds and employment. For reasons of time, this report focuses primarily on income levels as one indicator of socio-economic status, but we recognize that both income levels, and parents' occupational status are unreliable indicators (Archer 2002, 7-9). More attention is needed both to how to capture socio-economic differences among students, and how socio-economic status impacts students as they navigate online and remote learning.

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## Appendix – Survey: (Canada) Attending (to) Class: An Intersectional Study of COVID-19 Adaptation

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### Start of Block: Consent

Q10 Project Title: Attending (to) Class: An Intersectional Study of COVID-19 Adaptation in Universities in Canada and Africa Funding Source: Carleton University, May 2020

Carleton University Project Clearance

Clearance #: 113038

Date: 2020-06-11

### Invitation and Purpose of Survey:

The survey is being conducted by the researchers, listed below, at Carleton University, University of Sierra Leone, and University of Nairobi as part of a study of student access to and participation in university courses delivered online following the COVID-19 lockdown (March 2020) and how access may be affected by differences in students' gender, race, disability socio-economic status and urban/rural locations. We are inviting all students at Carleton University who completed at least some of their course work online because of COVID-19 and social distancing requirements, to complete this survey.

We estimate that the survey will take about ten - fifteen minutes to complete. Your participation is voluntary, and you may choose not to take part, or not answer any of the questions. If you decide to withdraw after you submit the survey, we will remove your responses from survey data if you notify Professor Doris Buss ([doris.buss@carleton.ca](mailto:doris.buss@carleton.ca)) within seven days. We expect to survey approximately 60-120 students across the three universities that are part of this study (Carleton, University of Nairobi and University of Sierra Leone). The survey is hosted by the Qualtrics platform and the data stored in Canada.

We will retain the surveys indefinitely. We will treat your personal information as **confidential**, although absolute privacy cannot be guaranteed. No information that discloses your identity will be released or published without your specific consent. Research records may be accessed by the Carleton University Research Ethics Board in order to ensure continuing ethics compliance. The results of this study may be published in the form of academic articles, reports, and presentations to university administrators and students, but the data will be presented so that it will not be possible to identify you, unless you give consent. All survey data will be password-protected and any hard copies of data will be kept in a locked cabinet at Carleton University. Your data will be stored and protected by Carleton University on servers located at Carleton, in Canada but may be disclosed via a court order or data breach. After the study is completed, we will retain your anonymized data for future research use.

REB Review and Contact Information: This project was reviewed and cleared by the Carleton University Research Ethics Board. If you have any ethical concerns with the study, please

contact the Carleton University Research Ethics Board by phone at 613-520-2600 ext. 2517 or by email at [ethics@carleton.ca](mailto:ethics@carleton.ca).

Doris Buss of Law and Legal Studies University Canada Department of Sociology and Anthropology Kinyanjui Law Nairobi Aisha Ibrahim Sierra Leone	Carleton University Ottawa, Blair Rutherford Ottawa, Canada Sarah Senior Lecturer, School of Director, Mombasa Campus, University of Mombasa, Kenya Fourah Bay College, University of Sierra Leone	Professor, Department Professor, Senior Lecturer, School of University of
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Implied consent: By completing the online survey, you are agreeing to participate in the study. I voluntarily agree to participate in this study:

- Yes (1)
- No (2)

*Skip To: End of Survey If Project Title: Attending (to) Class: An Intersectional Study of COVID-19 Adaptation in Universit... = No*

**End of Block: Consent**

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**Start of Block: Demographics:**

Q4 What is your age?

- Under 18 years old (1)
- 18 to 20 years old (2)
- 21-24 years old (3)
- 25-34 years old (4)
- Over 35 years old (5)
-



Q5 What is your gender?

- Male (1)
- Female (2)
- Other If other, please specify: (3)
- 

Prefer not to answer (4)

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Q6 Do you identify as LGBTQ2I+ ?

- Yes (1)
- No (2)
- Prefer not to answer (3)
- 

Q7 Do you have a disability that is long term?

- Yes (1)
- No (2)
- Prefer not to answer (3)
-

Q8 What is your marital status?

- Single (includes divorced, separated, widowed) (1)
  - Married (2)
  - Common Law (3)
  - Prefer not to answer (4)
- 

Q11 Do you have children?

- Yes (1)
  - No (2)
- 

Q12 If yes, how many children do you have?

▼ 1 (1) ... 4 or more (4)

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Q13 What is your country of origin?

- Canada (1)
  - Kenya (2)
  - Sierra Leone (3)
  - Other If other, please specify : (4)
-

Q14 How would you describe yourself? If you belong to more than one population group: mark all categories that apply. Please do not report "bi-racial" or "mixed" in the "Other - specify" box provided.

- Indigenous (e.g., First Nations, Métis, Inuit) (1)
  - White (e.g., British, French, Swedish, etc.) (2)
  - South Asian (e.g., East Indian, Pakistani, Sri Lankan etc.) (3)
  - Chinese (4)
  - Black (e.g. Caribbean, African American, Afro-Latinx, African) (5)
  - Filipino (11)
  - Latin American (12)
  - Arab (13)
  - Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai, etc.) (14)
  - West Asian (e.g., Iranian, Afghan, etc.) (15)
  - Korean (16)
  - Japanese (17)
  - Other If other, please specify: (18)
- 
-

Q16 Do you pay fees to Carleton University as a student who is defined as:

- International (1)
- Domestic (2)

**End of Block: Demographics:**

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**Start of Block: Education**

Q45 Were you enrolled as a full-time or part-time student in a university program from the period starting in January 2020?

- Full-time (1)
- Part-time (2)

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Q19 What is your course of study?

▼ Arts and Social Sciences (1) ... Business (4)

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Q20 What year of study are you currently in?

▼ 1 (1) ... Other (special, continuing etc.) (10)

**End of Block: Education**

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**Start of Block: Prompt: Remote Learning During COVID**

**Q48 The following questions will now ask about your experience of the move to remote learning as a result of the COVID-19 lockdown during March – end of April, 2020.**

**End of Block: Prompt: Remote Learning During COVID**

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**Start of Block: Remote Learning During COVID**

Q21 Which of the following technological issues did you experience since the transition to remote learning? (Check all that apply)

- Access to reliable, high-speed internet service (1)
- Access to a reliable computer (laptop or desktop) (2)
- Access to specialized technology available at the university such as workstations, 3D printing, rapid prototyping, and video recording equipment (3)
- Use of private data plan to access courses (4)
- Online only access to course material (5)
- Instructor's access to the technology required to host online classes (for example: cameras, microphones) (6)
- Instructor discomfort or lack of familiarity with required technologies or applications (7)
- Your own discomfort or lack of familiarity with required technologies or applications (8)
- Access to reliable communication software/tools (for example: Zoom, Skype, Google) (9)
- Access to specialized software (for example: Adobe products, statistical packages) (10)
- Access to library resources (11)
- Adequate digital replacements for face-to-face collaboration tools (for example: whiteboards) (12)
- Screen size when accessing your courses because you could use only your phone (13)

Other If other, please specify: (14)

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Q49 Following from your answer to the previous question, rank the three most significant technological issues you faced? (with “1” the most challenging):

- \_\_\_\_\_ Access to reliable, high-speed internet service (1)
  - \_\_\_\_\_ Access to a reliable computer (laptop or desktop) (2)
  - \_\_\_\_\_ Access to specialized technology at the university (workstations, video recording, 3D printing) (3)
  - \_\_\_\_\_ Use of private data plan to access courses (4)
  - \_\_\_\_\_ Online only access to course material (5)
  - \_\_\_\_\_ Instructor’s access to the technology required to host online classes (cameras, microphones) (6)
  - \_\_\_\_\_ Instructor discomfort or lack of familiarity with required technologies or applications (7)
  - \_\_\_\_\_ Your own discomfort or lack of familiarity with required technologies or applications (8)
  - \_\_\_\_\_ Access to reliable communication software/tools (Zoom, Skype, Google) (9)
  - \_\_\_\_\_ Access to specialized software (Adobe products, statistical packages) (10)
  - \_\_\_\_\_ Access to library resources (11)
  - \_\_\_\_\_ Adequate digital replacements for face-to-face collaboration tools (whiteboards) (12)
  - \_\_\_\_\_ Other If other, please specify: (13)
-

Q23 What supports did the University offer you during the lockdown period March to the end of April? (Check all that apply)

- Free or reduced cost for data (1)
  - Free or reduced cost for online access of university course materials (2)
  - Ability to borrow a computer for use at home (3)
  - Access to a camera or microphone for use at home (4)
  - Meetings with professors/instructors online or by phone (5)
  - Access to emotional support (6)
  - Access to additional supports such as writing or editing assistance (7)
  - Access to careers supports (e.g., letters of reference, guidance on post-graduate opportunities, etc.) (8)
  - Access to library resources (e.g., digital materials; loans of physical books/materials; online assistance with research materials) (9)
  - Access to housing support (e.g., financial, information, access to accommodation) (10)
  - Financial assistance (bursaries, additional employment opportunities) (11)
  - I am not aware of any supports provided by the University (13)
  - Other If other, please specify: (12)
- 

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Q25 On a scale of 1-5, please indicate your response to the following statements on the pandemic period (1 being strongly agree and 5 being strongly disagree)



	Strongly Agree	Agree	Neither agree nor disagree	Somewhat disagree	Disagree
	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
I received enough support from my university to enable me to transition to online learning (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had sufficient access to technology needed for distance learning ( e.g., computer, smart phone, regular phone etc. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had sufficient access to internet / broadband for my studies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My residence during the lockdown was conducive for studying (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had sufficient financial resources for online studies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I was able to access all the university services and supports I needed to complete my online studies  
(6)

I had access to a support system for navigating educational challenges in a pandemic (i.e. family, friends and community)  
(7)

### End of Block: Remote Learning During COVID

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### Start of Block: Place of Residence during COVID

Q28 What was your primary place of residence during the lockdown period in March to the end of April?

- family residence (urban) (1)
  - family residence (rural) (2)
  - off campus personal residence (urban) (3)
  - off campus personal residence (rural) (4)
  - on campus residence (5)
  - Other (6)
-

Q29 Did you move your place of residence because of the lock down? Please Explain

Yes (1)

No (2)

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Q31 How many people did you share a primary residence with during the lockdown (not including yourself)?

▼ 0 (1) ... 5+ (6)

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Q26 During the initial COVID 19 lockdown, did you have a quiet, designated space appropriate for study in your home/residence that you used for doing your course work? Please explain.

Yes (4) \_\_\_\_\_

No (5) \_\_\_\_\_

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Q27 Did your studying conditions change because of the COVID 19 lockdown? Briefly explain (e.g., more or fewer people you were sharing your study space with, easier access or harder access to a quiet studying space)

Yes (3) \_\_\_\_\_

No (4) \_\_\_\_\_

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Q29 Did you have access to reliable high-speed internet at your place of residence during the lockdown?

Yes (1)

No (2)

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Q30 If not, was it available or accessible where you live?

Yes (1)

No (2)

I Don't Know (3)

**End of Block: Place of Residence during COVID**

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**Start of Block: Employment during COVID**

Q32 Did you have paid work while you were in university between January and February 2020?

Yes What did you do? (1) \_\_\_\_\_

No (2)

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Q55 Did you have paid work during March to end of April period?

Yes What did you do? (1) \_\_\_\_\_

No (5)

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Q56 For those who were in paid work at any point between January and end of April, 2020, how was your employment affected by the COVID-19 lockdown? (Check all that apply)

- My job ended (1)
  - My job ended but I got another job (2)
  - I was not working prior to the pandemic but got a job during the lock down (3)
  - My hours were reduced (4)
  - My hours were increased (5)
  - The type of work I did changed (6)
  - There was no impact because of the COVID-19 lockdown (7)
- 

Q33 How many hours were you working at your paid work per week?

▼ less than 10 (1) ... more than 50 (6)

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Q34 How did the pandemic affect your income?

- My income remained about the same (1)
- My income decreased (3)
- My income significantly decreased (2)
- My income increased (4)
- My income significantly increased (5)
- Prefer not to answer (6)

**End of Block: Employment during COVID**

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**Start of Block: Prompt: Other Responsibilities**

Q50 The following questions are about the different responsibilities and work that you did **in your place of residence (home)** during the lockdown period.

**End of Block: Prompt: Other Responsibilities**

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**Start of Block: Other Responsibilities**

Q35 How many hours per week do you estimate you spent on childcare?

\_\_\_\_\_

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Q36 How many hours per week do you estimate you spent caring for family members?

\_\_\_\_\_

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Q37 How many hours per week do you estimate you spent cooking?

\_\_\_\_\_

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Q49 How many hours per week do you estimate you spent cleaning your place of residence?

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Q45 How many hours per week do you estimate you spent handling other household duties that are not school related?

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Q46 How did the pandemic affect your daily responsibilities in the home?

- They remained about the same (1)
- They decreased (3)
- They significantly decreased (2)
- They increased (4)
- They significantly increased (5)
- Prefer not to answer (6)

End of Block: Other Responsibilities

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Start of Block: Prompt: Arrangements since Sept 1

**Q57 The following questions will ask about your experience with remote learning since September 01, 2020.**

End of Block: Prompt: Arrangements since Sept 1

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Start of Block: Current Technological Issues

Q52 Which of the following technological issues are a challenge for you? (Check all that apply)

- Access to reliable, high-speed internet service (1)
- Access to a reliable computer (laptop or desktop) (2)
- Access to specialized technology available at the university such as workstations, 3D printing, rapid prototyping, and video recording equipment (3)
- Use of private data plan to access courses (4)
- Online only access to course material (5)
- Instructor's access to the technology required to host online classes (for example: cameras, microphones) (6)
- Instructor discomfort or lack of familiarity with required technologies or applications (7)
- Your own discomfort or lack of familiarity with required technologies or applications (8)
- Access to reliable communication software/tools (for example: Zoom, Skype, Google) (9)
- Access to specialized software (for example: Adobe products, statistical packages) (10)
- Access to library resources (11)
- Adequate digital replacements for face-to-face collaboration tools (for example: whiteboards) (12)
- Screen size when accessing your courses because you could use only your phone (13)



Other If other, please specify: (14)

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Q72 Following from your answer to the previous question, rank the three most significant technological issues you faced? (with “1” the most challenging):

- \_\_\_\_\_ Access to reliable, high-speed internet service (1)
- \_\_\_\_\_ Access to a reliable computer (laptop or desktop) (2)
- \_\_\_\_\_ Access to specialized technology at the university (workstations, video recording, 3D printing) (3)
- \_\_\_\_\_ Use of private data plan to access courses (4)
- \_\_\_\_\_ Online only access to course material (5)
- \_\_\_\_\_ Instructor’s access to the technology required to host online classes (cameras, microphones) (6)
- \_\_\_\_\_ Instructor discomfort or lack of familiarity with required technologies or applications (7)
- \_\_\_\_\_ Your own discomfort or lack of familiarity with required technologies or applications (8)
- \_\_\_\_\_ Access to reliable communication software/tools (Zoom, Skype, Google) (9)
- \_\_\_\_\_ Access to specialized software (Adobe products, statistical packages) (10)
- \_\_\_\_\_ Access to library resources (11)
- \_\_\_\_\_ Adequate digital replacements for face-to-face collaboration tools (whiteboards) (12)
- \_\_\_\_\_ Other If other, please specify: (13)
-

Q50 Which supports from the university have you accessed? (Check all that apply)

- Free or reduced cost for data (1)
  - Free or reduced cost for online access of university course materials (2)
  - Ability to borrow a computer for use at home (3)
  - Access to a camera or microphone for use at home (4)
  - Meetings with professors/instructors online or by phone (5)
  - Access to emotional support (6)
  - Access to additional supports such as writing or editing assistance (7)
  - Access to careers supports (e.g., letters of reference, guidance on post-graduate opportunities, etc.) (8)
  - Access to library resources (e.g., digital materials; loans of physical books/materials; online assistance with research materials) (9)
  - Access to housing support (e.g., financial, information, access to accommodation) (10)
  - Financial assistance (bursaries, additional employment opportunities) (11)
  - I am not aware of any supports provided by the University (13)
  - Other If other, please specify: (12)
- 
-

Q51 On a scale of 1-5, please indicate your response to the following statements relating to the period since start of September (1 being strongly agree and 5 being strongly disagree)

	Strongly Agree	Agree	Neither agree nor disagree	Somewhat disagree	Disagree
	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)
I received enough support from my university to enable me to transition to online learning (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had sufficient access to technology needed for distance learning ( e.g., computer, smart phone, regular phone etc. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had sufficient access to internet / broadband for my studies (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My residence during the lockdown was conducive for studying (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I had sufficient financial resources for online studies (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I was able to access all the university services and supports I needed to complete my online studies  
(6)

I had access to a support system for navigating educational challenges in a pandemic (i.e. family, friends and community)  
(7)

### End of Block: Current Technological Issues

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### Start of Block: Current - Place of Residence

Q72 What is your primary place of residence since September 01, 2020?

- family residence (urban) (1)
  - family residence (rural) (2)
  - off campus personal residence (urban) (3)
  - off campus personal residence (rural) (4)
  - on campus residence (5)
  - Other (6)
-

Q74 How many people do you share your primary residence with (not including yourself)?

▼ 0 (1) ... 5+ (6)

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Q66 Do you have a quiet, designated space appropriate for study in the place where you have been residing since the start of September? Please explain.

Yes (4) \_\_\_\_\_

No (5) \_\_\_\_\_

---

Q76 Have your studying conditions changed since the start of September? Briefly explain (e.g., more or fewer people you were sharing your study space with, easier access or harder access to a quiet studying space)

Yes (3) \_\_\_\_\_

No (4) \_\_\_\_\_

---

Q77 Do you have access to reliable high-speed internet at the place where you have been residing from the beginning of September 2020?

Yes (1)

No (2)

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Q78 If not, is it available or accessible where you live?

- Yes (1)
- No (2)
- I Don't Know (3)

End of Block: Current - Place of Residence

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Start of Block: Prompt: Socio-Economic Status

**Q67 The following questions ask about you and your family and will provide the researchers with general information about some socio-economic circumstances of students.**

End of Block: Prompt: Socio-Economic Status

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Start of Block: Socio-Economic Status

In your primary residence, do you reside with:

- One Parent or Guardian (2)
  - Two or more Parents or Guardians (3)
  - Spouse (including common law) (4)
  - Siblings (9)
  - Other Relatives (5)
  - Roommate(s) (10)
  - Other (11)
  - Prefer not to say (12)
-

Q25 What work does your primary guardian (mother, father, or other guardian) do?

▼ Unemployed (1) ... N/A (12)

Q69 If you reside with your spouse, what work does your spouse do?

▼ Unemployed (1) ... N/A (12)

Q26 What is your estimated annual personal income (include financial support from all sources: from parents, spouse, employment, loans, and any other sources)?

▼ less than \$999 (1) ... Prefer not to answer (12)

*Carry Forward All Choices - Displayed & Hidden from "What is your estimated annual personal income (include financial support from all sources: from parents, spouse, employment, loans, and any other sources)?"*



Q27 What is your parent, guardian OR spouse's estimated annual income, not including your personal earnings ?

▼ less than \$999 (1) ... Prefer not to answer (12)

### End of Block: Socio-Economic Status

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<sup>i</sup> The survey included a longer list of university supports offered, such as borrowing a laptop or tablet. These are not included here as no or very few students selected these other services. Access to financial assistance (bursaries) was also very low but is included here because it reflects some differences among student groups.