

EDITORIAL

# IN THE NAME OF HEALTH AND ILLNESS: AN INQUIRY INTO COVID-19 VACCINATION POLICY IN POSTSECONDARY EDUCATION IN CANADA

AUTHORS

Claudia Chaufan

ORCID <https://orcid.org/0000-0001-9208-7630>. York University, North York, Canada

Natalie Hemsing

ORCID <https://orcid.org/0000-0003-1385-8279>. York University, North York, Canada

Corresponding author. 4700 Keele Street. North York, Ontario, M3J 1P3, Canada, [cchaufan@yorku.ca](mailto:cchaufan@yorku.ca) cell +1 437-343-4476

<https://doi.org/10.55634/1.6.4>

## ABSTRACT

Since the launch of the Covid-19 global vaccination campaign in December of 2020, vaccination in postsecondary institutions has been a contested issue. International evidence indicates that these institutions have achieved high vaccination rates and Canadian public health agencies exclude them entirely from the list of sites at risk of outbreaks. Nevertheless, influential observers and postsecondary institutions themselves insist that achieving and maintaining “up-to-date” vaccination – through mandates if necessary - remains critical to contain the crisis. However, with the increasing recognition that vaccines do not stop viral spread, that young populations are at exceedingly low risk of severe Covid-19, hospitalization, and death, and that mandated medical interventions have a troubled history, the soundness of current postsecondary education recommendations and policies concerning vaccination cannot be assumed.

Drawing from the medicalization tradition and interpretive phenomenology, our study explores, through in-depth interviews, how vaccination policies within and beyond postsecondary institutions have shaped perceptions of the Covid-19 crisis, beliefs about the role, risks, and benefits of vaccination, and life choices and chances of students in Canada. We find that students largely comply with vaccination policies, whether by conviction, convenience, or coercion, and that the discourse and social practices promoted by the policies limit opportunities for free debate and exchange across vaccination statuses. Regardless of this status, students do resist, albeit very limitedly given the high cost of noncompliance. We discuss the implications of our findings for policy, equity, and for the power of medical social control in the Covid-19 era.

KEYWORDS: Covid-19 vaccine uptake / acceptance / hesitancy; postsecondary / university / college students; Covid-19 vaccination mandates; medicalization and social control; phenomenology; Canada

As COVID-19 infections continue to surge among unvaccinated populations, a large and growing number of U.S. universities are requiring proof of double vaccination for students, staff and faculty returning to campus in September. With notable exceptions [...], Canadian post-secondary institutions have not mandated vaccinations. The decision [...] appears to be based on an assumption that the Canadian Charter of Rights and Freedoms protects the rights of unvaccinated individuals to participate without restriction in the public realm. This assumption is based on a serious misunderstanding of the Charter. In fact, there is a sound constitutional basis on which universities can require proof of vaccination status, during a pandemic, as a condition of enrolment.

*Debra Parkes and Carissima Mathen, 2021, Centre for Constitutional Studies*

Medicine and healthcare are becoming major areas of social control. This is [...] accomplished by “medicalizing” much of daily living, by making [...] the labels “health” and “ill” relevant to an ever-increasing part of human existence. Thus debate [...] becomes focused on the degree of sickness attached to the phenomenon in question or the extent of a “health risk” which is involved. And the more principled, more perplexing, or even moral issue of what freedom should an individual have over his/her body is shunted aside [...]. A neutral enterprise [...] is quite capable of either being used to achieve certain political aims [...] or as a mask for certain value assumptions [...]. It is the battleground not because there are visible threats and oppressors but because they are almost invisible, not because [they] are evil but because they are not. The danger is greater for not only is the process masked as a technical, scientific objective but done for our own good.

*Irving K. Zola, 1974, In the name of health and illness.*

## INTRODUCTION

Since the launch of the Covid-19 global vaccination campaign in December of 2020, vaccination in educational institutions has been a contested issue. International evidence indicates that the risk of outbreaks in these institutions has been very low (1) and data from the Public Health Agency of Canada only lists acute care, congregate living, correctional, and long-term care facilities – incidentally, settings with very high vaccination rates - as accounting for 100% of outbreaks (2), entirely excluding educational institutions. Evidence also indicates that postsecondary institutions in particular have achieved very high vaccination rates - higher than in the general population – of 82% according to some sources (3). However, many influential observers and postsecondary institutions themselves still claim that not only achieving, but also maintaining, high

“up-to-date” vaccination rates - through mandates if necessary – remains critical to contain the crisis and prevent viral spread, within them and beyond (4–7), a position that research on vaccination uptake in postsecondary institutions appears to endorse.

Examining this body of research is revealing. Our exploration of research identified through PubMed found that authors reported that when students are concerned about the adverse effects of Covid-19 vaccines - for instance, they believe that vaccines are not effective enough to warrant the risks - they tend to be more “vaccine hesitant” (See Chamon et al., 2022a; Jaffe et al., 2022; Lo Moro et al., 2022), “hesitancy” which authors assumed, rather than demonstrated, is a “problem” (16), an assumption that appears to colour the expert literature on “vaccine hesitancy” more generally (17). Authors also tended to dismiss or ignore evidence for the disproportionate adverse effects of Covid-19 vaccines on the young, such as subclinical myocarditis (18) or transient reduction of sperm motility (19), or the well-established fact that Covid-19 mortality rates in young adults in the pre-vaccine era was exceedingly low – under 0.02%, or about 140 times lower than for adults 70 years and older (20). Another salient feature was the use of terms like “uptake” and “acceptance” interchangeably (See Mustapha et al., 2021; Zhang et al., 2022), even when behavioural indicators such as rates of uptake, if achieved through threat of undesirable consequences, in most other contexts would rightly be labelled “coercion” and not “acceptance” (23,24).

A notable absence was the lack of discussion about the possible traumatizing effects on students of vaccination policies themselves, trauma well-documented among persons subject to coercive medical practices in psychiatry (25) and that may also result from being coerced to violate one’s own moral values, experienced for instance by veterans of war (26) or by health workers compelled to decide which patient “deserves” a scarce, life saving resource (27). Nor did we identify any consideration for internationally accepted bioethical principles, such as informed consent, i.e., patients should be informed of all the benefits, risks, and alternatives – including doing nothing - to a given medical intervention, that have historically been critical to ethical medical research, policy and practice (28–31). Importantly, absent from this body of research was any exploration of students’ experience of vaccination policies from their own perspectives. Drawing from the medicalization tradition in health studies (32–34) and guided by interpretive phenomenology (35), we address this gap in the research by exploring how vaccination policies over the past years, within and beyond educational

institutions, have shaped the perceptions, life choices, and chances of postsecondary students in Canada.

In the next section we provide an overview of salient moments in the unfolding of the official Covid-19 narrative worldwide, focusing on the particularities of the Canadian case. We also offer a glimpse into what we call the “story behind the story”, where we lay out aspects of Covid-19 – its epidemiology, pathophysiology, immunology, virology, and pandemic policy, especially its focus on vaccination – that we consider necessary to make full sense of our analysis. In the following section we describe the theoretical lenses and methodological approaches that inform our investigation, as we situate ourselves in the research process. We subsequently present our analysis of semi-structured, in-depth interviews reporting on the experience of Covid-19 vaccination policies on students in one Canadian postsecondary institution. Next, we discuss our study and its limitations in the context of the broader literature, social practices, and power dynamics shaping public policy in the Covid-19 era. We conclude by laying out the implications of our study for the formulation, development, and implementation of ethical public health policy and practice in postsecondary education and for medical social control more generally.

## BACKGROUND

### THE OFFICIAL STORY

On March 13, 2020, postsecondary students throughout Canada woke up to a world unlike any they had ever experienced: upon the World Health Organization (WHO) declaring the novel coronavirus outbreak a global pandemic two days earlier (36), postsecondary institutions throughout Canada – as would many worldwide – announced that all in-person activities would be suspended (37), with classes moving online for two weeks, in compliance with policies intended to “flatten the curve” (38). As it turned out, these policies would continue well past two weeks, along with Covid-19 cases, hospitalization, and death counts flashing through TV screens (39), stories of overwhelmed hospitals taking over daily news

We call the reader’s attention to the term “vaccine” because the term controls the debate around vaccination policy in at least two ways: one is legal, in that it affords the drug companies producing these products unique liability protections that they do not enjoy when producing other products (8); the second one is sociological, in that the term “vaccine” elicits the social trust afforded, deservedly or not, to “traditional vaccines”. If these products – mRNA / DNA biologicals – were identified as “gene therapy” as per the FDA definition (9), both the legal and social consequences would be far less favourable to them. Nevertheless we use the term “vaccine” because problematizing it is beyond the scope of this work. For a technical discussion of these issues we refer readers to Rose’s work on pharmacovigilance (10) and Garner and Hooker’s work on health outcomes among vaccinated and unvaccinated populations (11,12).

(40), and leaders in postsecondary institutions dedicated to reassuring distressed, students, faculty, and staff that no effort would be spared to prioritize safety (41–43).

The official message was unanimous: given the high transmissibility and virulence of SARS CoV-2, everyone was to comply with stay-home orders, respect lockdowns, limit contacts to narrow (household) circles, and wear face-masks beyond those circles (44). Because the world faced a “novel” virus, there were no effective treatments, other than “supportive care” – oxygen, fever management, and ventilators when needed (45,46). Therefore, only services deemed “essential” – big-box stores and, notably, liquor stores – would be allowed to operate (47). Alternatives such as outpatient treatment or prophylaxis with generic drugs were quickly dismissed as politically motivated claims with potentially lethal implications for those desperate or unsuspecting enough to dare to try them (See Banerjee, 2020). In sum, the official message was that halting most social and economic activity was the only responsible approach to manage a once-in-a-century crisis, until safe and effective Covid 19 vaccines, that were being developed at “Warp Speed” through global private-public partnerships combining resources from industry, government, and academic centres, became available (49).

And available they did become when, upon the FDA granting Emergency Use Authorization (EUA) to two mRNA Covid-19 vaccines, an unprecedented global vaccination campaign was launched in December 2020 (50). At first, these long-awaited vaccines were seen as a scarce resource, reserved for highly exposed or vulnerable populations – health workers, the very sick, the elderly (51). Thus the image of 90-year-old Margaret Keenan receiving the first Covid-19 vaccine in the UK would remain in the collective memory for months to come (52). Into the summer of 2021, vaccines would no longer be merely “encouraged”, but mandated in multiple venues, including postsecondary institutions throughout North America (53,54). The policy was meant to assist with achieving the highest possible vaccination rates, following reports from leading international agencies that presented vaccination as the main, even only, approach capable of controlling a once in a century health, social, and economic crisis (55). Given what many experts in law, public health, and bioethics perceived as insufficient intention to vaccinate from sectors of the public – such as postsecondary students – mandates, at least for those sectors, were presented as the means to end the crisis (56).

### THE STORY BEHIND THE STORY

Over time, it would become apparent that the hopes

placed on Covid-19 vaccines were at best premature. For one, vaccines did not stop the spread of, or infection from, SARS-CoV2 – in fact, they were never tested for those outcomes (57). It would also become apparent that out-of-control viral spread through asymptomatic transmission – “seemingly healthy people” operating as unsuspecting carriers (58) – was negligible, with the largest study ever conducted in Wuhan, China, of close to 10 million participants, revealing no positive tests amongst 1,174 close contacts of asymptomatic cases (59).

Significantly, evidence that there existed plenty of alternatives to the “no alternatives to vaccines” position also emerged worldwide, as studies of off patent, repurposed drugs showed dramatic results – over 80% reduction of hospitalization and death – with early treatment and prophylaxis (60–62), even among workers in high-exposure occupations like health care (63), and even among patients in advanced stages of the disease (64). A covert war against generic treatments was exposed when a major study on hydroxychloroquine – an inexpensive anti-inflammatory and antimalarial drug with a wide range of therapeutic applications – that had led to halting the prospects of a randomized control trial, was retracted (65) because the data had been entirely fabricated (66,67).

Other selected research milestones included an article in *The Lancet* indicating that “fully vaccinated individuals have peak viral load (25%) similar to unvaccinated cases (23%) and can efficiently transmit infection in household settings, including to fully vaccinated contacts” (Singanayagam et al., 2021, p. 1), challenging public health authorities’ claim that vaccination halted or dramatically reduced transmission, presented as the scientific rationale for mandated vaccination (See Morris & Mukherjee, 2021; Reynolds, 2021). Another peer-reviewed article indicated that most Canadian residents – over 90% – carried antibodies against viral particles, which suggested that acquired natural immunity – shown to be comprehensive, robust, and durable (71) – was widespread in the country (72). Subsequent epidemiological analyses would reveal an average global Infection Fatality Rate (global IFR) – death count from an infectious disease over population infected – of around 0.15% (Ioannidis, 2021b), with lower estimates for the age groups of most postsecondary students – 0.0100% (0.0071–0.0157) for 18 year-olds and 0.0254% (0.0178–0.0385) for 24 year-olds (20), with recent estimates of even lower IFRs – 0.0003% at 0–19 years, 0.002% at 20–29 years, and of 0.011% at 30–39 years (74). These rates appeared to be lower than the 0.1% IFR of the seasonal flu reported by the WHO in March of 2020 (75).

Importantly concerning young adults, the safety of at least some of the Covid 19 vaccines would also be called into question, as Canada, following several European countries, suspended the administration of AstraZeneca, delivered to individuals under 55, due to concerns with blood clotting (76,77), and public health and clinical reports warned about higher than usual myocarditis and pericarditis among young adult males receiving mRNA vaccines, even as they continued encouraging vaccination for this demographic group, at most alerting the public about which brand might be less harmful (78,79). Similarly, a UK government’s Public Assessment Report updated in November of 2022 would reveal – on page 23 of its 24-pages – that due to the absence of animal studies’ data on the reproductive toxicity of their leading Covid-19 vaccine (AstraZeneca), “sufficient reassurance of the safe use of the vaccine in pregnant [or breast-feeding] women could not be provided at the present time” (emphasis added), yet stopped short of discouraging vaccination in these demographic groups (80).

So-called “safety signals” – in reality, signals of harm – and failure to stop transmission notwithstanding, post-secondary institutions across North America would continue to insist that Covid-19 vaccines were safe, effective, and critical to end the crisis, and that the best way to promote “uptake” was by establishing vaccination as a condition of employment of staff and faculty, or enrolment of students, with room for few, if any, exemptions (81). The summer of 2021 would witness students deregistered for refusing to comply with Covid-19 policies (82), and professors laid-off for similar reasons (83). When, upon suspending mandates in the summer of 2022, many institutions did not reimpose them in the fall of that year, or did so only partially, students, staff, and faculty would be periodically “encouraged” to remain “up to date” with Covid-19 vaccines as per recommendations from public health authorities (84,85).

## THEORETICAL AND METHODOLOGICAL CONSIDERATIONS

This project was informed by the medicalization tradition within the sociology of health and illness, a tradition unified around a concern with how the framing of social issues as problems falling under the jurisdiction of medicine, i.e., medical/health problems, enables, rhetorically and practically, apolitical, expert-informed “solutions” and in so doing removes them from the realm of democratic debate and obscures inequalities of power. It also shares a concern with how medical/health discourses are deployed to impose moral preferences and construe the body as a site of moral action – by self or others – as well as with

how the doctor-patient relationship becomes the site of legitimation of capitalist social relations by mystifying the drive for profit as a concern with health (33,34,86).

To conduct our interviews, we drew from interpretive phenomenology, which assumes that research participants, engaged and situated within their life worlds, can ably inform about their experiences using direct, concrete narratives of actual events, as well as reflections, or evaluations, of those experiences (35). In July and August of 2022 we conducted 25, semi-structured, in-depth interviews with undergraduate and graduate students of mixed vaccination status attending one urban, largely commuter, Canadian university, with an enrolment of about 56,000 and a faculty body of about 16,000 instructors (87). One student withdrew from the study, so we excluded their testimony. We invited participants through university listservs, social media, and personal contacts and conducted, through the Zoom web-conferencing platform, hour-long interviews that were transcribed with the assistance of Trint™ and analyzed with the assistance of MAXQDA™.

The research question was “How have vaccination policies in postsecondary institutions shaped the perceptions, life choices, and life chances of students in Canada?”, which we used to inform an interview guide, slightly adjusted over the course of the study, that explored circumstances surrounding decision-making around Covid-19 vaccination, the development and role of trust in belief formation, the role of the contrast of narratives (i.e., official versus counter narratives) on the perception of the Covid-19 crisis, the social, emotional, and physical / mental health impact of vaccine status on life choices and chances, and the process of assessing ethical issues around mandatory medical interventions (Table 1). We organized our analysis around Max Weber’s concept of “life choices and life chances”, which alludes to the structure of opportunities within a capitalist mode of production and proposes that people make unique choices within structured boundaries (88). While we share with Weber his concern with the capitalist system and its allocation of chances according to power differentials, in this study we applied the concept to understand students’ “vaccination choices” within the structure of opportunities afforded by the system of vaccination policies. We also drew from Weber’s concept of “ideal types” to organize our examination of students’ responses to these policies (88). We read the transcripts in their entirety, coded them, and organized the codes around an ideal-type conceptual framework, illustrating our interpretations with selected quotations and resolving discrepancies through discussion. The University Institutional Review Board approved the study.

Finally, as qualitative researchers, we are mindful of our unique perspectives and disciplinary biases: the first author is a non practising medical doctor, a sociologist with training in bioethics, and a professor of health policy. The second author is an anthropologist with expertise in the social context of substance use and in trauma and violence among girls and women. Aware of our role in the research process, we lay out the steps of our inquiry to the best of our ability for the sake of transparency and the evaluation of its quality (89,90).

## FINDINGS AND ANALYSIS

Most participants were under 30 years of age, most of them identified as women, most were graduate students, over half belonged to racialized groups, and all but three were vaccinated (Table 2). Indeed, the high rate of compliance with vaccination policies was perhaps the most salient finding from students’ reports. This finding was not surprising, however, given the potentially significant number of students deregistered over the previous months for not complying with vaccination policies, thus harder to recruit. High compliance was also not surprising given the extraordinary moral pressure exerted by institutional messaging about “people committed to one another’s health and safety” united in a “community of care” that presented vaccination as the scientific and morally right thing to do, for self and society, especially its most vulnerable members (91,92). This authoritative message was bound to shape the cognitions, attitudes, and behaviour of a student body committed to social justice and equity (93). High compliance was also unsurprising given the extraordinary material cost of noncompliance - the loss of student status and the end of dreams of stable jobs, careers, and social mobility.

We identified three ideal types of students’ grounds for vaccination “choices” within the chances structured by vaccination policies: conviction, convenience, and coercion. Conviction drove vaccination decisions among both compliant and noncompliant participants. Convenience and coercion, however, only drove the decisions of compliant participants, who revealed the widest range of reasons driving their vaccination decisions. Over the next paragraphs, we present our findings, analysis, and interpretations of the experience of students, exploring decision-making, the development of trust, opportunities according to vaccination status, and assessment of ethical tensions with mandatory vaccination, illustrated with quotations transcribed verbatim except for minor editing for readability.

**Expressing conviction:** *“I can’t imagine a scenario in which I would feel okay about putting myself or other people at greater risk.”*

A small number of participants embraced vaccines out of conviction that vaccination was the only scientifically sound and equitable solution to the crisis, because vaccines would protect not only their own health but that of loved ones and society at large. As one participant put it:

*I can’t imagine a scenario in which I would feel okay about putting myself or other people at greater risk [...]. I’ve adopted the values of, if you can get a vaccine, if you’re medically able to get it, you should get it not just for your protection, but your family’s protection. Obviously, as a [health] student I also understand the benefits of being vaccinated (Interview 08).*

A few also perceived themselves at higher risk of infection - due to workplace hazards such as being frontline health workers - or poor outcomes - due to co-morbidities, disability status, or pregnancy. When asked about their decision-making process, all of them asserted having chosen vaccination freely and having felt no need to consider alternatives. They had been eager, even anxious, to get vaccinated as quickly as possible and intended to remain “up to date” for the foreseeable future. In the words of another participant:

*I was tweeting local politicians like, how come the pregnant people aren’t getting vaccine priority like they are in other provinces? I was pushing to get it sooner (Interview 11).*

Whatever the motivations, past experiences and social relationships had shaped these participants’ conviction to embrace vaccination. One had been raised by an “anti-vaccination” parent, and experienced tensions with them as an adult due to how their beliefs had diverged. Another had a parent with poor health, which the participant believed was caused by a vaccine-preventable illness and was therefore upset that anyone would reject vaccines. Social or peer influences also affirmed participants’ convictions. Yet another participant explained that while she had always been “pro-vaccination,” having a social group with similar views reassured her:

*I think sometimes we want to be like, Oh...This is me making an intelligent decision and people who aren’t vaccinated are stupid. But I think that everybody is influenced by the people around them and I am generally surrounded by other people who also think that it makes sense to be vaccinated. I think I would be lying if I said that didn’t influence me at all. I think I would have [made the same*

*decision to be vaccinated, since] vaccines are already something that I generally believed as useful. But I think that also the fact that everybody in my network since the beginning of COVID has had very similar attitudes has definitely cemented mine (Interview 06).*

These participants, most of whom had a background or interest in the health sciences, felt that the “science” of prevention through vaccines both informed and validated their moral choices. One of them expressed this sentiment thusly:

*There’s a very deep emotional component to it. In addition to the rational, this is science. We live in a society. Let’s protect each other (Interview 11)*

It followed that for them, choosing to remain unvaccinated signaled both ignorance of science – indeed, an “anti-science” attitude - and defective morals. They longed for a society in which everyone was voluntarily vaccinated, but short of that, they justified mandating vaccination and excluding the non-compliant from public spaces, “to protect others”:

*I am pro mandates. I guess I just don’t have as much faith in human nature as I used to. And I think a lot of the stuff that’s happened, the pandemic has borne that out. I definitely did not want to die or want my parents to die. So, if other people decided that they were not going to get the vaccine, well, that’s not a decision that only impacts them. You know, the spread of COVID impacts everybody. So, I honestly was perfectly at ease with companies saying you have to be vaccinated to come in, with the university saying you have to be vaccinated to enroll. I thought the government could have done more. Maybe I’m an authoritarian. I don’t know. But you know, when people say oh, I’m being ostracized because I won’t get the vaccine, I’m like. That’s fine (Interview 24).*

When probed further about ethical tensions between the presumed imperative of protecting society through vaccine mandates or embracing inclusion and diversity of perspectives, one participant explained that “mandates are trying to legislate care [for others]” (Interview 08). Another participant shared their disappointment when public health restrictions, especially vaccine mandates, were lifted, reflecting: *“I was really angry...It’s “you’re on your own. Sorry if you die” (Interview 11).* Further reasons to reject reservations or rejection of Covid-19 vaccines included that they were often “full of lies” and could strengthen “extreme” positions, i.e., beliefs in “things that aren’t true” and aligning with movements like the

“Freedom Convoy”. Clearly, for participants embracing vaccination out of conviction, allowing or engaging with dissenters did not mean a failure to embrace diversity and inclusion but instead “endangering” the greater good because “*the health of our society is too important of an issue to have wishy washy feelings about*” (Interview 11).

On the other hand, for another, small number of participants, conviction drove noncompliance with vaccination policies. These participants believed that vaccines were either unsafe or ineffective, and that either way, they were the symbol, not of a “community of care”, but of a system of power including public institutions such as universities, public health agencies, the mass media, and even the medical profession, perceived to have been corrupted by corporate interests, and therefore, underserving of trust. In the words of one participant:

*I thought very rarely does the government do anything for our health, for our true well-being. And so, the fact that we're being bombarded with this constant messaging that we should be afraid, that [COVID] is something we should fear. And it was day in, day out. So, it signified to me that, hey, something's really wrong here. Why are they telling us this? And what's happening? (Interview 14)*

Institutions embedded in this system of power were also perceived as perpetrators of medical abuses and responsible for health and social inequities, historically and to this day. As another participant put it:

*Trust with the government, I don't really have that. Because when I started York that's when I found out how Canada has been treating the Indigenous people...If you're treating Indigenous people like that, what about me, an immigrant, how are you going to treat me? With the government there is no trust. They will do whatever benefits them. So, with them coming to say “take the vaccine” is another form [of abuse] because they will always push their own agenda before they think of the safety of people. And the news, I don't trust the news because the news is sponsored by all those big companies and the government themselves (Interview 03).*

All three participants who did not comply with vaccination policies shared experiences of feeling censored when they attempted to voice their reasons for not being vaccinated, one of them expressing this sentiment as follows:

*What saddens me the most is that the university always tell people to have their own thoughts and think for themselves, but they were just shutting us out and giving us no*

*choice or anything. Telling us that without the vaccine we can't attend in person classes. I was very disappointed [...] we were not given a voice to have [a different] opinion (Interview 03).*

In contrast to participants whose conviction had led them to embrace vaccination and had found societal, including official, validation in multiple ways, those who did not comply out of conviction endured major losses, including being de-enrolled from classes or having the range of possible course choices extremely limited, being laid-off from university employment, and being forced to miss out on future educational opportunities. Nevertheless, these participants shared that their values and principles outweighed the high emotional and material costs of non-compliance. As one participant explained: “*I'd rather stick to my values than alter them for something that I want to become, like a doctor*” (Interview 15).

Notably, and regardless of vaccination status, trust/distrust in vaccines remained unchanged and often intensified over time. For vaccinated participants, the experience of loved ones, or themselves, developing Covid-19 even after multiple doses, or acquiring it despite remaining within all-vaccinated settings, did not decrease, and often increased, their trust in vaccines. After these experiences, they were convinced that they would have been worse off without them. As one participant put it, “*my assumption is that had I not been vaccinated, it could have been a lot worse*” (Interview 24). One of them even concluded, based on her science background, that the continuing viral spread, mutation, and virulence were being caused by unvaccinated persons:

*If more people had gotten the vaccine, we might have been able to stop it from evolving, but we haven't. So, we're going to have to keep getting [boosters] and I'm going to have to keep getting COVID. And it's just a reality. And that makes me depressed. But it's not the vaccine's fault. [It] is still doing a really good job. I just wish we all had gotten [vaccinated] (Interview 11).*

Some of these participants described becoming “passionate” about vaccination over the course of the pandemic, which, for them, had brought the importance of vaccination “to the forefront”, and sought jobs supporting the vaccine rollout or as “vaccine checkers” to enforce mandates. In the words of one such participant:

*I think I have become passionate about vaccination. At the beginning of the pandemic, it wasn't something that I thought about as much. I was generally supportive of*

*people being vaccinated against things if vaccines are available. But it wasn't something in my consciousness. Whereas I feel like now it's more of an important issue [...], something that I think about and that I'm a little more passionate about (Interview 06).*

In contrast, students driven by conviction to remain vaccine-free became more distrusting upon introduction of the mandates, the experience of being coerced against their will increasing their suspicions and strengthening their conviction to not comply, even triggering further distrust in all forms of medical/public health compulsory interventions. As one student put it: *"If someone tries to force something down your throat, it may not be the best thing for you (Interview 15).*

**Acting out of convenience:** *"I feel like overall the vaccines and everything for me was just follow what people have been doing".*

For most participants, it was convenience that drove their decisions to accept vaccination, generally reporting that they had followed the advice of public health authorities, mainstream media, health organizations posting on social media, their family doctor, family, and friends, and trusting that the risk-benefit balance favoured vaccination. In the words of two participants:

*I feel like overall the vaccines and everything for me was just follow what people have been doing (Interview 21).*

*[Deciding to take the vaccines] - it wasn't that deep of level of thinking. It was just a matter of trusting that it will help. It will protect me to some degree. And if it doesn't, then I don't think it will kill me. So, it's just something that I can do and hopefully not die in the process (Interview 20).*

Convenience remained the key driver even when participants doubted that remaining unvaccinated would harm them, although generally, even participants driven by convenience believed that if they chose to not vaccinate, they might endanger vulnerable others, at home or the workplace. Many described living with older parents or immune compromised significant others, and accepting vaccination to protect those others:

*I guess I wasn't too concerned for myself because I was thinking mainly of my age. I felt like if I was to get it, I would probably bounce back. [My concern] was just mainly giving it to others (Interview 07).*

*I have three vaccines... And I got it because I live with a 65-year-old and a 60-year-old. And I was thinking mostly*

*about them when I got the vaccine... I wanted to just think about them and keep them safe. Because they [are] older they get [sicker] (Interview 21).*

For some participants who maintained employment or other social interactions during the pandemic, getting vaccinated meant "doing their part" by reducing the risk of spread to vulnerable others while permitting them to maintain some social activities:

*I felt relief when I was able to get my vaccines, even the booster. I'm like, I'm doing my part to keep [immune compromised household members] protected and keep COVID away from them. Because there are some instances when I can't help but to go out and I could pick it up. So, [being] triple vaxxed did make me feel relief and gratitude, I guess, that I was able to try to keep [COVID] away from them (Interview 13).*

Doubts about whether vaccines would protect these participants from disease or were worth the risk of a new medication or restrictions of civil liberties emerged among some participants after developing, or observing family members develop, Covid-19, despite multiple doses, and especially upon realizing that the experience was far less frightening than portrayed by the official narrative. One participant described losing support for vaccine mandates over time as it became apparent that vaccines were failing to stop transmission:

*I believe that if you [can] get the vaccine, you should. But a lot of things just don't make sense to me anymore because when you think of it now and you see that people are still getting COVID and they're getting bad cases of it, and they've got over two doses, well, where is the science behind that? We are mandating something and potentially restricting and limiting rights that you had before COVID [...]. You can't really back yourself up when you do things like that. (Interview 16).*

This larger group of participants, driven by convenience, expressed a greater diversity of reasons driving their choice to accept vaccination, with mandates ranging from validating their decision to narrowing their freedom to choose. For instance, a few felt "lucky" that they had chosen vaccination prior to the mandates, pondered what their lives might have been had they not done so, and shared that being surrounded by similar others made them feel that they had made the right decision. For instance, one participant described the validation she experienced when travelling after the introduction of vaccine mandates:

*[Being able to travel] outside of the country when you are [vaccinated] definitely can make you feel, yes, we're moving with the right people. You're definitely doing what is good (Interview 10).*

For another participant, who trusted vaccination yet was sympathetic to other fellow students' concerns based on exposure to a course encouraging a critical take on corporate power in health care matters, mandates validated their decision, increased their sense of security, and signaled "that it was in your best interest to protect other people" (Interview 05). For yet another one mandates afforded vaccines "scientific" legitimacy:

*To me, when something is mandated, that means it's approved by government officials, it's tested. So, when the COVID vaccine was mandated, it adds to my trust because it shows that it's scientifically proven (Interview 22).*

In contrast, a few participants, after expressing resistance, ranging from waiting until the "last minute," to not accepting more than two, or one, doses, to seeking exemptions, had felt pressured into compliance, often out of a desire to "move on with life":

*[At the beginning of the vaccine roll-out] I felt like if you were young enough, you probably didn't have to get it. You know, I guess I still sort of maintain that in the sense that I have not gotten any boosters (Interview 07)*

*People wanted to move on with their [lives], they felt that their life would be back to normal...a lot of people said that...[they're] going to take [the vaccine] so they can get back to normal (Interview 03)*

**Bending to coercion:** "Ultimately, did I really have a choice?"

In a small number of cases, coercion, along with intimidation and fear, drove participants' decision to accept vaccination. These participants expressed strongly that they did not believe that Covid-19 vaccines were for them, totally or partially (e.g., they would have opted for waiting for more evidence or would have decided to stop after a first dose). However, when their requests for exemptions were rejected, they felt they had no alternative to complying because the loss of employment and student status was too much to bear. Predictably, being forced against their convictions caused, and continued to cause, significant distress. In the worlds of one such participant:

*Prior to the policies I had decided not to get vaccinated, and I just felt like it was being rushed.... I wasn't comfortable with the situation and so I [had] decided not to [...]. I felt*

*so strongly about not getting vaccinated, and it was just so deflating that I had to go against what I believed in to do something to maintain, I guess spot in society, or to maintain doing what I was doing prior to, like this whole pandemic...It was a feeling almost like hurting myself... breaking something in me that I felt so strongly about [...] like being forced to do something that you didn't want to do... it's just hard to deal with sometimes right now (Interview 01).*

Two participants had important safety concerns. Given that they suffered from autoimmune conditions and wondered whether vaccines had been tested for safety in persons with similar health profiles, they were concerned about adverse effects. However, when they sought information from health professionals, they felt coerced into vaccination:

*Ultimately, did I really have a choice? No. I was literally forced to get these vaccines. I had no choice in the matter. It's like, do this or else [...]. I didn't feel listened to [or] safe [or] validated in my experience. It's hitting me now. I'm getting a bit emotional (Interview 12).*

These participants felt that their safety concerns were dismissed by health professionals, who, they feared, might later blame them for any resulting illness were they to reject vaccination, which they chose anyway because it was required to receive supportive medical treatment (physiotherapy). One participant said she felt "out on a limb" and the other shared being "stuck between a rock and a hard place." As one of them put it, "I didn't have a very good experience being told I must, I must, I must." (Interview 17). Notably, both these participants experienced important "flare-ups" of their conditions immediately following vaccination, one of them choosing to prevent a recurrence by, prior to boosting, preparing herself with high doses of corticoids and antihistamines, as if treating an anaphylactic reaction, not uncommon given her condition, albeit itself "not pleasant".

While subtler than coercion, and better described as social pressures, several participants described emotionally intense family circumstances that influenced their vaccination decision. For example, navigating the complex health and behavioural issues of children under lockdown or social distancing orders, and dealing with loved ones with debilitating fear of Covid-19, compelled some participants to get vaccinated, even if they would have preferred to wait until they were able to gather more information. Nevertheless, given their circumstances they felt they had no choice. As one participant explained, her husband "pushed" her and their children to be vaccina-

ted. *“I didn’t make an informed decision honestly; it was an emotional decision” (Interview 02).*

Need for social belonging was another important source of pressure into accepting vaccination. For example, one participant who had initially resisted vaccination described her need for social acceptance, the peer pressure, and later peer validation, albeit awkward, when she complied:

*It’s actually pretty funny - as soon as I told certain people that I got my first vaccination they’re all cheering, and it was the weirdest thing. I’ve never experienced this before, because I’ve gotten vaccinations for other things, but no one was like cheering me on.... I kind of get why other people may have done it just [for the] feeling of everyone being together on getting vaccinated (Interview 01).*

**Structuring life chances:** *“I don’t know how my experience would be if I had even one friend that wasn’t vaccinated... I can’t even think about what it would be like”*

Importantly, the chances of encountering evidence contradicting participants’ experience were bounded by a structure of limited opportunities for open deliberation, debate, and exchange. Boundaries were set by practices of ostracizing and punishing those who questioned dominant views or refused to comply. Vaccinated students tended to have limited contact with unvaccinated persons, who were banned for months from usual social venues, including university campuses, and were often stigmatized, directly or indirectly in official discourse. Therefore, for compliant participants, it was hard to empathize, or even imagine being “in the shoes” of those who failed to comply. As one participant put it:

*“I don’t know how my experience would be if I had even one friend that wasn’t vaccinated... I can’t even think about what it would be like” (Interview 05).*

Most of the students reported not having “anti-vaxx” friends or family and described this as a social benefit, since it helped them to avoid debate or conflict and allowed them to freely share social activities with other “in-group” members when mandates were introduced. Some participants also viewed unvaccinated people as more likely to spread the virus, and therefore a greater threat to the health and safety of society, one of them describing feeling less safe once vaccine mandates were lifted:

*I believe that when there’s less vaccinated people in a space, [there’s] a higher chance of people catching COVID. I remember going to two separate concerts, one when the vaccine mandate was in place and one when there wasn’t.*

*When the vaccine mandate was in place, I still wear my mask and everything. [When they] were taken out, I got a little scared and I double masked (Interview 05).*

Participants opting for vaccines out of conviction also avoided unvaccinated persons because they perceived them as not only unsafe but also morally defective. Some had cut off ties with unvaccinated family and even longtime friends, yet rather than sorrow felt exasperated, with one participant reflecting on a former friend with a mix of frustration and resentment:

*Why would you [not get vaccinated]? Why would you put that risk to yourself? She’s a cancer survivor.... It’s also a conversation I don’t want to have [with her]. I find it really frustrating. I just don’t have a lot of respect for people who don’t want to get vaccinated (Interview 11).*

For these participants, the perception that unvaccinated people were unsafe and morally defective continued even when, over time, claims from trusted sources - public health officials or medical personalities - began to clash with their experiences (e.g., developing Covid-19 after multiple doses of vaccines). Indeed, for them vaccination status was an indicator of desirable social and moral characteristics, so regardless of these experiences they continued to prefer socializing only with other vaccinated people. In the revealing words of one participant:

*I admit that personally, I’m still more comfortable around vaccinated people because it also signals something about that person...I trust vaccinated people more to be careful and to be just safer to be around. Because I trust them to be generally more pandemic cautious and to be doing things like masking and distancing and not going to huge super spreader events (Interview 08).*

The experience of unvaccinated students was also bounded by a structure of limited opportunities, banned as they were from social interactions in public venues by a complex web of local, provincial, and federal regulations – QR codes required at restaurants, cinemas or gyms, travel bans - and limited (and ultimately no) course options:

*I lost my [job] because of my decision not to be vaccinated, even though it was remote. And then, life for me changed dramatically, not being able to go to restaurants with friends or just things that I did every day. So that was challenging...A big part too, [was] also being barred from my [religious community] (Interview 14)*

Two unvaccinated participants were caregivers, so the exclusion was also experienced by their children, with

one participant describing how her young son would repeatedly ask her “Mommy, when are we going to go to the movies?” (Interview 03).

One troubling finding was that given the controversial nature of Covid-19, both around the disease itself and the policies to address it, whatever participants’ feelings about, and decisions around, vaccination, most of them relayed that they had often avoided sharing their views, exchanging experiences, or engaging in debates out of concern with being shamed, rejected, or intimidated, or of threatening valued relationships, which nevertheless many did lose. As one participant put it:

*I try to avoid this topic [of vaccination] so I don’t get into conflicts, especially when I meet new people. So, I try to explore what their opinion is on that... In my mind, if you’re on the same page on this topic like me, it’s very possible for us to develop a deeper relationship or friendship or whatever (Interview 23).*

Participants who did not comply with mandated vaccination often avoided discussions with people they believed would judge them negatively. Some described instances when they had gathered enough courage to voice their concerns, for instance, with loved ones, and shared with them evidence that countered official sources, and as a result were ignored, rejected, or attacked:

*When I decided to go public with my family and friends that I wasn’t taking the vaccine. [The reaction was] that we’re doing it to save grandma, we’re doing it for the greater good. Even though I had a mountain of evidence to present to them about vaccines and [that they don’t] stop transmission, but what I experienced was that it was almost like a religious belief where people were not willing to hear any of the evidence. It was just, well, no, this is what we’re supposed to do. It’s kind of herd mentality (Interview 14).*

Notably, when asked about the ethics of mandating medical interventions on racialized and marginalized groups, most participants appeared sympathetic to members of these groups, and expressed reluctance to exacerbate their experiences of discrimination, stigmatization, and abuse. However, their claims contradicted the actual experience of the few study participants who had rejected vaccination, all of whom belonged to racialized groups and had experienced not only discrimination but also verbal abuse – for instance, one of them had been called “ignorant” and accused of being a “traitor” to their kin by members of their own community – “co-opted by white people” (Interview 14) for being a

black person protesting vaccine mandates.

The topics of vaccination and vaccine mandates, especially discussions critical of either, were largely absent from the university setting. Most participants, even those who complied out of conviction, reasoned that given the institution’s, and most professors’, position on vaccination, students who had reservations or remained unvaccinated for whatever reason would not feel free to express them or challenge dominant norms. One participant explained that they had already felt a subtle censorship regarding their political preferences, which had intensified under Covid-19. As they put it, “sometimes if in a left leaning institution some views may be obstructed,” (Interview 22) and concluded that the University should encourage professors to discuss and debate both sides of relevant societal issues.

Overall, the polarized, often hostile, environment appeared to have dramatically constrained the social opportunities for an emotionally nurturing and intellectually stimulating debate about the diversity of reasons for choosing or not a given medical intervention. That being said, two participants found unexpected, even if painful, social benefits to the segregation of unvaccinated and vaccinated people. One [unvaccinated] participant had gained new, meaningful social connections that they would have otherwise not made. As they put it:

*Even though I have been pushed away from what I knew and held sacred in terms of my social connections and my routines [included my faith community that rejected me], in some ways it’s been really eye opening. I’ve been able to connect with people I wouldn’t otherwise have connected with. Truth be told, I was mostly kind of in middle or even upper middle-class circles. But this experience has led me to interact with folks I wouldn’t have [interacted with otherwise] (Interview 14).*

Another [vaccinated] participant described how they had overcome social barriers based on vaccination status by reaching out to people who had rejected vaccination. This participant had been coerced into it so she understood the decision of a close family member who had remained unvaccinated. This experience had helped her connect and empathize with others who have rejected vaccination, whom she experienced were more open and comfortable with her than with other vaccinated persons.

## DISCUSSION

Our analysis identified three ideal types of motivations of vaccination: conviction, convenience, and coercion. Participants motivated by conviction, whether they had

complied or not, were deeply committed to their decision and found the alternative decision inconceivable, largely on moral grounds, albeit informed by their views of what counted as legitimate scientific evidence. Participants motivated by convenience, and often as well a desire to “get back to normal”, went along with their peers and society in general by following public health and university guidance to get vaccinated. Finally, a small group expressed resistance to vaccination but were coerced to comply. Notably, only one, non-compliant, student investigated beyond “scientific claims” from authoritative or usually trusted sources – professors, family physicians, or public health agencies – and made their decision based on their own assessment of original data released by a public health agency (Public Health Agency of Canada).

All participants provided rich descriptions of, and reflected about, the individual, social and institutional contexts that shaped their decision making, and the social implications of their decisions, that were unique, yet made within the structured boundaries of vaccination policies. Expectedly, most of them complied given that these boundaries extracted exceedingly high material, social, and emotional costs, inconceivable for most participants to bear. Troublingly, the types of social, emotional, and intellectual engagement that might have expanded the structure of opportunities to encounter, engage, and learn to accept - or at least tolerate - diverse life experiences and decisions, or allowed exposure to alternatives that might have influenced decisions around vaccination, and shed light on the ethical dimensions of medical practices, were severely limited, when not altogether absent, from the experience of most participants.

While our study is limited by the small sample size, our subjectivity in the research process, and biases when interpreting findings, we have made our research process as transparent as possible so that other scholars can assess its quality and trustworthiness (94). Indeed, our shortcomings indicate the need for further research on the important topic of how postsecondary Covid-19 policies - and likely policies implemented by other social institutions - impact the life choices and chances of future generations, and what they reveal about the role of academia in society. Given the dearth of qualitative literature on vaccination experiences of postsecondary students’ (95), small, exploratory studies like ours fill an important gap.

We argue that the Covid-19 crisis has both intensified and exposed the extent of medicalization and social control, with centres of authority pathologizing social life, portraying usual, even intimate, social interactions as dange-

rous, and urging the public to mitigate the risk of major disease and death by reducing these interactions. Along with the uncertainty produced by the portrayal of SARS-CoV2 as an invisible, albeit deadly and widespread, risk, major social institutions have redoubled their appeals to rely on “expert” knowledge – largely claims made by officially vetted authority figures - framing mandates as a key instrument to protect oneself, society, and even humankind. Major social institutions have also aligned in messaging and efforts not only to support mandates but also to jointly deploy a digital infrastructure of surveillance and control of the population based on vaccine status, requiring passports and QR codes to access social and symbolic spaces, importantly for our purposes, the spaces of post secondary institutions. It is hard to imagine how it would have been possible for young adults within these institutions, ostensibly meant to promote critical thinking, to not have been strongly influenced by these processes.

The challenges that Covid-19 policies pose to human rights, democratic governance, and our very humanity are significant, and several scholars have discussed them in the context of medicalization, social control, biopower, and surveillance more generally. About 50 years ago Foucault developed his theory of biopower, meaning a state that holds “power over life” and deploys “dividing practices” that operate through social control and surveillance (96). Scholars working in this tradition have drawn attention to how a state-corporate nexus, specifically the relationship between big Pharma and the state, increasingly influences health policy (97). Other scholars have argued that when “The Face Becomes a Carrier”, i.e., mask wearing is mandated, state power can override other values on the justification that faces must be covered to protect the population from the threat we pose to one another, leading to the breakdown of the ethical relation to the Other, as “the more natural it seems to submit to control and surveillance by a centralized state that exists to secure the population against threats, the easier it becomes to see each other person as an incarnation of the threat that is the population, and the harder dialogue becomes” (98)(99). Yet others have noted that social control that draws from medical frames possesses the key elements of an imperial power - economic leverage, the faith of its citizens, and governmental rule - (98), underexplored areas that require further research.

In a similar spirit, we argue that academic institutions have reinforced biopower by imposing vaccine and other mandates uncritically and coercively, and in so doing have reproduced the dominant political discourse that the unvaccinated - and even those who are “hesitant” or question Covid-19 policies - are a threat, and that therefore

must be excluded and if necessary, disciplined, to create a “community of care” (92), which we argue is an moral oxymoron. The impact that dividing practices appear to have had on the students’ lives was clear during interviews, as participants compellingly described siloed social and emotional experiences in which they were unlikely, and all too often unwilling, to interface and engage with fellow students who had made different vaccination decisions. In addition, participants often resorted to binary labels to describe themselves or others, such as “pro / anti vaccination” or “pro / anti science”, seemingly unable to reflect on the problematic nature of binary labels, precisely the sort of reflection that is ostensibly a hallmark of post secondary education.

An important implication of our findings concerns matters of equity, a value officially held in high esteem by academic institutions (100). Our findings indicate that the cultural, social, economic, and even interpersonal opportunities structured by vaccination status were experienced differently by diverse sub-groups. Access to resources and power differences impacts an individual’s ability to comply or not with vaccine mandates, regardless of, and at times against, their own beliefs, culture, social practices, and moral convictions. For example, one single mother described feeling distress at the potential financial loss, loss of employment, and ability to provide for their children unless they complied. International students’ ability to stay in the country, tied to their enrollment, face higher costs as well. Notably, most participants belonged to racial or ethnic minority groups, who are more likely to question vaccination yet at the same time may experience greater costs if they engage in reflection and opt for not complying. The identified differences in participants’ ability to navigate or resist likely obtain among other social groups whose livelihood and wellbeing also depend on complying with policies that distribute rights and privileges according to medical status.

The question remains, however, what accounts for the framing, by postsecondary institutions, of the “good citizen” as one that embraces vaccination, when the scientific evidence informing this framing is no longer tenable, and the ethical issues are multifarious (101,102)? Over three decades ago, scholars noted that not all medicalization was harmful: indeed, much of it entailed less moral condemnation, stigmatizing, and criminalization of non-normative behaviours, for instance, around drinking, as these behaviours shifted from “badness” to “sickness” (103). More recently, they have warned however about the expanding power of medicalization to control social behaviour, as new medical categories to label otherwise “normal” human variation (e.g., in stature or sexual

desire, to mention a few) emerged without the active intervention of the medical profession, or even against it (104). So-called “new engines of medicalization” include the role of corporate social actors – pharmaceutical and biotech corporations, Pharma-funded “patient advocacy” groups, and the commercial insurance industry - as well as social movements and patient/consumers of health services more generally, especially since legislative changes in some countries have facilitated direct-to-consumer advertising, social norms have relaxed the funding of medical journals, colleges, and individual professionals, and the “revolving door” between government and industry has blurred distinctions between both (105).

Our work suggests that in the Covid-19 era academia should be added to the growing list of “engines of medicalization”, one that has notably strengthened, rather than weakened, moral condemnation and punishment of “deviant” behaviour through medical social control. We also suggest that academia operates not alone, but within a network of such “engines”, whose implications for well-being we can only speculate about. It also appears that the process is not deterministic and that there is no full consensus within this network. For example, when Public Health Ontario imposed vaccine mandates on several public spaces, most Ontarian postsecondary institutions followed suit, alleging they were following public health authorities (106). In contrast, when these same public health authorities lifted the mandates in March 2022, most Ontario universities chose to uphold them until, and sometimes beyond, the summer of that year (107), on grounds of protecting “students, staff and faculty” (108), “protection” that nonetheless led to an unknown number of student deregistration, staff termination, and faculty put on unpaid leave (107).

Explaining the tensions among the “engines of medicalization” is beyond the scope of this study, but a cursory examination of university funding may shed light on them. Consider, for instance, the Bill & Melinda Gates Foundation award of \$11.6bn in funding to 471 universities and higher education institutions in 66 countries over the past 10 years, most of them in North America (109), and the public acknowledgement by Bill Gates that his “best investment [in vaccines] turned \$10 billion into \$200 billion worth of economic benefit” (110). Additionally, the increasing reliance of academic funding, over the past few decades, on so-called private-public partnerships (111) raises concerns about what drives academic policies and practices (112). These facts, we argue, go a long way in explaining academia as a new engine of medicalization, and deserve further research. Finally, there is

the complex issue of perceived increasing “illiberalism” in academia raised by scholars across the ideological spectrum and attributed to different, even opposing, political ideologies (113–115). This issue is also beyond the scope of our study but given the impact of current academic policies and practices on students’ ability to express themselves freely, participate in open debate about matters of societal importance, and navigate differences, as identified in our study, it deserves to be explored.

## CONCLUDING REMARKS

As scholars in the tradition of critical health studies and academics ourselves, we are concerned with the use of medical categories to convey moral meanings and control behaviour (32). In our view, students are made vulnerable, not by their state of health or their incapacity to think autonomously but, as our study suggests, by the disciplinary power that postsecondary institutions, importantly educators, can exert on them. In exerting this power, postsecondary institutions can, and do, shape perceptions of reality, promote or hinder the development of the healthy scepticism necessary for free intellectual inquiry, and constrain life choices and chances. We are also concerned about the “corporatization” of the university, whereby this powerful social institution may be contributing not to the development of critical thinking and the promotion of democratic governance, but to the interests of a “corporate state [...] “subservient to the needs of capital” (116), and about the “rise of illiberalism”, inimical, at least normatively, to the academic project. It may be time to heed Zola’s warning, close to 50 years ago, that “the danger [of drawing from the authority of medical science to impose ideological preferences] is greater [when] not only is the process masked as a technical, scientific objective but done for our own good” (34).

## Additional material

Table 1 – Interview guide

Table 2 – Participants demographic information

## Acknowledgements

The first author wishes to thank the many professional and lay organizations, students, trainees, friends, and loved ones that have afforded spaces of debate, reflection, and reassurance over the past years. The second author wishes to thank her family and friends for their ongoing encouragement and support, and Dr. Chaufan for the opportunity to engage in meaningful research and ongoing support throughout the process. Both authors are grateful to the participants who shared with us their stories. Without them, this work would not have been possible. We take full responsibility for our statements and mistakes.

## Authorship

CCh conceptualized the study, collected and analyzed the data, and wrote the initial and subsequent versions of the manuscript. NH assisted with data collection and analysis, wrote and revised significant portions of the manuscript, and contributed important intellectual content. Both authors approved the final version and submission.

## Conflicts of interest

Neither author has conflicts of interest to declare. Both are members of academic / professional organizations, and the first author’s research has been funded by government (National Institutes of Health, Canadian Institute of Health Research, and Social Sciences and Humanities Research Council) and non-government (American Diabetes Association, American Sociological Association) agencies. None have influenced the decision to conduct or publish this study.

## Funding

This project was partly funded by a York University, Faculty of Health Small Grant.

## Ethics Approval and Data Availability

The York Institutional Review Board approved the study. The data is protected by a confidentiality agreement with participants.

## Table 1 - Interview guide

### 1. Decision

We would like to understand the process of your deciding to get vaccinated / remain unvaccinated.

- *Probe:* Can you think of specific moments that would help us understand how you made the decision?

### 2. Trust

We would like to understand what sources you resorted to and trusted to choose to take/not take the vaccine.

- *Probe:* Could you identify specific people, circumstances, or evidence that informed your decision?
- *Probe:* What influence, if any, did mandates have in your trust in vaccines? (none, increase, decrease?)
- *Probe:* What influence, if any, has developing Covid (or somebody close developing Covid) made in your trust / attitudes towards vaccines / mandates?

### 3. Experience of vaccination status before and after mandates

We would like to understand how your vaccination status impacted your relations or opportunities, and whether this impact has changed when mandates were implemented.

- *Probe:* Can you think of a situation that illustrates your social experience of being vaccinated or unvaccinated, before and after mandates were implemented, in terms of access to venues, employment, educational opportunities, friends or family? How do you think your experience might have been different if you were vaccinated / unvaccinated?

- *Probe:* Can you think of a situation that illustrates your emotional experience of being vaccinated or unvaccinated, before and after mandates were implemented? How do you think your experience might have been different if you were vaccinated / unvaccinated? (e.g., more/less safety, fear, pride, shame).

- *Probe:* (if vaccinated) Can you think of a situation that illustrates your physical experience with vaccination – positive or negative? (all) Has anyone you personally know had physical reactions to the vaccine – once again positive or negative? If so, could you describe it in some detail?

#### **4. Freedom of expression**

We would like to understand how free/unfree you have felt to share your views on Covid-19 vaccines in your usual social environments (face-to-face; social media), including in the context of your university studies

- *Probe:* Do you recall instances in specific situations, including classes where the topic of vaccines/mandates/other came up? Could you describe in some detail what happened?

#### **5. Ethical tensions**

There have been multiple ethical tensions in discussions around Covid-19, especially around public policy. In particular, there has been a lot of moralizing and name-calling around vaccination decisions, whether in favour or against. Can you think of a situation in which you have experienced these tensions? Could you describe it in some detail and tell us what happened, how you felt, what you did, and so on?

- *Probe:* How would the racial / ethnic / religious background of someone concerned about vaccination (“vaccine hesitant”) change your views about the ethics of mandates? (If necessary, briefly refer to history of medical abuses – blacks, disabled, jews, etc.).

#### **6. Shifts**

We would like to understand if and how your views about Covid-19 vaccination have changed since March 2020. Can you recall specific aspects of the crisis about which your views have changed, either been reinforced or changed towards the opposite, since then?

- *Probe:* What you think explains the change/permanence? Can you recall a specific situation, source of information, or life circumstance that may have caused it?

#### **7. Conclusion**

In concluding, is there anything else that we have not asked you and you would like to share, that would help us better understand your experience with Covid vaccination issues?

- *Note:* Mention snow-ball sampling

***Thank you so much again for your participation!***

**Table 2 – Participant demographic information**

<b>Demographic variable</b>	<b>Items</b>	<b>Frequency (Total n=24)</b>	<b>Percent</b>
<b>Gender</b>	<b>Women</b>	<b>n=17</b>	<b>71%</b>
	<b>Men</b>	<b>n=7</b>	<b>29%</b>
<b>Age</b>	<b>&lt;20 years</b>	<b>n=1</b>	<b>4%</b>
	<b>20-29 years</b>	<b>n=13</b>	<b>54%</b>
	<b>30-39 years</b>	<b>n=3</b>	<b>13%</b>
	<b>&gt;40 years</b>	<b>n=7</b>	<b>29%</b>
<b>Belong to racialized group</b>	<b>Yes</b>	<b>n=14</b>	<b>58%</b>
	<b>No</b>	<b>n=10</b>	<b>42%</b>
<b>Student status</b>	<b>Undergraduate (complete)</b>	<b>n=4</b>	<b>17%</b>
	<b>Undergraduate (current)</b>	<b>n=6</b>	<b>25%</b>
	<b>Graduate</b>	<b>n=14</b>	<b>58%</b>
<b>Vaccination status</b>	<b>Vaccinated (two doses +)</b>	<b>n=20</b>	<b>83%</b>
	<b>Vaccinated (incomplete)</b>	<b>n=1</b>	<b>4%</b>
	<b>Unvaccinated</b>	<b>n=3</b>	<b>13%</b>

## REFERENCES

1. Ludvigsson JF, Engerström L, Nordenhäll C, Larsson E. Open Schools, Covid-19, and Child and Teacher Morbidity in Sweden. *N Engl J Med*. 2021 Jan 6;NEJMc2026670.
2. Public Health Agency of Canada. COVID-19 daily epidemiology update: Outbreaks [Internet]. Government of Canada. 2022 [cited 2022 Nov 16]. Available from: <https://health-infobase.canada.ca/covid-19/outbreaks.html>
3. ACHA. National Survey of College Student COVID-19 Vaccination Uptake, Attitudes, Experiences, and Intentions. American Colleges Health Association; 2022 Sep.
4. Lenton R. York University is calling on all communi-

ty members to immediately resume masking indoors as part of provincial efforts to protect children and most vulnerable | Better Together [Internet]. Better Together, York University. 2022 [cited 2022 Dec 28]. Available from: <https://www.yorku.ca/bettertogether/2022/11/18/york-university-is-calling-on-all-community-members-to-immediately-resume-masking-indoors-as-part-of-provincial-efforts-to-protect-children-and-most-vulnerable/>

5. Registered Nurses' Association of Ontario. Bring back mask mandate to protect children and reduce pressures on already-strained health system. Cicion [Internet]. 2022 Nov 14 [cited 2022 Nov 26]; Available from: <https://www.newswire.ca/news-releases/bring-back-mask-mandate-to-protect-children-and-re>

- duce-pressures-on-already-strained-health-system-899762149.html
6. Story J, Chernos-Lin R. Opinion | Mandatory COVID-19 vaccines a must so our kids lives can be enriched. *The Toronto Star* [Internet]. 2021 Oct 26 [cited 2022 Nov 16]; Available from: <https://www.thestar.com/opinion/contributors/2021/10/26/mandatory-covid-19-vaccines-a-must-so-our-kids-lives-can-be-enriched.html>
  7. Wotring AJ, Hutchins M, Johnson MK, Ferng SF, Strawser C, Pfrank H, et al. COVID-19 Vaccine Uptake Among College Students at a Midwest University. *J Community Health*. 2022;47(2):292–7.
  8. Health Resources & Services Administration. About the National Vaccine Injury Compensation Program | HRSA [Internet]. 2023 [cited 2023 Jan 15]. Available from: <https://www.hrsa.gov/vaccine-compensation/about>
  9. FDA. What is Gene Therapy? FDA [Internet]. 2018 Jul 25 [cited 2023 Jan 13]; Available from: <https://www.fda.gov/vaccines-blood-biologics/cellular-gene-therapy-products/what-gene-therapy>
  10. Rose J. Critical Appraisal of VAERS Pharmacovigilance: Is the U.S. Vaccine Adverse Events Reporting System (VAERS) a Functioning Pharmacovigilance System? 2021;30.
  11. Garner J. Health versus Disorder, Disease, and Death: Unvaccinated Persons Are Incommensurably Healthier than Vaccinated. *International Journal of Vaccine Theory, Practice, and Research*. 2022 Nov 15;2(2):670–86.
  12. Hooker BS. Measles-mumps-rubella vaccination timing and autism among young african american boys: a reanalysis of CDC data. *Translational Neurodegeneration*. 2014 Aug 27;3(1):16.
  13. Chamon Q, Govindin Ramassamy K, Rahis AC, Guignot L, Tzourio C, Montagni I. Persistence of Vaccine Hesitancy and Acceptance of the EU Covid Certificate Among French Students. *J Community Health*. 2022 Aug;47(4):666–73.
  14. Jaffe AE, Graupensperger S, Blayney JA, Duckworth JC, Stappenbeck CA. The role of perceived social norms in college student vaccine hesitancy: Implications for COVID-19 prevention strategies. *Vaccine*. 2022 Mar 15;40(12):1888–95.
  15. Lo Moro G, Cugudda E, Bert F, Raco I, Siliquini R. Vaccine Hesitancy and Fear of COVID-19 Among Italian Medical Students: A Cross-Sectional Study. *J Community Health*. 2022 Jun;47(3):475–83.
  16. Bacchi C. Questioning How “Problems” Are Constituted in Policies. *SAGE Open*. 2016;6(2):2158244016653986.
  17. Chaufan C, Hemsing N, McDonald J, Heredia C. The Risk-Benefit Balance in the COVID-19 “Vaccine Hesitancy” Literature: An Umbrella Review Protocol. *International Journal of Vaccine Theory, Practice, and Research*. 2022 Nov 9;2(2):652–69.
  18. Mansanguan S, Charunwatthana P, Piyaphanee W, Dechkhajorn W, Poolcharoen A, Mansanguan C. Cardiovascular Manifestation of the BNT162b2 mRNA COVID-19 Vaccine in Adolescents. *Tropical Medicine and Infectious Disease*. 2022 Aug;7(8):196.
  19. Wesselink AK, Hatch EE, Rothman KJ, Wang TR, Willis MD, Yland J, et al. A Prospective Cohort Study of COVID-19 Vaccination, SARS-CoV-2 Infection, and Fertility. *Am J Epidemiol*. 2022 Jul 23;191(8):1383–95.
  20. COVID-19 Forecasting Team. Variation in the COVID-19 infection–fatality ratio by age, time, and geography during the pre-vaccine era: a systematic analysis. *The Lancet*. 2022 Apr;399(10334):1469–88.
  21. Mustapha M, Lawal BK, Sha’aban A, Jatau AI, Wada AS, Bala AA, et al. Factors associated with acceptance of COVID-19 vaccine among University health sciences students in Northwest Nigeria. *PLoS One*. 2021;16(11):e0260672.
  22. Zhang J, Dean J, Yin Y, Wang D, Sun Y, Zhao Z, et al. Determinants of COVID-19 Vaccine Acceptance and Hesitancy: A Health Care Student-Based Online Survey in Northwest China. *Frontiers in Public Health* [Internet]. 2022 [cited 2022 Nov 17];9. Available from: <https://www.frontiersin.org/articles/10.3389/fpubh.2021.777565>
  23. Raypole C. How Do You Know If You Were Sexually Coerced? [Internet]. Healthline. 2020 [cited 2022 Nov 16]. Available from: <https://www.healthline.com/health/sexual-coercion>
  24. Wikipedia. Coercion. In: Wikipedia [Internet]. 2022 [cited 2022 Nov 16]. Available from: <https://en.wikipedia.org/w/index.php?title=Coercion&oldid=1110421743>
  25. Procknow G. COVID-19 vaccine hesitancy, chemical retraumatization, and madness. *Disability & Society*. 2022 Oct 21;37(9):1535–40.
  26. Frankfurt S, Frazier P. A Review of Research on Moral Injury in Combat Veterans. *Military Psychology*. 2016 Jun 9;28(5):318–30.
  27. artolovni A, Stolt M, Scott PA, Suhonen R. Moral injury in healthcare professionals: A scoping review and discussion. *Nurs Ethics*. 2021 Aug 1;28(5):590–602.
  28. History of Medicine Division, NIH. Greek Medicine - The Hippocratic Oath [Internet]. History. U.S. National Library of Medicine; 2022 [cited 2022 Nov 20]. Available from: [https://www.nlm.nih.gov/hmd/greek/greek\\_oath.html](https://www.nlm.nih.gov/hmd/greek/greek_oath.html)
  29. Shuster E. Fifty Years Later: The Significance of the Nuremberg Code. *N Engl J Med*. 1997 Nov 13;337(20):1436–40.
  30. Varkey B. Principles of Clinical Ethics and Their Application to Practice. *MPP*. 2021;30(1):17–28.
  31. World Medical Association. Declaration of Helsinki. *New England Journal of Medicine*. 1964;271(9):473–4.
  32. Conrad P. Types of medical social control. *Sociology of Health & Illness*. 1979;1(1):1–11.
  33. Waitzkin H. A Critical Theory of Medical Discourse: Ideology, Social Control, and the Processing of Social Context in Medical Encounters. *Journal of Health and Social Behavior*. 1989 Jun;30(2):220.
  34. Zola IK. In the name of health and illness: On some socio-political consequences of medical influence. *Social Science &*

Medicine. 1975;9:83–7.

35. Chesla CA. Hermeneutic Phenomenology: An Approach to Understanding Families. *Journal of Family Nursing*. 1995 Feb 1;1(1):63–78.
36. WHO. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020 [Internet]. World Health Organization. 2020 [cited 2022 Nov 15]. Available from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
37. Freeman J. GTA universities, colleges suspending classes amid pandemic | CTV News. CTV News [Internet]. 2020 Mar 13 [cited 2022 Nov 15]; Available from: <https://toronto.ctvnews.ca/gta-universities-colleges-suspending-classes-amid-pandemic-1.4851753>
38. Rocha R. Early action on COVID-19 can “flatten the curve” even more, Toronto researchers urge | CBC News. 2020 Mar 13 [cited 2022 Nov 15]; Available from: <https://www.cbc.ca/news/canada/coronavirus-simulation-toronto-1.5497184>
39. Global National: Dec. 27, 2020 | More cases of COVID-19 variant reported in BC, Ontario [Internet]. 2020 [cited 2022 Nov 17]. Available from: <https://www.youtube.com/watch?v=rN-V1lpeCwTw>
40. Dangerfield K. ‘Patients will die’: Doctors warn hospitals bursting as coronavirus cases soar | Globalnews.ca. Global News [Internet]. 2020 Nov 16 [cited 2022 Nov 17]; Available from: <https://globalnews.ca/news/7464926/coronavirus-canada-hospital-capacity/>
41. OCAD University. March 13 COVID-19 Update: All face-to-face academic and research activities suspended | OCAD University [Internet]. 2020 [cited 2022 Nov 16]. Available from: <https://www.ocadu.ca/news/march-13-covid-19-update-all-face-face-academic-and-research-activities-suspended>
42. University of Toronto. U of T cancels in-person classes, switches to online and other means, due to COVID-19 outbreak [Internet]. University of Toronto News. 2020 [cited 2022 Nov 16]. Available from: <https://www.utoronto.ca/news/u-t-cancels-person-classes-all-three-campuses-due-covid-19-outbreak>
43. York University. March 13, 2020 – Announcement of all classes moving online [Internet]. School of Continuing Studies. 2020 [cited 2022 Nov 16]. Available from: <https://continue.yorku.ca/about/covid-19-updates/march-13-2020-announcement-of-all-classes-moving-online/>
44. Public Health Agency of Canada. Statement from the Chief Public Health Officer of Canada on October 28, 2020 [Internet]. Government of Canada. 2020 [cited 2022 Nov 16]. Available from: <https://www.canada.ca/en/public-health/news/2020/10/statement-from-the-chief-public-health-officer-of-canada-on-october-28-2020.html>
45. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *The Lancet*. 2020 Feb 15;395(10223):470–3.
46. Zimmer C. Hundreds of Scientists Scramble to Find a Coronavirus Treatment. *The New York Times* [Internet]. 2020 Mar 17 [cited 2022 Nov 29]; Available from: <https://www.nytimes.com/2020/03/17/science/coronavirus-treatment.html>
47. O’Neil L. Toronto is being moved into lockdown and here’s what that means. *blogTO* [Internet]. 2020 20 [cited 2022 Nov 16]; Available from: <https://www.blogto.com/city/2020/11/toronto-lockdown-what-that-means/>
48. Banerjee A. Drug touted by Trump tied to increased risk of death in COVID-19 patients, study finds. *The Globe and Mail* [Internet]. 2020 May 22 [cited 2022 Nov 29]; Available from: <https://www.theglobeandmail.com/world/article-drug-touted-by-trump-tied-to-increased-risk-of-death-in-covid-1/>
49. Neergaard L, Miller Z. U.S. begins “warp speed” vaccine push as studies ramp up | CTV News. CTV News [Internet]. 2020 May 15 [cited 2022 Nov 16]; Available from: <https://www.ctvnews.ca/world/u-s-begins-warp-speed-vaccine-push-as-studies-ramp-up-1.4941599>
50. Aiello R, Forani J. “V-Day”: First COVID-19 vaccines administered in Canada | CTV News. 2020 Dec 14 [cited 2022 Nov 16]; Available from: <https://www.ctvnews.ca/health/coronavirus/v-day-first-covid-19-vaccines-administered-in-canada-1.5230184>
51. Government of Canada. Archived 11: Summary of National Advisory Committee on Immunization statement of May 28, 2021 [Internet]. 2021 [cited 2022 Nov 15]. Available from: <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines/summary-updated-statement-may-28-2021.html>
52. Holton K. British grandma is 1st in world to get Pfizer vaccine outside trial. *Reuters* [Internet]. 2020 Dec 10 [cited 2022 Nov 15]; Available from: <https://www.reuters.com/world/india/british-grandma-is-1st-world-get-pfizer-vaccine-outside-trial-2020-12-10/>
53. Sullivan K. Colleges, universities with Covid vaccination mandates facing pushback. 2021 Jul 14 [cited 2022 Nov 15]; Available from: <https://www.nbcnews.com/health/health-news/colleges-universities-covid-vaccination-mandates-facing-push-back-n1273916>
54. The Canadian Press. More Ontario universities make COVID-19 vaccinations mandatory for those on campuses this fall. *The Globe and Mail* [Internet]. 2021 Aug 12 [cited 2022 Nov 15]; Available from: <https://www.theglobeandmail.com/canada/article-more-ontario-universities-make-covid-19-vaccinations-mandatory-for/>
55. WHO. Fighting misinformation in the time of COVID-19, one click at a time [Internet]. 2021 [cited 2022 Oct 21]. Available from: <https://www.who.int/news-room/feature-stories/detail/fighting-misinformation-in-the-time-of-covid-19-one-click-at-a-time>
56. Gostin LO, Salmon DA, Larson HJ. Mandating COVID-19 Vaccines. *JAMA*. 2021 Feb 9;325(6):532–3.

57. Pfizer - BioNTech SE. A Phase 1/2/3, placebo-controlled, randomized, observer-blind, dose-finding, study to evaluate the safety, tolerability, immunogenicity, and efficacy of SARS-CoV2 RNA vaccine candidates against COVID-19 in healthy individuals [Internet]. *clinicaltrials.gov*; 2020 Apr [cited 2021 Oct 17]. Report No.: NCT04368728. Available from: <https://clinicaltrials.gov/ct2/show/NCT04368728>
58. Mandavilli A. Even Asymptomatic People Carry the Coronavirus in High Amounts. *The New York Times* [Internet]. 2020 Aug 6 [cited 2022 Nov 24]; Available from: <https://www.nytimes.com/2020/08/06/health/coronavirus-asymptomatic-transmission.html>
59. Cao S, Gan Y, Wang C, Bachmann M, Wei S, Gong J, et al. Post-lockdown SARS-CoV-2 nucleic acid screening in nearly ten million residents of Wuhan, China. *Nat Commun*. 2020 Nov 20;11(1):5917.
60. McCullough PA, Kelly RJ, Ruocco G, Lerma E, Tumlin J, Wheelan KR, et al. Pathophysiological Basis and Rationale for Early Outpatient Treatment of SARS-CoV-2 (COVID-19) Infection. *The American Journal of Medicine*. 2021 Jan;134(1):16–22.
61. Risch HA. Early Outpatient Treatment of Symptomatic, High-Risk COVID-19 Patients That Should Be Ramped Up Immediately as Key to the Pandemic Crisis. *American Journal of Epidemiology*. 2020 Nov 2;189(11):1218–26.
62. Kory P, Meduri GU, Varon J, Iglesias J, Marik PE. Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19. *American Journal of Therapeutics*. 2021;20.
63. Carvallo H, Hirsch R, Alkis P, Contreras V. Study of the Efficacy and Safety of Topical Ivermectin + Iota-Carrageenan in the Prophylaxis against COVID-19 in Health Personnel. *J biomed res clin investig* [Internet]. 2020 Nov 17 [cited 2022 Oct 24];2(1). Available from: [https://www.medicalpressopenaccess.com/single\\_article.php?refid=82](https://www.medicalpressopenaccess.com/single_article.php?refid=82)
64. Gautret P, Lagier JC, Parola P, Hoang VT, Meddeb L, Mailhe M, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. *International Journal of Antimicrobial Agents*. 2020 Jul 1;56(1):105949.
65. Mehra MR, Desai SS, Ruschitzka F, Patel AN. RETRACTED: Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis. *The Lancet* [Internet]. 2020 May 22 [cited 2022 Nov 29];0(0). Available from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31180-6/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31180-6/fulltext)
66. Offord C. The Surgisphere Scandal: What Went Wrong? *The Scientist Magazine* [Internet]. 2020 Oct 1 [cited 2022 Nov 29]; Available from: <https://www.the-scientist.com/features/the-surgisphere-scandal-what-went-wrong--67955>
67. Piller C. Who's to blame? These three scientists are at the heart of the Surgisphere COVID-19 scandal. *Science* [Internet]. 2020 Jun 8 [cited 2022 Dec 28]; Available from: <https://www.science.org/content/article/whos-blame-these-three-scientists-are-heart-surgisphere-covid-19-scandal>
68. Singanayagam A, Hakki S, Dunning J, Madon KJ, Cro-  
ne MA, Koycheva A, et al. Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study. *The Lancet Infectious Diseases* [Internet]. 2021 Oct 29 [cited 2021 Nov 6];0(0). Available from: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(21\)00648-4/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00648-4/fulltext)
69. Morris DZ, Mukherjee S. It's official: Vaccinated people don't spread COVID-19 | Fortune. *Fortune* [Internet]. 2021 Apr 1 [cited 2022 Dec 31]; Available from: <https://fortune.com/2021/04/01/its-official-vaccinated-people-dont-transmit-covid-19/>
70. Reynolds C. Tam warns Canadians that full vaccination does not equal full protection from transmitting COVID-19. *The Globe and Mail* [Internet]. 2021 May 9 [cited 2022 Dec 31]; Available from: <https://www.theglobeandmail.com/canada/article-tam-warns-canadians-that-full-vaccination-does-not-equal-full/>
71. Ridgway JP, Tideman S, Wright B, Robicsek A. Rates of COVID-19 Among Unvaccinated Adults With Prior COVID-19. *JAMA Netw Open*. 2022 Apr 20;5(4):e227650.
72. Majdoubi A, Michalski C, O'Connell SE, Dada S, Narpa-  
la S, Gelinis J, et al. A majority of uninfected adults show preexisting antibody reactivity against SARS-CoV-2. *JCI Insight* [Internet]. 2021 Apr 22 [cited 2021 Nov 13];6(8). Available from: <https://www.ncbi.nlm.nih.gov/labs/pmc/articles/PMC8119195/>
73. Ioannidis JPA. Reconciling estimates of global spread and infection fatality rates of COVID-19: An overview of systematic evaluations. *European Journal of Clinical Investigation*. 2021;51(5):e13554.
74. Pezzullo AM, Axfors C, Contopoulos-Ioannidis DG, Apostolatos A, Ioannidis JPA. Age-stratified infection fatality rate of COVID-19 in the non-elderly population. *Environmental Research*. 2023 Jan 1;216:114655.
75. WHO. Coronavirus disease 2019 ( COVID-19) [Inter-  
net]. 2020 [cited 2022 Nov 24] p. Situation report, 46. Available from: <https://apps.who.int/iris/handle/10665/331443>
76. Jordans F. Major European nations suspend use of AstraZeneca vaccine. *AP NEWS* [Internet]. 2021 Apr 20 [cited 2022 Nov 16]; Available from: <https://apnews.com/article/germany-suspends-astrazeneca-vaccine-blood-clotting-0ab2c-4fe13370c96c873e896387eb92f>
77. Miller AM· C. Why Canada is suspending use of AstraZeneca vaccine in people under 55 | CBC News. *CBC News* [Internet]. 2021 Mar 29 [cited 2022 Nov 16]; Available from: <https://www.cbc.ca/news/health/canada-suspends-astrazeneca-vaccine-covid-19-1.5968657>
78. Naveed Z, Li J, Spencer M, Wilton J, Naus M, Garcia HAV, et al. Observed versus expected rates of myocarditis af-

- ter SARS-CoV-2 vaccination: a population-based cohort study. *CMAJ*. 2022 Nov 21;194(45):E1529–36.
79. Public Health Agency of Canada. Statement from the Council of Chief Medical Officers of Health (CCMOH): Update on COVID-19 Vaccines and the Risk of Myocarditis and Pericarditis [Internet]. 2021 [cited 2022 Nov 16]. Available from: <https://www.canada.ca/en/public-health/news/2021/10/statement-from-the-council-of-chief-medical-officers-of-health-ccmoh-update-on-covid-19-vaccines-and-the-risk-of-myocarditis-and-pericarditis.html>
80. UK.Gov. Summary of the Public Assessment Report for COVID-19 Vaccine Pfizer/BioNTech [Internet]. GOV.UK/MHRA. 2022 [cited 2022 Nov 22]. Available from: <https://www.gov.uk/government/publications/regulatory-approval-of-pfizer-biontech-vaccine-for-covid-19/summary-public-assessment-report-for-pfizerbiontech-covid-19-vaccine>
81. Brown. Canada's Colleges and Universities Roll Out Fall Pandemic Plans for 2022 | CourseCompare.ca [Internet]. CourseCompare. 2022 [cited 2022 Nov 16]. Available from: <https://www.coursecompare.ca/covid-19-canadas-colleges-and-universities-roll-out-fall-pandemic-plans/>
82. Gilligan M. 11 MRU students deregistered for not complying with vaccination policy. *CTV News* [Internet]. 2021 Oct 5 [cited 2022 Nov 24]; Available from: <https://calgary.ctvnews.ca/11-mru-students-deregistered-for-not-complying-with-vaccination-policy-1.5611963>
83. Dawson T. Ontario professor on paid leave after refusing to get vaccinated or wear a mask | *National Post*. *National Post* [Internet]. 2021 Sep 9 [cited 2022 Nov 24]; Available from: <https://nationalpost.com/news/canada/ontario-professor-on-paid-leave-after-refusing-to-get-vaccinated-or-wear-a-mask>
84. University of Toronto. COVID-19 Information for University of Toronto Students [Internet]. Office of the Vice-Provost, Students. 2022 [cited 2022 Nov 16]. Available from: <https://www.viceprovoststudents.utoronto.ca/covid-19/>
85. York University. Vaccination | Better Together [Internet]. Better Together. 2022 [cited 2022 Nov 16]. Available from: <https://www.yorku.ca/bettertogether/vaccinations/>
86. Conrad P. Wellness Is Virtue: Morality and the pursuit of health. *Culture, Medicine and Psychiatry*. 1994;18:385–401.
87. Ontario Universities INFO. York University – OUInfo [Internet]. 2022 [cited 2022 Nov 17]. Available from: <https://www.ontariouniversitiesinfo.ca/universities/york>
88. Weber M. *Economy and Society: Two Volume Set, with a New Foreword by Guenther Roth*. Roth G, Wittich C, editors. 2013. 1712 p.
89. Finlay L. “Outing” the Researcher: The Provenance, Process, and Practice of Reflexivity. *Qualitative Health Research*. 2002 Apr 1;12(4):531–45.
90. Tracy SJ. Qualitative Quality: Eight “Big-Tent” Criteria for Excellent Qualitative Research. *Qualitative Inquiry*. 2010 Dec 1;16(10):837–51.
91. York University. York's return to campus begins January 31 [Internet]. Better Together, York University. 2021 [cited 2022 Dec 28]. Available from: <https://www.yorku.ca/bettertogether/2022/01/21/yorks-return-to-campus-begins-january-31/>
92. York University. Creating a community of care at York – YFile [Internet]. YFile. 2021 [cited 2022 Nov 30]. Available from: <https://yfile.news.yorku.ca/2021/06/23/creating-a-community-of-care-at-york/>
93. York University Graduate Students' Association. Student Association | About Us | Interdisciplinary Studies | Faculty of Graduate Studies (FGS) | York University [Internet]. Student Association. nd [cited 2022 Nov 30]. Available from: <https://www.yorku.ca/gradstudies/interdis/about-us/student-association/>
94. Tracy SJ. Qualitative Quality: Eight “Big-Tent” Criteria for Excellent Qualitative Research. *Qualitative Inquiry*. 2010 Dec;16(10):837–51.
95. Chaufan C. Covid-19 vaccination in postsecondary education: A critical policy inquiry [Internet]. *SocArXiv*; 2023 [cited 2023 Jan 9]. Available from: <https://osf.io/preprints/socarxiv/753uy/>
96. Foucault M. *Discipline and Punish: The Birth of the Prison*. 2nd ed. edition. New York: Vintage; 1975. 352 p.
97. Rawlinson P. Immunity and Impunity: Corruption in the State-Pharma Nexus. *International Journal for Crime, Justice and Social Democracy*. 2017 Nov 14;6(4):86–99.
98. Katz Rothman B. *The Biomedical Empire: Lessons Learned from the COVID-19 Pandemic*. Stanford: Stanford University Press; 2021. 164 p.
99. Horton S. When the Face Becomes a Carrier: Biopower, Levinas's Ethics, and Contagion. *Revista Portuguesa de Filosofia*. 2021;77(2/3):715–32.
100. York University. Welcome back to Campus - Centre for Human Rights, Equity and Inclusion [Internet]. Centre for Human Rights, Equity and Inclusion. 2022 [cited 2023 Jan 21]. Available from: <https://rights.info.yorku.ca/>
101. Bardosh K, Krug A, Jamrozik E, Lemmens T, Keshavjee S, Prasad V, et al. COVID-19 vaccine boosters for young adults: a risk benefit assessment and ethical analysis of mandate policies at universities. *Journal of Medical Ethics* [Internet]. 2022 Dec 5 [cited 2022 Dec 6]; Available from: <https://jme.bmj.com/content/early/2022/12/05/jme-2022-108449>
102. Fraiman J, Erviti J, Jones M, Greenland S, Whelan P, Kaplan RM, et al. Serious adverse events of special interest following mRNA COVID-19 vaccination in randomized trials in adults. *Vaccine* [Internet]. 2022 Aug 31 [cited 2022 Sep 1]; Available from: <https://www.sciencedirect.com/science/article/pii/S0264410X22010283>
103. Conrad P. *Deviance and Medicalization: From Badness to Sickness* [Internet]. Temple University Press; 1992 [cited 2022 Dec 4]. Available from: <https://www.amazon.ca/Deviance-Medicalization-Sickness-Peter-Conrad/dp/0877229996>
104. Conrad P. *The Shifting Engines of Medicalization*. Jour-

nal of Health and Social Behavior. 2005 Mar 1;46(1):3–14.

105. Conrad P. *The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders*. JHU Press; 2007. 226 p.

106. Ontario Universities. *Postsecondary Education Health Measures Framework for Fall 2021 - Ministry of Colleges and Universities* [Internet]. Ontario Universities; 2021 Aug [cited 2023 Jan 13]. Available from: <https://ontariosuniversities.ca/reports/postsecondary-education-health-measures-framework-for-fall-2021>

107. University Affairs. *COVID-19: updates for Canada's universities* [Internet]. University Affairs. 2022 [cited 2023 Jan 13]. Available from: <https://www.universityaffairs.ca/news/news-article/covid-19-updates-for-canadas-universities/>

108. Mutuc M. *Holland College and UPEI say vaccination policy will continue until end of semester* | CBC News. CBC News [Internet]. 2022 Mar 1 [cited 2023 Jan 13]; Available from: <https://www.cbc.ca/news/canada/prince-edward-island/pei-upei-holland-college-vaccination-policy-1.6369070>

109. UniversityPhilanthropy.com. *University funding by the Bill & Melinda Gates Foundation* [Internet]. 2021 [cited 2023 Jan 7]. Available from: <https://www.universityphilanthropy.com/bill-and-melinda-gates-foundation-funding>

110. Belvedere MJ. *Bill Gates: My "best investment" turned \$10 billion into \$200 billion worth of economic benefit*. CNBC [Internet]. 2019 [cited 2023 Jan 7]; Available from: <https://www.cnbc.com/2019/01/23/bill-gates-turns-10-billion-into-200-billion-worth-of-economic-benefit.html>

111. Khallaf R, Kang K, Hastak M, Othman K. *Public–Private Partnerships for Higher Education Institutions in the United States*. *Buildings*. 2022;12(11).

112. Mollenkamp D. *Universities Turn To More Public-Private Partnerships To Meet Student Needs* - EdSurge News. EdSurge [Internet]. 2022 Aug 19 [cited 2023 Jan 13]; Available from: <https://www.edsurge.com/news/2022-08-19-universities-turn-to-public-private-partnerships-to-meet-student-needs>

113. Chait J. *The 'Shut It Down!' Left and the War on the Liberal Mind*. *New Yorker* [Internet]. April 26. 2017 [cited 2023 Jan 16]; Available from: <https://nymag.com/intelligencer/2017/04/the-shut-it-down-left-and-the-war-on-the-liberal-mind.html>

114. D'Souza D. *The New Segregation on Campus*. *The American Scholar*. 1991;60(1):17–30.

115. Furedi F. *Illiberal Liberalism: A Genealogy*. *Journal of Illiberalism Studies*. 2022;2(2):19–36.

116. Giroux HA. *Democracy's Nemesis: The Rise of the Corporate University*. *Cultural Studies Critical Methodologies*. 2009 Oct 1;9(5):669–95.