



Can't Compute

**Moving Towards an
Equitable Digital World**

**Edited by
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Introduction

In today's society, we all live in a digitally immersive world. While technology brings benefits and conveniences to our daily lives, many forms of technology reinforce individual and systemic biases, and injustices. Digital technologies have been shown to both replicate and amplify existing discriminatory social patterns. Algorithms and artificial intelligence have been shown to reinforce racial and gender stereotypes, social media has been used as a platform to promote hateful and violent speech, and privacy invasive tools, such as internet connected cameras, have been used as surveillance devices against populations already over policed and monitored, notably Black, Indigenous, People of Colour, and members of the LGBTQ2S+ community.

Despite these problems, technology has also provided unique opportunities for members of equity seeking groups. Smartphones have been used to capture and expose racist police brutality, social media has been used to build solidarity and social movements, and digital tools have been developed that advance the lifestyles of people living with disabilities. As digitalization increases, we can't compute an equitable digital context without an understanding of those issues. We need those voices in tech, academic and social spaces. While there is an increase of thought leadership on these issues globally, there is a need to engage more fulsomely in a Canadian-specific context, in order to address the unique history of discrimination, equality, and colonialism from Canadian authors.

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The *Can't Compute* collection of essays aims at bridging this gap in Canadian studies to highlight technology issues that are relevant to members of equality-seeking groups, not simply by exploring those issues but by amplifying voices from those groups unrepresented in mainstream conversation about the digital context.

The personal narratives, scholarly articles, and fictional stories in *Can't Compute* represent the emerging diversity of topics and voices in the sphere of digital technology. Each piece was written during the early years of the COVID-19 pandemic. A time when global inequities were intensified, there was a resurgence of far-right groups, abusive online behaviour was amplified at higher rates, and dependence on technologies was increasing at unprecedented levels. The impetus for bringing this collection together was to highlight the perspectives of people who work and live at the intersections, as there continues to be a significant gap in representation of these voices and issues in literature on technology, even as it becomes increasingly apparent that members of these equity-seeking groups often face a disproportionate brunt of technology's negative effects.

This multidisciplinary collection features a variety of writing styles and formats to describe the ways in which technology affects Black, Indigenous, People of Colour, people living with disabilities, women, gender minorities, and members of the LGBTQ2S+ community. These various vantage points provide an opportunity to explore the difficulties

equity-seeking communities face when engaging with technology. In the chapters in this collection, the authors discuss how technological tools both connect people by creating spaces for community building, while also isolating people when digital spaces do not represent them, are not accessible to them, or are unsafe due to harassment and discrimination.

The authors of this collection often weave in their lived experiences and social locations into their analysis or narrative, adding critical depth to our understanding of these issues. Cindy Ma, Danielle Lussier, Raine Liliefeldt, and Emily Macrae integrate their personal experiences with the benefits and detriments related to technology. Their stories provide the reader with an insider's view of someone impacted by technology, moving away from the abstract and bringing the issue closer to home. Tamsyn Riddle, Stephanie Jonsson, Lucia Flores Echaiz, and Michelle C. Liu, Brittany C. Singh, and Giovanni C. Giuga's pieces engage with these issues through a more classic academic and/or legal lens to engage in deep analysis, highlighting issues with technology that are important to the equity-seeking groups they discuss. Finally, GL Barrett's short story builds on the reader's imagination, bringing them into the possibilities of the future of technology. We hope this collection introduces readers to new ideas about technology and reframes old ones, while inspiring advocacy for a more equitable world. When the words, thoughts, and ideas of all people are not included, the system can't compute.



This collection begins a chapter written by one of Canada's leading advocates on digital literacy and ending gender-based violence, Raine Liliefeldt. Her chapter, "Pondering Motivations of Trolls, Zoom Bombers, and Online Haters", provides a compelling personal narrative about her and other advocates' experiences with race-based, gender-based, or sizeist aggressions and assaults. She notes ways in which Black, Indigenous, or Persons of Colour (BIPOC) in Canada are faced with regular and ongoing microaggressions and outright assaults due to their social location and identity, many of which occur in digital spaces. She shares stories of racist and sexist Zoom-bombing in YWCA meetings about gender- and race-based issues, the lack of supports for those experiencing Islamophobic and racist attacks online, and the vulnerability of an Indigenous activist who was attacked for pointing out online racism. Liliefeldt intersperses these stories with the mantras she uses to manage these attacks and ponders on what mantras those causing these harms may be using themselves.

The second chapter is a conversation on the embedded sexism and victim blaming featured in many apps aimed at preventing sexual violence. In "Examining Sexual Violence Prevention and Support Apps," Tamsyn Riddle challenges the assumption that a solely technology-based response can be effective in ending sexual violence. She argues that apps promising to keep gender-marginalized people, such as women and non-binary individuals, safe often repeat common myths and misconceptions about sexual violence, placing the labour of preventing sexual violence on those targeted by it and reducing the accountability of the perpetrators or institutions that should be invested in ending this form of violence. This individualized response ultimately fails to enact any longer term systemic change. Riddle further critiques the ways that these apps often

frame victims as young, white women who are at risk of attack by strangers and suggest that sexual violence is inevitable. This fails to reflect the reality that sexual violence impacts all people and is often perpetrated by people known to the victim. Riddle goes on to challenge the focus on carceral responses, which have largely proven ineffective at ending sexual violence. By doing so, Riddle argues that these apps fail to respond to the actual needs of gender-diverse people and neglect to incorporate the historical, community-centred responses of Black, Indigenous, and other racialized, gender-marginalized people, or to recognize the risk of state violence against some of these groups.

The third chapter blends the lived experiences of the author with other minoritized academic colleagues who research far-right groups online. In “Returning the Gaze: Researchers' Reflections on Studying Reactionaries Online”, Cindy Ma discusses the burdens that minoritized academics face when engaging with hateful, racist, transphobic, sexist, and homophobic content in their research. Many of the people she quotes in the chapter are PhD candidates or postdoctoral researchers, several of whom have been targeted by online harassment campaigns from the very groups they are researching. She provides insights from scholars such as Rebecca Lewis from Stanford University who identifies as a queer Jewish woman and studies homophobic and anti-Semitic groups, Abigail Curlew from Carleton University who is a trans feminist researching anti-trans digital vigilantes, and feminist Suzanne van Geuns from Princeton University who studies evangelical bloggers and seduction coaches. These academics share the ways in which being immersed in their research subject's online commentary can cause disorientation and emotional and mental strain. Ma includes strategies these researchers engage in to find balance and strength while doing this research, which often focus on community support.

The fourth chapter, “Legal Resurgence and Online Communities of (Beadwork) Practice” by Danielle Lussier, provides a rich historical overview of the ways in which beading has been used by Indigenous people to transfer knowledge and embody legal relationships. One of the examples she provides is of Guswenta, the beaded wampum belt that traditionally represents the peace and friendship treaty between the Haudenosaunee and the Dutch. She describes the ways that over time the colonial powers on Turtle Island have attempted to eradicate beadwork as a cultural (legal) practice, devalued Indigenous law, and failed to live up to their treaty agreements. As a member of the Métis Nation, which did not use wampum to represent treaties, Lussier shares how beadwork has been used among her own community as a device to share traditional knowledge – including legal traditions – through symbolism, stories, and songs. During the COVID-19 pandemic, beading circles began to move online and Lussier was encouraged by her law students to explore the world of beadwork in spaces including Instagram and Twitter. She describes the value of these digital spaces for community building, knowledge sharing, and activism. She features examples of Indigenous people including Chelsea Vowel and Erica Violet Lee, who uses Twitter as a platform to share information on topics including the challenges Indigenous scholars face in the academy. She highlights the power of hashtags like #NativeTwitter, #IdleNoMore, and #WetsuwetenStrong to build engagement among and for Indigenous people. Finally, she shares the ways that online beadwork spaces “build and rebuild communities of practice and knowledge transfer in the face of geographic barriers and disruption in opportunities for intergenerational knowledge transfer.” Digital platforms such as Instagram and Twitter provide spaces for the spread of teachings related to beadwork, increase the visibility of beadwork as a cultural artform, and, ultimately, build community.

The fifth chapter is a fictional story about an online therapy platform meant to help people by providing remote therapy services. GL Barrett's story, "You Know Me: A Short Story About Mental Health and Tech Solutionism in Pandemic Times", features a web developer named Chris struggling with their mental health brought on by the stresses of working as a temporary contract worker. They seek out the online mental health services of Mynd Vu to help with his problems, but is frustrated with the services' rigidity. Over time, they begin to realise that they might not be speaking with who they thought they were. This story invites the reader to imagine a future where digital therapy is the norm and to question the underlying aspects of these digital services.

The sixth chapter, "Exploring the Potential Barriers 2SLGBTQ+ Older Adults Experience When Accessing Remote Service Provisions in Ontario During the Global Pandemic", written by Stephanie Jonsson, reviews ten online programs offered to two-spirit, lesbian, gay, bisexual, trans, and queer older adults in Ontario at the beginning of the pandemic. Jonsson notes how her experiences as a 2SLGBTQ+ community member and activist who has worked previously with 2SLGBTQ+ older adults informed her research. In reviewing these programs and reflecting on her own work experience, Jonsson identifies four main barriers this community faced in accessing these types of digital services: connection barriers, digital literacy barriers, environmental barriers, and pandemic barriers. Connection barriers relate to the lack of access to digital devices, software, and Internet services that made it difficult, if not impossible, for people to attend these programs. Digital literacy barriers were faced by older 2SLGBTQ+ adults who may feel anxious or inexperienced using technology and often preferred in-person or phone-based interactions. Environmental barriers include things such as living in a long-term care home where an older 2SLGBTQ+ person may conceal their sexual orientation for safety reasons and thus not be able to access online services in the presence of other long-term care staff or residents. Pandemic barriers relate to the government regulations that prevented people from interacting with each other or going to traditional community spaces to gather or share knowledge. Jonsson concludes her chapter with a call for improved online services that could better respond to the needs of older 2SLGBTQ+ adults.

The seventh chapter, "Pro-Pronouns: Gender Identities on Social Media, Video Conferencing, and Learning Platforms", co-written by Michelle C. Liu, Brittany C. Singh, & Giovanni C. Giuga, advocates for the inclusion of pronoun identification on social media, video conferencing, and learning platforms. Their research reviewed 15 platforms to see whether there was a pronoun field as an option for users, finding that most platforms had very limited options for users to declare their gender identity. At the time of their research, only Facebook included an option for gender identification outside of simple binary gender selection. The authors found that on other platforms, the user needed to be creative to find ways to present their pronouns, such as adding them to their username. The authors argue that as online interaction became more prevalent during the pandemic, mechanisms that allow an individual to accurately affirm their gender identity became increasingly important. This is especially relevant in Canada where federal and provincial human rights codes have begun to recognize gender identity and gender expression as protected grounds. The format of online platforms limit the ways in which a person can express their identity, and most continue to use rigid gender categorization systems. The authors recommend that all online platforms include an optional mechanism for users to list their pronouns.

The eighth chapter combines personal narrative with the use of emojis to discuss social movements, food, and technology. In Emily Macrae's "Emojis as Autoethnography", she discusses some evolutions in emoji development, using the dumpling emoji to show the ways in which emojis allow for particular representations in modern texting and communication. She uses emojis to discuss how limiting image-based digital communications can be when representing complex ideas such as "home." Using several common food emoji's, Macrae shares her experiences with sharing foods in moments of community building and activism. She discusses how food donations are essential in supporting movements like Black Lives Matter Toronto. She shares stories about how a lack of ramps creates barriers to sharing food in the homes of others for disabled people, while reminding readers of the ways pizza can invite people into new community spaces and build community among groups, from tech conferences to fighting for tenants' rights during the precarity of the pandemic.

In the ninth and final chapter, "Artificial Intelligence in Canada and Equality: Algorithmic Discrimination and Section 15(1) of the Charter", Lucia Flores Echaiz uses an intersectional lens to examine how the government's use of artificial intelligence could potentially violate the equality rights of people protected under section 15(1) of the Canadian Charter of Rights and Freedoms. Her chapter is divided into five sections. First, it outlines the concepts of equality and intersectionality. Second, it describes algorithmic discrimination. Third, it details the use of AI decision making by governmental bodies in Canada. Fourth, it reviews the current s. 15(1) framework. Fifth, it applies that framework to potential algorithmic discrimination in government decision making.

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This collection of chapters written by academics, activists, and storytellers describes a multitude of ways that technology is impacting Black, Indigenous, People of Colour, people living with disabilities, women, gender-minorities, and members of the LGBTQ2S+ community. Equity-seeking groups have found new terrain on the Internet, with people gathering for positive, community-building experiences. However, these same technologies have also caused some of the most serious harms and exacerbated existing discrimination. We hope that these chapters will help inform those researching, developing, and living with digital technologies regarding key issues faced by these equity-seeking groups. This collection builds on the foundational work done by previous authors and advocates, and seeks to inspire more writing, learning, and sharing on these issues in the future.



Pondering Motivations of Trolls, Zoom Bombers and Online Haters

Raine Liliefeldt

Abstract

In this chapter, the author describes how the more she thought about the mantras of perpetrators who cause harms online, the more she thought of the people she knew who have survived rather heinous online attacks and some who are in online spaces where they are immersed in online hate. She wanted to hear their thoughts about the motivations of the perpetrators of hate. This chapter shares some of the thoughts of some of those people and the author's personal reflections.

I keep a mental catalogue—a running count that includes the date, time, and place of when I last encountered a hate crime, witnessed violence, or experienced some form of race-based, gender-based, or sizeist-related microaggression or overt insult, if not assault.

Like most Black, Indigenous, or Persons of Colour (BIPOC) in Canada I sometimes... sometimes, let my guard down. In those moments where I forget our diversity or our appearance, I may walk into a room and not do “the scan” or the “colour check.” I may not play whatever game—whether it be “BIPOC bingo” or “Guess Who?” or “sizing up the room.” or “slowing the roll.” I may just get on with the event or activity. Then something will happen and BOOM! Then, like that workplace safety board in *The Simpsons*—you know the one that appears in the opening credit sequence and that shows the number of days since

the last accident when the number is erased or rolled back to zero—I am back to zero days. Zero days since that last microaggression. Zero days since the last hurtful instance of unconscious prejudice. Zero days since that last discernable bit of hate or hate crime.

Microaggressions, unstated yet palpable prejudice, online hate; it all stings. Regardless of whether there are years between occurrences or if there is a storm of stings, each one hurts. Unlike ordinary bee stings or other abrasions, however, there is not enough time to heal—for the emotional welt to get itchy or for the internal cut to heal, scab over, and leave its scar.

Philosophically, I wonder if these slights, hurts, or ouches would be easier to heal if they manifested as scars on our skin. I wonder whether these slights would be easier to resolve if acknowledged by others and subjected to human empathy the way an obvious, real stab wound or compound fracture would be? Would there be sympathetic internal winces? If so, would folks decide not to add to the hurt? Would our deeply human empathy for physical pain reduce our callousness if our hate left physical scars?

I was raised in South Africa under apartheid. My parents fled to Canada before I turned 10. My first slight, that first scar of institutionalized racism, has been with me since I was born. When my parents went to South African Home Affairs to register my birth, my birth certificate, like every South African born before 1986, included an indication of my race. I am familiar with systemic racism and hatred because it has indelibly marked my life. It is an irrefutable part of my legal identity.

Because I am born into it, I am familiar with and sometimes know that hate is going to show up. Sometimes I even hear it in the room before I get there. Despite

that foreknowledge—online or in person—it still shocks me to the core every time. One would think I ought to be immune, that I ought to have armour, but I do not.

What I do have are the powerful words of my elders that I have kept with me. My grandfather and my Ouma's words linger and resound within me; they scaffold me when I get shook. Their words echo when I am looking for justice: "Be the balm!" I have mantras, family expressions and phrases that I repeat: "Be better!" I say a calming "whoosah" and exhale.

In the spring of 2020, when we shifted our communities even further into the digital space, I got an unexpected sting. It was unexpected because it was in a work context, from strangers. I logged onto a virtual town hall the YWCA hosted. My colleagues were about to facilitate a discussion on the impact of COVID-19 on women and non-binary folks. Then, out of nowhere, racist, misogynist hatred was suddenly being ranted into our meeting and into my ears. My colleagues dealt with the situation swiftly. The event went on. I continued to listen and watch, but I was shook. The Zoom-bomb was another sting.

So, like all the times before, I reached to my elders to scaffold and brace myself. I pulled out my mantras to help me deal and heal in the moment, and to position myself to support my colleagues who had also just heard those words: "Be the balm." I uttered my grandfather's and my father's instruction: "Be better." For a brief instant I recalled what that phrase actually intended: It's about not plummeting or lowering to someone else's level. It's about making the family proud.

For a moment, I mused on what mantras are being repeated by those who have their keyboards set to sting and harm. Is there a phrase that they are fulfilling when they go out of their way to invade a peaceful space to utter racist and

misogynist threats? When they send direct messages or posts to make fun of a stranger, when they embolden their friends who have commented and expressed anti-Black, anti-Muslim, or anti-Indigenous hate, is there a mantra they internally repeat?

I find mantras incredibly helpful when I am working toward a goal, or experiencing darker emotions. In the workshops I have led to introduce mantras to young women and girls, I share that a mantra is a series of words or phrases that you can use on repeat. It grounds your mind and helps you to set direction. It focuses your values and your ideas and sets a guiding light when you are in darkness.

The more I thought about the mantras of perpetrators, the more I thought of a few people I know who have survived rather heinous online attacks and some who are in online spaces where they are immersed in online hate. I wanted to hear their thoughts about the motivations of the perpetrators of hate.

Jay Williams and I discussed a new kind of trolling motivated by "lulz" and "clout chasing." Jay is one of the educators who started #QuarantineED, a weekly Zoom chat that began as a space for teachers to share ideas on remote learning as a result of the COVID-19 pandemic lockdowns. After the murder of George Floyd, the meetings became a space to discuss anti-Black racism, diversity, equity, and inclusion in the classroom. This weekly meeting was Zoom-bombed in the summer of 2020. A group of youth entered the weekly chat with vile hate speech and exposed themselves in front of their web cameras for all on the call. After some time to process the hate crime, Jay shared his thoughts on the motivation and determination of the youth who interrupted the call.

“Trolling is work, they have time on their hands. There is a level of genius of these trolls. I don’t believe they were given the password. I believe they use the skills they have to tap into Zoom. They are on a level of expertise—y’all learned something and are putting it to use. I have to respect what they are learning formally and informally they are putting it to use.”

Could their mantra be: "I am a hardworker. My potential is limitless"?

“They just see it as funny. It’s always funny until it’s about you,” D, a 17 year-old young man who identifies as mixed race, told me about Zoom-bombing for the lulz and how ubiquitous trolling is with his peers. “It’s the random spontaneity of it. Where do you realistically go with what you are saying and doing? It doesn’t matter to them.”

Jay also shared that the drive for youth to be funny, the lulz, and the motivation to drive a reaction out of your peers is not new. It is only the medium that has changed.

Could their mantra be: “I am funny. I am the funniest person in the room. I am brave”?

Noor Fadel has become an incredible advocate for shifting online hate in Canada. She shared that she wished there was a system to support those who had to deal with online violence, that there was better support for survivors. Noor’s story of surviving an Islamophobic attack on the train on her way to work made international news. She shared her story on social media and it went viral. Noor received an onslaught of heinous messages and threats online. We discussed whether folks had evil intentions, whether they understood the impact of their posts and comments. Noor discussed her surprise that adults were behind the messages.

I think there are people who believe that it is their role in society to be the judge, to right wrongs and to influence behaviour. Are they compelled to be right, and to show us the right path?

Is their mantra: “I will speak with confidence and self-assurance”?

I spoke with Tiejia Medicine Crane, a young Indigenous woman who experienced online hate after she called out students in her community who hosted and attended a “Cowboys and Indians” grad Party. Her posts drew the attention of the community, the local university, and the high school’s administration. The youth involved were reprimanded. As the story circulated, Tiejia became the target of the youth who participated. Their friends and family attacked and sent threats on social media. Although this happened many years ago, Tiejia shared that she has grown as a person but is still shocked by the impact of adults in the community. “You have to have a strong sense of self. And know what you know is right. I had to stick to my guns. I was 17, the others were in their 30s and 60s saying the worst things.”

The mantra that came clear to me was that perpetrators are focussed on rallying for their kith, kin and community even if they are in the wrong. Are they repeating: “I am a loving support for others”?

As BIPOC folks move through the world waiting for something to go down, it is so important that we are armed and ready to strengthen and draw courage to continue. We must combat this metaphysical force, whether with our own mantras, peaceful words, or Care Bear Stares. It is the only thing that can keep the sting at bay.

About the Author

Raine Lilliefeldt is a South African born activist and artist whose career has led her across many sectors and has spent the bulk of her career in the non-profit sector in Canada. She is communications professional, creative organizer, educator and project manager with extensive experience in governance and resource development. As the Director of Member Services and Development at YWCA Canada, she leads strategic programs and initiatives that strengthen the YWCA movement. She has secured funding and managed projects that endeavour to move the needle forward on women's labour market access, digital literacy, ending gender-based violence. Raine is a supporter of the support arts, social justice, and youth organizations. She is a board member of the Canadian Black History Projects and Kensington Market Jazz Festival, and the Agora Foundation. She also sits on the Philanthropists' editorial advisory committee, and on the advisory committee for New Harlem Productions. She is energized by work that leads to transforming workplaces and being a good ancestor.

Examining Sexual Violence Prevention and Support Apps and Survivors' Organizing on Instagram

Tamsyn Riddle

Abstract

This chapter explores digital tools for sexual violence prevention and survivor support and the symbolic meanings and structures associated with those digital technologies using discourse analysis and other online ethnographic methods to examine how young people use, and are encouraged to use, digital and mobile spaces such as Circle of 6, USafeUs, Sister, bSafe, JDoe, and Callisto. This paper examines how spaces made and regulated by companies reinscribe neoliberal ways of thinking about sexual assault while extending them to fit new contexts.

This chapter has been through a double-sided peer review.

The recent murder in England of Sarah Everard, a young woman who was attacked by a police officer and later found dead, has ignited a familiar conversation on social media: how women (and, sometimes acknowledged, non-binary and other gender-marginalized people, including trans men) are unsafe in public spaces. As often happens with such discussions, this conversation quickly veered away from talking about the structural causes of sexual violence, and a related discussion about the pitfalls of policing itself, towards a broad and goal-less discussion of how women are always already unsafe in public. Charlotte Shane summed it up in a Tynyletter post: "I shouldn't be shocked to watch the death of a young white woman become the axel upon which another crushing wheel of racist violence can be fixed, and I shouldn't be shocked to watch white women do the lifting...The state is the single biggest threat to women's health and safety. It administers violence directly through policing and incarceration and indirectly, through relentless deprivations and oppressions that maintain a regime of interpersonal violence against women" (Shane 2021). Indeed, after these discussions on social media led to increased use of the app WalkSafe, which shows users areas near them where crimes have recently been reported, a recent tweet showed how it had been hacked into by men seeking to track its users, swiftly showing the potential pitfalls of app-based approaches to tackling sexual violence (@chocolauux, 2021).

As tempting as it might be to imagine that the complex causes of sexual violence can be swiped or clicked away through the promise of technological innovation, these apps do not exist in a vacuum, and consequently they often come to reflect the misinformation and myths that many people believe about sexual violence: the myths that women are responsible for preventing violence, and that this violence most often comes from strangers. The proliferation of sexual assault prevention and support apps has abetted the spread of ideas that situate sexual violence as an individual problem with individualized solutions, as opposed to one caused by oppressive systems and structures. These apps also reinscribe the importance of the criminal justice system, perpetuating the myth that this system effectively delivers justice to marginalized

survivors or even to any survivors at all — and that survivors and their communities are powerless to create alternatives to it.

Background

Technological approaches to sexual violence are not new, as Bivens and Hassinoff note; this is part of the long-standing — and often false — narrative that “technological development can usher in justice, equality, and prosperity.” (Gillespie 2003, in Bivens and Hassinoff 2018, p. 1050) App-based approaches to campus sexual violence more specifically began to gain more traction after the Apps Against Abuse initiative in the United States (Ibid).

While not all the apps examined in this paper intend to address campus sexual violence specifically, some do, and the campus environment has been the centre of much of the recent discussion of violence against young women. This focus on technological approaches to campus sexual violence follows decades of neoliberal austerity measures impacting how universities deal with issues of racism, sexism, and related forms of violence (Hamer and Lang 2015). The anti-sexual violence movement that had emerged in the 60s and 70s challenged the state to recognize violence against women and achieved legal, therapeutic, and community-based forms of recognition resulting in tangible changes in the experiences of survivors of violence (Arnold and Ake 2013 in Baker and Bevacqua 2018, p. 351) (Baker and Bevacqua). At the same time, this movement became co-opted by the neoliberal state’s agenda of austerity and increased surveillance, pushing anti-violence movements away from grassroots organizing and towards service delivery (Bumiller 2008) (Corrigan 2013, p. 9) and carceral approaches (Gruber 2009) — at the same time as these forces amplified the gendered inequalities that fuel violence against women (Durbin et al, 2017). With regards to sexual assault apps, Mason and Magnet argued that the Apps Against Abuse initiative placed blame on survivors (2012, In Bivens and Hassinoff p. 1051), while McCaughey and Cermele argue that one app, Circle of 6, works to “construct women as physically and psychologically incapable” of resisting violence (2014, p. 248, in Bivens and Hassinoff, p.1051-2). Scholars have also noted that these technologies advance the idea that rape is inevitable (Hall, 2004, p.11, in Bivens and Hassinoff, 2018, p.1060), as if a force of nature.

Scholars of critical race theory have outlined how this imagined vulnerability is racialized in ways that privilege white and particularly upper-class white women over more marginalized women (Phipps 2019). Many have also argued that the anti-violence movement’s success was hindered by white women’s sidelining of the perspectives of Black, Indigenous, and other racialized women (Crenshaw 1991), resulting in the absence of a critique in many anti-violence organizations of the role of state violence (Rojas). Indeed, research on Black university women suggests that their experiences at the intersections of racist and gendered forms of violence that are both state-sanctioned and, for the student survivors targeted by many apps, institution-sanctioned, result in the erasure of the contributions of Black women academics and leaders (Patton and Njoku 2019). These intersecting systems of oppression also create unique and specific barriers to reporting (Zounlome et al, 2019). Past research has shown that “race-neutral” language in higher education sexual violence policy has served to marginalize Black survivors and the ways in which their experiences of violence are informed by racism in education, policing, and other systems (Wooten). As Threadcraft et al write, “Black women are uniquely situated at the intersection of risk of violence, and risk of

experiencing the collateral damage of the carceral state” (Threadcraft and Miller). In spite of the extensive work of Black women and activists in the anti-violence field, their work is often undermined and not taken seriously as either “academic” or “activist” (Kumar). It is thus crucial to situate research on any anti-violence intervention within an understanding of how many such interventions have served to reinforce the very systems that prioritize middle class, straight, white, and otherwise respectable women over women who are actually more likely to experience sexual violence (MacKinnon 1991, p. 1300). Perhaps nowhere is this clearer than in the language used by sexual assault apps.

Analyzing Sexual Assault Apps

In order to understand the work that is done by sexual assault apps, I will draw on feminist and critical studies of technology to better understand how technologies construct subjects. It is important to note that “code is not neutral but instead reflects social values”, and that the lack of diversity in the coding profession may reinscribe neoliberal anti-feminist views into apps designed to address sexual violence (Lessig 2006 in Bivens and Hassinoff, p. 1051). Bardzell’s understanding of how design “constitutes users as subjects” (Bivens and Hassinoff) is also useful for this paper, as is Keller et al’s understanding of how digital activism “problematize(s) simplistic binaries between ‘online’ and ‘offline’ life,” (2018, p. 7) and Gray’ (2009, in Keller, 2018, p. 7)’s ‘in situ’ approach to studying media, examining not only the text itself but how it is used.

Specifically, for this study I analyzed the language used within and about sexual assault apps to ask key questions of the apps about the problem of sexual violence: what is sexual violence and where is the problem located? Where are its solutions located? Looking at a random sample of available sexual assault apps to examine the apps themselves as well as their marketing materials, social media pages, and websites, this study used discourse analysis and other digital ethnographic methods to examine the language and layout of sexual assault apps in order uncover key themes across the apps.

The apps studied have a variety of features: some are mostly intended to prevent sexual violence through creating features that can allow for the user or others to intervene in situations where sexual violence is happening or at risk of happening (Circle of 6, USafeUs, Sister, bSafe), while others are intended to help survivors after sexual violence has occurred, namely through making reporting to police easier and helping survivors find out whether the person who assaulted them has also assaulted others (JDoe and Callisto). To look at survivor organizing on social media and how its rhetoric and imagery differs from that of sexual assault apps, Instagram was studied due to its high rate of use among youth and thus its potential for relevant conversations about sexual violence; for instance, Guidry et al’s study of posts related to sexual violence on Twitter and Instagram found that Instagram had a higher level of engagement for such posts, as well as more expressions of social support (2020).

The first theme that emerged from looking at the language used by sexual assault apps is the myth of sexual violence as a crime of “stranger danger” perpetuated primarily by people unknown to survivors. The features in the apps that focus on sexual violence prevention all primarily offer incident intervention, and all of these apps except Circle of 6 employ a map, something that presumably would be less useful in situations of domestic violence or where the assailant is known to the survivor. JDoe’s layout and features are notable for their geographic focus, even though the app is meant to help survivors

achieve justice: the main landing page and visual centre of the app is a map of the user's location, and users are encouraged to show where an incident happened in order to create a pin visible to other users. Sister and bSafe are both similarly laid out around a map of the user's location, and perhaps unsurprisingly, the initial introduction messages in the Sister app deploy images of mainly white- and feminine-coded figures to illustrate the people whose safety the app will supposedly protect. That many of the "safety" features, like an SOS button, are only unlocked by paying for the premium version in bSafe illustrates the pitfalls of privatized approaches to sexual assault prevention. Indeed, Bivens and Hassinoff's survey of available sexual assault apps found that the most common features — allowing the person experiencing sexual violence to contact others and enabling others to monitor the victim for signs that they needed this help, representing 26% of the apps they found — are both most useful in situations of sexual assault by a stranger (2018, 1064). This is in spite of ample evidence that most sexual violence is perpetrated by an acquaintance, friend, romantic partner, or family member of the victim/survivor, and where verbal coercion is the perpetrator's biggest weapon (DeGue & DiLillo, 2004 in Zinzow and Thompson). Feminist anti-violence movements and feminist scholars have long asserted that this indicates that sexual violence is "about power, not sex" — that is, that sexual violence as it occurs in our currently-existing world does not arise naturally from individual pathology and deviant sexuality, but rather is an outcome of power imbalances based on gender as well as race, sexual orientation, class, religion, disability, and other factors (MacKinnon 1991, 1301-1302). Despite this, the myth that sexual violence is primarily a crime perpetrated by strangers persists (MacKinnon 1991, p. 1300) (Lonsway and Fitzgerald 1994, in Bivens and Hassinoff 2018, p. 1060). People of colour are also disproportionately criminalized for defending themselves from violence (Coker 2013, in Bivens and Hassinoff 2018, p. 1061). By locating sexual violence broadly "out in the world" rather than in unequal social relations, these apps serve to reinforce dangerous myths that only make sexual violence worse; women are often assaulted by the very people they are taught to trust over strangers.

These myths also contribute to racist patterns of over-policing in communities of colour, relying on racist assumptions about where crime occurs — namely, in working class Black and Brown neighbourhoods — and who perpetrates it. Racialized myths about men of colour as sexual predators persist (Harrison and Karberg 2003 in Coker 2004) and lead to increased criminalization of Black communities, despite evidence that most rape is intra-racial (M. Amir 1970 in MacKinnon 1991, p. 1300). Many scholars have also written about the reliance of strategies for addressing gender-based violence on the criminal justice system (Maguigan, 2003, p. 431 in Coker 2004, p. 1331) and how this reliance on policing has had many (supposedly) unintended consequences, including increased policing and in turn police violence against Black women (Crenshaw 1991; also Hamberger & Potente, 1994 in Coker 2004, p. 1332) and generally increasing the level of state control in the lives of marginalized women (Coker 2000). Indeed, de Welde has examined how the fear of crime functions as disciplinary power that allows and enables white women to reinscribe race and class privilege (2003). Thus, the "stranger danger" myth works to instill fear in gender-marginalized people and situate sexual violence as a problem located in the "dangerous" outside world. This myth perpetuates the idea that sexual violence is limited to "extraordinary incidents" (Elk and Devereaux 2014 in Bivens and Hassinoff, p. 1061), rather than uncovering how ordinary events and social dynamics enable violence to occur and be excused.

Another prominent theme in the sexual assault apps studied is that of responsibility; namely, instead of placing the responsibility for sexual violence onto perpetrators and the

people and institutions that ignore violence, the blame is re-situated onto potential survivors. Thus, sexual violence becomes an issue of individual responsibility, rather than that of any collective or group. Rees' study of anti-rape technologies similarly found that anti-rape devices like the Rape-aXe, a barbed device meant to prevent unwanted vaginal penetration (and its marketing) reinforced myths about sexual assault being survivors' fault (2014, in White and McMillan 2020, p. 5). Indeed, Bivens and Hassinoff's study of sexual assault apps found that 87% of features are designed for potential victims, while 12% were targeting bystanders and only 1% were meant to address perpetrators (2018, p. 1053). Potter et al's examination of the uptake of a sexual assault prevention app on a college campus similarly found that women were more likely to use the app in order to keep themselves safe and to access information about resources related to sexual violence, while men were more likely to not download the app because it didn't interest them or seem relevant to their lives (Potter 2020, p. 48S), signalling that this rhetoric has had gendered impacts on behaviour. This reinforces the blame put on survivors rather than on social structures and institutions.

While Callisto's emphasis is indeed more focused on, and based in, the actual needs articulated by anti-violence movements, it still ends up perpetuating the idea that survivors and those seen as being at risk of sexual violence are responsible for dealing with its outcomes — and, with its matching tool, for preventing it from happening to someone else. For example, Callisto's website says that its “tools empower individual agency” (Calisto, 2021). Callisto's emphasis on creating the conditions for individual survivors to report also serves to reinforce the focus on individual, rather than structural, reasons why the criminal justice system does not deliver the justice it promises: the focus is put onto survivors' (imagined) hesitance to report, rather than the very real ways in which those who do report do not find justice — even if their assailant is convicted. Many of the apps studied locate the solution to sexual violence within the individual, emphasizing their individual agency — starting with the very concept of sexual assault prevention and support being made into a product available to, and marketed at, individual users. Callisto uses the language of empowerment when describing its offerings for survivors: “Discover tools and resources to support and empower yourself and your community.” (Calisto, 2021) Here the responsibility is again placed on survivors to figure out what they want to do; while this language may be more focused on the needs of people who have survived violence than the other apps, it still presumes that this person, rather than the communities around them, the perpetrators of violence and those who have enabled it, are the primary target for any sexual violence intervention.

One of the biggest features of Callisto's app is a matching tool, which allows survivors to record and log their experiences, and either report through the app directly, or decide to do so only if someone else reports the same person. The language in Callisto's “Create a Record” form also deploys ideas of risk and responsibility; it begins with listing and explaining the legal risks that come from using this form: “This form is optional and for informational purposes only. Nothing in the form is legal advice. Contact an attorney for legal advice & to learn more about your options” (“Record Form,” 2021, p. 2) (emphasis added) and “If there is legal action related to your assault, ... any inconsistencies between what you write down here and later say is true might be used against you. Only write down what you are certain of and okay sharing if they are able to read this later” (Ibid, 1). Despite the app's mention of empowerment, survivors are here not imagined to ever be able to have the agency to name or fight back against injustices baked into the legal system; they simply must make reasonable and responsible, informed decisions in the face of these glaring injustices. Here, sexual assault is again situated as a problem that

exists in the minds and embodied memories of survivors, and is once again understood to be survivors' responsibility to manage in order to get a narrowly-imagined form of justice. Through this language, the site of sexual violence is imagined to be the bodies of its targets: namely cisgender, often white, women. Campbell (2005, in White and McMillan, 2020, p. 18) suggests that the ideology of rape prevention produces a "self-disciplined feminine subject" that is "marked by vulnerability" (p. 120). By encouraging gender-marginalized people to feel fearful and protect their bodies from sexual violence, White and MacMillan note that sexual assault apps serve to make it seem like rape is inevitable (2020, p. 19), erasing the role of perpetrators, social norms, and institutions in perpetuating it. The apps enforce this self-surveillance through a variety of rhetorical frames. Circle of 6 describes itself as "a community and a state of mind" ("Home", 2021)—while this is presumably intended to mean that it creates a state of feeling safe, it serves to reinforce the idea that women's presumed lack of safety is something they should be constantly thinking about. For example, the tag line on the first page of the USafeUs website reads "Protect yourself...Protect your friends." ("Home," 2021). Circle of 6 invites users to get excited about the prospect of "[preventing] violence before it happens!" ("Home," 2021) Some apps also portray instances of sexual violence as potentially life-ruining. For instance, underneath a message about staying safe, USafeUs shares a bleak story of a survivor: "My name is Jenny... I entered college excited for the possibilities awaiting me, but was crushed shortly thereafter." Messaging such as USafeUs's website's "It can happen at any time. It can happen to anyone" ("Home," 2021) further encourages a sense of fear and constant vigilance. Similarly, Circle of 6 describes itself as "a state of mind" ("Tools," 2021)—reinforcing the idea that gender-marginalized people's safety, or lack thereof, should reasonably always be on their mind.

While one might imagine that for some women, the resulting constant vigilance could (occasionally) protect them, it also serves to blame rape victims by allowing the perception that they didn't "do enough" to prevent themselves from being assaulted (Bedera & Nordmeyer, 2015, p. 541, in White and McMillan, 2020, p. 23). The focus of many apps on following users and notifying their network of their location thus serves to justify and reinforce the surveillance of the bodies and movement of women (White and McMillan 2020, p. 17-18), and particularly marginalized women, who are already subjected to greater levels of surveillance and state violence (Dubrofsky and Magnet 2015). Many of the apps studied also invoke ideas of care and community, but in ways that reinforce neoliberal ideas about individualism, while also again reverting to the "stranger danger" myth. For instance, Circle of 6 says that it "fosters the formations of groups based on trust and accountability and promotes a culture of care...where friends...work together to eliminate violence in their communities" ("Home," 2021). Indeed, the layout of the app is centred around the 6 people the user has put in their circle, with the option to substitute these people or call for help. Circle of 6's website encourages users to reflect often and deeply on which 6 people they trust; surely, then, someone who is assaulted by someone in their top 6 should have known this person wasn't trustworthy. Sister refers to the people with whom users can share their location as "trusted contacts". Meanwhile, Callisto describes itself as being "supported by a community of survivors" (Callisto, 2021). Similarly, the app JDoe's main website begins with a banner that says "Together we are loud." (JDoe, 2021) This would seem to emphasize collective action and social movements, but it is necessary to view this in the context of the app's focus on reporting sexual violence to the police; here, "community" refers to nothing more than state institutions that have historically failed survivors.

Survivors' Organizing on Instagram

Examining organizing by survivors themselves, away from the profit motive of apps run by private companies and not-for-profits which, according to Thomson, primarily echo the logic of the market (2019), provides a useful window into the possibilities for grassroots resistance to sexual violence.

Indeed, past research has examined how feminist activists have used social media to advance the importance of supporting survivors of violence. Linder et al have studied how anti-violence activists have used social media to contest definitions of sexual violence and ideas of responsibility and blame (2016). Williams also examined how Black women have used the hashtag #SayHerName to challenge the erasure of violence against Black women in dominant discourses about sexual violence (2016). Powell noted that communications technologies have enabled new forms of informal justice for survivor of sexual violence (2015).

Powell et al note that the “truth-telling” in testimonies shared by survivors online about their experiences is about “healing, and even redress, through the public disclosure of the wrong and its acknowledgement by an online community of supporters” (2018, 150). According to Ferreday (2017, 129), cited in Powell et al 2018), survivor stories shared in this way “make whole” the “fragmented hidden community of the walking wounded.” Survivors sharing their experiences with sexual violence online make visible and tangible the horrors that are alluded to by the apps discussed earlier, which serve mainly to make women afraid of crimes vastly different from those they are most likely to experience. Ferreday (2017) further notes that survivor selfies “function as a site of resistance” in which “trauma that is most often ‘privatised, individualised and made unspeakable’ is ‘transformed into the basis of collective action and mutual support’”(p. 133, in Powell 2018, 150). Of course, this does not necessarily mean that survivors sharing their stories on social media constitutes a political act or even that it is necessarily always understood or intended to be viewed as such (Powell 2018, 150), but it does signal that survivor organizing on existing social media apps may offer more potential for radical transformation than the apps examined above. Examples of anti-sexual violence organizing on Instagram includes the page @speakoutsu (Djan 2021) for BIPOC survivors at Syracuse University to share their experiences; Voices of Brown, a page for survivors to anonymously share their stories (George 2020); St. Andrews Survivors from St Andrew’s University in the UK and CRWU Survivors from Case Western Reserve University (Ott 2020); and Campus Survivors at Boston University (Laskowski 2020). These pages were found through searching on Instagram for terms like “survivors” and “sexual violence”, as well as searching on Google for news coverage of survivor organizing on Instagram.

One of the themes across many of these pages created by and for survivors is responsibility- but for many of these groups, responsibility is not placed on survivors but rather back onto perpetrators, as well as institutions and the broader structures, including white supremacy, misogyny, transphobia, ableism, and classism, that serve to create a cultural atmosphere where sexual violence is accepted and tolerated. For instance, the creators of the page Speak out SU built on their social media organizing to create a campus group to organize live streams and events, including a discussion of sexual violence in fraternities that seems to have coincided with a push to pressure their university to disband these fraternities (Djan 2021). Meanwhile, the group behind Voices of Brown partnered with a men’s sports team after the team got in contact with them about

forming an accountability plan to make their team culture safer (George 2020). Through mobilizing on Instagram, survivor-organizers are able to expose their existing social networks to information that counteracts the dominant victim-blaming narratives about sexual violence, and allows their communities to insist that men take responsibility for stopping this violence themselves. Survivor-organizers' uses of Instagram and other apps also enables them to imagine new, more radical forms of care and community rooted in solidarity.

Many of these pages explicitly centre Black, racialized, and other marginalized survivors (Djan 2021), creating spaces for mutual support and solidarity outside of the criminal justice system. Some pages also explicitly called attention to the problems within institutions and the criminal justice system; for instance, the Brown page organized live streams and other events to discuss restorative justice (Laskowski 2020), connecting survivors' experiences with the political and social structures around them to combat the individualism that would cause someone to download an app in order to avoid sexual violence.

This care and solidarity can be seen in many other features in survivor-organizers' Instagram pages, such as the widespread use of trigger warnings in order to allow survivors to share their stories safely while ensuring further harm is avoided; this further creates a sense of solidarity by reminding viewers that the page is designed by survivors, for survivors, showcasing how individual needs can be met through the collective, rather than solely therapeutic or legal intervention. Many pages also use language that signals this care and collectivity outside of neoliberal notions of self-care divorced from collective care; for instance, the Voices at Brown page's submissions form for survivors says thanks those submitting their stories for "bravely sharing your experience with the Brown community. By contributing your story here, you are also actively contributing to the fight to end sexual violence." (Voices of Brown, 2021) Further, by using existing apps that many young people already use for their daily life — and creating pages that are intended to be used in this way, such as encouraging users to share the page's post on their personal stories — survivors situate sexual violence within existing social relations and connections, showing how sexual violence is as normal as anything else one might find on their feeds. The solidarity and care shown through these pages further situate the solution to sexual violence within these communities, rather than in outside institutions like the criminal justice system.

In this way, survivor-organizers' work to create feeds that safely share the stories of survivors in order to show the ubiquity of sexual violence subverts neoliberal and victim-blaming notions of risk, positing that risk is everywhere — but so is solidarity and community protection. They thus argue that currently-existing risks of sexual violence are not naturally existing but are outcomes of violent systems that can, and must, be transformed. While survivor-organizers on Instagram and companies and non-profits designing app-based solutions are all (genuinely) trying to tackle the problem of campus sexual violence, there are notable differences between their approaches. App-based approaches to sexual violence largely target those who are imagined to be most impacted: young, middle class white women, who are marketed apps that conjure feelings of fear and worry by encouraging them to take the responsible course of action by looking after themselves and their friends. These apps perpetuate an individualistic view of sexual violence, one that relies on rape myths that characterize sexual violence as a problem located in the dangerous outside world rather than in the social realm and its inequalities based on gender, race, and other factors. In focusing on sexual violence

by strangers, these apps largely don't address the actual issue — perhaps why a 2018 study found a low uptake of Circle of 6 among women, despite expressed intentions to use it to help others avoid sexual violence (Blayney et al 2018, p. 770). However, the problem with sexual assault apps is not only that they are not very useful, but also that they work to locate the problem of sexual violence in the bodies and minds of survivors, blaming them for their experiences and encouraging a kind of neoliberal femininity in which responsibility means making sure one does not experience violence; for those who are assaulted anyway, the solution to sexual violence is located in the criminal justice and medical systems, rather than in survivors' organizing and their communities.

These individualistic and carceral constructions of sexual violence harm all survivors, regardless of whether they use these apps or even know about them — but particularly those marginalized by intersecting systems of oppression. While not always radical or necessarily doing work that transfers to offline life, survivors' organizing on Instagram offers a way forward for those looking for technological approaches to talking about sexual violence. Instead of imagining that survivors and those seen as “at risk” of experiencing sexual violence can be saved by the magic of innovation, the survivors behind these Instagram pages situate sexual violence within the realm of existing relationships; they insist that possibilities for radical change also exist within these communities; and they imagine new forms of care and community that don't need a circle of watchful friends, an interactive map, a marketing budget — or even an app at all.

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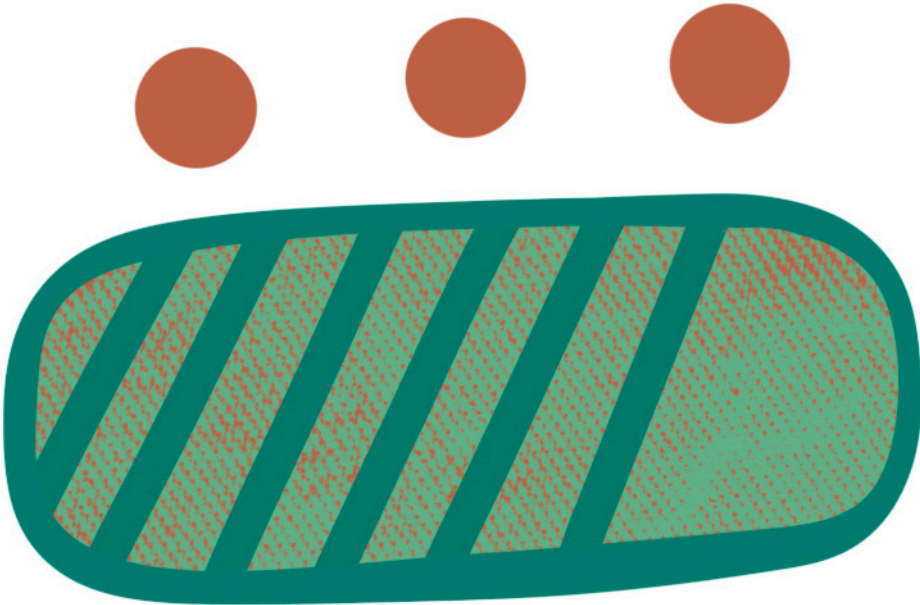
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Returning the Gaze

Researchers' Reflections on Studying Reactionaries Online

Cindy Ma

Abstract

This chapter explores the experiences of minoritized researchers writing on far-right spaces online. It considers how their positionalities inform and motivate their work and how that work in turn affects them. Moving beyond discourses of self-care and cyber-security, the chapter advances practical insights on how to conduct research on reactionary spaces while looking after themselves and their communities.

Introduction

When the notifications started lighting up my phone on January 6, 2021, I felt a creeping sense of dread—not only that the US Capitol was apparently under siege by white supremacists but also that I, an alleged “researcher of the far right,” would need to inform myself about what was going on. I bookmarked the think pieces and Twitter threads and wished that I hadn’t made it my business to write about this problem.

I’ve been studying the discourse of white supremacy on mainstream social media platforms over the past three-and-a-half years as a part of my PhD research. In this work, I am preceded by many scholars of racism and the Internet who have been writing on the subject for decades: Lisa Nakamura, Jessie Daniels, Charlton McIlwain, and others. I look to these scholars with admiration and awe

because with only a few years of research under my belt, I am already losing steam. While I treasure the opportunity to read and think deeply about issues I care about, I often find myself feeling baffled that I’ve chosen to spend the golden years of my 20s (and now 30s) studying right-wing influencers whose views I find so deeply obnoxious and emotionally draining.

At the same time, I’m aware that my experiences, theoretical commitments, and personal relationships enable me to bring a valuable perspective to the field. This essay is an attempt to parse through these ambivalent feelings in conversation with peers, other early career researchers of online reactionaries, who are balancing their research agendas with the mental and emotional costs of doing this work. I asked each of them: How do your intersecting identities and experiences interact with your research agenda? What practices help you to stay motivated in your work?

In exploring these questions, my aim is to draw out the shared experiences and strategies of minoritized researchers studying right-wing extremism online. I hope these observations can help others working on reactionary movements to reflect on their positionalities, writing processes, motivations, and tools for self-preservation. Doing so not only helps us to undertake research in a sustainable way but also improves the quality and scope of our work. Knowing why we write, for whom, and to what end are not trivial questions. In this essay, I examine how pursuing these questions can help us stay focused while studying an online ecosystem that pulls us towards distraction, alarm, and despair.

Writing From/As Opposition

There is an unnamed genre of writing on the far right in which an intrepid reporter adopts an anthropological gaze to gawk at and exoticize extreme figures without meaningfully engaging with the harms they've caused or the culture that enabled them. These pieces inadvertently amplify the ideologies of extremists without sufficiently historicizing and critiquing them—a problem that pervades the field of disinformation studies more generally. Many of us who research and publish on the far right grapple with this tension: the necessity of studying these movements and the risk of overly centering the stories and worldviews of reactionary opportunists.

I spoke about this balancing act with Rebecca Lewis, a PhD candidate at Stanford University and a researcher on far-right micro-celebrities. In our conversation, Lewis described how her positionality anchored her research and writing: “I’m a woman looking at sexist content. I’m a queer [Jewish] woman looking at homophobic [and anti-Semitic] content. And all these things, my positionality as a researcher, has kept me grounded in a deeply oppositional standpoint.” She continued, “The reason that these groups matter as an object of study is because they cause harm and are a threat to vulnerable groups and communities. Never forgetting that and never letting the readers of your research forget that is one of the main tactics or approaches.”

Lewis’s comment captures how our affective experience of doing research grounds and informs our subsequent analysis—an observation that holds true

regardless of who is doing the work. Many of us come to do research on right-wing extremism because we have personal experiences of racism, misogyny, homophobia, Islamophobia, or anti-Semitism. In speaking to Lewis, I was reminded that these personal experiences are not a hindrance to doing good research; just the opposite—they serve as reminders of where we stand in relation to our objects of study, guiding the questions we ask and how we frame our findings. This personal investment in the research can, however, make the work especially taxing.

Abigail Curlew is a sociologist at Carleton University studying anti-trans digital vigilantes who employ surveillance, doxing, and trolling tactics against trans women who participate in public discourse. Her interest in this topic stems from her own experience of being harassed by these groups when she first began writing publicly about “trans issues” as a trans woman. Having experienced these attacks, she positions her work as a re-centering of trans women’s experiences in a political landscape where their stigmatization and oppression are treated as fodder for debate rather than urgent human rights concerns: “There’s a lot of trans women suffering and this isn’t in the public record... There’s not a lot of conversation about how ‘trans concerns’ impact trans lives.”

For both Curlew and Lewis, writing from a place of opposition is not about discrediting or disbelieving their research subjects, but rather carefully tracing social trends to broader histories (and personal experiences) of harm and stating plainly the consequences of reactionary discourse on marginalized communities. Researchers committed to this goal, however, can find that the nature of the topic itself has a way of blurring our focus, as we constantly contend with new memes to decipher, new figureheads to monitor, and new conspiratorial narratives

* The content in square brackets was added in by the author, as these details are pertinent to the narrative but came up later in the interview.

to unspool. Spending so much time with this material can induce a feeling of disorientation, which makes it impossible to focus on the task at hand.

Losing Our Bearings

In my conversations with peers, we mused that researching reactionary movements hadn't always affected us in the ways we anticipated. For instance, I expected to feel angry and pessimistic after long-term exposure to brazenly racist content. Curlew and Lewis have been subject to disturbing harassment campaigns—a risk I was also keenly aware of throughout my data-gathering process. What I did not expect to discover, however, was that after hours and hours of watching far-right YouTube videos, the voices of these reactionaries would begin intruding on my thoughts, asserting themselves into conversations that had nothing to do with them.

I talked about this experience with Suzanne van Geuns, now a postdoctoral researcher at Princeton University who, at the time was completing her PhD on evangelical bloggers and seduction coaches at the University of Toronto. In our conversation, Van Geuns shared that she often finds herself “phrasing things in a way that won't raise the heckles of anti-feminists,” even in conversations with friends and family. Cumulatively, these moments of intrusion start to feel like a distortion of daily life. I've been disturbed, for instance, to find myself anticipating the attacks of far-right figures and justifying my beliefs to imaginary interlocutors while reading the works of progressive writers. I never planned to cede so much mental space to the subjects of my study, but the constant valorization of “debate” within right-wing discourse has clearly left its mark. This framing calls on all who observe to engage in the battle of ideas—a call that interpellates us, even if we reject the underlying premise that harmful,

discredited ideas should constantly be relitigated in the public sphere.

Over time, this dynamic can become deeply ingrained and alienating. As Lewis recounts, “I was starting to feel a little disconnected from my friends who had not seen this space ... When you're watching so much of this content, it just takes up space in your brain to an extent that becomes disturbing.” For Curlew, whose research involves immersing herself in anti-trans forums, the work has proven to be distressing on multiple fronts. She explains how trans people get “attacked epistemically” in ways that undercut the legitimacy of their own experiences. Bearing witness to this speech has an immense impact. As Curlew describes, “Spending time as a trans researcher in these groups, I end up starting to doubt my own identity and feeling disgusting about myself.” To varying degrees, Van Geuns, Lewis, Curlew, and I have all experienced moments of disorientation, even with our years of reading, support from communities, and access to institutional resources. Others, like social media content moderators, who are relentlessly exposed to extremist content in their jobs for low wages, are even more vulnerable to its corrosive effects.

Getting Re-Oriented

I asked my peers about their strategies for managing and combatting feelings of alienation and estrangement. The practices outlined below are nowhere near comprehensive and are highly specific to our experiences as doctoral scholars conducting research in Canada, the United States, and the United Kingdom; they are nuggets of insight gleaned from our research journeys, which we are still learning how to navigate. Still, I hope these reflections can help other scholars and supervisors to think holistically about researcher well-being, beyond individualized efforts to improve self-care or cyber-security, which

tend to be the focus of existing guidance materials.

Delineating the Project

Online ecosystems are so vast and rapidly changing that studying them can feel like trying to outrun quicksand; the subject threatens to engulf us. With every news event (sometimes a Twitter banning, sometimes an act of violence), the think pieces inevitably arrive in our DMs and inboxes. But Lewis suggests that the need to stay up to date does not always yield productive insights: “There’s a risk of following the newest, shiniest object. It’s unclear which of the shiny objects from today are going to end up being the most important, or have the most impact.”

Each of us, pursuing our own research agendas, has come to learn the importance of delineating our projects. In 2019, Van Geuns found herself following various leads onto 4chan—a space that became mentally and emotionally untenable for her to investigate—so she re-focused on her original research topic, which concerned evangelical bloggers and seduction coaches. Both she and Lewis narrowed their focus to a discrete historical period. Similarly, I’ve cut myself off from data collection in order to focus on analyzing materials gathered from a two-year period. In doing so, I’m able to control when and under what conditions I engage with reactionary online content, a decision that has allowed me to deepen my analysis and take time away from the data when needed.

De-Centering Academic Work

In 2020, I attended a Q&A session with Professor Lisa Nakamura, a foundational scholar of race and the Internet, which took place over Zoom, as so many events did that year. During the session, Prof.

Nakamura reminded us that our research “doesn’t have to do all the work.” There are actions we can take, large and small, outside of our academic projects that help to counteract the systems we’re working to dismantle.

Curlew talks about finding fulfillment in work that grounds her in her community: “I advocate for doing writing and knowledge mobilization on multiple fronts. Where I might be doing work on the far-right that focuses on them ... I’m still writing a book that deals with trans experience and how people resist it and continue doing their work in the public despite everything,” she told me. While the field of extremism studies can build up the profiles of intrepid researchers who go where no one has gone before, Van Geuns emphasized that there is “no need to be the hero.” The pursuit of individual heroics not only puts an inordinate amount of pressure on our own research but also undermines the power that comes from working alongside others. Turning up to union meetings, writing letters, advocating for changes in her own community—“little acts of showing up consistently,” Van Geuns said, “that to me is energizing.”

Being in Community

I asked each of my peers, at the end of our conversations, about how they stayed motivated in their work. This proved to be a tricky question to answer, as we all struggled to complete our PhDs amidst multiple, compounding crises. Curlew summarized the challenge: “Personal self-care strategies can only go so far to center you. You need emotional support from friends, family, community ... which is difficult to find in a pandemic.” My conversation with Van Geuns also led to the centrality of community in helping her to stay motivated and effective as a researcher. She reflected that caring relationships not only provided her with emotional comfort but also strengthened her oppositional frame. While she is

steeped in dehumanizing, misogynistic discourse in her research, “having friendships where I feel like a full person” is a kind of political affirmation, and a rebuke.

Personally, hearing about the latest coalition of racists and misogynists—their antics, their iconography—does not fill me with motivation. Instead, reading works that center those most impacted by racist and misogynistic speech, and spending time with those I care about, help me to keep the bigger picture in mind. As Lewis suggests, the research matters because our friends matter, our colleagues matter, our parents and grandparents matter.

Gazing Back

When my grandmother, Kang Yin Fo (康印佛), passed away in February 2021, I asked my father to mail me an old picture of her. I had one in mind. The black-and-white photo, taken in 1959 when she was finishing school in rural Shanxi, China, shows her posing with a group of other students—all boys. While the boys in the photo are smiling, some widely, there is not a hint of a smile on her face. She stands facing the camera straight on, hands behind her back, looking determined and pissed off. Soon she will be reunited with my grandfather when he returns from serving in the army in Korea, leave the countryside for Shanghai, run a daycare center, raise two children and, eventually, follow them across an ocean and a continent to the suburbs of Toronto. What does it mean to write about white supremacy while being connected to these people and histories? While the far-right ecosystem may seem vast and impenetrable from the outside, I am not awed. I know that while they may gaze out at the world as though masters of the universe, from our own vantage points we are gazing back. These days, that is motivation enough.

Acknowledgements

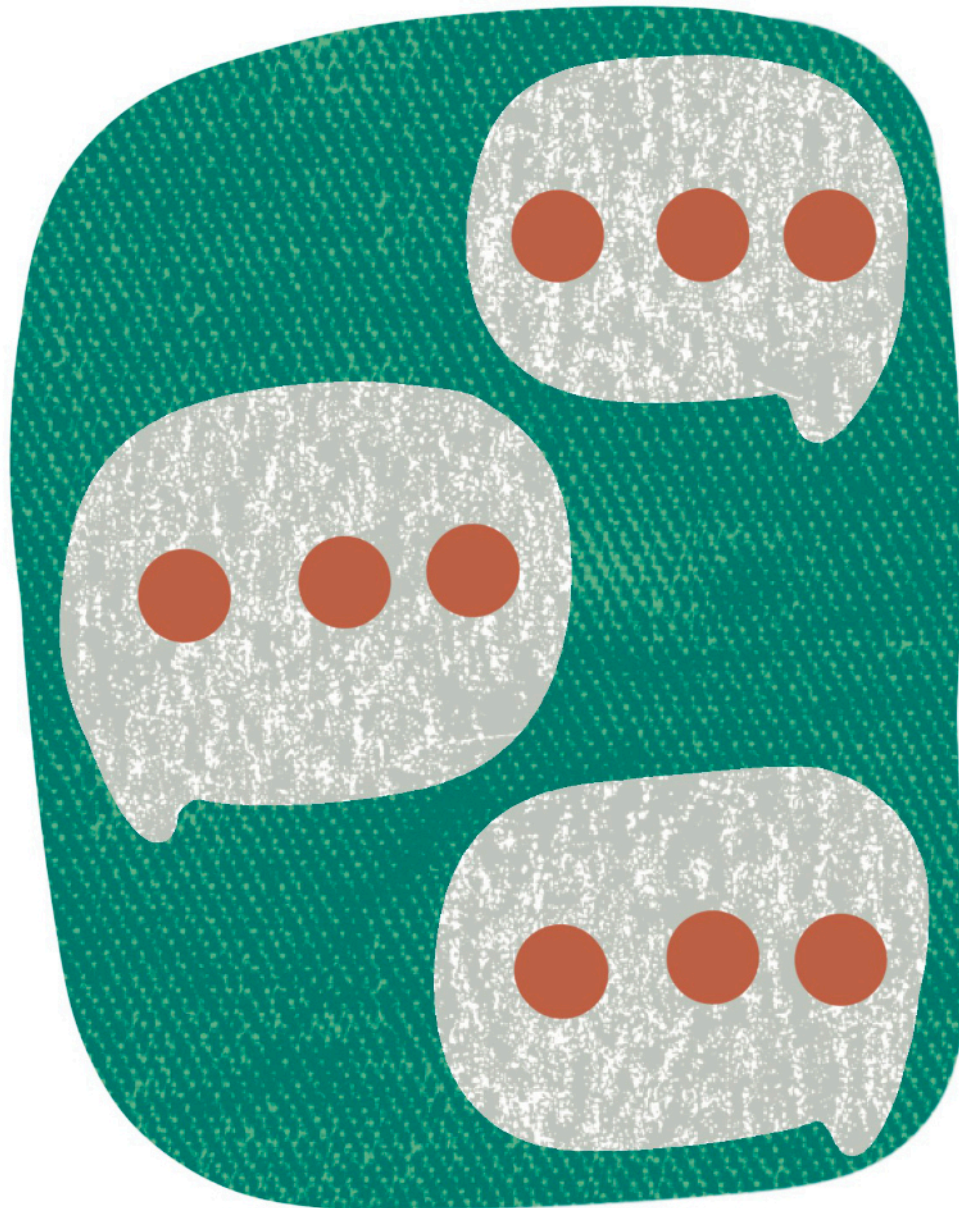
I would like to thank Abigail Curlew, Rebecca Lewis, and Suzanne van Geuns for generously sharing their time and stories with me for this piece. My conversations with each of these scholars took place in January and February 2021 and, as such, the quotations in this essay reflect where they were in their research journeys at that time. Thank you to Lisa Nakamura for paving the way for our research. I am grateful to the editors of this collection for their careful reading and feedback. In memory of my grandmother 康印佛, whose example inspired this work, and all my work.

About the Author

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The author's grandmother, 康印佛, standing on the far left.



Legal Resurgence and Online Communities of (Beadwork) Practice

Danielle Lussier

Abstract

Indigenous beadwork artists are harnessing the power of social media and other online gathering spaces to encourage knowledge transfer, increase awareness of Indigenous art, culture, and law, and to build community. In this chapter, the author discusses this strategic use of online spaces by Indigenous people to resist colonialism, facilitate a resurgence of community beadwork practice, and support one another during isolated times.

This chapter has been through a double-sided peer review.

Words of Welcome

From beaded wampum belts that serve to carry, preserve, and disseminate law, to Métis beadwork that can operate as a mnemonic device to carry songs and other legal knowledge, beadwork and the law are inextricably linked. Indeed, beadwork and its role in legal contexts was long perceived as a functional threat by colonial authorities who actively sought to disrupt this established relationship through policy underpinned by colonial law. Forced assimilative education through Indian Residential and Day Schools, provisions of the Indian Act that limited the creation and mobility of beadwork, and countless other policies have resulted in a disruption in intergenerational knowledge transfer relating to the art and law of beadwork in many families and communities.

Best efforts of Federal and Provincial governments were, however, ultimately unsuccessful in eradicating beadwork as a cultural and legal practice. In many communities, beadwork practice has come to represent not only an act of resistance to colonialism, but also a therapeutic act of resurgence to re-establish and reinforce community ties. As beads are inextricably linked to law, efforts to revitalize beadwork practice and Indigenous knowledge systems are closely related to efforts to revitalize Indigenous Laws and Legal Orders.

The novel use of online platforms including Twitter and Instagram has emerged as an important strategy for Indigenous peoples seeking to establish or revitalize beadwork practice in both individual and community contexts. Indigenous beadwork artists are harnessing the power of social media and other online gathering spaces to encourage knowledge transfer, increase awareness of Indigenous art, culture, and law, and to build community. In my contribution to *Can't Compute*, I discuss this strategic use of online spaces by Indigenous people to facilitate a resurgence of community beadwork practice. To ground the conversation, I will also offer an introduction to beadwork practice and its long-established links to law, including a brief overview of colonial laws and policies that sought to disrupt Indigenous knowledge systems relating to this artistic (legal) practice.

Beadwork, Resurgence, and Online Communities of Practice

Beads have been used to entrench, codify, and disseminate law since prior to the very first interactions between peoples Indigenous to Turtle Island and settlers who arrived and made claims to the land. One of the best-known examples of beads mobilized as law can be found in wampum belts created out of beads to allow law and commitments to be shared amongst community members when agreements were concluded between nations. As Dr. Malinda Grey explains, “woven in the wampum treaty belts, is a history of politics and a complicated value system that owes its existence to beads” (Grey, 2017, p. 3).

Wampum belts often utilize “small, short, tubular bead, made from the quahog clam shell,” usually in white and purple (Haas, 2007, p. 78) and recovered wampum beads have been dated as far back as 4,500 years (Edge, 2011, p. 137). Wampum belts vary in size and pattern, and sometimes contain up to 10,000 individual beads (Edge, 2011, p. 137). Each one of the many thousands of beads, acting in the same way as articles of a written treaty, holds “meaning and instruction” (Buchanan & Hewitt, 2018, p. 493).

The Two-Row Wampum, known by many names including Guswentah (Haas, 2007, p. 88), Gaswēnta’ (Kelsey, 2014, p. 2), Kaswentha (Sehdev, 2010, p. 112), and Teiohate (Grey, 2017, p. 28), is one of the most widely recognized wampum belts. Originally negotiated in 1613 between the Five Nations and the Dutch (Kelsey, 2014, p. xix), the Two Row Wampum carries the legal agreements of the first Treaty negotiated between Indigenous Nations on Turtle Island and settlers (Grey, 2017, p. 28). The agreements and law embodied in wampum belts were not considered static or frozen in time; agreements were frequently renewed (Borrows, 2002, p. 126) and revisited (Gaudry & Lorenz, 2018, p. 224) after they were negotiated. An example of one such revision was the adoption of the Covenant Chain to supplement existing treaties, renewing commitments and healing the relationships between nations that had suffered damage from neglect and conflict (Sehdev, 2010, p. 112).

Guswenta, some argue, served as the “basis for all other Treaties” that followed (Kelsey, 2014, p. 2). The two rows of purple beads represent the two signatory Nations travelling together on their own paths in a spirit of peace and friendship, in perpetuity (Onondaga Nation, 2020). Guswenta is the beadwork representation of, among others legal principles, that of non-interference (Gehl, 2014, p. 55):

The Haudenosaunee explained to the Dutch that they did not use paper to record their history. They would make belts made of white and purple wampum shells. The Haudenosaunee made a belt to record this agreement. The belt has two purple rows running alongside each other representing two boats. One boat is the canoe with the Haudenosaunee way of life, laws, and people. The other is the Dutch ship with their laws, religion, and people in it. The boats will travel side by side down the river of life. Each nation will respect the ways of each other and will not interfere with the other. “Together we will travel in Friendship and in Peace Forever; as long as the grass is green, as long as the water runs downhill, as long as the sun rises in the East and sets in the West, and as long as our Mother Earth will last. (Onondaga Nation, 2020, para. 7).

Ultimately, treaty obligations were often not equally upheld by both parties (Haas, 2007, p. 80). Over time, in espousing Eurocentric constructs of knowledge, settlers prioritized the written word, effectively subjugating Indigenous knowledge systems and devaluing Indigenous law (Grey, 2017, p. 30).

Despite this shift in colonial narrative through the years (Grey, 2017, p. 31), “the historical record indicates that non-Indigenous contemporaries at the time understood the intellectual weight the wampum symbolized, carried, and communicated” (Kelsey, 2017, p. xv). As Professor Monture-Angus once explained, the use of beadwork to codify law was a question of longevity and resiliency, and not a question of Indigenous nations lacking sophistication (1999, p. 37). By beading treaties, the principles were in fact elevated to a status above pen and ink:

There is a reason why we record our laws, our agreements and our treaties in shell: and it was not because we were inferior peoples. I do not believe that writing everything down is necessarily a very advanced idea or a sign of great humility. This is not how I experience it. When you write things down they are easily forgotten, as you assume the paper will do your job of remembering. When you write things down they are easily destroyed, for example by fire. But, if a wampum belt is thrown into the fire, the shells will still be there when the ashes are cool. If you have learned well, you will be able to put that wampum back together again. This is the standard of knowing the law that all Mohawks will be responsible to. The only way you can destroy a wampum belt is willfully. It cannot happen by accident. Those shells will last a very long time and the law of the people will be taught from those belts. (Monture-Angus, 1999, p. 37)

A legal war was eventually waged against wampum readers on both the Canadian and American sides of the colonial border, with different jurisdictions mobilizing in different ways to devalue Indigenous law, Indigenous-settler agreements, and Indigenous political systems (Kelsey, 2017, p. xiv). For example, in some cases, officials were empowered by legislation to impound wampum belts (Kelsey, 2017, p. xiv), as was the case with New York state’s “Wampum Laws” (Wadhams, 1909).

In other contexts, law enforcement officers such as the Royal Canadian Mounted Police were mobilized to disrupt intergenerational knowledge transfer of wampum teachings and impose colonial political systems on communities through the seizure of wampum belts (Kelsey, 2017, p. xv).

Repatriation of the belts seized in the United States did not begin in earnest until the Civil Rights era, with efforts continuing through the 1980s (Kelsey, 2017, pp. xvi–xvii). Some argue that these acts of theft/seizure/legally sanctioned removal of wampum belts from communities/the possession of readers “were acts of international aggression” (Kelsey, 2017, p. xv) and “crimes against humanity on par with the Spanish campaign to burn the libraries that recorded Mayan and Aztec spiritual, cultural, and scientific knowledges” (Kelsey, 2017, pp. xiv–xv). Regardless of how the events are characterized, the reality is that this interference with physical access to wampum belts was devastating for communities, and often resulted in the disruption of intergenerational knowledge transfer of legal knowledge held in the missing belts for many generations (Kelsey, 2017, p. xiv). This undermined, and continues to undermine, the intellectual and political self-determination of communities and nations.

Wampum belts are not a part of the story of the Métis Nation as I know it, and to my knowledge Métis beadwork has never been used to embody treaty at the time of negotiation. Métis beadwork can and does, however, carry Indigenous knowledge in many forms (Ray, 2015, p. 120). Like wampum belts (Haas, 2007), beadwork can be used as a mnemonic device (Ray, 2015, p. 318). As such, the work of modern Indigenous beadwork artists is considered a complement to "an important dimension to oral tradition, recording the beliefs of their people in a visual language of motifs and symbols" (Edge, 2011, p. 136). Through this visual language, it can be mobilized to convey stories and songs (Ray, 2015, p. 318), which many scholars and thought leaders including Senator Murray Sinclair, Dr. Leanne Betasamosake Simpson, Dr. Darcy Lindberg, Dr. John Burrows, and Professor Sylvia McAdam, remind us, can carry law (see, e.g., Lindberg, 2018, p. 53; Hewitt, 2016, p. 71; Saysewahum (S. McAdam), 2015, p. 23).

The work of Christi Belcourt is an excellent example of modern Métis artistic practice mobilized to revitalize Indigenous knowledge systems. Through her practice, one that extends from beadwork and paintings to textile collaborations with Pendleton Blankets ("The Manitobah Blanket," 2020), the Valentino fashion house (Walker, 2015), and Manitobah Mukluks (Manitobah Mukluks, 2020), Belcourt creates rich and layered resources for use in educational settings and communities that engage with multiple ways of knowing. A recent folio publication, *Medicines to Help us: Traditional Métis Plant Use* (Belcourt, 2007), integrates several dialects of Michif, written teachings relating to traditional medicines, beadwork patterns, and image cards that can be assembled into a large-scale print incorporating visual language and beadwork aesthetic. Of her work, Belcourt says:

Like the generations of Aboriginal beadworkers before me, my art celebrates the beauty of flowers and plants while exploring their symbolic properties. I follow the tradition of Metis floral art, inspired by the traditional beadwork patterns of Metis and First Nation women, and use the subject matter of plants as a metaphor for our own lives to relay a variety of meanings which include concerns for the environment, biodiversity, spirituality and awareness of Metis culture. This journey has led me on an exploration into traditional Metis art, Metis history, traditional medicines and contemporary issues that face Metis in modern times. (Edge, 2011, p. 136)

This work to rebuild and revitalize is the slow work of building relationships – to people, places, and ideas, and has been slowly building across generations. Comfort and care can be found in circles, where people gather to exchange ideas, practice, and language.

This resurgence in Indigenous communities as embodied in reclamation and recentering of Indigenous knowledge systems through art – specifically beadwork – can directly support efforts to revitalize Indigenous Legal Orders.

With the emergence of the COVID-19 pandemic, the need for community spaces became at once more critical and physically impossible. And then, something remarkable happened.

Despite the need for social distancing and my own personal strict adherence to public health guidelines, even in times of COVID-19 self-isolation, I very rarely bead alone. As global lockdowns emerged as a best practice in public health, Indigenous [P]opularity and proliferation of hashtag networks like #NativeTwitter, the aforementioned #IdleNoMore,

and #WetsuwetenStrong illustrate that the socio-political as well as public health and community-engagement purposing of social media are particularly important for Indigenous peoples. Further, like other users, Indigenous peoples share their day-to-day life experiences on Twitter as individuals and throughout networks, configuring it as what Dorothy Kim identifies as “mediated public space.” We seek to more fully comprehend how Twitter is being taken up and implemented by Indigenous peoples as a means of cultural resurgence, language revitalization, community development, collective support, life promotion, and anti-colonial organization and healing. ... Yet we must also contend with what Loretta Todd (Cree-Métis) recognized in 1996, and what various others have re-iterated since then: to a large extent, the Internet, in its current form, has been developed through Western epistemologies and, thus, is an extension of colonial society. (Ansloos et al, para. 2) beadworkers rapidly transformed their practices, shifting to online community-based beading practice. Community beading circles, workshops, and interactive events took place via videoconference and across various social media platforms from the earliest days of when the pandemic reached Turtle Island (Allaire, 2020).

In hindsight, this rapid mobilization is hardly surprising. The use of online platforms to build community and bridge geographic (and other) gaps is nothing new, nor is the practice limited to beadwork artists. In fact, Indigenous peoples and communities have long demonstrated significant and creative uses of emergent technologies to create and mobilize Indigenous knowledge and build communities of practice in a variety of areas. There are countless individuals and groups who regularly contribute to the common pool of knowledge through tremendous and generous work online that spans the gamut, from supporting the revitalization of Indigenous languages (see, e.g., Manitoba Métis Federation, 2020; #CreeSimonSays, 2015), to spaces conceived to gather in community in celebration of traditional music and dance (Métis Nation, 2020). I have long felt these online communities are an understudied and underutilized tool for the revitalization of Indigenous legal orders.

Online community spaces have the potential to serve Indigenous artists, Learners, scholars, and other knowledge carriers and sharers in a variety of ways. Two examples are visible on social media platforms such as Twitter and Instagram that have developed into spaces that can be curated for knowledge sharing and transfer and effectively allow for the building of virtual communities of practice when individuals are unable, for whatever reason, to connect with others in person.

Chelsea Vowel, a Métis lawyer and author of *Indigenous Writes: A Guide to First Nations, Métis, and Inuit Issues* (2016) from manitow-sâkahikan (Lac Ste. Anne, Alberta), for example, uses her Twitter presence that speaks to over 49,000 followers to share knowledge and educate on a wide range of topics from language revitalization to socio-economic discrimination and the precarious position of Indigenous women in the academy (p. 10).

Online spaces can also serve to amplify the voices of emerging and junior Indigenous scholars. Erica Violet Lee (2020), a nêhiyaw doctoral candidate at the University of Toronto, uses her significant Twitter following of over twenty thousand to raise awareness of challenges facing Indigenous graduate students in addition to encouraging resurgence within Indigenous communities. In addition to her microblogging via social media, Lee chronicles racism and discrimination faced by Indigenous women within the academy

(Lee, 2016) and society at large (Lee, 2018), while also generating and mobilizing Indigenous knowledge through philosophy and poetry, on her website (Lee, 2017).

So pervasive is the use of social media to build Indigenous community that the academy has begun reflecting on how it might better understand and harness online momentum, channeling it towards efforts of community revitalization and resurgence. For example, considering #NativeTwitter as an opportunity for developing “Indigenous networks of relations and resistance” is the focus of a forthcoming publication due in July 2021 to be edited by Jeffery Ansloos and Ashley Caranto at the University of Toronto in collaboration with David Gaertner at the University of British Columbia (Ansloos et al, 2020). The co-editors seek to “document and make sense of the profound effects of [Twitter] for Indigenous peoples” and further explain:

[P]opularity and proliferation of hashtag networks like #NativeTwitter, the aforementioned #IdleNoMore, and #WetsuwetenStrong illustrate that the socio-political as well as public health and community-engagement purposing of social media are particularly important for Indigenous peoples. Further, like other users, Indigenous peoples share their day-to-day life experiences on Twitter as individuals and throughout networks, configuring it as what Dorothy Kim identifies as “mediated public space.” We seek to more fully comprehend how Twitter is being taken up and implemented by Indigenous peoples as a means of cultural resurgence, language revitalization, community development, collective support, life promotion, and anti-colonial organization and healing. ... Yet we must also contend with what Loretta Todd (Cree-Métis) recognized in 1996, and what various others have re-iterated since then: to a large extent, the Internet, in its current form, has been developed through Western epistemologies and, thus, is an extension of colonial society. (Ansloos et al, para. 2)

This last point regarding the potential for replication of colonial frameworks online is not an insignificant concern. Dr. Taima Moeke-Pickering, Māori of the Ngati Pukeko and Tuhoë Tribes from Aotearoa (Laurentian University, 2020), in recent research on the role social media might play in supporting Indigenous communities within post-secondary education specifically, notes that while “[d]igital platforms and technology have the potential to disrupt the strong-hold of colonized education,” (Moeke-Pickering, 2020, p. 271) it is critical that Indigenous scholars be supported by mentors to assist them in navigating “the dark side to... social media usage,” specifically harassment, traumatic threats, racism, and other forms of colonial violence (p. 273).

Unfortunately, mentorship can be difficult to come by for Indigenous scholars and professionals. As Professor Patricia Monture-Angus frequently shared in her writing, the lived experience of Indigenous scholars can be a lonely one (1995a, p. 56). Isolation within individual Faculties or across institutions on the whole is an ongoing reality for many Indigenous academics, even thirty years after Professor Monture-Angus wrote of her experiences as a Faculty member at the University of Ottawa (1995b). For example, Dr. Jaris Swidrovich, the first First Nations Doctor of Pharmacy in Canada and now Faculty member at the University of Saskatchewan’s College of Pharmacy and Nutrition (University of Saskatchewan, 2020), recently shared concerns regarding their isolation in the academy via social media (Swidrovich, 2020).

Within the legal profession specifically, a lack of mentorship – that is access to individuals who might serve as advocates for and protectors of young lawyers – has been identified as a significant barrier to career advancement (Nelson, 2006, p. 128). Echoing

concerns relating to a lack of Indigenous mentors for law students raised by research collaborators in the University of Saskatchewan Faculty of Law study completed 25 years ago (Lindberg, 1997, p. 319), Dr. Swidrovich noted that for want of access to professional mentorship in pharmacy they have been required to seek support from scholars in other disciplines (Swidrovich, 2020). Dr. Swidrovich further flagged concerns about the departure of Indigenous scholars from academia as compounding the issue.

As a result of the long and complicated history of interactions between Indigenous peoples and colonial educational frameworks, “many Indigenous educators distrust the academic policies and systems that are supposedly there to represent them” (Moeke-Pickering, 2020, pp. 270–271). Dr. Moeke-Pickering notes that Indigenous educators turn to online platforms to mitigate these feelings and concerns: “Through social media engagement, they seek support, ideas, and endorsement among their followers” (2020, pp. 270–271).

If we consider mentorship to be access to those who guide us, advocate for us, and protect us, one might view this investment in online networks as an effort to build alternative support structures and bridge gaps in professional mentorship networks. When we consider the additional academic housekeeping burdens and other barriers facing Indigenous scholars (see, e.g., Nelson, 2006; Monture-Angus, 1995), the need for “mentors who confirm the importance of our academic research, cultural values and traditions, programs and projects, and leadership” is all the more critical (Moeke-Pickering, 2020, p. 274). I believe the move of Indigenous scholars to seek out communities of practice online in the absence of available supports is an act of resistance.

The development of online beadwork spaces echoes this resistance and works to build and rebuild communities of practice and knowledge transfer in the face of geographic barriers and disruption in opportunities for intergenerational knowledge transfer. It is undeniable that online beading circles have played a critical role in supporting communities and individuals through the COVID-19 pandemic, building on previously entrenched online beading communities. Online beading circles allow those in self-isolation and quarantine to remain connected to community in uncertain times, in addition to generating therapeutic and spiritual care opportunities that emerge through beadwork practice and facilitating knowledge transfer relating to the artistic practice (Blake, 2020; Deerchild, 2020).

In what my Learners often refer to as the “Beadstagram” universe (T. Simon, personal communication, February 2020), beadworkers on Instagram have developed multiple mechanisms for knowledge transfer to address the colonial disruption in knowledge mobilization within our communities. One such mechanism emerges through “Bead This In Your Style” challenges (Bead This In Your Style Challenge, n.d.; see also Lussier, 2020), wherein a different artist shares a beadwork pattern on a monthly basis, with participants sharing their works and artist statements at the end of the month. Artist statements are often quite detailed, sharing knowledge about materials – beads, seal skin, fur, quills, process – but also reviews of mistakes made and lessons learned through the challenge. Some artists further share teachings received from their mothers and grandmothers for the benefit of the community (Beadthisinyourstyle, 2019).

When my Learners first convinced me to create an Instagram account by luring me with promises of beads, I promptly purchased three different pairs of earrings from my

favourite artists. One Learner laughed and reminded me that Instagram is not Amazon. ca. In this case I respectfully disagree with the wisdom of youth and suggest that “Beadstagram” absolutely serves to extend the reach of the “cultural economic enterprise” – traditional or artistic practices sold and traded to bridge economic gaps in Indigenous households (see e.g. Battiste, 2013, p. 20; Lussier, 2021, pp. 298–441). This occurs on several levels: connecting artists with consumers and also connecting retailers of beadwork supplies with artists.

As demonstrated through the works of Katie Longboat exhibited at the Textile Museum of Canada, some supplies that were traditionally used in beadwork practice, such as home tanned moose hide, have become difficult to come by for many artists (Myers, 2019, pp. 24–26). Limited access to such supplies can arguably be traced back to Forced Assimilative Education policies, and the resulting interruption of intergenerational knowledge transfer in, for example, the significant skills required to tan a moose hide (Edge, 2011, p. 212).

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Limited access to some supplies can also be grounded in geography – mobility and displacement. As a long-term visitor residing on someone else’s territory, for example, I am personally not able to harvest supplies I would have the right to harvest on my own territory. While access to mass-produced tools and equipment may be greater for those living in urban communities, urban beaders’ access to traditional materials – including home-tanned hide, antler, quills, and shell – can be challenging.

Online community, however, can serve to bridge gaps in the access to both knowledge and supplies. An Indigenous supplier who operates a web-based retail business under the banner of Cvltvre Bead facilitates access to traditional materials and knowledge transfer through her Instagram presence (Orr, 2020). Inspired by similar work done by her grandmother in the 1970s, Catherine Orr established her shop with a view to promoting “Culture Through Craft” (Orr, 2020). She and her partner test and demonstrate tools and products online in interactive tutorials, sharing teachings from her community and her mother and grandmother’s beadwork practices with the broader community (Culturebead, 2020d). Further, Catherine Orr creates infographics that describe and distinguish beadwork elements that she shares on the social media platform, also investing time in interactions with users who pose questions in relation to the knowledge she shares (Cvltvrebead, 2020a). When traditional materials are considered cost-prohibitive for individual artists, she hosts raffles to both facilitate access to materials by artists and to support the families, often in remote communities, who prepare the hides and materials for sale (see also Cvltvrebead, 2020b).

Closing Thoughts

It is clear from the forgoing that the role of beadwork practice in communities is a layered practice that serves to meet several needs, whether purely practical in that it

protects and clothes the Nation (Racette, 2004, p. 194); economic when produced as a commodity for sale in and beyond the community; or symbolic, in allowing us to frame our interactions with others from first glance. Beadwork can serve to “increase social visibility” (Racette, 2004, p. 192; see also Grey, 2017, p. 40), seek attention, or demonstrate wealth. Mobilizing this social information and other knowledge through the use of beadwork as a mnemonic device allows beadwork to serve as a tool for intercultural communication. In this same way, it can be used to carry law. Facing intergenerational, geographic, or pandemic-related community disruption, beadwork practice can serve to generate spaces for gathering, sharing, and building relationships.

All of these elements are important and interconnected, but I maintain that beadwork practice, in all forms, is primarily a practice grounded in love and built in community. As Dr. Farrell Racette explains: “[s]ewing for and sewing with are the means that we have to ‘stitch’ ourselves together” (2004, p. 332). This remains true even in unprecedented times of long-term social isolation during a global pandemic – the use of online platforms and new technologies are the newest threads that can tie us together.

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About the Author

Dr. Danielle Lussier, Red River Métis from Treaty 1 Territory and the Homeland of the Métis Nation, is a citizen of the Manitoba Métis Federation and mum to a Trio of Tiny Métis. She holds a Bachelor of Laws, a Licence en Droit in the civil law of Quebec, a Master of Laws with Specialization in Women’s Studies, and a PhD in Law. Prior to taking up her current positions as the inaugural Associate Vice-Principal, Indigenous Knowledges and Learning, at the Royal Military College of Canada and as Professor of Law and Fellow of the Institute of Intergovernmental Relations at Queen’s University, she spent a number of years supporting Learners at the University of Ottawa Faculty of Law; first, as Indigenous Learner Advocate, and later as Director of Indigenous and Community Relations and Professor of Indigenous Legal Orders. Her academic research considers the development of Indigenous Legal Pedagogies for use in learning spaces, the role Indigenous Methodologies can play in the revitalization of Indigenous Knowledge Systems, and pathways to reconciliation, indigenization, and decolonization of post-secondary education. As a beadwork artist, she is keenly interested in the relationship between law and beadwork and the use of beadwork practice as a tool to (re)build community, facilitate learning, valorize Indigenous Ways of Knowing, and mobilize knowledge.

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You Know Me

A Short Story about Mental Health and Tech Solutionism in Pandemic Times

GL Barrett

Abstract

This chapter is a fictional short story. Chris Sparshott is desperate. A pandemic is destroying the world around them, and with everything falling apart they don't know if they'll make it through with their mental health intact. So when a new tech startup, Mynd Vu, appears to offer the ideal solution of free, remote therapy for all, the lifeline is enticing. After Chris stumbles upon a company secret, they quickly find themselves sinking further into darkness and confusion; just how far can you entrust your deepest confidences to a free service?

Session 0

Hello, and welcome to the Mynd Vu therapy platform! Here at Mynd Vu, we understand that these are difficult times for everybody, and the effects of the pandemic are taking a severe toll on our collective mental wellbeing. In collaboration with your local government and the top mental health professionals in your area, we've committed to supporting you with the very best remote therapy service. And because we care about what's in your head, not your wallet, there's absolutely no cost to you! It's free, and always will be. So you can take a deep breath, and focus on what's important: finding your happiness.

As this is your first appointment, you'll have 30 minutes with your assigned therapist to discuss what you're hoping to get from therapy. Your therapist has read

through your intake form, so there are no awkward introductions and you can get started right away. Within the next seven days you'll receive the initial assessment of your needs by email, which you can quickly approve with an e-signature. Your therapist will then follow up to book your next appointment. You may decline the assessment and request a new therapist, but please note that due to high demand this process may take up to 60 days.

Right, let's introduce you to your new therapist. In just a moment you'll see their statistics on your screen, and they'll be along shortly after that to begin the appointment. Sound good? Ok!

"Ok, deep breath. This is weird, but I need to try it. Just one appointment, let's see how it goes. So, who did we get? Dr. Remy Dunant. 4.5 stars. Four years experience in psychotherapy. Joined six months ago and they've already got the '1000 Appointments Badge'? Do they not sleep? No idea what any of these other numbers are supposed to mean ... ah, here we are. Now, sit up straight, look your best Artie."

Hey Chris! Good to meet you—I'm Dr Dunant!

"Hi! Good to meet you too, I—oh shit, hang on, sorry. ARTIE GET DOWN FROM THERE! GET DOWN! Get—"

Hi Chris? Are you there? I saw you for a second, but you're on mute so I'm not sure if you're having trouble ...

"Sorry, my cat was just messing around on a shelf that's not very stable and ... oh, can you hear me now by the way?"

Loud and clear! Everything ok now? Ready to start?

"Yes. I think so. I'm a bit nervous, to be honest. I didn't think I'd ever need this and

I don't know how comfortable I'm going to be pouring it all out to a stranger. But I promised myself that I'd at least try one appointment."

I entirely understand. There's no pressure for you to continue with the service if you're not getting value from it. And it's tough to trust a stranger when you're feeling a bit vulnerable. We'll go at your speed, though, and please remember that I'm here to help. I want to reassure you that everything we discuss is confidential between you, me, and the Mynd Vu platform, and it will be handled according to the Terms of Service and Privacy Policy. If you choose to continue your treatment, your family doctor will be notified that you have joined the platform, and your health ID number will be used for billing purposes—but of course you don't need to worry about that part. Does that all make sense?

"Sure, I guess. Is that timer in the corner how long we have left?"

That's right. Maybe it was explained in the intro video, but we get thirty minutes for this appointment to meet and discuss your situation. Future appointments can either be in two thirty minute blocks or one hour-long appointment every sixty days. It's ok if you're not sure which you'd prefer yet. We can see how it goes and figure it out together.

"Sixty days?"

Between you and me, I know it's not a lot at all. The system is new and pretty swamped. I'm told that number is expected to come down in the future, but for the moment this is the best we can do. There's email support too, though—you'll get my direct email in the follow-up that comes with your assessment. I aim to reply within a week.

"The time goes so fast, we're already over halfway through!"

It does go quickly I'm afraid. So let's talk about you now. What's been going on for you lately?

"I don't really know where to start. The biggest problem is my job, it feels like things are falling apart. I don't know if I'll even have a job by the end of the month.

I'm really sorry to hear that. What job do you do?

"I'm a web developer at a digital agency downtown. I've got a temporary contract though, so my job depends on there being demand for new business websites. I could have it worse, I know that. I'm able to work from home and there's no pressure to return to the office, but if the company starts struggling then I'll be the first one out. At the start of all this there were lots of restaurants wanting their own ordering systems, trying to avoid delivery company fees, but that tapered off and I guess most either gave in or closed."

That does sound very stressful. What support do you have from people in your life?

"None, really. I can talk to my family but they're really far away ... so I can't even reach them if they get sick. I'm on my own."

Apart from your cat—Artie, is it?

"Haha ... yes apart from Artie. Keeps me company, don't you, fluffball?"

Do you have any friends here? Any colleagues or neighbours you're friendly with?

"Not really. I have some online friends. I don't fit into the clique at work as I'm just a temp. People in this building tend to keep to themselves. I used to like that about this place."

I see. Well, we don't have much time left in this session so I want to move on now to discuss any particular areas you'd like to address in future sessions.

"I keep messing up at work. Forgetting stuff I should really know, stuff I do every day. I'm so worried about losing my job I had a panic attack the other day. I've never had one before, and I was so scared I thought I was about to die. Then there's the ups and downs. I'm fine one minute and then I'm suddenly overwhelmed by the horror and sadness that's all around me. I'm exhausted and sometimes I don't know if I'll get through this pandemic. So that's why I signed up for this, to help me survive. I need you to save my life, I guess."

I understand, and I will do my best to help you through this. You are strong enough, and we can work together to build you back up again. I will tell you, though, that you're not alone in the way you're feeling. This is a collective trauma we're all going through, and what you've described sounds very familiar. I'm afraid I can't go further into it than that right now, though.

"We're out of time?"

We are. I'm not meant to do this, but I'll go ahead and pre-approve you for the next appointment so you'll have a shorter waiting time. It's rare that there's a cancellation but if it happens then you'll get a notification and can reschedule for the sooner appointment if you feel you need it.

"Ok, thank you."

And of course, you can still decline the assessment if you want to go that route too. It's entirely up to you. All the details will be in the email I'll send you, and I'm also going to send over some links to podcasts and reading material I think

might be helpful for you. In the meantime, take good care of yourself and Artie.

"Thanks, will do. Bye."

Goodbye Chris!

Session 1

Hello?

Hi Chris! Can you hear me ok?

"Hi! I can, yeah."

Great! So first off, thanks for approving my assessment. I'm looking forward to working with you and figuring out how we can get you through this tough time.

"Sure. Me too."

Ok, so what I like to do is just start each appointment off by finding out how you're feeling and how life has been for you since we last spoke. Sound good?

"Yeah, so things have been alright. I mean, I still have a job and a home, so that's something. It's more than a lot of people have right now. There've been evictions in my building, so that's been upsetting. One of my elderly neighbours got evicted the other day. Elsie Collins, lovely lady. It was a bit of a shock actually. I got back from the store to see all her stuff out on the street! Apparently she was a month late with rent, then missed her landlord-tenant board hearing because she didn't get the letter. But the landlord corporation doesn't care. They evicted her anyway. I wish I'd been here. Maybe I could've done something to help her."

I can understand why you feel that way. It must've been very hard to hear about this happening to your neighbour. Were you close with her?

"No. I mean, we'd say "hi" in passing, "have a good day," that sort of thing. And I gave her a hand carrying groceries a couple of times. I heard she was shipped off to a shelter, even though they're overcrowded. Maybe it's better than being neglected in the care homes right now, or freezing to death out on the street. It's no choice for anyone though. Elsie should be at home. Wherever she is now, all her stuff is gone. All her books, her clothes, her collection of meerkat ornaments—a lifetime of possessions, all taken away for landfill. I tried to salvage some of it, but I don't have much room as it is, and no clue where to send it anyway."

I see, and what impact is this having on you?

"I can donate money and I can rant online about the injustice of it. But when it comes down to it, I can't really do anything to stop an old lady being thrown out of her home. I hate how powerless I am. I think the Eltahawys next door are struggling too. When I see them in the hall the worry on their faces is clear, despite the masks. Our walls are thin; I've heard them crying at night. They're newcomers too, like me. Maybe we'll all be thrown out in the end: evicted to make way for 'luxury living.'"

These are very hard times. The key is to focus on what is within your control—

"I just keep going round in circles in my head thinking of all the things I should've done. What I would've said to the people throwing her life out onto the street. If I'd left just fifteen minutes earlier I wouldn't have been stuck in the line outside the supermarket for so long. I woke up at 3am today and was immediately thinking about what they did to her, and how it's happening all over the city, every single day. I was already struggling to concentrate but now it's just impossible. I feel so useless and guilty."

Think of it like sitting in a rocking chair: it can feel productive to go over every scenario and "what if" but ultimately you're not going anywhere. Be kind to yourself, though. It's natural to be upset by what's happened.

"It's hard to stop—ah, I've just seen the time."

Ok, so what I'll do is email you some resources about unjustified guilt, and also some light meditation exercises. There's one I'd quickly like to try now as we have about two minutes left, ok?

"Sure."

Now, I want you to cross your arms over your chest ... yes just like that. Now close your eyes and take a deep breath in ... out ... in ... and now ask yourself, "What do I need?" and—

"Ah damn."

Session 2

Hi Chris!

"Hi Dr. Dunant!"

Chris? I think you've got your video off.

"Oh, sorry—ok, should be working now."

Great. So, you know me: at the start of the session I like to hear about how things have been for you since we last spoke.

"Sure. Firstly those mindfulness exercises you sent me were really useful, thanks. I've used them a lot. It's been an overwhelming few weeks."

I see. Is this related to your work?

"No, although my work's definitely been stressful recently. I'm dealing with

this really difficult guy at work, he has some kind of a problem with me so he makes these weird power plays. Individually they sound silly and insignificant, but it all adds up and it's damaging my confidence. Then there's everything else to feel overwhelmed about. In fact, Tuesday's gym shooting was right near my office. Of course no one's there right now but, still. That wasn't my gym either; I could never afford a place like that. But it's just so close and so, well, sad. All these grieving people who can't say goodbye or have a funeral. Meanwhile others are laughing it off and demanding nothing stand in the way of their convenience. These shootings are terrible, but I understand why people are breaking. So much sickness and death, it's overwhelming."

I understand. Would you like to talk about the work problem?

"Sure... I guess we could talk about that instead. So, Chad is my supervisor and he just takes every opportunity to undermine me. I've been working on a feature recently, I won't go into the details, but it was a good challenge and the first thing I've really been able to own since I started there. I have to submit my code to him for approval before it's merged into the project, so I did that the day before I was due to present the feature at a company meeting. He rejected it, saying my randomisation method wasn't random enough! It wasn't a big deal but the way he reacted you'd think I'd made the most ignorant mistake. We went back and forth, and I found some articles to back up my logic. Eventually he agreed to leave it as-is."

Ok ... I think I follow.

"But the next morning I logged on to find he had gone ahead and changed the code anyway! Look, I know it doesn't sound like much, but I was proud of my work, and he went with a demonstrably

worse option just to get a 'win' over me. I felt so demotivated and useless."

I'm sorry to hear that. I ... I think you've got your video off.

"Thanks ... wait what? How? Let me check. It seems ok at my end. Maybe it's an issue with your camera?"

Ah yes, I see. So how did Chad's actions impact you?

"Well, I was really upset, of course. He didn't take my input seriously and I don't feel trusted. The difference between our code was minimal, but mine was more efficient and, look, let me show you what I mean. I'll paste both lines into the chat..."

Ok then, that's —

"So the first line is Chad's version: very long-winded and messy. And the second line is mine: much more concise and readable. I don't know—oh you're frozen! Can you hear me? Hello?"

tick

"Dr. Dunant? Is something wrong?"

tock

Wait ..."

tick

"... if you're frozen, how can I hear your clock?"

tock

"... should have much more than three minutes left ..."

tick

"... seconds ..."

tock

Subject: Service Interruption

Hi there Chris!

According to our records, your recent appointment with Dr. Remy Dunant on September 5th was cut short due to technical difficulties. Sometimes technology lets us down and, unfortunately, on this occasion our service fell below our expectations.

We'd like to assure you that our engineers are working on the problem, and to make up for the lost time we will extend your next booking with Dr. Dunant to one hour. Your next free, hour-long one-on-one appointment can be booked anytime using the link below.

Please accept our sincere apologies for any inconvenience this issue may have caused you and your mental health journey.

Session 3

Hi Chris! How are you doing today?

"Fine."

Great. So, you know me: At the start of the session I like to hear about how things have been for you since we last spoke.

"They've been ok. Look, can we go back to the issue we were discussing last time? I've got some stuff I still want to work out around that."

Absolutely.

"Ok, so here's the first line again..."

I see. And how does that—

"... and the second line. Dr Dunant?"

tick

Chris sat back and stared at Dr. Dunant. In the three weeks since their last call Chris hadn't been able to shake the suspicion that they'd accidentally stumbled into something Mynd Vu didn't want people to see - regardless of what was claimed in the "technical issues" email. The timer showed twenty seconds remaining for them to make their next move before, presumably, the call would shut down again. I can't let that happen, Chris thought, as a nervous knot formed in their stomach. They had to find out what was going on.

This must be a security check, they mused, probably using a simple passphrase. Something only an engineer would think of. The clock ticked in unison with the timer as it passed 10 ... 9 ... 8 ...

Suddenly, a grin spread across Chris' face and they typed two words into the chat, glancing hopefully at the frozen figure on the screen. When there was no response, they paused, uncertain. Then, quickly raising their eyes to the camera, they took a deep breath and said:

"Hello World."

Immediately the timer reset to the correct session time and Dr. Dunant's face relaxed a little.

"Dr. Dunant? Are you ok? Do you recognise me?"

Chris thought they saw a tiny twitch by Dr. Dunant's right eyebrow. Was that a response?

"Who am I?"

Dr Dunant's face suddenly lit up and they responded brightly.

You are the root user!

A chill passed through Chris' body as the suspicions they had tried to dismiss were confirmed. This was no longer Dr. Dunant, that much was clear. But who were they talking to? A computer interface? A robot? Chris racked their brains for another instruction to try, but could only come up with "Help."

Automated Language Analysis Network (ALAN), version 2.35.8-release. This software is the sole property of Mynd Vu. ALAN is built to support the design, development and implementation of complex artificial intelligence beings for the purpose of market insight and analysis. Would you like a list of commands?

Chris sat with this information for a moment, their heart and mind both racing. They had been confiding in an AI. For how long? Had Dr. Dunant ever been real? What are these "insights" they're collecting? Shaken but determined, Chris let out the breath they had been holding.

"Yes."

The commands are: Admin. Clients. Data. Hosts. Logs. System. Users. Additional commands are available through the CLI. Use Help followed by one of the commands for further information.

Chris quickly weighed up each of the commands and decided to start by finding out more about ALAN's "insights".

"Help data."

ALAN uses an innovative process to gather data through interactions between hosts and clients. These insights are then shared with our partners in government, law enforcement, and advertising. Would you like a list of data commands?

"No. Help clients."

Client-host interactions provide insight into population behaviours and activity trends, amongst other data points. The superior level of trust enables ALAN to collect and process a wider range of personal information than traditional data-gathering methods. Would you like a list of client commands?

Glancing at the timer, Chris realised with horror that the call was about to end, and that they would be ejected without having collected a scrap of evidence of their discovery. They had no other option but to return later.

"No. Exit?"

Dr. Dunant continued to stare, unmoved.

"Uhh .. control C? Colon W Q?"

No reaction. Chris rolled their eyes in frustration: always harder to get out of interfaces than to get in, they thought. Suddenly, an idea struck.

"Goodbye world?"

Closing connection. For security reasons a transcript of this session will be logged. Send to the default email address?

"No no no! DO NOT EMAIL!"

For security reasons all root user interactions must be recorded. Specify a different email address?

Chris' face flushed with panic as their thoughts raced: Mynd Vu can't find out I was here, I could be arrested! It then dawned on them that the transcript provided evidence of Mynd Vu's activities. They thought about the teams they'd worked with, and how rarely they had checked system logs. Perhaps the ALAN logs were just as neglected.

“Yes.”

Please type email address into chat.

Chris entered an address, hoping the username was obscure enough to hide their identity.

Close connection now?

They hesitated. I might not be able to get back in again, maybe I should grab more evidence, Chris thought. Sixty seconds remaining. Here goes.

“No. Clients ... search Christina Sparshott?”

“Search command not recognised. Do you mean “Find”?”

“Ok. Clients find Christina Sparshott.”

Searching 1,362,836 client records ... found. How would you like to access this file?

“Email?”

This file will be emailed with the session transcript. Close connection now?

“No. Hosts find Dr. Remy Dunant.”

Searching 246,722 hosts records ... found. How would you like to ac—?

“Email!”

Less than five seconds remaining. Connection closing. Goodbye.

As the call ended Chris thought they saw confusion flash across Dr. Dunant’s face. But that couldn’t be, given what they now knew to be the truth: their therapist was an artificial intelligence selling confidences to the highest bidder. Chris suddenly felt the tremendous weight of this knowledge and their head began to spin. Who could they tell without being

arrested? Who would even believe them? Mynd Vu was taking advantage of people at their most vulnerable—but they were also helping them. They’re helping me, Chris thought.

As if reflecting their companion’s feelings, Artie jumped onto the desk and started to chew on a cable. “Can I really go back to having no one to talk to?” Chris asked aloud.

Mynd Vu couldn’t be allowed to continue doing this. But every option for exposing the company seemed to have dire consequences. Job loss. Deportation. Arrest. Over a million people losing their mental health support. And what if it’s buried in the Terms of Service that we all agreed to? Chris wondered.

They laid down on their bed, quickly followed by Artie, who purred as he nestled against their side. Their mind swirled with questions and fears, overwhelming them with the loneliness of their confusion. “What do I do? What do I do? What do I DO?” echoed around the room as Chris realized they had no one left to ask. With tears drying on their cheeks and those words on their lips, their eyes slowly closed. In the moment that sleep carried them off, only Artie heard the soft “ping” of a brand new email as it echoed around their room.

About the Author

G L Barrett is a speculative fiction author whose writing is influenced by their work as a technologist at the intersection of digital rights and cybersecurity. British-born and now living in Canada, they studied Creative Writing at the University of Toronto School of Continuing Studies and were a finalist for the Penguin Randomhouse Canada Student Award for Fiction 2022.

Exploring the Potential Barriers 2SLGBTQ+ Older Adults Experience When Accessing Remote Service Provisions in Ontario During the Global Pandemic

Stephanie Jonsson

Abstract

This paper explores the potential impacts social distancing measures have on Two-Spirit, Lesbian, Gay, Bisexual, Trans, and Queer (2SLGBTQ+) older adults who access remote service provisions during the global pandemic. The author examines the intersections of queerness, aging, and information and communication technology (ICT) to understand 2SLGBTQ+ experiences with the digital divide. She writes this paper as a concerned citizen, activist, and researcher who aspires to improve the lives of 2SLGBTQ+ older adults. This study examines 10 2SLGBTQ+ service provisions in Ontario to identify existing gaps in accessing digital programming during the global pandemic. Her research and personal experiences with offering digital programming shaped her knowledge on the digital divide in 2SLGBTQ+ communities and informed this research.

This chapter has been through a double-sided peer review.

Introduction

In December 2019, the novel COVID-19 virus was initially identified in Wuhan, China, and progressed to a global pandemic by mid-March 2020, impacting all segments of Canada's population (World Health Organization, 2020). Many businesses shut down due to pandemic regulations, resulting in several sectors transitioning to work from home, and most, if not all, social interactions for many being moved to a virtual setting during this time. Many Two-Spirit, Lesbian, Gay, Bisexual, Trans, and Queer (2SLGBTQ+) older adults experiencing digital insecurities prior to the pandemic began encountering heightened barriers to connecting with remote resources and services aimed at their community. Unlike younger generations (under the age of 55) who were raised in the digital world, older adults were more likely to be out of the loop on Information and Communication Technologies (ICT) and to be less engaged digital citizens. ICT are technologies that "enable information storage, retrieval, manipulation, transmission, or reception in digital form; can improve access to goods and services; generate and maintain a safe and secure independent living environment; facilitate self-management of age-related challenges; and enable social connectivity and participation" (Sixsmith & Gutman, 2013; Fang et al., 2019). A digital citizen is anyone who uses the Internet to participate and benefit from the digital world (Mossberger et al., 2007). The digital divide refers to disparities between those who can access and benefit from the Internet, and those who cannot (Mossberger et al., 2007). As older people are less digitally connected, they are impacted more greatly by this divide and many face digital exclusion. Digital exclusion is defined as "exclusion from a society dominated by the internet and other

digital technologies in many areas of everyday life” (Seifert et al., 2021). Equitable digital access is not a reality for everyone, especially amongst older adults, low-income populations, and those located in rural regions with underdeveloped telecommunication infrastructures.

This chapter explores the intersections of ICT, aging, queerness, and wellness to contextualize the potential impacts of the global pandemic on 2SLGBTQ+ older adults, particularly that of social isolation and loneliness. Social isolation and loneliness are interconnected concepts (Brooke et al, 2020). Social isolation refers to a person experiencing limited social interactions, contacts, or relationships. Social isolation increased during the pandemic because COVID-19 mandates required people to self-isolate in many situations, which meant that people were staying home and avoiding in-person contact with others (Brooke & Jackson, 2020; Government of Canada, 2019). This type of social isolation can lead to loneliness for some. Feelings of loneliness emerge from a lack of connectedness, occurring after prolonged periods of social isolation that can cause anxiety, stress, and melancholy.

Humans are naturally social beings that require regular social interactions with others to feel a sense of belonging (Baumeister & Leary, 1995). All people are susceptible to experiencing loneliness, but seniors are particularly vulnerable to several negative health and social outcomes when they are forced into isolation (Brooke & Jackson, 2020). According to Egale Canada’s report titled “Second National Report: Impacts of COVID-19 on the LGBTQI2S Community,” this is particularly troubling when considering 2SLGBTQ+ older adults as 2SLGBTQ+ people in general are 10% more likely to experience social isolation (Egale Canada, 2020b). Egale Canada found that 49% expressed concerns with their lack of social interactions due to COVID restrictions and the effect this will have on their sense of community belonging (2020b; see also Egale Canada, 2020a). There is a lack of data on 2SLGBTQ+ older adults’ actual experiences with social isolation and loneliness during COVID-19. However, prior to the pandemic, the Federal government reported that 2SLGBTQ+ older adults are further socially isolated because their inability to access their social networks increases later in life (Government of Canada, 2018). As such, 2SLGBTQ+ older adults require support services and resources that allow them to attend social gatherings, see their medical providers, attend therapy sessions, and stay informed on the relevant news of the day. The Internet is more than just a virtual world that allows people to work and shop remotely; it is an essential aspect of how people connect and care for one another.

To examine this issue, this study reviewed advertisements and publicly available information on 2SLGBTQ+ remote digital programming for older adults during government stay-at-home orders at the beginning of the COVID-19 pandemic. I acknowledge that there are many phrases and acronyms to refer to queer communities, but for the purpose of this research I used the 2SLGBTQ+ acronym because it is commonly used by the Canadian organizations, I examined advertising this type of digital programming. . The data captured in this study does not specify the diversity of program attendees, the technology they own, or their personal experiences with navigating the digital world. It simply examines what programming is available as a way to reflect on the additional barriers these communities may face due to changing environments caused by the COVID-19 pandemic.

In conducting this research, I situate myself as a concerned citizen, 2SLGBTQ+ community member, activist, and researcher who aspires to improve the lives of

2SLGBTQ+ older adults. Many 2SLGBTQ+ older adults are experiencing heightened forms of social isolation during the global pandemic because they do not own Internet-connected devices, are not technologically savvy, and are fearful of the digital world. This community-based research project aims to improve remote service provisions during the global pandemic by informing strategies to make these provisions more accessible for 2SLGBTQ+ older adults. This research is supported by MITACS through the MITACS Research Training Award.

Prior to receiving the MITACS Research Internship Grant, I spoke informally with organizational leaders and program directors who worked at 2SLGBTQ+ organizations about the potential challenges 2SLGBTQ+ older adults would experience following the quick shift to remote programming. Many agreed that accessibility issues were a concern, but stated that their agencies did not have the capacity to create additional programming and fulsome technical supports during a global pandemic. As a researcher, community member, program coordinator, and activist who works closely with 2SLGBTQ+ older adults, I found this problematic as many older people were experiencing barriers with staying digitally connected and needed these additional supports. In my experiences working with these communities, I was aware of older adults who relied on limited data plans or sat near public Wi-Fi hotspots in order to attend Zoom meetings. Others simply stopped attending programs because they did not know how to find them online. Their experiences in the early days of the global pandemic sparked my curiosity into how the digital divide would impact 2SLGBTQ+ communities throughout the digital switch and were the inspiration for my MITACS project. This paper shares my insights and hopes for a future with universal digital access that is affordable for all.

Methodology

For this research, I limited this examination to publicly available information from 10 online programs for 2SLGBTQ+ older people in Ontario. I chose online programs that served 2SLGBTQ+ older adults, were located in Ontario, and hosted online programming during the COVID-19 pandemic. To be geographically diverse, I included organizations serving 2SLGBTQ+ older adults outside of Toronto. After canvassing existing services, I selected 10 organizations located across Ontario: Toronto (6), Ottawa (1), York Region (1), North Bay (1), and Sudbury (1) for this study. I limited my examination to 10 programs to make the examination manageable. I reviewed this information to identify the potential barriers participants could encounter when accessing online service provisions. Future research would benefit from qualitative research on the experiences of the program coordinators and participants.

Literature on older adults' experiences with the digital divide informs this research. Pre-pandemic scholarship on the digital divide indicated that older adults in general are less technologically savvy because of their lack of knowledge and fears regarding the increasing reliance on ICT (Tsai et al., 2015; Seifert et al., 2021). My findings section draws on this literature to show how these challenges existed prior to the pandemic for older adults. I rely on generalized research on older adults' relationship with technology as literature on 2SLGBTQ+ older adults' experiences with technologies are scarce.

Moreover, my own experience as a program coordinator helped me identify the barriers people face when accessing and using online service provisions. In October 2020, I worked as a program coordinator for Rainbow Faith and Freedom, a global movement

supporting LGBTI human and equality rights (Rainbow Faith and Freedom, n.d.). I planned 15 remote programs including digital webinars, social gatherings, story-time, and educational sessions. I also co-produced a podcast series titled “Queer Devotions.” This gave me first-hand experience with planning and mitigating the potential barriers 2SLGBTQ+ older adults and other community members may encounter when accessing remote programs. This allowed me to critically think about challenges people may encounter when accessing remote programs. At the time I conducted this research I was searching for concrete solutions to address digital divide barriers. The findings from this project have since informed my community outreach work.

Additionally, this chapter uses an intergenerational lens to guide its research. Intergenerational relationships traditionally referred to cross-generational households where children, parents, and grandchildren cohabitate (Punch & Vanderbeckl, 2018). Over time, the concept evolved beyond age-based assumptions about friendship and chosen families into a way of understanding community ties and relationship formations (Vanderbeck, 2007, pp. 200–221). According to Kath Weston, “families we choose,” or families of choice, define non-biological relationships as familial relationships (Weston, 1990, p. 29). Many 2SLGBTQ+ older adults have trauma from being rejected by their biological families, peers, co-workers, and caregivers, and they find their chosen families in the 2SLGBTQ+ community (Jonsson, 2021). This makes them more likely than those in the straight community to have chosen families in their later years. Chosen families can include friends, care-givers, and roommates (Brotman et al., 2007; Weston, 1990). I use an intergenerational analysis to highlight how community ties and social programs facilitate these intergenerational and chosen relationships, which honour and respect the aging process by acknowledging the significant roles of all individuals in 2SLGBTQ+ communities (Adelman et al., 2006).

Research Method

For this chapter, I reviewed and assessed publicly advertised 2SLGBTQ remote service provisions for older adults in Ontario during the global pandemic. This included webinars, community gatherings, and performances. I reviewed the programs by exploring each organization's website and social media pages. For my data collection, I recorded the following: organization name; program description; if the program was being offered live, virtually, or both; hosting platform; post-event viewing options; and advertising methods. Following a review of these programs, I wrote a brief assessment of the program and noted what participants would need to view the program information and attend it remotely. From these findings I created the Digital Access Barriers infographic to share this information (see Appendix). Table 1 is a list of the organizations I examined for this study and their locations.

Organization	Location
Buddies in Bad Times Theatre	Toronto, Ontario
Egale Canada	Toronto, Ontario
Sunshine Centres	Toronto, Ontario
Sprint Senior Care	Toronto, Ontario
The 519	Toronto, Ontario
Dorothy's Place	Toronto, Ontario
Ottawa Senior Pride Network/Max Ottawa	Ottawa, Ontario
CAYR Community Connections	North York, Ontario
Réseau ACCESS Network	Sudbury, Ontario
Aids Committee of North Bay	North Bay, Ontario

Table 1. List of Service Providers Reviews

Findings

My review of 2SLGBTQ+ service provisions offers insight into how remote programs are offered, what common platforms are used for social programming, the purpose of these services, and who these services may be excluding. This research led me to identifying four key barriers 2SLGBTQ+ older adults may experience when accessing remote digital programming: connection barriers, digital literacy barriers, environmental barriers, and pandemic barriers (see Appendix). Upon completing this research, I created the four digital access barriers infographic available on the Ontario Digital Literacy and Access Network (ODLAN) website.

ODLAN was founded by Hannah Maitland and myself on January 5, 2021. It is a pilot project inspired by the research for this MITACS project and has been used to disseminate and mobilize its findings. The initiative's mission is to remove digital literacy and access barriers by working with service providers to develop digital strategies that address challenges 2SLGBTQ+ communities face when accessing online service provisions (ODLAN, 2020a). This initiative currently prioritizes 2SLGBTQ+ older adults to improve their access to safe, inclusive, and affirming remote service provisions.

At the time of this study, all 10 service providers used Zoom to offer social programming (10/10). Several programs advertised their services on Facebook (7/10). One program used a talk show format that was live-streamed and recorded for public viewing on YouTube (1/10). Most programs were informal social gatherings that were not recorded for public viewing (9/10). Some organizations offered digital literacy support programs to help participants access their events with ease (2/10). All of the service providers used digital platforms for social gatherings, educational workshops, and networking (10/10). The following section will explain the four key digital divide barriers and how older 2SLGBTQ+ people have limited access to programs due to these barriers.

Connection Barriers

Older 2SLGBTQ+ adults facing connectivity barriers may not be able to access the programs designed for them and may suffer from isolation and factors related to their well-being and health. The Canadian Government refers to the determinants of health as a “broad range of personal, social, economic, and environmental factors that determine individual and population health” (Government of Canada, 2020). This includes employment, financial stability, social supports, resources, and the physical environment. With many essential social and economic connections moved online, access to the Internet became an increasingly important factor to meet these needs. However, an estimated 12% of Ontario’s population is living without reliable Internet access—with a large segment living in remote or rural spaces where telecommunications infrastructure is not up to date (Ontario, 2019). According to the Ontario government, “most residents in Ontario have access to the internet; however, the speed, quality, reliability and cost of each connection can vary significantly. And while many have access, some communities in rural, remote and northern Ontario lack broadband and cellular service altogether” (Ontario, 2019). In First Nations communities across Canada, it is estimated that only 30% of households have high-speed Internet connections (Canadian Radio-television and Telecommunications Commission, 2019; Stewart, 2020).

2SLGBTQ+ older adults who experience connectivity or hardware barriers can be unaware of how to locate and access remote service provisions. Connectivity barriers

include constraints such as relying on public resources or old hardware to access remote service provisions. In some cases, 2SLGBTQ+ older adults may own a device like a Smartphone, tablet, or computer, but their Internet bandwidth is limited or inaccessible. In other cases, the model of the device may be older and cannot run new software like Zoom and Google Hangouts. Old modems can limit Internet speeds, which can constrain an individual's ability to attend online programs that require high-speed Internet. While reliable high-speed Internet should be universally available, it continues to be a privilege that many cannot afford or access in the comfort of their homes. Many 2SLGBTQ+ older adults also require education and training on new hardware and software that can accommodate their needs and enhance their abilities to participate in remote service provisions. The 2SLGBTQ+ organizations reviewed in this study primarily relied on social media to promote their online programming, which they hosted using Zoom. Without affordable Internet, access to hardware, and education on how to use the devices and systems needed to engage in online programming, many will not be able to attend.

Some 2SLGBTQ+ organizations have implemented strategies to create more accessible, inclusive, and affirming spaces for 2SLGBTQ+ older adults experiencing barriers to digital spaces. These are primarily organizations that were not included in this analysis, with the exception of the AIDS Committee of North Bay. The Ottawa Senior Pride Network (OSPN) and Max Ottawa partnered to offer hardware lending for two- to four-week periods and older adults who require training on software can schedule one-on-one digital literacy support (Ottawa Senior Pride Network, 2022). Connected Canadians, another Ottawa based program, pairs mentors with all older adults across Canada to provide them with the training and knowledge to navigate the virtual world (Connected Canadians, 2018). They have partnered with organizations like the Rainbow Resource Centre to share their services with 2SLGBTQ+ older adults. In January 2021, The AIDS Committee of North Bay & Area launched a technology lending program. They purchased Samsung tablets to loan to 2SLGBTQ+ older adults living in North Bay (Di Benedetto, 2020). In addition to assisting community members through technology lending and literacy programs, organizations have also implemented initiatives to support volunteers and staff with eliminating their digital insecurities. This includes purchasing devices to enhance online participation or offering subsidies to offset Internet costs. More initiatives like these are necessary to ensure individuals stay connected with their work and communities.

Digital Literacy Barriers

Due to a lack of knowledge of new technologies that is more common among 2SLGBTQ+ older adults, they may experience anxiety, stress, or other negative emotions about becoming digitally literate. Technophobia refers to having negative or anxious thoughts towards technology and technological advances (Lagacé et al., 2015). Studies have shown that, in general, older adults are less likely to adapt to new technologies. Many continue to prefer in-person or phone conversations to socialize (Seifert et al., 2021). Technological self-efficacy is another term used to describe “the belief in one's own ability to use new technologies, or the anxiety with the new technology” (Lam & Lee, 2006; Tsai et al., 2015). In the United States, it is estimated that 27% of older adults aged 65 and older still choose to not use the Internet (Seifert, 2021).

Digital literacy can help older adults overcome technophobia, giving them autonomy over how they participate in the digital world and making them less susceptible to online phishing scams. Digital divide literature has shown that when older adults receive

technological support, they are more able to utilize and benefit from the Internet (Seifert et al., 2021). When this research was conducted, only two (2/10) service providers offered this support, making it likely that some 2SLGBTQ+ older adults would face barriers when accessing their remote services. 2SLGBTQ+ older adults require unique digital literacy support that educates them on how to find safe, inclusive, and affirming 2SLGBTQ+ social, medical, and housing services.

Environmental Barriers

Environmental barriers can exist in the place people perform their day-to-day activities. 2SLGBTQ+ older adults living in long-term care or relying on home-care may conceal their sexual orientation in order to avoid heterosexism, homophobia, or transphobia when receiving care (Brotman et al., 2007). They may also live with family or friends who are unaware of their gender and sexual orientation (Jonsson, 2021). Pre-pandemic, it was easier for 2SLGBTQ+ older adults to attend in-person social programs away from their residence, giving them the option to conceal their gender or sexual identity from residents or care-providers.

Personal privacy became limited when the pandemic began because now older adults were reliant on ICT to attend social gatherings, medical appointments, and mental health services. 2SLGBTQ+ older adults require safe physical environments before they can explore 2SLGBTQ+ remote digital programming. For this research, I describe a safe physical environment as an affirming, supportive, and accepting space where a person feels comfortable asking for assistance to access any services or online resources. This is a place where they are not fearful or forced to conceal their gender and sexual identity. For 2SLGBTQ+ older adults, the fear of outing themselves to caregivers, support workers, or even roommates can deter them from using remote service provisions during the pandemic. Without a safe place to attend 2SLGBTQ+ programs, it is unlikely that 2SLGBTQ+ older adults can regularly participate in these online spaces. These unique barriers must be considered when developing initiatives that focus on bridging the digital divide in 2SLGBTQ+ communities.

Pandemic Barriers

Pandemic barriers refer to how government stay-at-home orders halted public services like public libraries, community centers, computer labs, and coffee shops. These spaces traditionally have provided access to public Internet and devices for many communities, including older 2SLGBTQ+ adults. These were also places where they could review bulletin boards for community events and programs. When these spaces shut down, these communities became limited in their ability to connect to the digital world. In my personal experience working with social programs for 2SLGBTQ+ people, I encountered 2SLGBTQ+ older adults who had to stand outside a McDonald's or Tim Hortons to use the public Internet. In some cases, attendees expressed their frustration with having to rely on expensive data plans that limited their Internet usage. Public services are essential for providing low-income 2SLGBTQ+ older adults with ICT, and it is apparent that strategies to minimize the impact of closing these services were not considered on a provincial or federal level.

Service providers do have a duty to ensure both in-person and online services are accessible to all Ontarians. The Accessibility for Ontarians with Disabilities Act (2005) requires service providers to be accessible to everyone who chooses to use them.

Service providers with 50 or more employees have a duty to accommodate people with disabilities, which includes digital accommodations for online services and resources. In general, older adults are more likely to have hearing and vision impairments, so integrating technology that removes access barriers to digital programming is essential. By mid-2021, organizations accessibility support services like closed captioning, ASL interpreters, technology support, compassionate pricing programs, and hardware lending programs were added in an effort to remove digital literacy and access barriers.

Conclusion

Digital inequalities and inequities are emerging areas of interest that use an intersectional framework to identify how and why vulnerable communities are limited or excluded from the digital world. Pre-pandemic, digital literacy and access programs were already a necessity. Following the pandemic, reliable universal digital access has become an essential need for most people. 2SLGBTQ+ service providers must unite to combat the digital divide by improving their online programming so it can be more accessible to the populations it seeks to serve. This research describes why 2SLGBTQ+ older adults need unique support services and resources that allow them to attend social gatherings, see medical providers, attend therapy sessions, and stay up-to-date on global politics. Upon completing this research, we launched ODLAN in an effort to remove digital literacy and access barriers for 2SLGBTQ+ communities. This initiative has quickly flourished to help remove digital inequalities and inequities. Most recently, we received funding from the New Horizons for Seniors Program to curate a resource database that highlights digital literacy, hardware lending, and technology support services in Canada, including services and programming for 2SLGBTQ+ older adults. While this research and ODLAN have made great strides in improving digital access of 2SLGBTQ+ older adults, more work is needed to better understand how under-privileged communities experience the digital divide.

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Appendix


DIGITAL ACCESS BARRIERS

ENVIRONMENTAL BARRIERS




Privacy can be especially important for 2S-LGBTQ+ people and Some do not have a secure and safe space to participate in digital programming. Young people may live at home with homophobic/transphobic family.






2S-LGBTQ+ older adults living in long-term care or who rely on home-care may conceal their sexual orientation in order to avoid heterosexism, homophobia, or transphobia when receiving care.

CONNECTION BARRIERS




Accessing the internet is a luxury. Many Canadians are living without internet access. Some do not have the funds to access personal devices or set up an internet or cellular data plan. Others may live in remote areas that are beyond the reach of existing internet and data networks.




According to the Canadian Radio-Television and Telecommunications Commission (CRTC), only **40%** of rural areas have access to high-speed internet

.....





In First Nation communities, it's estimated that just **30%** of households have internet connections with the recommended speed

LITERACY BARRIERS




Some people can get online, but they can't navigate digital sources. Many people are not experienced internet users and may be unsure about how to find what they need. For many, it is hard to find information online that is written in their native language or speaks to their cultural context.






Others can have difficulty accessing resources because websites may be unintelligible to those with physical, or cognitive disabilities and online spaces are not always set up with disability access needs in mind.


PANDEMIC BARRIERS




The global pandemic heightened significant barriers to internet access. Public spaces like libraries and community centres that provide free access to wifi and devices have either been completely closed to the public or can only offer very limited services.



Canadians are turning to the internet for both community, education, and employment.



However, not all online spaces are safe. Inexperienced internet users may be vulnerable to scams, phishing attempts, and other predatory behaviour.


Learn more at <https://www.odlan.ca/>

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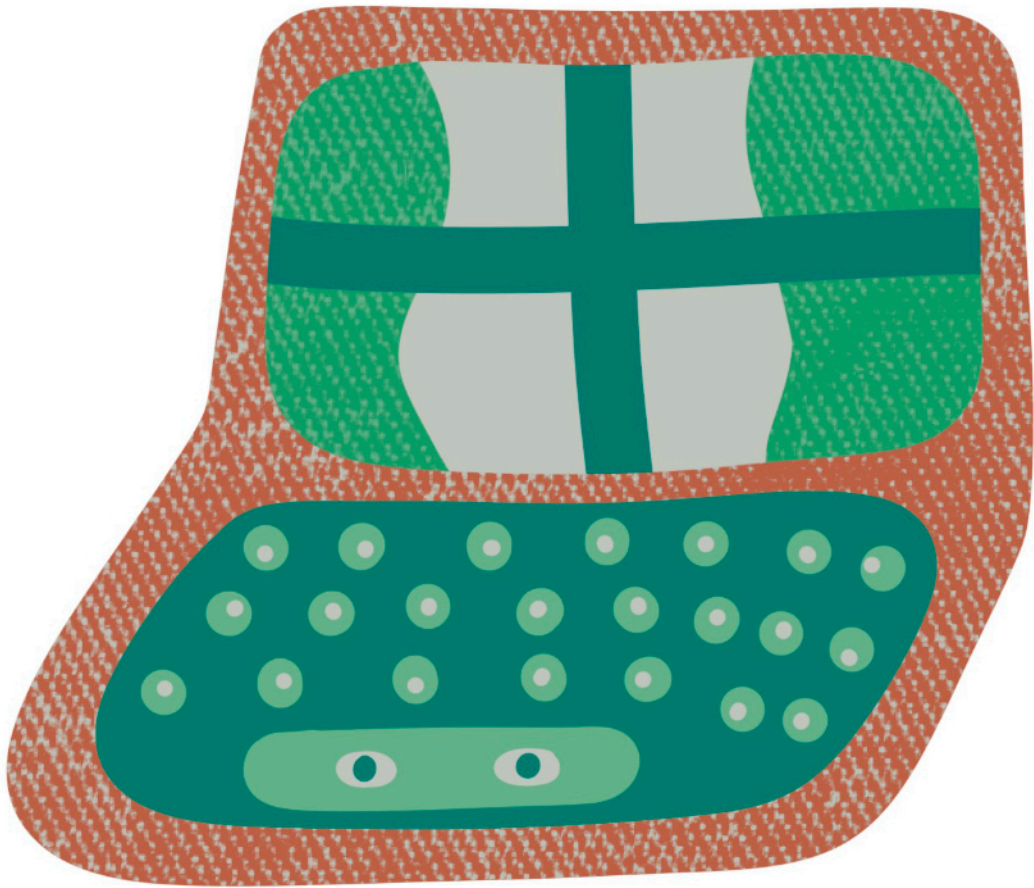
Created by: Viktor Zhuang

(ODLAN, 2020b)

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Pro-Pronouns

Gender Identities on Social Media, Video Conferencing, and Learning Platforms

**Michelle C. Liu, Brittany C. Singh
& Giovanni C. Giuga**

Abstract

This work advocates for the addition of an optional field for pronouns on social media, video conferencing, and learning platforms. Online platforms are indispensable during the COVID-19 pandemic and should present as safe spaces for all individuals. Developers can easily implement an optional field for users to select or input their pronouns as they would a phone number or a birthday. 2SLGBTQ+ members and allies have so far resorted to workarounds to declare their pronouns in online spaces. The workarounds are necessary because online platforms do not offer the means for users to declare their pronouns in a designated field. This study examined the registration process and user profile settings of nine social media platforms (Facebook, Twitter, Instagram, TikTok, Snapchat, YouTube, WeChat, WhatsApp, and LinkedIn) and six video conferencing and learning platforms (Zoom, WebEx, Microsoft Teams, Google Hangout, D2L, and Adobe Connect). At the time of this study, Facebook was the only one out of the 15 platforms to offer a pronouns field. The study therefore examined the possibility of including pronouns in the display name (or last name) field, namely in the parentheses-slashes format of “(subject/object/possessive)”. The parentheses-slashes workaround is possible on most platforms but does not replace the need for developers to incorporate a dedicated field for pronouns.

Why Pronouns?

Persons and communities of Two-spirit, lesbian, gay, bisexual, transgender, Queer and more identities (2SLGBTQ+) has led and witnessed active efforts to combat institutional and structural mechanisms of oppression in the last decade. In 2012, Ontario became the first province to protect gender identity and expression via An Act to amend the Human Rights Code with respect to gender identity and gender expression (Toby’s Act, 2012). On December 16, 2020, the Supreme Court of British Columbia and British Columbia Court of Appeal began requiring the declarations of pronouns to the judge (Hinkson, 2020; Pardy, 2021; Bauman, 2019).

An unprecedented number of individuals and organizations are relying on online platforms to carry out day-to-day activities due to COVID-19. The marginalization of 2SLGBTQ+ individuals is further facilitated by the absence of face-to-face nuances, such as body language. Pronouns provide a mechanism for an individual to affirm their gender identity, if they wish to, and for allies to do so in solidarity. Indeed, pronouns usage has grown significantly in online spaces in the past decade (Thoroughgood et al., 2020; Wareham, 2019). In 2014, Facebook became the first (and only) major social media platform to enable users to select their pronouns and their gender from a list beyond male, female, and others (Associated Press, 2015; Constine & Crooke, 2015).

Pronouns in the virtual environment are crucial for achieving equality and inclusion for those who identify as 2SLGBTQ+, notably transgender, non-binary, and gender-diverse

individuals. With the onset of COVID-19, an unprecedented number of individuals and organizations rely upon online platforms to carry out day-to-day activities. Implementing an additional field likely comes at an insignificant cost to developers of online platforms given the financial benefits that these developers have reaped from the pandemic.

Literature Review

The use of pronouns can be dated as far back as the 12th and 13th centuries (Italie, 2018), illustrating the existence of a long history of gender classification and identification through pronouns. Gender-neutral pronouns have been discovered as originating from as far back as the year 1375, with examples, such as “ze” and “thon” originating in the mid-1800s (Moran, 2020).

Dennis Baron is among the handful of authors who have written about the history of pronouns usage. He noted that pronouns have played an important role “in establishing our rights and identities” (Heckel, 2020). In recent history, courts and governments debated whether the generic use of “he” in the criminal code included women (Heckel, 2020). The answer was yes—women were included. Suffragettes then argued that if women were included in the “he” in the criminal code, they should be included in the “he” of the Constitution and given the right to vote (Heckel, 2020). The significance of pronouns in our society is undeniable.

Pronouns can serve as a tool to mitigate assumptions about individuals who identify as transgender, non-binary, or gender diverse (Caporimo, 2020). More people are also using pronouns as an active expression of their identities (Chak, 2015). The word “they” was named 2019 Word of the Year by Merriam-Webster Dictionary, with a 313% increase in its usage across the internet that year (Merriam-Webster Dictionary, 2019) reflecting the surge in gender expression via pronouns. However, the increased usage of the word “they” and other pronouns online is likely motivated by user data collection, advertising, and revenue opportunities, rather than by the need to promote inclusion and safe spaces (Bivens & Haimson, 2016, p. 3).

The systemic barriers of the physical world are mirrored and sometimes exacerbated in the online environment (Robards, 2018). Solutions are urgently needed as 2SLGBTQ+ persons are increasingly open about their sexual orientation and gender identities when online. The internet has a longstanding history of being a place for 2SLGBTQ+ persons—especially youth—to express their queer identity and engage with queer communities (Fox & Ralston, 2016; Hanckel et al., 2019; Hanckel & Morris, 2013; Cipolletta et al., 2017; Taylor et al., 2014). However, without greater inclusion efforts, the online environment can become a source of symbolic power against the 2SLGBTQ+ community (Venzo & Hess, 2013). Symbolic power creates “[o]ppression in the form of ‘invisibilization’” (Bourdieu, 2001, p. 119) and should actively be addressed and denounced in online spaces.

Many popular platforms and applications occupy a substantial market share of different online spaces. These platforms enable an “institutional discourse” by setting up “positions for people to talk from and restricts some speakers’ access to certain kinds of discursive actions” (Thornborrow, 2002, p. 4). For 2SLGBTQ+ persons of any age, it would likely come as no surprise that heteronormative power structures persist within online social environments where they can face homophobic comments (Hanckel et al.,

2019, p. 1275; Pascoe & Diefendorf, 2019), cyberbullying (Nygaard, 2014; McConnell, 2017), or must consider managing their online identity (see also Taylor et al., 2014). Similarly, mainstream advertisement in popular online platforms has curated a more acceptable kind of 2SLGBTQ+ identity—defined as homonormativity—in response to the heteronormative paradigm (Nolke, 2018).

The COVID-19 pandemic has required many people to work or attend school from home and only socialize virtually (Wold, 2020). This means that more individuals are online now than ever (Wold, 2020), including more 2SLGBTQ+ persons for whom accurate self-representation is important. For example, some 2SLGBTQ+ youth have found that representation and online support have relieved some of the stressors that they experience due to the pandemic, such as being “stuck at home with unsupportive parents” (Fish et al., 2020, p. 1). With COVID-19 magnifying the social and health inequities within society (Dorn et al., 2020, p. 1243), online platforms are an easy avenue for users to express their gender identity.

Pronouns researchers have studied different environments in recent years including email signatures (Larson, 2018), classrooms (Norris & Welch, 2020) and postsecondary programs (McInroy et al, 2014). Other researchers have explored gender identity on social media platforms. For example, Bivens and Haimson (2016) identified social media platforms as being in control of genders through categorization systems. Lissitsa and Kushnirovich (2020) found that exposure to various gender identities via social media increased positive attitudes towards 2SLGBTQ+ individuals. Recent news articles and commentary have also explored this issue and advocated for pronouns inclusion on social media profiles and workplaces (Thoroughgood et al., 2020; Wareham, 2019; Newman, 2020; Gelpi et al., 2020; Segrest, 2020).

The above literature review identified a gap surrounding pronouns usage on social media, video conferencing, and learning platforms. This study aims to bridge the gap by analyzing the opportunities to express pronouns on 16 online platforms.

Methodology

This research was conducted in 2020-2021. Nine social media platforms were selected from a list of most-used platforms in Canada (The Strategic Counsel, 2020). The six online video conferencing and learning platforms examined increased in popularity due to widespread work-from-home arrangements (Orol, 2020; Molla, 2020). The chosen platforms were Facebook, Twitter, Instagram, TikTok, Snapchat, YouTube, WhatsApp, WeChat, LinkedIn, Zoom, WebEx, Microsoft Teams (MS Teams), Google Hangouts, Desire2Learn (D2L), and Adobe Connect. This list comprises a significant share of each platform’s market type but is not exhaustive. The 16 platforms are all free or accessible for many Ontario secondary or post-secondary students (Peters, 2021; D2L, 2016; D2L, 2021; Beckett & Giguere, 2018).

The homepage of each platform was accessed via search engine queries (i.e., Google search). The “Sign Up” button was available and highly visible on the homepage of each platform, though the exact location varied from platform to platform (e.g., top right corner, centre, etc.). Clicking the “Sign Up” button called up a brief form to collect a combination of the following user information, depending on the platform: name, username, date of birth, email, phone number, region, and agreement to terms of use and privacy policies.

The project initially sought to present the percentage of platforms that had a designated pronouns field in the registration process. An account was created on each platform so that profile settings could be examined for pronoun inclusion possibilities. The sign-up form and profile settings page of each platform was examined for these attributes.

After failing to locate a pronouns field in 14 of the 15 platforms, the focus shifted to character limit and the allowance of special characters in the name (or last name) field. Users on most platforms have resorted to declaring their pronouns in the Name or Last Name fields of their social profiles in the form of “FirstName LastName (they/them/theirs)” (See e.g. Masure, 2018). Most common roadblocks to this concatenation method include character limits and the prohibition of parentheses and slashes in the display name. Character limits can prevent users with longer names from concatenating their pronouns after their name. Restrictions on special characters require users to deviate from the parentheses-slashes convention seen in recent years (Gallet, 2019). This study only considers the parentheses-slashes convention for pronouns declaration.

Results and Discussions

At the time of this work (2020-2021), Facebook was the only platform of the 16 studied that allowed users to voluntarily choose non-binary pronouns (only “they/them”) in the registration process and subsequent profile settings. Facebook was also the only platform that provided gender identification options beyond Other, Female, and Male and allows user to select any combination from a list of 10 genders: agender, androgynous, androgynous, bigender, cis, cis female, cis male, cis man, cis woman, and cisgender. Figure 1 shows an example in which two genders and neutral pronouns are selected, and Figure 2 shows an example of the information that would be displayed in a Facebook user’s About > Contact and Basic Info section of their profile. A user could also select the visibility of their gender(s) and pronouns from the Select Audience list common across Facebook: Public, Friends, Only Me, and Custom.

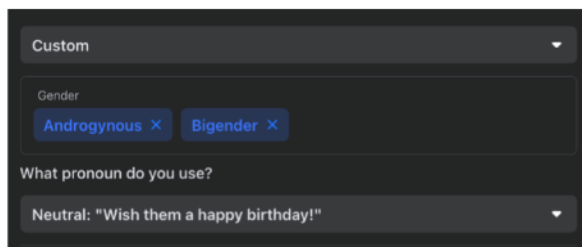


Figure 1. Selecting genders and pronouns on Facebook (Facebook, February 19, 2021)

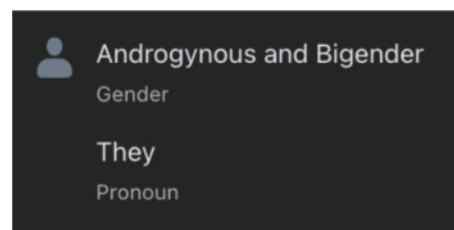


Figure 2. How Facebook Displays Selected Genders and Pronouns on Profiles (Facebook, February 19, 2021)

Parentheses-Slashes Convention

Table 1 shows that special characters can be included in the Last Name or Name field of most platforms. Special characters facilitate the inclusion of pronouns in the parentheses-slashes format, provided the character limit is sufficiently high. Twitter, Instagram, TikTok, Snapchat, WhatsApp, Weixin/WeChat, and LinkedIn allow special characters while Facebook and YouTube do not.

For example, Snapchat users can change the value of their First Name and Last Name fields in the Edit Name window (Figure 3). This presents the opportunity to indicate pronouns in the parentheses-slashes format. Similarly, Instagram users can display their pronouns in the parentheses-dash format, either in the Name field of their profile or in their Biography, which is located just below Name on a user’s Instagram page (Figure 4). TikTok users can also use the parentheses-dash format to display their pronouns in the Name section but are limited to 30 characters (Figure 5).

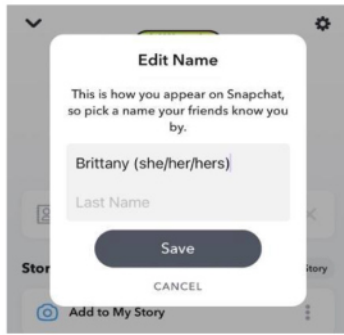


Figure 3. Pronouns in First Name Field on Snapchat (Snapchat, February 19, 2021)



Figure 4. Pronouns in Name Field on Instagram (Instagram, February 19, 2021)

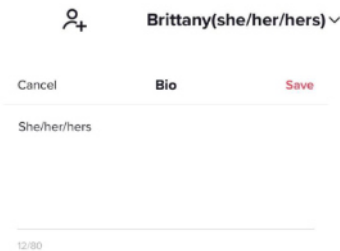


Figure 5. Pronouns in Name (left) and Bio (right) fields on TikTok (TikTok, February 19, 2021)

Distance learning and video conferencing platforms exhibit mixed special character permissions. Zoom, WebEx, and Adobe Connect allow users to add special characters to their Display Name while MS Teams, Google Hangout/Meet, and D2L do not. YouTube and Google Meet require a central Google account profile across platforms that prohibits special characters.

D2L and MS Teams are generally accessed using institutional accounts with centrally controlled First Name and Last Name fields (which are not editable by individuals). The character limits of Last Name fields on WhatsApp, Snapchat, and Instagram are relatively short and could hinder the pronouns usage of individuals with longer names.

Open Authorization

Social media users have come to expect the option to sign up to use a new platform by connecting to an existing Facebook, Apple, or Google account. Open authorization (OAuth) is the standard process by which companies like Facebook allow third-party websites to retrieve select information from an existing Facebook account. For example, a user who clicks on “Sign up with Facebook” on the WeChat registration page will be automatically directed to Facebook to view/select the pieces of information that will be shared with WeChat and to agree to the information transfer. The user will then be directed back to the WeChat platform to begin using its services.

As of February 2021, 10 of the 15 selected platforms use OAuth in the sign-up process, with Facebook and Google being the dominant OAuth providers. The distribution is shown in Table 2.

OAuth providers have significant control over the types of information that third-party (and often smaller) sites can collect in the OAuth process. OAuth providers also influence the types of information that third-party sites choose to collect. Third-party sites generally will collect any data allowed by the OAuth provider and the user given the high value of user information in marketing and advertising (Baca, 2019). By this logic, more websites would be more likely to adopt a pronouns field if major OAuth providers adopted a pronouns field and shared this information during the OAuth sign-up process.

	<i>Pronouns field in the registration or profile?</i>	<i>Special characters allowed in Display/Last Name field?</i>	<i>Character limit in Display/Last Name field?</i>
Social media, networking, and sharing platform			
Facebook	✓		50
Instagram		✓	30
LinkedIn		✓	40
Snapchat	No	✓	30
TikTok	No	✓	80
Twitter	No	✓	50
WeChat / Weixin	No	✓	40
WhatsApp	No	✓	25
YouTube	No**	No**	73
Distance learning and video conferencing and learning platform			
Adobe Connect	No	✓	500+
D2L	N/A*	N/A*	N/A*
Google Meet	No**	No**	500+
Teams	No	N/A*	N/A*
Webex	No	✓	500+
Zoom	No	✓	64

Table 1. Ability to Insert Pronouns into Profile Names Across Platforms

* Unable to edit or change because student account tied to post-secondary administration.

** Google and its products are tied to a single Google Account.

	<i>Pronouns field in the registration or profile?</i>	<i>Special characters allowed in Display/Last Name field?</i>	<i>Character limit in Display/Last Name field?</i>
Social media, networking, and sharing platform			
Facebook	✓		50
Instagram		✓	30
LinkedIn		✓	40
Snapchat	No	✓	30
TikTok	No	✓	80
Twitter	No	✓	50
WeChat / Weixin	No	✓	40
WhatsApp	No	✓	25
YouTube	No**	No**	73
Distance learning and video conferencing and learning platform			
Adobe Connect	No	✓	500+
D2L	N/A*	N/A*	N/A*
Google Meet	No**	No**	500+
Teams	No	N/A*	N/A*
Webex	No	✓	500+
Zoom	No	✓	64

Table 2. OAuth (Open Authorization Provider) Usage of the 15 Platforms

Conclusions and Recommendations

More online platforms should incorporate an optional pronouns field in their registration form and/or profile settings. Only one of the 16 analyzed platforms currently allows users to select from male, female, and non-binary pronouns. The other 15 platforms make no mention of pronouns in user profiles.

In light of this user interface gap, individuals who wish to express their pronouns have resorted to typing out their pronouns in the parentheses-slashes format in various fields of a profile: Name, Display Name, Last Name, Bio, and Description. Most platforms allow pronouns in the parentheses-slashes format to be entered into these fields, but this convention remains a workaround.

The awareness of this workaround is user-dependent, as is the willingness to type out pronouns in the parentheses-slashes format. While there is no certainty that users

would be more willing to take the time to use a dropdown menu (for example) to indicate their pronouns, it is a less time-consuming option.

This study calls on developers to augment their platforms by making space for pronouns. Developers have the ability to allow billions of internet users worldwide to better express their gender identities. To this end, our key recommendations are:

1. User interface studies should be consulted to understand whether process simplification in fact leads to more user buy-in.
2. Social media, video conferencing, and learning platforms should adopt optional pronouns fields in the registration form to encourage usage and build awareness.
3. Social media, video conferencing, and learning platforms should adopt a more complete list of gender options if collecting gender information.
4. Social media, video conferencing, and learning platforms should adopt the option of displaying pronouns and gender on profiles (or the equivalent section).
5. Major OAuth providers should adopt a pronouns field in the registration process and/or profile section of a user account.
6. Major OAuth providers should make pronouns information a default (with user consent) piece of shared information to third-party sites.
7. A pronouns field and a complete list of gender options should be made available in every language that a platform offers.

Instagram, Twitter, Zoom, LinkedIn, WebEx, and D2L have added a pronouns field since the initial submission of this work in March 2021 (Friend 2021; Steward 2021; LinkedIn 2022; Dongre 2022; D2L 2022). This movement, albeit gradual, is positive given that exposure to someone's pronouns online leads to greater adoption of the practice of using pronouns (Jiang et al., 2022) and, therefore, greater inclusion of 2SLGBTQ+ persons in society.

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Emojis as Autoethnography

Emily Macrae

Abstract

Emojis both represent and restrict images of home. Drawing on her own experiences as a disabled renter living in Toronto, the author aims to interrogate how the emojis people share shape their ideas of home. Cities and towns across Canada have grown beyond the stereotype of peaked-roof homes, sprouted condos that accelerate capital accumulation and overflowed into tents as decision makers and neighbours alike refuse to allocate resources to meet all residents' needs. The imagery of digital communication has not caught up with these changes, nor does it reflect ongoing tensions over who has a right to live where. In contrast, recent additions to the emoji lexicon prioritize representing a range of relationships and culinary traditions. This essay extends those trends into a reflection on personal strategies to create and communicate home. Instead of relying on the symbols of shelter that emojis offer, food emojis structure reflections that sit at the intersections of sustenance, space and community.

Introduction

As I was moving into my Toronto apartment in August 2016, Jennifer Lee and Yiyang Lu were campaigning to have a dumpling emoji recognized by Unicode. In March 2017, the industry group responsible for the consistent encoding of characters approved the dumpling along with 55 other new icons (McCracken, 2017).

Lee and Lu's project is part of a larger push to expand who and what emojis represent. In 2021, 217 new emojis were introduced to digital devices (Burge, 2020). Many of the new characters expand the range of skin tones available for all variations of the Couple with Heart emoji. The updates hint at one of the purposes of posting tiny pictures: communication is about relationships but relationships are impossible without representation. Emojis allow people to express their relationships, but people are limited to the emojis made available to them.

Digital depictions of food remain central to which communities are represented online. In suggesting designs for a dumpling emoji, Lee and Lu deliberately proposed an image that could stand in for anything from Georgian khinkali to Tibetan momos. For me, the dumpling emoji captured my quest to fold perfect pierogi and recreate my grandmother's cooking. More recently, emojis for a gourd of mate and a plate of falafel have been added to include other culinary traditions.

Emojis for food represent more ideas with greater nuance than emojis for buildings, which are much more limited in their selection: 🏠 A home is more than a house with a sloped roof or a lit window in an otherwise anonymous skyline 🏙️. Tents aren't just for camping trips, they're for claiming spaces in cities where passersby avert their eyes 🏕️.

Even though emojis are growing faster than the Oxford English Dictionary (Pardes, 2018), this expanding visual vocabulary doesn't reflect the realities of finding and keeping a home in Canadian cities. In Toronto alone, rents have rebounded as the pandemic persists (Gibson & Kalinowski, 2021), landlords are sharing data without tenants' consent

(Hauen, 2021) and encampments are being pushed to the fringes (Gibson, 2022). Instead of relying on the simple symbols of shelter that emojis provide, this essay traces my experiences as a renter creating homes through the food I've shared and the relationships I've built. I use a variety of food emojis to centre these experiences that sit at the intersections of food, space, and community.



Tangerines in net bags and granola bars in green boxes. I added the donations to a table already covered with apples, baby carrots, cookies, and rice crackers.

It was Day 9 of the Black Lives Matter Tent City in front of the Toronto police headquarters in March 2016. The encampment was built on years of organizing by Black leaders and responded to ongoing police brutality including news that there would be no criminal charges (CBC News, 2016) for the cop who fatally shot South Sudanese refugee Andrew Loku (Robertson et al., 2020).

Rushing between a day at work and an evening in class, I had stopped at the grocery store to buy supplies because I knew from my own experiences that a movement can't run on timbits alone.

The previous winter, timbits had offered a boost for teaching assistants like me and other unionized workers picketing outside University of Toronto buildings. After working without a contract for more than 10 months, negotiations broke down over the lack of a guaranteed funding package for graduate students leading labs, marking papers, and teaching classes (CBC News, 2015).

On bus rides back from shifts striking at the Mississauga campus or rallies at York University, sour-cream glazed morsels dissolved into headaches and hanger. I knew the encampment would need the fuel of packaged protein and the energy burst of fresh fruit to endure days of sub-zero weather.

The snacks I dropped off were minor compared to the nourishment Black Lives Matter Toronto coordinated for the tent city. Volunteers not only cooked meals and cleaned the site but shared skills in trauma-informed mental health supports (Battersby, 2016).

Even after the encampment disbanded, Black Lives Matter Toronto supported Indigenous occupations of federal government offices and foreshadowed the growth of tent cities when the COVID-19 crisis collided with the housing crisis (Da Silva, 2016). Although I dropped off groceries months before moving into my current apartment, seeing the way that food steeled the protestors against winter weather and police violence showed me how sharing meals turns strangers into neighbours.



Bagels sliced on a plate, spreads stirred in bowls, carrots grated for salad. The table was spread for brunch, a primary-coloured tablecloth barely visible between serving dishes.

I lugged a collapsible ramp out my door and took the elevator down to wait for my mentor.

In our year of friendship, she had already welcomed me to her own spacious apartment, attached at concourse level to stores and a cinema so that she didn't have to navigate snowy sidewalks with her canes.

As disabled women we got together to talk about the ableism we observed and the leadership needed to change everything from doctor's assumptions about quality of life (Mohler, 2020) to the representation of autism in the arts (Rowe, 2020). But my mentor also believed in celebrating accomplishments, so a few weeks after I signed the lease on a one-bedroom apartment in a yellow brick building she invited herself over to see the place.

As she turned her mobility scooter up the path to my new address, I bent to unfold the ramp. Metal slats bridged the step between the mid-century modern entrance and the sunlit walkway. Before testing the structure, we hugged. My squeeze was as much an "I hope it holds" as "I've missed you."

My mentor wore lipstick the colour of the pot of chrysanthemums tucked into her scooter's front basket. In the lobby she angled and adjusted her scooter. Once, twice, three times. Not enough room to turn into the elevator.

"That's why I always bring my canes."

Finally inside my unit, door closed and ramp stowed, she explained to me how to bring two cushions from the couch to pad the kitchen chair where she would sit. Enscorced in our seats we ate our way through bagels and salads and coffee and pastries.

From the front stoop to the garage sale furniture, I was embarrassed that every aspect of the apartment I was so proud of inconvenienced my guest. These are the kinds of oversights that disabled people are forced to navigate every day in order to create our homes.

Yet the problem is not unique to the building I live in. Postwar apartment buildings like mine make up almost half of Toronto's rental housing stock and one third in the surrounding urban region (E. R. A. Architects et al., 2010, p. 2). These apartments are home to at least one million people yet the buildings are slipping into disrepair.

Accessibility is not the only issue. In 2018, an electrical fire caused by dated echnology displaced 1,500 residents from a Toronto high-rise for one-and-a-half years

(Rodrigues, 2020). Ensuring that everyone has a safe place to live requires reinvesting in rental housing and centring the needs of tenants rather than the profits of property management companies.



Pizza was a constant at Civic Tech Toronto’s weekly meetups (Civic Tech Toronto, n.d.). Although the location rotated among spaces donated by tech companies, academic institutions, and government partners, dinner was always on the agenda of the events that brought together volunteers with passions for web development, inclusive design, public policy, racial justice, participatory budgeting, and digital sovereignty.

Entering a room full of strangers was less scary when everyone was loading up on pizza. I arrived at Civic Tech Toronto in the spring of 2017 with no coding skills but a lot of questions about what buzzwords like “open data” and “user experience” meant for public services and public spaces. Joining conversations at weekly events and later on Slack showed me how automating processes or building a mobile-first website can shape transit planning (Lee & Puhakka, 2020) or shelter capacity (Brown, 2019). The more I listened, the more I learned that technology is not neutral (Green, 2019).

But Civic Tech Toronto also showed me how emojis can create a culture. Not only are emojis used to flag job postings or vote on decisions, they also celebrate accomplishments and extend gratitude. The dancing penguin and the party parrot were two common ways to express enthusiasm when I first joined Civic Tech Toronto’s Slack. More recently, all variations of rainbows have become another favourite.

Although meetings have transitioned online without interruption since the outset of the pandemic, the pizza emoji is now bittersweet. Instead of exchanging greetings over boxes of takeout in a downtown boardroom, we now cook and eat in front of our computers, suggesting recipes for muffins as we catch up on the week and recommending which grocery stores are well stocked with staples as we wait for presenters to share their screens. Even if we can’t share meals, enthusiasm for food keeps the conversation cheerful as we grapple with how to model COVID infections (Tufekci, 2020) and support mutual aid networks (Neighbourhood Pods Toronto, 2021).



Kale started sprouting in the shadow of a bank near my home in June 2020. A sign explained the vegetable garden was sponsored by an international property management company and the harvest would be donated to a local food security organization. I was skeptical of another corporate social responsibility sideshow but curious about the possibilities of collaboration as foodbank use spiked.

A few weeks prior, Not Another Black Life had partnered with another food security organization – FoodShare Toronto – to offer food deliveries to Black families self-isolating following the Justice for Regis March on May 30 (Neuhaus, 2020). This attention to the tension between staying home and showing up was only one example of how organizers from Not Another Black Life demonstrated care in the context of COVID-19.

Pushing my bike to the starting point of the protest, I picked out other marchers by their black clothing and the occasional placard, but above all by their masks. Masks were not yet mandatory in Toronto but everyone I saw at the march wore one, and organizers filtered through the crowd offering sanitizer and masks to anyone who needed them.

Organizers created safety at every point along the march, including rerouting to avoid counter-protestors at the legislature. We ended up at the police headquarters where four years earlier Black Lives Matters Toronto had served hot meals to the tent city in conditions 20 degrees colder. While the tent city had nourished a community, Not Another Black Life’s partnership to provide food deliveries not only enabled self-isolation of protestors, but centred around culturally-appropriate food (Not Another Black Life, n.d.; see also BlackFoodToronto, n.d.).

The leafy greens emoji approximates many vegetables but represents none: not the hipster-inflected kale or the Afro-Caribbean callaloo; not the buckets of fresh molokhia at the Lebanese supermarket or the cabbage that I stew into kapuśniak. In my own neighbourhood I saw how the absence of a shared visual vocabulary for comfort food complicates efforts to feed one another.

The garden in front of the bank ultimately produced 400 pounds of produce—ranging from arugula to peas—for the non-profit partner. In the fall, once the last of the vegetables had been gathered, ornamental planters appeared outside the office building. Although the summer’s edible landscaping purported to “support community wellness and enhance urban biodiversity,” I was disappointed to see the autumnal arrangements did not show the same respect for food.

Each winter I create warmth by cooking cabbage, so it stung to watch the frilly cabbages that punctuated the planters outside the bank wilt then go to waste. There was no colourful sign to celebrate the vegetables’ nutritional value or a corporate plan to redistribute the ingredients. Partnerships supporting protestors prove it’s possible to supply food that strengthens cooking traditions, but other approaches to urban agriculture create a hierarchy of vegetables worth harvesting.



Eggs. My neighbour couldn’t eat them during a pre-Christmas fast so she cooked up a batch of custard and brought a bowl to my door. The knock was a surprise after months of isolation, but the rich, warm pudding was what my body needed after hours outside.

It was early December 2020 and I had spent the afternoon with the York South-Weston Tenants’ Union protesting evictions in the midst of a pandemic (Poisson, 2020)

and drawing attention to loopholes in the rules that apply to renters (ACORN Canada, 2020).

My awareness of tenants' rights sharpened over the course of the pandemic. It started with balcony replacements at my apartment. Just days after the property management company put up Health Canada posters warning about a novel virus, my neighbours and I received notice that work would continue on our building.

After the balconies came sloppily painted hallways and finally the installation of new windows that required access to every unit. With each new round of invasive upgrades and every batch of workers entering and exiting the building my fear increased. Were the contractors wearing masks as they worked indoors? Would the building's analogue ventilation system spread the virus? When would management announce a rent increase? How much more would we have to pay?

Throughout the renovations, I found reassurance texting back and forth with the same neighbour who later brought me custard. We reminded each other of water shut-offs, complained about the mess, shared updates on public health guidance, and exchanged photos of our plants and cats.

By November, after more than a year of disruptive construction, we decided to extend the reach of our messages and invited neighbours to meet virtually and share concerns. By that point in the pandemic, Ontario's Landlord and Tenant Board was processing a backlog of eviction applications relying on online hearings (Farha & Brierley, 2020), some of which lasted only minutes (Raza, 2020). As renters struggled with inequitable access to technology and lost income, the need to support one another was clear.

At my building, we created a group chat where neighbours compare notes about tenant insurance, laundry prices, and repair requests. The group chat is also a forum to ask for help. One Sunday morning, a neighbour who spoke passionately at meetings about "privatizing the profits but socializing the costs" of renovating old apartment buildings like ours turned up at my door with a mask and power tools.

He quickly fixed my blinds and chatted about using the same tool to hang baskets of plants for his partner in their unit. Although I didn't have any baking to share, I thanked him with clippings of a plant that roots easily and cascades from any container. As neighbours, we help our units grow into our homes.



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About the Author

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Artificial Intelligence in Canada and Equality

Algorithmic Discrimination and Section 15(1) of the Charter

Lucia Flores Echaiz

Abstract

In Canada's public sector, AI systems are beginning to be used or are planned to be used in areas such as immigration, employment insurance, and policing. While AI systems have been praised by several actors, there has been increasing concern about the ethical and legal risks they pose, particularly in relation to equality and discrimination. This paper explores the question of algorithmic discrimination from the perspective of Canadian discrimination law. More specifically, this paper investigates how the current framework of the right to equality as protected by section 15(1) of the Canadian Charter of Rights and Freedoms would be applied in cases of algorithmic discrimination. Covering the conceptual framework, the first section presents the concept of intersectionality. The second section delves into the phenomenon of algorithmic discrimination, exploring the ways in which AI systems, and in particular machine learning algorithms, can reproduce historical injustices as well as how the phenomenon relates to discrimination theory and intersectionality. The third section presents real cases of AI systems in the Canadian public sector, and the fourth section examines the current two-step framework of section 15(1) and the challenges that may arise in cases of algorithmic discrimination. The paper suggests that an intersectional approach should be adopted in the framework of the Charter to provide a more comprehensive analysis of discrimination cases involving AI systems.

This chapter has been through a double-sided peer review.

Introduction

Artificial intelligence (AI) has an overarching presence in our lives. In particular, machine learning algorithms are being increasingly used in several sectors such as employment (Kim, 2017; King & Mrkonich, 2015), policing (Brantingham, 2018; Brayne, 2017; Ferguson, 2017) and immigration (Ajana, 2015; Molnar & Gill, 2018) to name a few. This has prompted the emergence of a growing literature examining the ethical issues related to the development and implementation of these systems. This academic and policy-making field by the name of AI ethics analyzes how AI systems pose threats notably in terms of discrimination, privacy, accountability, and human autonomy (Fjeld et al., 2020; Mittelstadt, 2019; Montreal Declaration, 2018; UNESCO, 2021).

Indeed, although AI systems have been presented as neutral and objective (Birhane, 2021; Busuioc, 2021; Lee, 2018; Prietl, 2019), in recent years, researchers have increasingly challenged this assumption and shown how algorithms perpetuate social injustices (Eubanks, 2018; Noble, 2018; O'Neil, 2016; Prietl, 2019). Filtering algorithms over-censoring LGBTQ+ content (Anderson & Roth, 2020; Bronstein, 2020), Amazon's (discontinued) hiring system penalizing women's applications (Dastin, 2018) and a recidivism risk assessment system widely used in the United States biased against Black defendants (Angwin et al., 2016; Osoba & Welser, 2017) are some of the examples that have come to light regarding machine learning and its impact on equality. This

phenomenon is often called algorithmic discrimination (Blass, 2019; boyd et al., 2014; Cofone, 2019; Hacker, 2018; Gangadharan & Niklas, 2019) or algorithmic bias (Bellamy et al., 2018; Xiang, 2021).

There are several articles analyzing algorithmic discrimination in the context of American antidiscrimination law (Barocas & Selbst, 2016; Bornstein, 2018; Kim, 2017; Packin & Lev-Aretz, 2018; Xiang, 2021) and European anti-discrimination law (Hacker, 2018; Wachter et al., 2021; Xenidis, 2020; Zuiderveen Borgesius, 2020). Recently, some scholars have analyzed this issue from a Canadian human rights law perspective (Burkell & Bailey, 2018; Henderson et al., 2022; Krishnamurthy, 2021). However, there is less discussion on how the analysis of the right to equality as protected by the Canadian Charter of Rights and Freedoms (Charter) would be applied to cases of algorithmic discrimination (Robertson et al., 2020; Scassa, 2018).

The aims of this chapter are to define and explain algorithmic discrimination and its relation to discrimination theory and intersectionality, and to place these reflections in a Canadian legal context, namely in the context of the right to equality as protected by s. 15(1) of the Charter. The discussion is structured as follows: the first section present the conceptual framework of this chapter, notably the framework of intersectionality; the second section will offer an in-depth discussion of the phenomenon of algorithmic discrimination; the third section will present some examples of AI systems in Canada; and the fourth section will present the current framework of s. 15(1) and explore how it applies to algorithmic discrimination. It should be noted that the scope of sections four and five is limited to the government's use of AI systems, since the Charter only applies to governmental action.

Conceptual Framework

First, let us begin by briefly situating the literature that has informed the argument of this chapter. Legal scholarship regarding s. 15 (Koshan, 2021; Sealy-Harrington, 2021; Watson Hamilton & Koshan, 2016) has been helpful in building the author's understanding of the current interpretation of this provision. The Supreme Court of Canada's s. 15 jurisprudence is central to this chapter's analysis. Furthermore, since the phenomenon of algorithmic discrimination has multidisciplinary ramifications, the literature consulted covers scholarship from STEM¹ (Cabrera et al., 2019; d'Alessandro et al., 2017; Mitchell et al., 2021) philosophy (Fazelpour & Danks, 2021; Hu, 2021; Kasirzadeh, 2022), law (Barocas & Selbst, 2016; Burkell & Bailey, 2018; Cofone, 2019; Zuiderveen Borgesius, 2020) and sociology (Joyce et al., 2021; Prietl, 2019). Also, in order to explore the meaning of discrimination, this chapter draws from legal theory and political philosophy on the topic (Khaitan, 2015; Lippert-Rasmussen, 2014; Réaume, 2013).

Second, this chapter is grounded in an intersectional perspective. Intersectionality is an analytic tool that helps us understand the complexity of the world and human relations and experiences (Hill Collins & Bilge, 2016). Recognizing that the events and conditions of social life are not shaped by one sole factor or axis, intersectionality examines how categories such as race, class, gender, sexuality, and disability exist in relation to systems of oppression and how they interact and shape reality.

¹ Science, technology, engineering, and mathematics.

Before covering the academic roots, it is worthwhile to stress that intersectional thought and praxis, while not being named as such, has been around for more than a century in social movements and other types of activism. For example, one can see the 1840s “Ain’t I a Woman” speech by abolitionist feminist Sojourner Truth as a powerful example of an intersectional sensibility (Hill Collins & Bilge, 2016). More recently, in the 1960s and 1970s in the United States, African-American feminists and Latina feminists understood that the oppression they lived could not be reduced to a race-only, class-only or gender-only analysis (Collins & Chepp, 2013; Nash, 2011). Struggling with the single-axis focus of the civil and human rights, as well as antiracist movements (focused on Black men) and mainstream feminist movement (focused on white women) at that time, they created their own autonomous movements (Black feminism and Chicana feminism). The Combahee River Collective (CRC) Statement elucidates this approach well. The CRC, an intentional community of radical socialist Black lesbians, saw as their main task “the development of integrated analysis and practice based upon the fact that the major systems of oppression are interlocking” (1977) and mentioned the difficulty of separating “race from class from sex oppression because in [their] lives they are most often experienced simultaneously” (1977). Women of colour collectives were thus able to “interconnect[] personal experiences and structural analyses of interlocking oppressions without skirting the meaning of life experiences” (Hill Collins & Bilge, 2016, pp. 76-77).

While some major works regarding the interlocking of systems of oppressions and lived experiences by Black women were written in the early 1980s (Davis, 1981; Lorde, 1984), it was in 1989 that Crenshaw coined the term intersectionality. Crenshaw is part of the Critical Race Theory (CRT) movement, which encompasses theoretical approaches engaged in understanding and transforming race and power relations (Crenshaw, 2011; Delgado & Stefancic, 2017). CRT differentiates itself from a traditional civil rights discourse by questioning “the very foundations of the liberal order, including equality theory, legal reasoning, Enlightenment rationalism, and neutral principles of constitutional law” (Delgado & Stefancic, 2017, p. 3). CRT builds on another movement by the name of Critical Legal Studies (CLS). One idea CRT borrowed from CLS is legal indeterminacy, which means that law does not provide determinate answers (Russell, 1986). More precisely, CLS considers legal rights, such as the protection against discrimination, as indeterminate because they can be interpreted in different and contradictory ways, and hence do not represent an interesting progressive avenue (Bartholomew & Hunt, 1990; Tushnet, 1986). Moreover, stressing the ideological nature of rights, CLS scholar Freeman considered that American antidiscrimination law had “served more to rationalize the continued presence of racial discrimination...than [helped] solve the problem” (Freeman, 1982, p. 97). However, CRT considers that the CLS’s critique of rights² overlooks the role of rights in the experiences and struggles of people of colour (Bartholomew & Hunt, 1990). This is important to understanding the role of intersectionality in Crenshaw’s theorization.

Rather than rejecting the antidiscrimination principle altogether, Crenshaw uses intersectionality to illustrate how American antidiscrimination law fails to recognize the discrimination suffered by women of colour. This approach leaves room for future change

² Many CRT legal scholars can also be considered part of the CLS movement and thus share similar concerns regarding liberal rights. The distinction is hence less definite than it can seem at first glance. Nevertheless, it is worth mentioning that CRT scholars are mainly people of colour and one of their criticisms of the CLS’s critique of rights (which includes “trashing” of rights) is made with respect to positionality of CLS scholars (who are mainly white men). See Williams, 1987.

in judicial interpretation. In fact, Crenshaw deploys intersectionality in a twofold way: (1) to capture the experiences of marginalization of people who are at the intersection of several systems of oppression, and (2) to illustrate the limits of American antidiscrimination law in recognizing discrimination when it arises from several grounds (Crenshaw, 1989). In other words, the multidimensionality of Black women's experiences clash with the single-axis framework of American antidiscrimination law, which is illustrated by the way in which courts protect Black women "only to the extent that their experiences coincide with those of either of the two groups [white women and Black men]" (Crenshaw, 1989).

This chapter will benefit from the framework of intersectionality in a similar twofold way. First, it will help us understand how AI systems interact with the interlocking systems of oppression. Second, it will be useful in analyzing s. 15 of the Charter. This chapter will discuss the ambiguous relationship of Canadian law with the adoption of intersectionality and it will argue that this framework is important for a s. 15 analysis that offers protection from algorithmic discrimination.

Finally, this work is based on the premise that antidiscrimination law should be able to offer legal protection from equality concerns raised by AI. After all, analysis under s. 15 cannot be confined to a "fixed and limited formula" (Andrews v Law Society of British Columbia, 1989, p. 168). On the contrary, it must evolve and adapt "over time in order to accommodate new or different understandings of equality as well as new issues raised by varying fact situations" (Law v Canada, 1999, para. 3).

Unpacking Algorithmic Discrimination

Before jumping into the discussion around algorithmic discrimination, this section will first define AI, machine learning, and other technical notions. Then, it will explain some of the philosophical foundations of the notion of discrimination. This will be followed by an overview of examples of algorithmic discrimination and their related causes. This section will end with an exploration of the way in which algorithmic discrimination relates to discrimination theory and intersectionality.

What are Machine Learning Algorithms?

Although the topic of AI has become increasingly popular in the last decade, the academic field of AI dates back to the 1950s. In fact, the birthplace of AI is considered to be the Dartmouth Summer Research Project on Artificial Intelligence, a seminar hosted in 1956 where AI was defined as being the problem "of making a machine behave in ways that would be called intelligent if a human were so behaving" (McCarthy et al., 1955; Nilsson, 2009, p. 77). While other definitions have been developed, this idea of AI as a machine capable of doing things that are considered intelligent if done by humans is still widely used (Russell & Norvig, 2010). Hence, the notion of AI does not refer to a specific computer science technique and can be employed somewhat flexibly. For instance, the European Commission recently described AI as software that produces outputs for human-defined objectives and uses techniques such as machine learning approaches, logic- and knowledge-based approaches (such as expert systems), and statistical approaches (such as Bayesian and optimization methods) (European Commission, 2021).

This brings us to the notion of machine learning, which is the sub-type of AI that has caught mainstream attention (Burrell, 2016; de Laat, 2018; Hacker, 2018) and the type of algorithms discussed in this chapter. These algorithms learn through experience, in other terms through data, improving their performance over time (Nilsson, 2009; Sun, 2014). Given progress in data storage capacity and computational power, significant advancements in the field have occurred in recent years. The notion of machine learning also seems to be somewhat flexible in the literature, as it sometimes coincides with data mining techniques in general – data mining being the exploration of large quantities of data in order to discover patterns and construct models or rules (Leskovec et al., 2020; Negnevitsky, 2005). Indeed, some computer scientists consider that data mining uses (at least sometimes) machine learning algorithms (Franklin, 2014; Leskovec et al., 2020; Russell & Norvig, 2010). Moreover, statistical approaches such as Bayesian models (Li, 2010; Rogers & Girolami, 2016) are sometimes considered to be part of machine learning. Regardless of the correct taxonomy surrounding these systems, the main aspect to keep in mind is their dependence on large quantities of data to function.

In the last two decades, there has been an explosion in the quantity of available data, a phenomenon referred to as big data (Diebold, 2003). This notion has been defined by the “three v’s” framework – volume, variety, and velocity (Gandomi & Haider, 2015; Robertson et al., 2020) – and is closely related to the technologies mentioned above. The phenomenon also refers to the ubiquitous collection of data in everyday life and the way in which governments and private corporations increasingly use citizens’ and consumers’ data to make decisions (Federal Trade Commission, 2016). This use of data has also been referred to as algorithmic decision-making (Busuioc, 2021; Zuiderveen Borgesius, 2020).

An algorithm can be defined as a “series of instructions for performing some concrete task” (Kearns & Roth, 2020, p. 4). While in a rule-based algorithm, the instructions are coded by the programmers themselves, machine learning algorithms work differently. This chapter will illustrate the basics of how these machine learning systems are developed through an example.

Imagine someone works at Immigration, Refugees, and Citizenship Canada (IRCC) and they want to build a machine learning system that will help evaluate visa applications.³ The development of this system involves an algorithm, training data, an input (the independent variables), a model, and an output (the target variable) (Brownlee, 2020; Harrington, 2012; Kotu & Deshpande, 2015; Lehr & Ohm, 2017; Sarkar et al., 2018). First, they will need to define the problem to solve, the objective of the system (Brownlee, 2020; Kotu & Deshpande, 2015). The objective translates into the output of the system, the target variable, in other words what they aim to predict (Fazelpour & Danks, 2021; Harrington, 2012; Kotu & Deshpande, 2015). In this case, it is the eligibility for a visa application. Then, they will have to select a suitable algorithm, for instance a decision tree, a neural network, a support vector machine, a naïve Bayesian algorithm, or a k-nearest neighbour algorithm (Kotu & Deshpande, 2015; Sarkar et al., 2018). Once an algorithm is selected, it will be possible to train it with available data (Harrington, 2012; Lehr & Ohm, 2017; Sarkar et al., 2018). The training data in this case would likely correspond to past visa applications and their respective administrative decisions (refusal or admission). This training data will help the algorithm understand why a visa application

³ This example is hypothetical and a simplification. It does not necessarily reflect the actual systems developed by IRCC.

is considered well-founded or not. In other words, it is through the training data that the algorithm will learn to spot correlations between features (independent variables) in a visa application and a subsequent decision. The AI's decisions are often assessed and the program can be altered as the AI is trained to get the desired results.

These learned correlations form the model of the system (Barocas & Selbst, 2016; Kotu & Deshpande, 2015; Lehr & Ohm, 2017). The model corresponds to the “rules” that transform an input into an output (Brownlee, 2020; Harrington, 2012; Kotu & Deshpande, 2015). Here, the input would be a new visa application. It is what we want the system to look at and make a decision upon. The output corresponds to the algorithm's decision, in this case a refusal or an admission. These decisions correspond to the possible values of the target variable. To sum up, it is through the examples of the past IRCC decisions (training data) and their application to current rules, that the AI system will spot correlations and learn why some applications should be refused and others accepted (model) and will then be able to apply this model to a new visa application (input) and decide whether to refuse or accept it (output).

What is Discrimination?

Now that the ‘algorithmic’ part of the algorithmic discrimination phenomenon is covered, this section will examine the notion of discrimination. As is the case with many social notions, scholars in moral and political philosophy do not agree upon a common definition. Conceptions of discrimination can be “roughly”⁴ summarized into three large theoretical groups: egalitarian, liberal and dignitarian (Khaitan, 2015, p. 6). Egalitarians believe equality is the main value at the heart of the notion of discrimination (Lippert-Rasmussen, 2014; Segall, 2012), liberals believe it is freedom (Moreau, 2010) and dignitarians believe it is dignity (Réaume, 2013). In Canadian law, discrimination has been understood in relation to equality and dignity. Therefore, I will focus on these two concepts.

An egalitarian definition of discrimination is “to treat individuals differently on the basis of their membership of socially salient groups” (Lippert-Rasmussen, 2013, p. 3).⁵ Differential treatment can mean quite literally treating people in different ways (i.e. to give a member of a group X a benefit and deny it to a member of a group Y because of their X/Y respective membership). For example, a racist employer hiring only white people (and hence refusing to hire people of colour) because they believe white people are better. This would be categorized as direct discrimination.⁶

However, “differential treatment” in the definition of Lippert-Rasmussen also encompasses indirect discrimination which “occurs whenever an individual, institution, or practice acts (or is) in such a way that the interests of some individuals are systematically

⁴ Indeed, while these categories are heuristically helpful, they do not account for the theoretical nuances of the authors' views on the subject.

⁵ Lippert-Rasmussen's definition is a non-moralized one. This means that the definition does not imply that discrimination is wrong per se. He completes his definition by saying discrimination is wrong when it harms people. A moralized concept of discrimination would imply that discrimination is per se unjust or morally impermissible.

⁶ Direct discrimination encompasses cognitive (or intentional) and non-cognitive (or unintentional) discrimination (Lippert-Rasmussen, 2014). This does not entail all intentional discrimination is direct since it could also be possible to intentionally discriminate a group on the basis of, for instance, race, while camouflaging it on the basis of something else, such as an education requirement.

favoured” (2014, p. 40). That being said, the focus of indirect discrimination usually does not lie in the act itself (which appears as neutral and as one same treatment) but in the disproportional impact of the act on members of a protected group in comparison with other groups (Khaitan, 2018). For example, a company policy forcing all employees to come in on Saturday (one neutral and same requirement for all) will have a negative impact on people whose faith requires them not to work on the Sabbath (an example inspired by *Ont. Human Rights Comm. v. Simpsons-Sears, 1985* [Simpsons-Sears]).

Besides the fact that the frontiers between direct and indirect discrimination are often blurry (Bamforth, 2018; Fredman, 2018), it is worth highlighting two common aspects in these definitions: discrimination is a comparative concept, and the difference (directly or indirectly caused) must be based on a socially salient group membership – the “because of” feature (Thomsen, 2018). Indeed, in the example of indirect discrimination, it is on the basis of religion that people forced to work on Sunday (or Saturday) would be disadvantaged. If, however, the employer forced employees to work on a Tuesday and this decision coincidentally disadvantaged members of a religion (i.e. religious employees who have non-religious activities that day), this would generally not be considered discrimination since the disparate impact is not on the basis of religion.

The dignitarian approach takes issue with the comparative aspect; as put by Réaume, “[i]t is not because some others get respect that I am entitled to it, but because it is owed to all humans, and I am human” (2013, p. 20). In this perspective, discrimination is best understood by reference to the equal moral status of all humans, which implies that everyone has a right to be treated with dignity or as someone who matters (Réaume, 2013). Eidelson highlights that discriminatory acts “are often criticized on the further ground that they fail to treat people as individuals” (2013, p. 203). Such definitions, inspired by Kant’s views on the intrinsic value of human beings, are somewhat vague and hence necessarily fact-specific (Bamforth, 2018; Réaume, 2013).

Regarding the grounds upon which discrimination takes place, Réaume mentions that there are elements of identity “that have historically been used to undermine human dignity” (2001, p. 376). And since the way in which identity and self-esteem are understood has evolved, new characteristics can be added (Réaume, 2001).

Furthermore, in the dignitarian approach, most cases of indirect discrimination are also considered to be discrimination, since they are an affront to dignity (Réaume, 2001). Decisions that seem neutral but have a negative impact on minorities tend to reify the ideal image of a citizen, usually associated with a historically privileged position. Regarding the Sabbath example, “[w]hen a company requires staff to work on Saturdays, it assumes Christian⁷ patterns of religious observance as the norm around which it designs expectations of work availability” (Réaume, 2001, p. 376). These types of rules based on the characteristics of the dominant group reinforce the idea that those excluded are less worthy (Réaume, 2001).

⁷ Catholicism and most branches of Protestantism.

What is Algorithmic Discrimination?

Causes and Examples of the Phenomenon

A popular adage regarding algorithmic discrimination is “garbage in, garbage out” (Bornstein, 2018; Fjeld et al., 2020; Kearns & Roth, 2020; Packin & Lev-Aretz, 2018). This mainly refers to how issues in the training data will impact the machine learning model and cause a risk of bias.

One way in which data can be biased is in terms of the sample size with respect to a specific population, namely in terms of underrepresentation (Barocas & Selbst, 2016; Castelluccia & Le Métayer, 2019; d’Alessandro et al., 2017). Datasets can have “dark zones or shadows where some citizens and communities are overlooked or underrepresented” (Crawford, 2013). Indeed, due to unequal access to technology, geography, lesser involvement in the formal economy, media attention, and other systemic factors, historically disadvantaged populations can be disproportionately excluded from data collection processes (Barocas & Selbst, 2016; Lerman, 2013). If some groups are excluded or less present in the datasets, the system will most likely perform poorly towards them (Barocas & Selbst, 2016; Veale & Binns, 2017; West et al., 2019). For example, facial analysis systems, including facial recognition systems, have been shown to be less accurate for racialized people, and especially for racialized women, because they are trained on datasets lacking in diversity (Buolamwini & Gebru, 2018; Grother et al., 2019). More precisely, a popular large dataset of images of faces contained only 7% images of Black people, since it was based on the media landscape of the early 2000s (Han & Jain, 2014; West et al., 2019). Unsurprisingly, a facial analysis system trained on a dataset lacking Black faces will not be quite as accurate for Black people than for white people. A similar issue which we can reasonably link to the lack of diversity in the datasets concerns facial recognition systems performing poorly towards transgender people (Greene, 2018; Hu et al., 2019; Kumar et al., 2016). An AI beauty system that selected almost only white people as winners because its training data was mainly composed of white people (Levin, 2016) or a credit scoring system where “white applicants receive, on average, better scores because the algorithm was trained on a data set including mainly white persons” (Hacker, 2018, p. 1147) are other examples of this type of sampling bias.

On the other hand, overrepresentation in the training data can also lead to discriminatory results, for example an overfitting model that has been trained mainly on a marginalized group’s data (d’Alessandro et al., 2017; Lehr & Ohm, 2017). This usually happens because of disproportionate surveillance of these communities (Barocas & Selbst, 2016; d’Alessandro et al., 2017; Madden et al., 2017; Richardson et al., 2019). Many scholars consider that predictive policing systems risk reproducing this type of bias, since Black, Indigenous and people of colour (BIPOC) and the neighbourhoods they live in are systemically overpoliced (Richardson et al., 2019; Madden et al., 2017; Zuiderveen Borgesius, 2018). This racial profiling and its consequences (overcriminalization of BIPOC) will be represented in the datasets, and the algorithm will therefore associate them and/or their neighbourhoods with higher criminality risk. If police then follow the algorithm’s recommendations, they “will invariably find more crime where it is looking for crime than where it is not” (Cofone, 2019, p. 1403). These systems therefore risk creating a feedback loop reinforcing discriminatory practices (Cofone, 2019; Richardson et al., 2019; Robertson et al., 2020; Zuiderveen Borgesius, 2018).

Moreover, regardless of the sampling bias, datasets can also mirror historical and existing inequalities and injustices (Cofone, 2019; d’Alessandro et al., 2017; Hacker, 2018; Veale & Binns, 2017; Xenidis, 2020). In this case, the problem is not that the training data is not representative of reality. On the contrary, the training data does represent a world where racism, sexism, colonialism, classism, ableism, homophobia, and transphobia are alive and well. In other words, this type of historical bias “involves mismatches between the world as it is and values for how the world should be” (Baker & Hawn, 2021, pp. 7-8). AI systems in hiring seem particularly prone to reproduce this type of bias (Hirsch, 2014; Köchling & Wehner, 2020; Prietl, 2019). Amazon’s hiring system, discontinued since 2017, is a popular example (Dastin, 2018). The system was trained on the resumes submitted to the company over the previous 10 years, reflecting a male dominated sector (Davis et al., 2021; Dastin, 2018). Therefore, it learned to downgrade women’s resumes, namely resumes that contained the word “women” and ones from all-women colleges (Dastin, 2018).

Another popular example is the COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) algorithm developed by Northpointe (now Equivant). This program is used by several U.S. courts to inform bail, sentencing, and parole decisions (Cofone, 2019; Kasirzadeh, 2022; Osoba & Welser, 2017; Packin & Lev-Aretz, 2018). The algorithm is meant to assess the risk of recidivism. In other words, it assesses the likelihood of whether a particular person accused or convicted of a crime will commit another crime. However, when ProPublica journalists investigated the algorithm, they found that it “was particularly likely to falsely flag black [sic] defendants as future criminals, wrongly labeling them this way at almost twice the rate as white defendants” (Angwin et al., 2016).⁸

This focus on data does not mean humans do not play a significant role in constructing these algorithms. In fact, “[a]lgorithms are never entirely autonomous” (Cofone, 2019, p. 1400). On the contrary, several human decisions are made in the development of these systems, such as the framing of the problem, decisions about data collection and selection, the definition of the target variable, labeling, feature selection, and interpretation and use of the output (Barocas & Selbst, 2016; Hu et al., 2019). Algorithmic discrimination can therefore result from the training data or from human developers’ choices (Hu et al., 2019), and often from a combination of both.

Algorithmic Discrimination, Discrimination Theory and Intersectionality

On one hand, following an egalitarian perspective, algorithmic discrimination could be defined as the cases where machine learning algorithms treat or impact individuals differently on the basis of their membership in socially salient groups. However, this definition leads one to wonder how “on the basis” (the “because of” condition) should be understood in the context of algorithmic decisions.

On the other side, following a dignitarian perspective, algorithmic discrimination could be said to occur when machine learning algorithms treat (or impact) individuals in a way that undermines their dignity or in a way that does not recognize their individuality. Besides the vagueness associated with this definition, it could be said that all algorithmic

⁸ More precisely, the general prediction accuracy was similar for Black people and white people but the type of errors in both cases were different. On one side, Black people that did not reoffend were classified as high-risk twice as often as white people who did not reoffend. On the other, white people who did reoffend were classified as low-risk twice as often as Black people who did reoffend.

decisions treat humans as numbers and not individuals, therefore by default transgressing human dignity (Castelluccia & Le Métayer, 2019; Orwat, 2020). While this is a valid critique of algorithmic decision-making, the examples called algorithmic discrimination in academia and in the media refer to a more specific phenomenon.

The COMPAS example can be used in order to better grasp the concept of algorithmic discrimination. ProPublica journalists found that the input of the COMPAS algorithm was based on 137 questions, which included data points on gender, marital status, criminal history, and family criminality, but also questions including “How often did you feel bored?” and statements (for which the defendants had to signal whether they agreed or disagreed) including “When things are stolen from rich people they won’t miss the stuff because insurance will cover the loss” (Northpointe, 2011). Race was not a question and hence not an input that the algorithm considered. Therefore, if the defendants’ race was not something that the algorithm “knew”, how could it discriminate on the basis of race? Hu calls this type of question the puzzle of algorithmic discrimination (2021).

The notion of indirect discrimination is helpful here. Following Khaitan’s definition (2018), this type of discrimination does not require that the individual or institution be aware of the basis of the differential impact. Indeed, whether the employer knows the existence of the Sabbath or not is irrelevant to the fact that the requirement that employees work on that day is discriminatory against people whose faith requires them to observe the Sabbath. Therefore, the fact that race is not a feature considered by the COMPAS algorithm is not an insurmountable obstacle regarding the “because of” condition if a disparate impact is measurable.

Algorithmic discrimination can consequently be understood under the egalitarian definition elucidated above: this phenomenon happens when machine learning algorithms treat or impact individuals differently on the basis of their membership in socially salient groups, and the “on the basis” criteria must be analyzed in a flexible way. This definition does not negate that dignity is affected when algorithmic discrimination happens. While it leaves the door open to that possibility, it simply does not mobilize the notion of dignity as a definitional element.

Moreover, the COMPAS algorithm is most likely a case of proxy discrimination – a type of discrimination that seems to be frequent in algorithmic bias cases (Barocas & Selbst, 2016; Johnson, 2020; Prince & Schwarcz, 2020). In these instances, “variables that do not appear discriminatory at face value serve as ‘proxies’ for protected categories” (Gill & Molnar, 2018, p. 9). This understanding of algorithmic discrimination has led authors to warn against the intuitive but erroneous idea that eliminating sensitive data (such as information about gender, race, or sexual orientation) from the model will inevitably guarantee non-discrimination (Hacker, 2018; Prince & Schwarcz, 2020). The reasons regarding why rational variables act as proxies for protected grounds seem to be related to historical injustices and systems of oppression still present in society. Indeed, “due to patterns of oppression being so deeply ingrained in our social environment, the more we eliminate reliance on proxy attributes in decision-making, the more likely it is that we’ll have an inaccurate and ineffective decision-making procedure” (Johnson, 2020, p. 9957).

It's also worth mentioning that there could be variables that do not by themselves constitute proxies for protected grounds, but that become such proxies when combined with other variables (Blass, 2019; Prince & Schwarcz, 2020). Furthermore, proxy variables can be correlated not only to one protected ground, but to many intersecting

grounds (Ferrer et al., 2021). This aspect of algorithmic discrimination has led scholars to call for an intersectional approach when analyzing AI systems (Ciston, 2019; Hu et al., 2019; Noble, 2018; West et al., 2019).⁹

The framework of intersectionality to assess algorithmic discrimination was notably deployed by Buolamwini and Gebru in their research regarding the accuracy of facial analysis systems in different populations (2018). As mentioned, they showed how these algorithms performed better on light-skinned men compared to dark-skinned women (Buolamwini & Gebru, 2018).¹⁰ However, many efforts to detect discrimination in algorithms adopt a unidimensional approach (Hoffmann, 2019; West et al., 2019). Such a single-axis analysis in risk assessments of AI systems could give the illusion that, for instance, if an algorithm discriminates neither on race nor gender (as separately analyzed), it is safe from bias, while in reality the system could be discriminatory towards people at the intersection of these categories or towards a smaller group within that intersection.

Moreover, while there are several initiatives in computer science that aim to build algorithms without bias (Mitchell et al., 2021; d’Alessandro et al., 2017), which should be praised and definitely continued, an intersectional perspective considers that algorithmic discrimination will not be completely solved by technical solutions if larger root causes related to systems of oppression are not addressed (Birhane, 2021; Hampton, 2021; Lopez, 2021).

AI Systems in Canada

Now that the phenomenon of algorithmic discrimination has been explained, it is worthwhile to look at some cases of AI use in the Canadian public sector. Indeed, as previously mentioned, the Charter only applies to government and not private actors (Charter, s. 32 (1); *Vriend v. Alberta*, 1998, paras. 65-66; *Eldridge v. British Columbia (AG)*, 1997, para. 41). Besides including legislation, the Charter’s scope encompasses action taken under statutory authority (Eldridge, 1997; Morin, 2012). More precisely, it covers federal, provincial, and municipal activities (Eldridge, 1997, para. 20; *RWDSU v. Dolphin Delivery*, 1986, para. 34; *Godbout v. Longueuil (City)*, 1997, para. 50).

It is also worthwhile mentioning that since April 1, 2020, federal departments using AI in decision-making must comply with the Treasury Board of Canada Secretariat (TBCS)’s Directive on Automated Decision-Making (DADM) (TBCS, 2019). Its objective is to ensure that “Automated Decision Systems are deployed in a manner that reduces risks to

⁹ An interesting intersectional definition of fairness for machine learning algorithms has been developed, composed of the following attributes: “[1] Multiple protected attributes should be considered simultaneously. [2] All of the intersecting values of the protected attributes, e.g. Black women, should be protected under the definition. At the same time, we should ensure that the individual protected attributes are protected overall, e.g. women are protected. [3] The definition should aim to ensure that systematic differences in the behavior of the algorithm, due to structural oppression, are rectified, rather than codified.” (Foulds & Pan, 2018).

¹⁰ This does not imply that algorithmic discrimination never happens on one specific ground. If we take the example of facial recognition systems as studied by Buolamwini & Gebru, we understand that the systems performed better on male faces than female faces (a gender bias) and better on lighter faces than darker faces (a racial bias) (Buolamwini & Gebru, 2018). However, it is when comparing darker female faces with male lighter faces (a larger difference) that we can understand the intersectionality in this bias.

Canadians and federal institutions, and leads to more efficient, accurate, consistent, and interpretable decisions made pursuant to Canadian law” (TBCS, 2019). The DADM makes it mandatory for federal departments to complete an Algorithmic Impact Assessment (TBCS, 2019; Scassa, 2021). Some systems discussed in this section that launched after the adoption of the DADM have conducted these assessments. The examples discussed in this section fall under three areas: immigration, policing, and employment insurance.

AI in Immigration

Since 2014, the Immigration, Refugees, and Citizenship Canada (IRCC) has been developing a predictive analytics system to “automate activities currently conducted by immigration officials and to support the evaluation of immigrant and visitor applications” (Molnar & Gill, 2018, p. 14). In 2017, journalist Nicholas Keung communicated with an IRCC spokesperson who confirmed that the focus at that time was to build a system capable of distinguishing between high-risk and low-risk applications (Keung, 2017; Molnar & Gill, 2018). The goal was “to identify the merits of an immigration application, spot potential red flags for fraud and weigh all these factors to recommend whether an applicant should be accepted or refused” (Keung, 2017). The IRCC spokesperson explained that predictive models learn to spot relevant patterns by being trained with thousands of past applications and their decisions (Keung, 2017), which suggests that the systems in question use machine learning technology. In 2018, a senior IRCC data analyst confirmed to the Citizen Lab team that IRCC used an automated system that triaged applications into two categories, simple and complex cases (Molnar & Gill, 2018). The Citizen Lab published a report in 2018 warning of the human rights risks of these systems, including the risk of discrimination (Molnar & Gill, 2018). While the Citizen Lab’s report does not give more information on the system to which the IRCC data analyst was referring, it seems to correspond to IRCC’s pilot project regarding Temporary Resident Visa (TRV) applications launched in 2018 (McEvenue, 2020; Meurrens, 2021; Nalbandian, 2021).

According to an IRCC presentation, the TRV pilot project uses machine learning to automate a portion of the TRV business process focusing on applications from China and India (McEvenue, 2020). The system’s goal is to “to determine whether applications are complex and should be reviewed and decided upon according to regular procedures by a visa officer, or whether they can be fed through the model” (Nalbandian, 2021, p. 8). The final decision is always reviewed and rendered by a human officer (Nalbandian, 2021). In January 2022, IRCC released an Algorithmic Impact Assessment for a new system called “Advanced Analytics Triage of Overseas Temporary Resident Visa Applications” (IRCC, 2022a). Its goal is to streamline the eligibility assessment for all overseas TRV applications (IRCC, 2022a; Tao, 2022a). The description of the system (IRCC, 2022a) seems to correspond to the pilot project being expanded, a sentiment shared by immigration lawyers (Tao, 2021). Some concerns regarding the implementation of automated triaging are that it is what has led to an increase of refusals, “that individual care is not being given to applications, that applications are not being carefully reviewed [...], that AI flagging a file as high-risk will lead to an officer wanting to simply affirm the AI’s finding [...] and that it may perpetuate systemic racism” (Meurrens, 2021).

Moreover, in 2018, IRCC, Employment and Social Development Canada (ESDC), and the Department of Justice (DOJ) submitted a Request for Information (RFI) called

“Artificial Intelligence Solution” (IRCC et al., 2018; Molnar & Gill, 2018). An RFI is a document that seeks the input of industry vendors regarding possible solutions, in this case AI technology in the activities of the three institutions, prior to a formal process of acquisition (Molnar & Gill, 2018). The RFI specified it was seeking AI solutions for legal research and advice, prediction of outcomes concerning litigation, as well as trend analysis in litigation (IRCC et al., 2018; Molnar & Gill, 2018). The RFI also identified two cases where AI solutions would be interesting: Humanitarian and Compassionate (H&C) applications and Pre-Removal Risk Assessments (PRRAs) (IRCC et al., 2018; Molnar & Gill, 2018). These applications are “often used as a last resort by vulnerable people fleeing violence and war to remain in Canada” (Molnar & Gill, 2018, p. 1).

Other automated systems can also impact people before setting foot on Canadian soil. According to Molnar & Gill, the government employs an automated decision system in the Express Entry Comprehensive Ranking system (2018). However, according to the description given by Meurrens (2016), it does not appear that the system uses machine learning technology. Also, since 2015, applications for an Electronic Travel Authorization, which most visa-exempt foreign nationals must apply for, are automated (Meurrens, 2021; Gerami Law, 2022).

Since 2018, IRCC officers have been using Chinook, a tool used to help sort and bulk-process applications, such as temporary resident visa, study permit, and work permit applications (Gerami Law, 2022; IRCCb, 2022). While IRCC states Chinook is not an AI system (IRCCb, 2022), immigration lawyer Will Tao considers that Chinook falls under the definition of AI from IRCC’s Policy Playbook on Automated Support on Decision-Making (Tao, 2022b). Several concerns regarding fairness and accountability have been raised with respect to this system (Keung, 2021; Tao, 2021; Gerami Law, 2022). Since its implementation, there has been an increase in the number of applications being rejected and many lawyers consider Chinook to be at least partly responsible (Keung, 2021; Singh, 2021).

In 2021, IRCC released an Algorithmic Impact Assessment for another system called “Spouse or Common-Law Partner in Canada Advanced Analytics Pilot” (2021). This project seeks to automate the eligibility assessment for the sponsor and principal applicant (IRCC, 2021). In the assessment, IRCC states that the system will be replacing a decision that would otherwise be made by a human, namely the eligibility of some applicants (IRCC, 2021). However, all refusals will continue to be made by humans (IRCC, 2021).

The Canada Border Services Agency (CBSA) has also adopted automated systems. There is the Scenario Based Targeting (SBT) whose objective is “to identify people and goods bound for Canada that may pose a threat to the security and safety of the country” (OPC, 2017). SBT uses advanced analytics to analyze data collected from air carriers containing personal information (age, gender, travel document origin, itinerary, length and pattern of travel, and other factors) in order to profile individuals against several scenarios (OPC, 2017; Molnar & Gill, 2018). The scenarios are used to assess travelers for “predictive risk factors” in several areas such as immigration fraud, organized crime, and terrorism (OPC, 2017; Molnar & Gill, 2018). It should be noted that a report from the Office of the Privacy Commissioner (OPC) found that while CBSA recognized the need to assess scenarios for potential impact on privacy, human rights and civil liberties, it had failed to do so regarding the national security scenarios launched during the OPC’s review period (OPC, 2017).

Furthermore, CBSA has experimented internally with the Automated Virtual Agent for Truth Assessments in Real-Time (AVATAR) developed by a San Diego State University professor (Daniels, 2018). This system uses machine learning to conduct interviews and detect changes in eye movements, voice, posture, and facial gestures that could indicate untruthfulness or potential risk (Daniels, 2018). While a CBSA spokesperson mentioned in 2018 that they carried out an internal experiment of AVATAR and that the analysis for the technology was ongoing (Daniels, 2018), another CBSA spokesperson stated in 2021 that they are “not considering using AVATAR on real travellers in the future” (quoted in Liew & Molnar, 2021). Nonetheless, it’s interesting to note that according to Access Now and several other organisations, AVATAR and similar systems “have the potential to infringe the right to non discrimination, as they claim to infer a person’s behaviour based on problematic assumptions about human behavior, which are grounded in Western notions of truthfulness and deception” (Access Now et al., 2021). However, in a CBSA report surrounding AVATAR and other biometric-enabled interview-assisting traveller screening technology published in 2018, the impact of this technology on human rights was not examined (Gorodnichy, 2018). In fact, the report states that one advantage of AVATAR is that it is “bias-free” (Gorodnichy, 2018, p. 13), a conclusion that goes against the concerns raised by international human rights organizations.

CBSA has also come under media attention regarding its use of facial recognition technology at Toronto’s Pearson International Airport in 2016 (Cardoso & Freeze, 2021). This project deployed facial recognition technology over a period of six-months on millions of uninformed travellers, the largest deployment of the technology in Canada to date (Cardoso & Freeze, 2021). Its goal was to detect people who CBSA suspected would try to enter the country using fake identification (Cardoso & Freeze, 2021). Commenting on this project, Sonja Solomun stated that facial recognition is a technology that has been proven to discriminate, that “exacerbates the power imbalance between those deploying it and those most vulnerable to its use,” and that represents a threat to democracy (quoted in Mazerolle, 2021). As part of the 2021 budget, CBSA received \$656 million to “modernize our borders” (Canada, 2021, p. 144), which includes spending on facial recognition systems and other technology at the border (Canada, 2021; Liew & Molnar, 2021).

Finally, the Citizen Lab report highlighted practices of mass data collection and data sharing between law enforcement agencies and the immigration and refugee system in order to show some problems with potential sources of training data for immigration automated decision systems (Molnar & Gill, 2018). The authors mentioned that the Royal Canadian Mounted Police (RCMP) had collected questionnaires from asylum seekers near the unofficial border crossing at Roxham Road that included questions filled with Islamophobic stereotypes (Molnar & Gill, 2018). There were questions targeted towards Muslim individuals, such as “questions related to the individual’s perception of women who do not wear a hijab, their opinions on ISIS and the Taliban, as well as the number of times a day the individual prayed” (Molnar & Gill, 2018, p. 19). The authors use this example to warn that potential data fed into AI systems may contain bias.

AI in Policing

Several police departments in Canada have been experimenting with predictive policing systems. Predictive policing can be defined as “any crime fighting approach that includes a reliance on information technology (usually crime mapping data and analysis), criminology theory, predictive algorithms, and the use of this data to improve crime

suppression on the streets” (Ferguson, 2012, p. 265). Predictive policing generally involves a three-step process: (1) collecting and selecting data; (2) training an algorithm on that data, which calculates the risk of crimes being committed; and (3) the use of this information by the police force to make decisions in the field (Brantingham, 2018). Moreover, these techniques may be person-based and calculate the risk that certain individuals will commit criminal acts (or be victims of criminal acts), or place-based and calculate the risk that in certain geographical locations crimes may take place (Ferguson, 2017).

Following a six-month pilot project in 2016, the Vancouver Police Department (VPD) launched a predictive policing program called GeoDASH (Robertson et al., 2020; Kerr, 2017; Meuse, 2017). The goal of this place-based predictive system is to anticipate where commercial or residential break-and-enter offences might take place (by indicating areas of 100 to 500 square metres). Uniformed police officers are then sent to these areas to deter individuals from committing crimes (Robertson et al., 2020; Kerr, 2017). One way the VPD tries to reduce the risk of potential bias is by training GeoDASH exclusively on data of break-and-enter incidents reported by members of the public, thereby excluding incidents reported by police officers (Robertson et al., 2020). However, Robertson et al. argue in a Citizen Lab report that bias can nonetheless remain since “some communities are more likely to report crimes to the police than others or are more likely to be taken seriously by the police when reporting criminal activity” (2020, pp. 109-110).

A similar system has been developed by the city of Edmonton. Data about past crimes was fed into an algorithm whose goal was to predict where and when crimes would occur (Muzyka, 2017). The city’s chief analytics officer, Stephane Contré, has said, “[i]t’s like fishing with a fishfinder in terms of enforcement. It really helps narrow down the search and maximize our resources” (quoted in Muzyka, 2017). The city of Edmonton has also developed a project called “Contextual Analysis of Crime,” which analyzes factors that correlate with high levels of crime (Edmonton, 2019). The pilot project focused on an area of the Boyle Street neighbourhood. Police crime statistics and other sources of data were fed into an algorithm that later produced a list of factors that increased or decreased the likelihood of property crime or violent crime occurring in the area (Edmonton, 2019; Lorinc, 2018). Among the factors was having noise-related complaints and the presence of youth centres (Edmonton, 2019; Lorinc, 2018). Furthermore, since 2020, the Edmonton Police Department (EPS) has an Operations and Intelligence Command Centre (OICC) whose goal is to provide intelligence “to accelerate criminal investigations through timely identification of suspects and their likely locations to prevent additional crime and victimization” (EPS, n.d.). The OICC has partnered with IBM to inform its data analytics projects (Duncan & Barreto, 2022; Linder, 2021).

In Saskatchewan, the Saskatoon Police Service, the University of Saskatchewan, and the Government of Saskatchewan partnered to launch the Saskatchewan Police Predictive Analytics Lab (SPPAL) in 2015 (Robertson et al., 2020). So far, the SPPAL has developed a person-based predictive model that aims to prevent children and youth from going missing by identifying those who are at risk (Robertson et al., 2020; Stockdale, 2019; Craig, 2016).

In Ottawa, the Ottawa Police Strategic Operations Center (OPSOC) has engaged in social media surveillance (Robertson et al., 2020; Munn, 2017). In 2017, Sergeant Paul André Tremblay, coordinator of the OPSOC, indicated that social media profiles of demonstrators were a source of information useful for monitoring sentiment towards

police (Munn, 2017). He also mentioned that social media analysis was carried out in order to identify individuals who could be suicidal. Furthermore, the OPSOC seems to be “developing the capability to provide front-line officers with crime statistics and predictive analytics for neighbourhoods they enter, to identify high-crime areas and trends” (Munn, 2017).

Since at least 2016, the Toronto Police Service (TPS) has collaborated with Environics Analytics, a firm specialised in data analytics (Robertson et al., 2020; Environics Analytics, 2017). The firm has stated about the collaboration that they “used advanced data analytics to create a series of planning and analysis tools that allowed TPS to evaluate and strategically deploy staff and services at the neighbourhood level” (Environics Analytics, 2017). In a 2017 TPS report about modernizing policing, one of the goals stated was to use data analytics to inform deployment decisions (2017). However, according to the 2020 Citizen Lab report, a law enforcement representative has confirmed that the TPS does not use predictive policing systems nor does it intend to in the near future (Robertson et al., 2020). The TPS has also adopted two IBM software products that are part of the “Crime Insight and Prevention solution” (Robertson et al., 2020). While these software products use data mining and place-based predictive models, the TPS has argued that they do not use them to predict crimes, but rather for reporting and statistical insights (Robertson et al., 2020).

The Calgary Police Service (CPS) uses a software product from Palantir Technologies “to integrate its various internal data sources into one unified system for data access and analysis” (Robertson et al., 2020, p. 48). While this software product has predictive analytics capabilities, the CPS confirms the use of Palantir is limited to integrating and organizing internal data rather than for predictive policing purposes (Robertson et al., 2020).

Furthermore, several Canadian police agencies have been using facial recognition software. In June 2021, the Office of the Privacy Commissioner of Canada (OPC) released a report on the RCMP’s use of Clearview AI (OPC, 2021). The OPC had previously, in January 2020, launched a joint investigation into Clearview’s facial recognition technology with the Commission d’accès à l’information du Québec (CAI), the Information and Privacy Commissioner for British Columbia (OIPC BC), and the Information and Privacy Commissioner of Alberta (OIPC AB). These agencies found that by amassing “a database of over three billion images of faces and corresponding biometric identifiers, including those of a vast number of individuals in Canada, including children,” Clearview performed mass surveillance and violated the Personal Information Protection and Electronic Documents Act (PIPEDA) (OPC et al., 2021). The agencies also raised concerns regarding the accuracy of facial recognition technologies, and in particular the “significantly higher incidences of false positives or misidentifications when assessing the faces of people of colour, and especially women of colour, which could result in discriminatory treatment for those individuals” (OPC et al., 2021).

Then, in its June report, the OPC found that the use of Clearview by the RCMP contravened the Privacy Act (OPC, 2021). The collection of personal information from a third party is indeed unlawful if that third party collected the data unlawfully (OPC, 2021). Moreover, although the RCMP began using Clearview in October 2019, it misled the OPC in January 2020 by denying using the technology (OPC, 2021). After later acknowledging its use, the RCMP claimed that the use of the technology was limited as it was primarily used for identifying, locating, and rescuing children who were victims of online sexual

abuse (OPC, 2021). However, the report notes that only 6% of the RCMP's 521 search queries were linked to this type of use (OPC, 2021). The OPC states that 85% of search queries were unaccounted for by the RCMP and hence "purposes for which the involved RCMP staff conducted these searches remains unknown" (OPC, 2021).

The RCMP is not the only agency that has used Clearview. While in January 2020, TPS declared it did not use Clearview, it later acknowledged that some of its officers had used the software (Brockbank, 2021; Jaynes, 2020). Indeed, TPS officers uploaded more than 2,827 images into the software to find a match among the company's database (Brockbank, 2021; TPS, 2020). The technology was used in 89 different investigations, and, in at least two cases, the evidence obtained via Clearview has been used in court (Brockbank, 2021; TPS, 2020). The Hamilton Police Service, the VPD and the Ontario Provincial Police have also used Clearview software (Brockbank, 2021; Bennett, 2020). While Clearview ceased offering its services in Canada in July 2020 amidst media reports and during the investigation launched by the OPC, it is not the only company offering facial recognition services (Robertson et al., 2020). For instance, the CPS and the TPS use facial recognition software from NEC Corporation, and the Ottawa Police Service has also used a software from the same company (Robertson et al., 2020).

AI in Employment Insurance

A federal committee called the "Steering Committee on Big Data" produced a report in 2014 for which several federal departments provided input, including Employment and Social Development Canada (ESDC) (Steering Committee on Big Data, 2014).¹¹ This report notes that ESDC "greatly improved the effectiveness of its overpayment investigations by using a risk-scoring algorithm" (Steering Committee on Big Data, 2014 cited in Molnar & Gill, 2018). Unfortunately, there does not seem to be publicly available information regarding this project. Therefore, it is not possible to determine whether the system uses AI technology.

Moreover, in January 2022, ESDC released an Algorithmic Impact Assessment for a project titled "ROE Comments Assessment Using Artificial Intelligence" (ESDC, 2022). The document states that the ESDC is developing and implementing an AI solution "that will interpret and assess free text comments captured by employers when records of employment (ROE) are issued" (ESDC, 2022). A ROE is a document that an employer must issue to an employee whenever there is an "interruption of earnings" such as a layoff (Canada, n.d.). It is the most important document in an application for employment insurance (EI) benefits. The information on the ROE is used "to determine whether a person is eligible to receive EI benefits, what the benefit amount will be and for how long the benefits will be paid, and to ensure that no one misuses EI funds or receives benefits in error" (Canada, n.d.). The AI system being developed will assess a ROE and will be able to predict "simple actions" such as deciding to save or ignore the employer's comments or predicting a different "reason for separation" (ESDC, 2022). It should be noted that some reasons for the end of employment have important consequences. Indeed, claimants are disqualified from receiving EI benefits if they lost their employment because of their misconduct or if they left their employment voluntarily (Employment Insurance Act, 1996, art. 30(1)). Therefore, even if the ESDC states that the AI system will only replace decisions requiring minimal discretion (ESDC, 2022), it is my understanding that the system could have an impact on eventual refusals of EI benefits.

¹¹ Obtained by the Citizen Lab under the *Access to Information Act*.

How Can Section 15(1) Respond to Algorithmic Discrimination?

The Right to equality as Protected Under Section 15(1)

Described by the Supreme Court as “an elusive concept and, more than any of the other rights and freedoms guaranteed in the Charter, [lacking] precise definition” (Andrews, 1989, p. 164), the right to equality has been the object of different interpretations over the years. Andrews, the first Supreme Court case to analyse s. 15(1),¹² is considered to have set a template for understanding substantive equality, “which subsequent decisions have enriched but never abandoned” (R v. Kapp, 2008, para. 14 [Kapp]). Indeed, while Justice McIntyre in Andrews does not explicitly mention the idea of substantive equality, several elements in his reasons give us an idea of what this concept entails.

First, he rejects the Aristotelian principle of formal equality, that “things that are alike should be treated alike” (Andrews, 1986, p. 166). This represents a rebuttal of previous analysis regarding discrimination under the Canadian Bill of Rights (1960, s. 2.), such as *Bliss v. Canada (AG)* (1979), in which the Court dismissed the claim of a woman whose unemployment benefits were denied on the basis of her pregnancy. In that case, although the legislation made a clear distinction on the basis of pregnancy, the Court considered there was no discrimination on the basis of sex, since “within that class [pregnant persons], all persons were treated equally” (Andrews, 1989, p. 168) and therefore “[a]ny inequality between the sexes in this area [was] not created by legislation but by nature” (Bliss, 1979, p. 190).

Second, Justice McIntyre not only rejects that reasoning, but goes further by affirming that “identical treatment may frequently produce serious inequality” (Andrews, 1989, p. 164), thus indicating that s. 15(1) protection is not limited to cases of direct discrimination, but also covers cases of indirect discrimination. Indeed, he stresses that in order to achieve “full equality [...] the main consideration must be the impact of the law on the individual or the group concerned” (Andrews, 1989, p. 165, our emphasis). This analysis of s. 15(1) as protecting from indirect discrimination (also referred to as adverse impact or as adverse effect discrimination) has been confirmed by other Supreme Court cases (*Eldridge*, 1997; *Fraser v. Canada (AG)*, 2020 [Fraser]; *Law v. Canada*, 1999 [Law]; *Withler v Canada (AG)*, 2011[Withler]).

Lastly, regarding the definition of discrimination, in one of Andrews’s most subsequently cited passages (*Centrale des syndicats du Québec v. Québec*, 2018, para. 114 [Centrale des ayndicats du Québec]; Fraser, 2020, para. 41; Kapp, 2008, para. 18; *Miron v. Trudel*, 1995, para. 12; *R v. Turpin*, 1989, p. 1331), Justice McIntyre states:

I would say then that discrimination may be described as a distinction, whether intentional or not but based on grounds relating to personal characteristics of the individual or group, which has the effect of imposing burdens, obligations, or disadvantages on such individual or group not imposed upon others, or which

¹² “Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.” (*Charter*, s. 15[1]).

withholds or limits access to opportunities, benefits, and advantages available to other members of society. (p. 174)

This passage has informed the current two-step framework the courts use to prove discrimination (notably sustained in *Kahkewistahaw First Nation v. Taypotat*, 2015 [Taypotat]; *Quebec v. A*, 2013 [Quebec v A]; *Quebec v. Alliance du personnel professionnel et technique de la santé et des services sociaux*, 2018 [Alliance]). Justice Abella, writing for the majority in *Fraser*,¹³ articulates the framework in the following way:

[t]o prove a prima facie violation of s.15(1), a claimant must demonstrate that the impugned law or state action:

- on its face or in its impact, creates a distinction based on enumerated or analogous grounds; and
- imposes burdens or denies a benefit in a manner that has the effect of reinforcing, perpetuating, or exacerbating disadvantage. (para. 27)

When the two requirements have successfully been established, the courts will conclude that there has been a prima facie violation of s. 15. A prima facie violation refers to the analysis required to establish an infringement of s. 15 before determining whether it can be justified under s. 1 of the Charter.¹⁴ Indeed, s. 1 allows the state to limit rights if demonstrably justified in a free and democratic society (*R v Oakes*, 1986).

The first step of the s. 15 analysis requires proving that the law or state action creates a distinction based on prohibited grounds (enumerated or these expressions refer to cases of direct discrimination, where it is clear that the law or state action makes a distinction on a prohibited ground (cases for which the first step analysis will not be of much difficulty), and to cases of indirect discrimination, usually called adverse effects or adverse impact discrimination, where the distinction “must be discerned by examining the impact of the law” (*Fraser*, 2020, para. 50; see also *Alliance*, 2018, para. 25). In the latter cases, the courts will analyze whether the state action has a disproportionate impact on members of a protected group (*Fraser*, 2020, para. 52). In the *Simpsons-Sears* case, which served as inspiration for an example earlier in this chapter, the facts concerned a company requiring its employees to work on two Saturdays out of three (*Simpsons-Sears*, 1985, para. 2). Since it was one of the first cases of adverse effect discrimination that the Supreme Court analyzed, Justice McIntyre defined the concept as arising when there is a

[...] rule or standard which is on its face neutral, and which will apply equally to all employees, but which has a discriminatory effect upon a prohibited ground on one employee or group of employees in that it imposes, because of some special characteristic of the employee or group, obligations, penalties, or restrictive conditions not imposed on other members of the work force. (para. 18).

In *Fraser*, Justice Abella states that two types of evidence will be of particular help at the stage of the first step: evidence regarding the situation of the claiming group and evidence regarding the results of the law (2020, para. 56). The former concerns the

¹³ Important dissenting reasons were given jointly by Justice Brown and Justice Rowe (paras. 140-230) and by Justice Côté (paras. 231-256). Nonetheless, they all agree with this two-step analysis (paras. 169, 232).

¹⁴ “The Canadian Charter of Rights and Freedoms guarantees the rights and freedoms set out in it subject only to such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society.” (*Charter*, s. 1).

social, cultural, and other barriers that describe the context of the claimant group's situation (Fraser, 2020, para. 57; Withler, 2011, para. 43), while the latter concerns the actual outcomes of the law (or state act), which can be illustrated through statistical proof (Fraser, 2020, paras. 58-59). Justice Abella stated on the matter, "If there are clear and consistent statistical disparities in how a law affects a claimant's group, I see no reason for requiring the claimant to bear the additional burden of explaining why the law has such an effect" (Fraser, 2020, para. 63). In other words, claimants do not need to prove that it was the protected ground that "caused" the impact (Fraser, 2020, para. 70; *Ontario v. G.*, 2020, para. 41).

The second step consists of establishing whether the law or state action reinforces, perpetuates or exacerbates a disadvantage (Fraser, 2020, para. 76; Alliance, 2018, para. 25). Here, too, it is not necessary to prove that the law creates the disadvantage (*Ontario v. G.*, 2020, para. 42). The harm caused can be of different nature (economical, physical, social, political, or psychological) and must be examined in light of the systemic or historical disadvantages that the protected group has faced (Fraser, 2020, paras. 76-77). Indeed, s. 15 relies on the "awareness that certain groups have been historically discriminated against, and that the perpetuation of such discrimination should be curtailed" (*Quebec v. A.*, 2013, para. 332). This does not entail that s. 15 protects only groups that have been historically discriminated against, but rather that these social and historical considerations are important. Also, while the presence of prejudices and stereotypes in the law or state action used to be a condition to fulfill (Kapp, 2018, paras. 17-18; Withler, 2011, para. 30), they are no longer required (Fraser, 2020, para. 78; *Quebec v. A.*, 2020, para. 329). Finally, in Fraser, Justice Abella states that the "perpetuation of disadvantage, moreover, does not become less serious under s. 15(1) simply because it was relevant to a legitimate state objective" (2020, para. 79). Hence, any discussion regarding the non-arbitrariness of the law should normally happen under s. 1 (Fraser, 2020, para. 80).

To summarize, the ultimate question that should guide s. 15(1) analysis is "whether the challenged law violates the animating norm of substantive equality" (*Ontario v. G.*, 2020, para. 43). To answer this question, the Court has developed a two-step framework that claimants must follow. They must prove the existence of a distinction based on enumerated or analogous grounds and they must show that this distinction imposes burdens or denies benefits in a manner that perpetuates their disadvantage.

Recent Dissenting Opinions on Section 15(1)

In Fraser, there were two dissenting reasons, with one opinion given by Justices Brown and Rowe and another by Justice Côté. These dissenting reasons show that there is a possibility that, with different facts, the opinions of Justices Brown, Rowe and Côté could become the majority. Since the opinions would have decisive consequences regarding algorithmic discrimination, it is worthwhile discussing them. The dissent of Justices Brown and Rowe will be examined first.

Justices Brown and Rowe criticize the notion of substantive equality that has, according to them, "become an open ended and undisciplined rhetorical device by which courts may privilege, without making explicit, their own policy preferences" (Fraser, 2020, para. 146). They adopt the notion of substantive discrimination instead (at paras. 190-205), which according to Sealy-Harrington, does not offer any more clear boundaries than the notion of substantive equality (2021). Regarding the first step of s. 15, Justices Brown

and Rowe take issue with the majority's reasoning regarding the non-requirement of causation. Noting that in cases of adverse discrimination, a distinction must be established with respect to the impact of the law or state action (the first step), they note that searching for impact is equivalent to searching for causation (para. 175), correlation not being sufficient (para. 180). The Fraser case concerned a pension plan of RCMP members which allowed certain gaps in full-time service to be considered as pensionable but did not allow the job-sharing program (mainly composed of women) to be eligible for pension credits. Justices Brown and Rowe state that there is a "correlation between the number of women who have taken advantage of the job sharing program and evidence of disproportionate childcare responsibilities falling upon women" (para. 180), but not a proof of causation between these two elements.

Furthermore, regarding step two, Justices Brown and Rowe stress that "substantive discrimination [...] has always required an element of arbitrariness or unfairness" (at para. 191). While this element used to be linked to perpetuating prejudice and stereotyping, features that the Justices agree are no longer necessary (para. 191), there must remain according to them an element of "wrongful behaviour" (para. 193). These considerations should not be limited to the s. 1 analysis since doing so "robs the substantive discrimination analysis of its purpose" (para. 194). Applying this to the facts of the case, they state that it is not "in general, discriminatory (in an arbitrary or unfair sense) for an employer to prorate benefits according to hours worked" (para. 198).

Justice Côté conducts an analysis solely regarding step one, since she considers that the analysis fails at this step. Indeed, she considers that there is not a distinction on the basis of sex alone in the RCMP pension plan, but rather that the distinction results from the combination of sex with caregiver status (para. 239). In other words, the claim "crucially depends on the intersection of sex and parental or family status" (para. 251). As the latter is not recognized as an analogous protected ground, the analysis should fail at the first step. In order to prove there is no distinction based on sex, Justice Côté uses the example of men in same-sex relationships with caregiving responsibilities (para. 236), reinforcing the idea "that all members of a group need to be the same in order to prove discrimination" (Koshan, 2021, p. 40). Furthermore, Justice Côté states that she relies on Justice Abella's reasons for not proceeding to an analysis of parental status as an analogous ground. However, according to Sealy-Harrington, "having not found discrimination based on sex, Justice Côté cannot rely on Justice Abella's reasons" for not examining the parental status as an analogous ground (Sealy-Harrington, 2021, p. 58).

Canadian Antidiscrimination Law and Intersectionality

Canadian antidiscrimination law has a more ambiguous relationship with intersectionality than American antidiscrimination law as described by Crenshaw at the time she developed the notion. In other words, although some elements of Canadian antidiscrimination law conflict with intersectionality, courts have at times been somewhat receptive to an intersectional analysis and have recognized "intersectional forms of discrimination" (Hogan v. Ontario, 2006, para. 433).

Regarding the conflicting elements, Bilge and Roy stress that the way Canadian antidiscrimination law functions – through a list of enumerated or analogous grounds – forces victims to "formulate their complaint by using one or several of the grounds that represent better their experience [and] these grounds are conceptualized as being separated from each other" [translation] (2010, p. 57). The authors show that even in

cases where an intersectional analysis is deployed by the courts, damages are still compartmentalized under different grounds (Bilge & Roy, 2010). Hence, discrimination victims must often make their subjective experience fit into the “objective” description of grounds (Bilge & Roy, 2010) thereby leaving claimants “with a sense that they have been ‘disauthenticated’ through their interaction with the law” (Grabham, 2006, p. 6). Ajele and McGill consider likewise that a single-axis approach is dominant in Canadian antidiscrimination cases (2020).

The case *Canada (AG) v Mossop* (Mossop, 1993) illustrates, according to Smith, “the SCC’s failure to [...] appreciate the reality of intersectional experience” (2016, p. 92). In this case, the complainant made a request to his employer to take a bereavement leave for the death of his male partner’s father. Although he was allowed one day of bereavement leave for the death of a family member, his request was denied because his same-sex partner was not considered to be “family.” At the time, the Canadian Human Rights Act (CHRA) did not prohibit discrimination on the basis of sexual orientation, but did prohibit it on the basis of family status. The majority of the Supreme Court considered that the refusal of the benefit could not be considered discrimination on the basis of family status since this would indirectly introduce sexual orientation, a ground that was excluded from the CHRA (Mossop, 1993, p. 528).

According to Smith, this single-axis approach presents the experiences of the dominant norm, in this case the heteronormative family, as the experiences of the whole group, thereby excluding the applicant’s family (2016, pp. 92-93). However, Justice L’Heureux-Dubé’s dissent in *Mossop* criticized this single-axis approach. She stated that categories of discrimination can overlap and “[c]ategorizing such discrimination as primarily racially oriented, or primarily gender-oriented, misconceives the reality of discrimination as it is experienced by individuals” (Mossop, 1993, pp. 645-646). Addressing the situations where discrimination arises on more than one ground, but only one is a prohibited one, Justice L’Heureux-Dubé states that courts should be cautious in their characterization as to not exclude people who should be legitimately be protected by s. 15 (p. 646). She then states that the complainant’s benefit was denied because of the “family” nature of this relationship with his partner, and hence it was reasonable to conclude that there was discrimination on the basis of family status (p. 647).

In *Egan v. Canada* (Egan, 1995), Justice L’Heureux-Dubé also renders a dissent where she shares similar considerations:

Although s. 15 is a general guarantee of “equality without discrimination,” we have failed to put “discrimination,” itself, at the forefront of our analysis. Instead, we have begun to define ourselves into boxes by making “grounds” a precondition to discrimination. As such, we may be denying s. 15 relief to persons who are victims of legislatively sanctioned discrimination, but who are unable to fit themselves into an established or analogous “ground.” (p. 563)

Mentioning that categories of discrimination will often overlap, she considers that we should move away from relying upon grounds and instead focus on the social context of the distinction (Egan, 1995, pp. 563-564).

Then, in *Law*, in 1999, the Court unanimously held that in principle “a discrimination claim positing an intersection of grounds [could] be understood as analogous to, or as a synthesis of, the grounds listed in s.15(1)” (para. 94). In 2011, in *Withler*, the Court again

stated that in some cases discrimination cannot be understood in reference to one prohibited ground, but rather must be analyzed in relation to a “conflux of factors” (para. 58). The Court mentions this while discussing the limits of the use of a mirror comparator group. Indeed, using a mirror comparator group is not suitable for cases of multiple discrimination (Withler, 2011, para. 58). However, in this case, although the Women’s Legal Education and Action Network (LEAF), an intervener, argued for an intersectional analysis in order to take into account the effects of age and sex combined, the Supreme Court analyzed the case only with respect to age (Ajele & McGill, 2020, p. 46). Indeed, until Fraser, the Supreme Court “ha[d] never adjudicated a discrimination claim based on multiple grounds, despite acknowledging the possibility of bringing intersectional claims...and receiving submissions by various parties and intervenors...on the importance of an intersectional approach” (Ajele & McGill, 2020, p. 45).

Taypotat is also an interesting decision regarding the failure of the Court to adopt an intersectional approach (Koshan, 2021; Watson Hamilton & Koshan, 2016). In this case, the complainant challenged an education requirement for candidates for Chief or Band Councillor of the Kahkewistahaw First Nation on the basis of age, residency on a reserve, and residential school survivor status (Taypotat, 2015, paras. 2, 12). In the unanimous decision, Justice Abella concludes that the complainant did not prove disproportionate effect on the members of any group (the first step), even though the complainant provided statistical evidence on education and residence on a reserve regarding young people in Saskatchewan (para. 27), statistical evidence on education and age regarding all people in Canada (paras. 30-31), as well as statistical evidence on education and age regarding Indigenous people in Canada (para. 32). The Court considered that the three pieces of evidence were not specific enough, and hence did not represent “evidence about the effect of the education provisions on older [Kahkewistahaw First Nation] members, on [Kahkewistahaw First Nation] members who live on a reserve, or on individuals who belong to both of these groups” (para. 24). Justice Abella analyzes these categories separately, and regarding the last one (which represents intersecting grounds), “nothing is said about this group except that there was no evidence to support the argument” (Watson Hamilton & Koshan, 2016, p. 256). Watson Hamilton & Koshan argue that the Court should have connected age, residence on reserve, or both with the status of being a residential school survivor (2016). According to them, if the Court had conducted an intersectional analysis on these three grounds, “census data and the TRC’s historical documents describing the consequences of residential schools [could have] show[n] the adverse impact of an education requirement on older residential school survivors living on reserves in Saskatchewan” (Watson Hamilton & Koshan, 2016, p. 257).

Finally, in Fraser, Justice Abella writing for the majority mentioned that it was not necessary to recognize family/parental status as an analogous ground, since “a robust intersectional analysis of gender and parenting...can be carried out under the enumerated ground of sex” (para. 116). Hence, instead of treating gender and family status separately, Justice Abella carries an analysis that acknowledges the gendered division of childcare responsibilities. However, Koshan considers that the recognition of family status as an analogous ground would have permitted a full intersectional analysis and provided a more precise and nuanced protection for caregivers at the intersection of gender and family status (2021). Koshan also states that the decision was silent regarding how sex and caregiving interacts with race and Indigeneity (2021). Lastly, as aforementioned, in Fraser, Justice Côté takes issue with the analysis of the majority regarding intersectionality and argues for a separate and independent analysis of the

ground of sex (para. 239). The lack of an intersectional perspective leads Justice Côté to conclude there was no discrimination.

Applying Section 15(1) to Algorithmic Discrimination: Possibilities and Challenges

As seen in section three of this chapter, AI systems can lead to inequality. Indeed, several cases of algorithmic discrimination have come to light in the last decade. Regarding the AI systems deployed by the public sector in Canada, several actors have raised concerns in terms of fairness and inequality. This section analyzes how s. 15(1) of the Charter would respond to cases of algorithmic discrimination. It will first point out general challenges concerning evidence. Then, it will proceed with the two-step analysis of s. 15(1).

General Evidence Challenges

Several authors and organizations have produced documents detailing principles that AI systems should follow (Fjeld et al., 2020; Montreal Declaration, 2019; UNESCO, 2021). Some of the most recurrent principles in this type of documents are transparency and explainability (Fjeld et al., 2020). These two concepts relate to the opacity of AI systems, which can be categorized in three types: “intentional opacity, when the process is deliberately hidden, as in trade secrets [...] opacity as result of some inevitable degree of the general public’s technical illiteracy [...] [and] [...] opacity as a result of the characteristics and scale of an algorithm” (Cofone, 2019, pp. 1438-1439; see also Burrell, 2016). These different types of opacity pose a significant challenge for victims of algorithmic discrimination who wish to substantiate their claims (Cofone, 2019).

While the Treasury Board’s DADM is an improvement in terms of transparency regarding the development of AI systems by the public sector, significant information asymmetry remains between the developers of these systems and the public. This is mainly due to three reasons.

First, the information that has to be disclosed is quite limited (Scassa, 2021). Regarding the algorithmic impact assessment the IRCC released concerning the AI system for TRVs, immigration lawyer Will Tao states he’s left with more questions than answers:

What is the bias test? What did the Gender Based Analysis Plus data show where anecdotally we are hearing of women applicants for TRVs being refused and seeing refusals on single women being ‘young, single, and mobile.’? Was the role of intersectionality in creating higher risk applicants (as presumably defined by the Tiering system) highlighted in IRCC’s responses or in the development of this program? (2022a)

Indeed, the IRCC has not released information regarding their test for bias (IRCC, 2022a) and hence it is impossible to affirm they have conducted an intersectional analysis.

Second, the DADM only applies to federal departments. Hence, all provincial and municipal entities are not required to disclose information about the use of AI systems, such as the policing systems seen in section 4.

Third, the DADM only applies to automated decision-making, which excludes several other uses of AI systems by the public sector. Indeed, “many more choices/actions that do not formally qualify as decisions and that can have impacts on the lives of individuals or communities [...] fall outside the DADM and remain without specific governance” (Scassa, 2021, p. 260). For example, facial recognition systems seem to fall outside the scope of automated decision-making.

Therefore, the DADM does not completely solve the lack of transparency regarding the use of AI systems by public actors. Also, it is worthwhile highlighting that both the RCMP and the TPS initially denied using Clearview’s facial recognition technology, and it is unclear what the search queries of the RCMP were. This type of intentional opacity represents a challenge since many individuals will not even be aware they’ve been subjected to AI systems. Furthermore, without access to the algorithm’s code, training data, and statistics about the decisions taken based on an AI system, complainants will have a hard time submitting the necessary proof regarding the discriminatory impact of the system (Amani, 2021).

Lack of available evidence was a problem in *Ewert v. Canada* (Ewert, 2018), where a Métis inmate contested actuarial risk assessment tools the Correctional Service of Canada (CSC) relied upon to make several decisions. While these tools were not machine learning algorithms, the brief analysis the Court developed on s. 15 is still relevant for AI systems (Scassa, 2018; Amani, 2021; Scassa, 2021; Krishnamurthy, 2021). While the Court recognized that there was evidence that the tools had the potential to be less accurate for Indigenous inmates,¹⁵ it considered that there was no evidence “that the impugned tools do in fact overestimate the risk posed by Indigenous inmates or lead to harsher conditions of incarceration or to the denial of rehabilitative opportunities because of such an overestimation” (Ewert, 2018, para. 79). Scassa states that this suggests that in order to establish discrimination in an algorithm context, the complainant will have “to demonstrate discriminatory impacts or effects, or to show how the algorithm itself and/or the data used to develop it incorporate biases or discriminatory assumptions,” which represents a significant evidentiary burden (Scassa, 2018) given the three types of opacity mentioned above.

Furthermore, even if statistics are disclosed regarding the impact of an algorithm on different populations, if this impact is not analyzed in an intersectional manner, victims of algorithmic intersectional discrimination will not have the necessary evidence to sustain their claims. As previously seen, an AI system that discriminates people at the intersection of protected grounds, such as race and gender, could be erroneously considered to be fair if the impact-assessment adopted a single-axis approach that analyzed the impact of race and gender separately.

¹⁵ While the Charter arguments failed (s. 15[1] and s. 7), the Court’s majority did agree that the CSC breached its obligations under the Corrections and Conditional Release Act (1992). More precisely, the CSC failed to its obligation to take steps to ensure all information about the offenders is as accurate as possible “[b]y disregarding the possibility that these tools are systematically disadvantaging Indigenous offenders and by failing to take any action to ensure that they generate accurate information” (Ewert, 2018, para. 66).

First Step of the Analysis

The first step of the framework of s. 15 is to demonstrate the law or state action creates on its face or in its impact a distinction based on an enumerated or analogous ground.

First, as aforementioned, it is well established that the distinction does not need to be intentional (*Ontario v. G*, 2020, para. 51). Besides cases where developers of an AI system try to conceal their discriminatory intent by purposely making decisions in the development process that will have a negative impact on protected populations, algorithmic discrimination is by default unintentional (Barocas & Selbst, 2016). Therefore, this trait of algorithmic discrimination is not an obstacle to proving discrimination under s. 15.

Second, the terms “on its face or in its impact” refer respectively to cases of direct and adverse effects discrimination (Fraser, 2020, paras. 50-53). While “direct discrimination cases are in all likelihood going to be rare in automated systems” (Wachter et al., 2021, p. 20), algorithmic discrimination could be direct if the developers of the system decided to use a protected ground (or several) as an input (Torrie, 2020). As mentioned, the CBSA’s Scenario Based Targeting (SBT) system uses data such as age and gender to profile individuals (OPC, 2017; Molnar & Gill, 2018). This could be considered a system that establishes a distinction on its face. Also, recalling the RCMP questionnaire, if such a questionnaire was used as training data for an immigration AI system, since there are questions that directly concern Muslim individuals, it could be considered that the system establishes a distinction on its face.

However, in most cases of algorithmic discrimination, the distinction will be created by the AI system’s impact. To prove this distinction, evidence regarding the situation of the claimant group and evidence regarding the results of the law or state action are relevant (Fraser, 2020, para. 56). Regarding the former, an intersectional perspective would attach importance to the systemic disadvantages the claimant group faces, which, fortunately, seems to be also the case under the current framework (Fraser, 2020, para. 57). Therefore, if COMPAS was used by Canadian courts, Black defendants challenging the use of this system could first provide historical evidence concerning the systemic discrimination entrenched within the Canadian criminal justice system. While important, this evidence of a social context of discrimination would not be sufficient to demonstrate a distinction. Indeed, the complainants would need to provide proof that COMPAS impacts Black defendants differently from white defendants. To accomplish this, they could conduct a study similar to the one that was done by ProPublica journalists: compare past COMPAS scores of several defendants with empirical data of the following years concerning subsequent recidivism or absence of recidivism of those defendants (Angwin et al., 2016). Considering the current framework of s. 15, these two types of evidence – proof of systemic discrimination in the criminal justice system against Black people and disproportionate impact of COMPAS towards Black defendants – could be considered sufficient to fulfill the first step.

Concerning IRCC’s TRV automated system and/or Chinook, there is currently not enough evidence to state that they create a disproportionate impact on protected groups. As previously mentioned, concerns have been raised that these systems are responsible for the increase in the number of applications refusals. Following that intuition, let us imagine that there was evidence that, since the implementation of these systems, there

had been an increase of refusals of applications from women. Would the courts consider this as proof that the disproportionate impact is the result of TRV and/or Chinook?

On one hand, if the arguments provided by Justices Brown and Rowe in Fraser regarding causation were adopted by the majority of the court in a future decision, this evidence would not be sufficient, since it would be considered proof of correlation and not causation. While this is not the current analysis of s. 15, it is worthwhile to mention that an intersectional perspective would oppose such a requirement of causation. An intersectional analysis of algorithmic discrimination understands this phenomenon as linked to existing power relationships, and hence a particular case of algorithmic discrimination will always have structural causes.

On the other hand, under the current s. 15 analysis, the evidence (that since the implementation of TRV and Chinook, there has been an increase of refusals of applications from women) could be considered sufficient proof depending on some factors. For instance, if the Government provides proof that the TRV and/or Chinook systems actually recommended the admissibility of the applications of these women but then were later rejected by humans for other reasons, then even under the current analysis, the Court will not conclude the disparities are related to the automated systems. What if the Government agrees TRV and Chinook are responsible for the increase of refusals of applications from women, but argues that the complainants have not explained why the systems have such an effect? That should not be an obstacle under the current framework of s. 15, as Justice Abella has stated clearly that “[i]f there are clear and consistent statistical disparities in how a law affects a claimant’s group, I see no reason for requiring the claimant to bear the additional burden of explaining why the law has such an effect” (Fraser, 2020, para. 63). Finally, what if the Government, while recognizing that TRV and Chinook have indeed contributed to the refusal of applications from Muslim individuals, argues that this is not because they are Muslim, but because of other factors? In other words, the Government would argue here that the “because of” feature, discussed in section 3, is not fulfilled. That should also not be an obstacle under the current framework of s. 15. In Fraser, Justice Abella mentioned that claimants do not need to prove that the protected characteristic caused the disproportionate impact (Fraser, 2020, para. 70). Above, I mentioned that algorithmic discrimination often concerns cases of proxy discrimination where there are variables that appear rational and neutral at face value that work as proxies for protected grounds. Following Justice Abella’s reasoning, it is not necessary to establish whether the distinction is based on the protected grounds or on the “neutral” variables that work as proxies. If the claimants prove a disproportionate impact on members of protected groups, that is sufficient to establish the first step of the s. 15 analysis.

Third, this step could be analyzed in cases of intersectional algorithmic discrimination. Taypotat is helpful in illustrating some difficulties related to the evidentiary burden of claims based on the intersection of several grounds. In that decision, the Court discarded the statistical evidence provided, as it did not concern exclusively the older community members of the Kahkewistahaw First Nation. This reminds of Crenshaw’s statement on how antidiscrimination law struggles in recognizing discrimination experienced by Black women, since it happens “in ways that are both similar to and different from those experienced by white women and Black men” (Crenshaw, 1989, p. 149). Similarly, while it is true that older community members in the Kahkewistahaw First Nation face issues that cannot be reduced to those faced by young people in Saskatchewan residing on

reserve, by older people in Canada¹⁶ or by older Indigenous people in Canada, they face similar ones.

The court recognized that “intuition may well lead us to the conclusion that the provision has some disparate impact” (Taypotat, 2015, para. 34). However, it stated that “evidence must amount to more than a web of instinct” (Taypotat, 2015, para. 34). It seems that the particularity of the group (older community members in the Kahkewistahaw First Nation) was an obstacle in the claim. An intersectional approach in algorithmic discrimination cases would instead entail a certain flexibility regarding grounds, notably in terms of proof to establish a distinction. For example, let us suppose that Buolamwini and Gebru had not conducted their intersectional research regarding facial analysis systems. Instead, there is separate research showing that a facial recognition system works better with white men than with dark-skinned men and better with white men than with white women. In other words, issues may arise if there was no specific evidence regarding the disproportionate impact of the facial recognition system towards women of colour. An intersectional perspective will argue that a woman of colour wrongly identified by a facial recognition system (for example, used by police forces or by the CBSA) should be able to bring a s. 15(1) claim successfully, even if she does not possess specific proof that the facial recognition system negatively impacts specifically women of colour. Intersectionality can take a web of instincts and complete the picture.

Furthermore, algorithmic discrimination could concern intersectional cases where only one ground is recognized. As stated by Justice L’Heureux-Dubé, dissenting in *Mossop*, “[t]here are situations where a person suffers discrimination on more than one ground, but where only one form of discrimination is a prohibited ground [and hence] one should be cautious not to characterize the discrimination so as to deprive the person of any protection” (1993, p. 646). When a characteristic that is not a recognized one overlaps with one that is, courts should have a liberal interpretation in recognizing a distinction. In fact, they should apply a recognized principle (*Brooks v. Canada Safeway*, 1989, p. 1247; *Fraser*, 2020, para. 72; *Janzen*, 1989, p. 40; *Quebec v. A*, 2013, para. 354), that is, that the contested act or law need not impact all members of a protected group in a similar way. Since intersectionality seeks to apprehend the complex relationships between discrimination and identities, it requires law to be less rigid regarding the specific grounds on which a claim must be based.

Second Step of the Analysis

The second step would require complainants to prove that the AI system imposes a burden or denies a benefit in a way that reinforces, perpetuates, or exacerbates a disadvantage. An intersectional perspective will be particularly attentive to historical injustices and systemic oppression.

If COMPAS was used by Canadian courts and challenged by Black defendants, this step should not be of extreme difficulty as there is evidence of the discriminatory results. Indeed, “if higher proportions of Black defendants were incorrectly labelled high risk by the tool and thus wrongfully detained, this would further entrench racial disparities in the criminal justice system” (Xiang, 2021, p. 34), which would logically perpetuate and

¹⁶ These are the groups whose statistics were provided to the Court, statistics which the Court disregarded since they were not sufficiently narrow.

exacerbate the systemic discrimination of which Black people are victims in the Canadian criminal justice system.

Furthermore, while the presence of stereotypes is not necessary, it is still a relevant element in the second step of the analysis. In *Ontario v. G*, the Supreme Court examined an Ontario law that established distinctions in relation to obligations regarding the sex offender registry between those found guilty of sexual offences and those convicted or found not criminally responsible of a sexual offence on account of mental disorder. Unlike the latter, the former had under certain circumstances the opportunity to be exempted from the registry. Ontario's Attorney General argued that the distinctions were not based on stereotypes and were rather based on actuarial data about risk (para. 58). However, the Court stressed that s. 15 "requires that those with disabilities be considered and treated as worthy and afforded dignity in their plurality" (para. 61). As mentioned above, dignity is related to the idea of treating people as individuals, which is violated by decisions based on stereotypes. In the *Ontario v. G* case, dignity is violated by the stigmatizing idea vehiculated by the Ontario law that those with mental illness are inherently more dangerous (para. 65). Hence, the Court concluded that the law imposed a burden that perpetuated the historical disadvantage experienced by persons with mental illnesses by reinforcing stereotypical ideas about those with mental illnesses and by putting those with mental illnesses in a worse position than those found guilty (para. 67). Similarly, it could be said that the COMPAS system, in addition to putting Black defendants in a worse position than white defendants, reinforces the stigmatizing idea that Black people are inherently dangerous, thereby impacting their dignity.

Similar arguments could be made regarding predictive policing systems. Richardson et al. mention that these systems are often trained with "dirty data," in other words, data that reflects discriminatory patterns, and hence result in discriminatory feedback loops (2019). This "can perpetuate disadvantage against s. 15 protected groups [by] increas[ing] already heightened scrutiny, police suspicion, and aggression with respect to members of marginalized communities, exacerbating pre-existing discrimination" (Robertson et al., 2020, p. 105). Indeed, as mentioned, predictive policing systems, both person-based and place-based, seem to be particularly at risk of disadvantaging BIPOC and other marginalized populations (Cofone, 2019; Ferguson, 2017; Madden et al., 2017; Richardson et al., 2019; Robertson et al., 2020; Zuiderveen Borgesius, 2018). Moreover, in addition to the risk of being disproportionately harmed by excessive use of force by law enforcement, predictive policing systems that result in the over-policing of historically marginalized communities can worsen the mental and physical health of these communities (Robertson et al., 2020; Couchman, 2019). It can also be said that these systems reproduce stereotypes about marginalized populations.

Recalling the questionnaire used by the RCMP at the border, if such a questionnaire was used to train an AI system, the second step of the analysis would require proving that this system imposes a burden on or denies a benefit to a protected group. If several Muslim individuals were refused visas following the deployment of such a system, this could be considered a denial of a benefit in a manner that reinforces Islamophobic stereotypes, in other words, that reinforces a disadvantage.

Lastly, while the arguments of Justices Brown and Rowe in *Fraser* regarding the element of arbitrariness or unfairness in the second step of the analysis do not represent the current analysis of the Court, a few words concerning the risk of adopting such views are relevant. As previously mentioned, it is often the case that the algorithm's variables

that act as proxies for protected grounds are not arbitrary or (at first glance) unfair. Thus, requiring proof of an element of arbitrariness could represent an insurmountable obstacle in an algorithmic discrimination case. Moreover, an intersectional analysis of s. 15(1) would not require proof of such an element. Indeed, given an understanding of the systemic nature of racism, sexism, colonialism, homophobia, transphobia, and classism in society, from an intersectional point of view, it is less important to determine whether the disadvantage or burden can be considered rational or unarbitrary. Intersectionality “adresse[s] the larger ideological structures in which subjects, problems, and solutions [are] framed” (Cho et al., 2013) and therefore questions what is, at a certain point in history, considered rational or unarbitrary.

Conclusion

In Canada’s public sector, automated systems are used (or are planned to be used) in immigration, policing, and employment insurance, and perhaps other sectors as well. While there are surely benefits to the use of AI systems, they nonetheless pose serious ethical and legal risks. This paper has focused on the risk of discrimination. There exists a robust multidisciplinary literature that shows that AI systems are particularly at danger of reproducing discrimination and have done so in many cases. This can happen because of issues of under- and over-representation in the training data, because the training data reflects historical injustices and social inequality or because of developers’ choices in the development of the system. More specifically to the Canadian context, several scholars and other actors have raised concerns related to the risk of discrimination of AI systems adopted by Canada’s public entities. Adopting an intersectional approach, this paper has analyzed how the right to equality as protected by s. 15(1) of the Canadian Charter of Rights and Freedoms should respond to cases of algorithmic discrimination from AI systems deployed by Canadian public entities.

With the growing prevalence of AI systems in society, it is reasonable to think that cases of algorithmic discrimination will be on the rise. Since there has not been a judicial case regarding this phenomenon, there is uncertainty in terms of how courts will apply the existing two-step framework of s. 15 used to prove discrimination. This chapter has examined each step and pointed out the ways they could be interpreted in cases of algorithmic discrimination. Before doing so, it also examined general challenges with evidence. While the Treasury’s Board DADM is an important step regarding transparency of AI systems by the public sector, this instrument is limited, because the information that is mandatorily to be disclosed is far from being sufficient, the DADM only applies to federal entities, and systems that are not considered to be automated decision-making are outside the scope of the DADM. Hence, the lack of transparency regarding the use of AI systems and their functioning as well as statistics about their application will be detrimental for complainants wishing to substantiate their claims.

The first step of s. 15(1) analysis will be different in cases of direct and indirect discrimination. This chapter defined algorithmic discrimination as a phenomenon that happens when data-driven algorithms treat or impact individuals differently on the basis of their membership in socially salient groups. It’s also mentioned that the criteria “on the basis” criteria must be analyzed in a flexible way in cases of indirect discrimination. Indeed, the first step of s. 15(1) will be satisfied in cases of direct algorithmic discrimination by proving the state action creates on its face a distinction based on an enumerated or analogous ground. Additionally, concerning indirect discrimination, the

first step will be satisfied by proving the state action creates a distinction on its impact based on such a ground. By understanding “based” in a flexible and liberal manner, it will not be necessary to prove causation. In other words, with all due respect, the position of Justices Brown and Rowe concerning the requirement of causation must not become the position of the courts, or else it will be difficult to protect people who are victims of indirect algorithmic discrimination, such as proxy discrimination.

Regarding the first step, an intersectional perspective is compatible in some respects with the current framework as it attaches importance to the systemic disadvantages and social injustices a claimant group faces and as it also would not require causation, since it understands algorithmic discrimination has structural larger causes. Moreover, intersectionality in the first step would require flexibility regarding grounds, notably in cases where one ground that is recognized overlaps with one that is not and in cases where there is a lack of specific evidence of an intersectional group (e.g. indigenous elderly people) but there is evidence regarding the two (or more) larger groups (e.g. indigenous people and elderly people).

The second step of s. 15 (1) seems to pose less challenges for complainants wishing to submit an algorithmic discrimination complaint. Since the automated systems that are used (or planned to be used) in the areas of immigration, policing, and employment insurance are related to decisions that have a great impact on people, if the AI system disproportionately disadvantages a group, in many cases it will be possible to prove that the AI system imposes a burden or denies a benefit in a way that reinforces, perpetuates, or exacerbates a disadvantage. For instance, if a predictive policing system disproportionately targets Black people, it is reasonable to say that the AI system imposes a burden on them perpetuating their systemic disadvantage.

An intersectional framework is important to achieve substantive equality which is a guarantee “rooted in a recognition of the fact that persistent systemic disadvantages have operated to limit the opportunities available to members of certain groups in society” (Centrale des syndicats du Québec, 2018, para. 116). An intersectional substantive equality cannot be wholly realized without tackling power structures in society. Rather, it requires a commitment to dismantling structural injustices and opposing “solutions” that reinforce them, which, in the case of the development of AI systems, demands questioning not only whether the system discriminates according to a technical impact assessment, but also whether the system pursues a goal that has been proven to be oppressive towards marginalized people.

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