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Women in power: learning through climate emergency declarations in Canada

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Women in Power: Learning through Climate Emergency Declarations in Canada

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Abstract

This thesis is a qualitative inquiry that explores women decision-makers' learning within the climate emergency declaration movement across Canada. Guided by a critical and feminist methodological approach to social movement learning, this study integrates gender and climate justice with climate change education and politics by asking the following research question: *What and how are women decision-makers learning through their experience within the climate emergency declaration movement*? Data consisted of qualitative interviews with ten women decision-makers who were directly involved in the climate emergency declaration movement within various governments and places across Canada. This research provided rich insights into the personal, professional, and political learning opportunities they experienced in these contexts. Nature connections, emotional responses to climate change, and family matters were important factors that influenced participants' motivations and learning experiences. Participants learned about, and embodied, alternative worldviews including a climate lens, climate-engaged youths' perspectives, and Indigenous knowledge systems. Material power, governmental powers, relationships, the COVID-19 pandemic, and gender are five power structures that participants also experienced and learned about through the involvement in the climate emergency declaration movement. Recommendations for future research include critical exploration of the integration of climate change education and climate change policymaking by various people working in diverse places to better understand the opportunities for and barriers to taking institutional-level climate action.

Dedication

I dedicate this thesis to the climate. I feel the weight of you on my shoulders every day and I am grateful to you for showing me that radical change is possible.

Acknowledgements

Place

I researched and wrote this thesis from my home on stolen and unceded Algonquin Anishinabeg traditional territory, located in between the First Nations of Kitigan Zibi and Pikwakanagan. As a settler and a private property owner, I acknowledge that my privilege to write this thesis would not be possible without historic and ongoing settler colonialism.

I also researched and wrote this thesis entirely during an unprecedented time-space; the global COVID-19 pandemic. The COVID-19 pandemic set the stage for my thesis journey in multiple ways, including the inspiration of my research question, my participant recruitment strategies, the interview conversations, and ultimately the knowledge that was generated. Here's hoping for a climate conscious "just recovery" from the COVID-19 pandemic that challenges the status quo.

People

I would like to acknowledge the excellent academic support that I received at Lakehead University. Thank you to my supervisor Dr. Paul Berger for seeing me through all the changes throughout my thesis journey. I am so grateful for your ongoing encouragement and for giving me the independence to explore my research interests. Your climate activism within academia is inspirational, and I consider you a role model for my own climate conscious academic and professional pursuits.

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Chapter One: Introduction

Many climate change publications begin by relaying information about climate change, including its causes, consequences, contradictions, and contemporary solutions. However, I begin by asking: What does climate change mean to you? How do you experience climate change?[1]

With that starting place in mind, in this chapter, I will first describe my own climate change understanding and experiences. I then outline how climate change is intricately interwoven with power structures in human society, with an emphasis on gender-based climate injustices. Next, I introduce the role of education in addressing climate change and associated injustices. Lastly, I outline my research focus on women's learning opportunities through their involvement in the climate emergency declaration movement in Canada.

Climate Change and Me

My relationship with climate change[2] began in the Southern Gulf Islands in the Salish Sea of British Columbia. I studied environmental science and learned about fossil fuels, atmospheric processes, solar energy, changing water regimes, and the ecological implications of climate change as well as how to communicate climate science to planners, politicians, and the public. I came to know climate change as an issue of humans producing too much greenhouse gas emissions. I experienced climate change through thick wildfire smoke, my drinking water well running dry, and windstorms that cut off transportation networks, emergency services, and even my electricity for an entire week. While working as a land use planner, I witnessed local

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[1] Climate change is complex, and I respect that each of us brings our own perspectives and lived experiences to these discussions.

[2] This statement is inspired by both Knox's (2015) perspective that climate is not a thing, but rather a set of relationships, as well as Verlie's (2015, 2017) perspectives on climate-human relations.

government decisions that rationalized economic opportunities and community "sustainability" over climate change mitigation and adaptation best practices.

Through my climate change experiences, even if considered relatively minor compared to others who are experiencing climate change more intensely, I developed climate anxiety. I worry about the material risks posed by floods, droughts, and storms and their impact on the health and well-being of my family and friends. I am concerned about the endangered Garry Oak ecosystems in the Salish Sea that I have come to know and love, and I worry about whether the remaining ecosystem fragments can keep up with changing conditions and human incursion. I worry about the hydrology, ecology, and long-term management of the La Pêche River upon which my current home, drinking water well, and subsistence garden are dependent. I also am learning that my climate anxiety stems from my place of privilege. Ultimately, climate change threatens my "right" to a healthy life and the promise of a positive future as a White, settler Canadian (Unangax̂ scholar[3] Eve Tuck et al., 2014; Verlie, 2019a). Through critical feminist perspectives—ecofeminism, Indigenous feminist theories, and intersectionality specifically—I have come to understand climate change as something much broader than climate science and more complicated than my life experiences permitted me to see.

The Power of Climate Change

Climate change is widely understood as a human-induced scientific problem related to greenhouse gas emissions, where both individual and political action is needed to reduce those emissions. While many of us may accept this perspective, as Terry (2009) highlights, "climate

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[3] Throughout this document, I introduce Indigenous authors by identifying their Nation affiliation the first time they are cited. I understand cultural introductions to be essential in Indigenous related research for communicating one's positionality and authority related to a topic (Anishinabe scholar Kathy Absolon & Cree scholar Cam Willett, 2005; Métis scholar Gregory Lowan-Trudeau, 2012). I recognize that this citation practice is not without its challenges, including deviations from APA (American Psychological Association) citation style, potential omissions and mistakes, and neglect of other social categories of difference. However, as a non-Indigenous person writing about Indigenous perspectives, I see this practice as necessary.

change is not happening in a vacuum, but rather in the context of other risks" (p. 6). Climate

change, biodiversity loss, economic collapse, missing and murdered Indigenous women and

girls, and even the current COVID-19 pandemic are all interconnected crises that show social

and ecological systems are on the verge of disaster (Fernwood Publishing, 2020; Kagawa, 2009).

Scholars adopting critical feminist perspectives suggest the root causes of climate change are

grounded in neoliberalism, patriarchy, anthropocentrism, resource exploitation, and settler

colonialism (Gaard, 2015; Kagawa & Selby 2010; Selby & Kagawa, 2018; Terry, 2009;

Potawatomi scholar Kyle Whyte, 2017a). In short, "climate change is everything and it is going

to affect everything, it is so immense and entwined via almost any issue you can think of in this

world" (Verlie & CCR 2020, p. 1271).

  Climate change is intricately connected with power structures. Unequal power relations

and social structures shape individual and collective responsibilities, vulnerabilities, and

decision-making powers related to climate change (Kaijser & Kronsell, 2014). The climate

justice movement highlights the relationship between climate change and social and ecological

justice issues, where climate change impacts and policies are created and experienced differently

by individuals, communities, and cultures around the world, both now and into the future

(Kanbur, 2015; Kluttz & Walter, 2018; Pettit, 2004; Schlosberg & Collins, 2014; Selby &

Kagawa, 2018). Climate justice research and policy is largely framed as a global justice issue,

whereby the Global North is considered the primary cause of climate change impacts that

disproportionately affect the Global South in general, and women from the Global South

specifically (Williams et al., 2018). While I do not deny these disproportionate impacts, my

concern is that this framing can neglect the climate injustices that are currently happening here in

Canada.

Gender-based social and economic inequities persist in Canada, which has important implications for climate justice orientated research and policy (Williams, 2018). Gender is a set of socially constructed roles, relationships, behaviours, and histories that determine how people perceive, understand, discuss, and respond to climate change (Fletcher, 2018; Kaijser & Kronsell, 2014; MacGregor, 2010; Pearse, 2017). There are gendered inequities related to climate change discourses, impacts, mitigation and adaptation strategies as well as climate change knowledge and politics, which disproportionately affect women. In Canada, ongoing colonialism, patriarchy, resource exploitation, and neoliberalism are at the core of both climate change and gender injustices (Cohen, 2017; Williams et al., 2018).

For example, women are underrepresented in all positions of power related to climate change decision-making in Canada (Chalifour, 2017; Sellers, 2018; Williams et al., 2018), which effectively limits the opportunities for women to engage with climate justice orientated policy and research. National climate policies in Canada are meant to empower women and girls to act on climate change (Government of Canada, 2018, 2019), but policies to support women are focused on women outside Canada and neglect the climate change and gender justice concerns here in Canada (Sellers, 2018). Gender and climate change remains a relatively under-researched topic in Canada (Sellers, 2018), which presents a significant research opportunity that ultimately could benefit climate change and gender justice issues alike. Further, as a woman researcher concerned with gender and climate change, I feel compelled to wield my academic privilege (Russell, 2017) and bring climate change and gender justice issues in Canada to the fore in my thesis research. Therefore, this thesis is entirely dedicated to the intersection of climate change and women in Canada.

In addition, in a settler colonial nation such as Canada, educational scholars are calling for the acknowledgment and understanding of Indigenous and non-Indigenous peoples' different yet interrelated histories related to colonization to foster cross-cultural understanding, ethical relationality, and to advance reconciliation and decolonization (Papaschase Cree scholar Dwayne Donald, 2009; Korteweg & Russell, 2012; Scully, 2012). Therefore, my research also pays attention to settler colonialism, understanding non-Indigenous and Indigenous women as two social categories of difference with respect to climate change.

Learning Climate Change through Social Movements

Climate change education is considered a critical component in addressing both climate change and climate injustices (Gough & Whitehouse, 2020; Henderson, Long et al., 2017; Reid, 2019). To foster transformative change and socioecological resilience, climate change education needs to confront and challenge the root causes of climate change and related justice issues alike (Kagawa & Selby 2010; Selby & Kagawa, 2018). However, the field of climate change education research has yet to critically engage with gender justice issues (Busch et al., 2019; Gough & Whitehouse, 2020). Furthermore, educational institutions themselves can contribute to gender inequities (Gough, 2004), neoliberalism (Leathwood & Francis, 2006), and settler colonialism (Anishinaabe scholar Leanne Betasamosake Simpson, 2014), and offer narrow perspectives on climate change issues and solutions (Busch et al., 2019; Henderson, Bieler et al., 2017). Therefore, my research moves beyond educational institutions to explore social movement learning focused on climate change as a possible site for engaging with the power structures that create climate injustices.

Social movement learning is an educational theory situated within the field of adult education, and includes:

a) informal learning occurring by persons who are part of any social movement;

b) intentional learning that is stimulated by organized educational efforts of the social

movements themselves; and

c) formal and informal learning that takes place amongst the broad public, the citizens, as

a result of the activities undertaken by a given social movement. (Hall, 2009, p. 46)

Progressive social movements are places of political protest (Jamison, 2010) that have

played an important role in challenging capitalism, promoting equity, justice, and the

environment (Clover, 2003), generating climate change knowledge (Jamison, 2010), and

fostering Indigenous resurgence (Lowan-Trudeau, 2017b). If approached not as separate issues

but through an intersectional lens that encourages a politics of solidarity, social movements can

provide an opportunity to address the root causes of climate change and gender injustices alike.

Social movement learning also offers an opportunity to explore women's lifelong learning

related to climate change, especially important given women in Canada have been recognized as

leaders of climate activism (Perkins, 2014, 2017; Williams et al., 2018). Social movement

learning broadens perspectives on climate change education beyond learning *about* climate

change to learning *through* climate change activism.

Research Focus

Recent demands from the climate justice movement advocate for rapid political climate

action through climate emergency declarations by governments and institutions in Canada and

around the world (Climate Emergency Declaration, 2020). At the time of writing, over 500

jurisdictions in Canada have adopted a climate emergency declaration, including First Nations,

and federal, provincial, territorial, and local governmental organizations (Climate Emergency

Declaration, 2020). The climate emergency declaration movement presents a significant social

movement learning opportunity in Canada. There is little research exploring the learning dimensions of the climate emergency declaration movement, including the learning occurring across individual decision-makers within governmental organizations in Canada.

Governments are considered both the source of climate change problems as well as key actors in climate justice solutions (Routledge et al., 2018; Whyte, 2013). Through my experience working in governmental sectors related to parks, planning, and forestry, I have come to know governments as composed of people. Therefore, I believe that the learning occurring by individual decision-makers within governments can offer an important perspective to justice-orientated climate change education research. As women are underrepresented at all levels of climate politics in Canada, the learning opportunities of those women who are involved in climate politics may offer important and unique insights into living, learning, and responding to climate change. In this thesis I integrate gender and climate justice with climate change education and politics by asking the following research question: *What and how are women decision-makers learning through their experience within the climate emergency declaration movement?* This research contributes to the fields of climate change education, social movement learning, and gender and climate change in Canada.

Chapter Two: Literature Review

Introduction

This literature review begins with an introduction to my theoretical framework that is guided by ecofeminism, Indigenous feminist theories, and intersectionality. I then outline the gendered dimensions of climate change as they relate to non-Indigenous and Indigenous women[4] in Canada to highlight associated social justice issues. I then provide a critical analysis of climate change education research to highlight the need for alternative perspectives on climate change learning. Next, I introduce the climate justice movement and associated social movement learning opportunities as an alternative space for climate change education research. Lastly, I introduce the climate emergency declaration movement as a new, under-researched, and important site for analysis for climate change education research in Canada.

Theoretical Framework

This research is guided by a theoretical framework that incorporates multiple feminist perspectives relating to climate change, including ecofeminism, Indigenous feminist theories, and intersectionality. With respect to the diversity of feminist perspectives, Gough and Whitehouse (2020) highlight that the "climate emergency is forcing a realization that there is no one conceptual model that is going to see us through" (p. 3). Therefore, this research draws on the strengths of a variety of relevant feminist theories (Gough & Whitehouse, 2020) to better understand the gendered dimensions and power relations of climate change.

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[4] Throughout this thesis, I respect Indigenous women and non-Indigenous women as two social categories of difference, while recognizing that these social categories are embedded within complex systems of structured power relations and additional social categories that intersect with women's lives.

Ecofeminism

Emerging in the 1980's, ecofeminism is a broad feminist field that highlights the historical, symbolic, and theoretical connections between the oppression of women and the domination of nature in Western patriarchal societies (Gaard, 2011; MacGregor, 2009; Plumwood, 2004; Russell & Bell, 1996; Warren, 1990). Ecofeminism highlights how the hierarchical male/female and human/nature dualisms of Western societies cause environmental degradation and ecological crises (Plumwood, 2004; Russell & Bell, 1996). Notably, ecofeminists critique how humans are considered superior to nature and how nature is viewed as merely a resource for human exploitation (Plumwood, 2004). Similarly, ecofeminists critique how women are devalued because they are associated with the "'lower' order of nature, with animality, materiality and physicality, and men with the contrasting 'higher' order of mind, reason and culture" (Plumwood, 2004, p. 43).

There are a variety of ecofeminist theories that explore the relationship between women and nature, which are reflective of the history of the field (Gaard, 2011) and the diversity of ecofeminist scholars and activists. For example, spiritual ecofeminism, particularly popular in the 1990s, suggests there are deep, biological connections between women and nature, with women admired as caregivers and mothers to both children and nature alike (Wilson, 2005). This concept, referred to as ecomaternalism, has been cited as an explanation for women's leadership in environmental activism and social movements (MacGregor, 2006, 2009), but has been roundly critiqued for inappropriately suggesting a biological or essential connection between women and nature (Fletcher, 2018; Kaijser & Kronsell, 2014; MacGregor, 2009). This essentialist perspective of women and nature effectively caused ecofeminist scholarship to be rejected and

discarded by many feminists and other scholars, even though it was only one strand of the field

(Gaard, 2011).

More recent iterations of ecofeminism are influenced by other feminist perspectives,

including intersectionality, feminist new materialisms, and post-humanism (Gaard, 2011; Gough

& Whitehouse, 2020). As a result, ecofeminism has moved away from reinforcing the gender

binary[5] (Gough & Whitehouse, 2003; Hart & Gough, 2020) and conceptualizing women as

depoliticized individuals, to instead considering gender as a system of structured power relations

(Gaard, 2015).

Ecofeminism offers valuable insight into justice-orientated climate change education

research (Williams et al., 2018). Ecofeminism highlights how the oppression of women and

nature are linked to neoliberalism, capitalism, patriarchy, anthropocentrism, resource

exploitation, and colonialism (Gough & Whitehouse, 2020; Plumwood, 1993; Warren, 1990),

which are also understood as being among the root causes of climate change (Gaard, 2015;

Kagawa & Selby 2010; Selby & Kagawa, 2018). For example, Mboya (2016) suggests the

atmosphere is an undervalued part of nature that is seen to merely serve as a waste receptacle for

the emissions produced by male-dominated industrial activities that fuel capitalism and

neoliberal development. In contrast, ecofeminism sees humans as part of a larger ecological

community, and highlights the important roles of care, relationships, agency, and action (Gough

& Whitehouse, 2020; Warren, 1990).

Influenced by both ecofeminism and feminist new materialisms, Verlie (2017) challenges

the human/nature dualism by highlighting that humans, atmosphere, and climate are all entangled

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[5] The gender binary refers to the categorization of gender into separate and opposite categories such a women/men, girl/boy, female/male, and feminine/masculine (Gough & Whitehouse, 2003; Hart & Gough, 2020). For the purpose of my research, I am adopting the woman versus man distinction to reflect the literature cited here, while recognizing that this distinction is not necessarily accurate nor appropriate for describing one's gender identity.

such that "we are part of that climate we seek to understand" (p. 561). This relational perspective offers a less anthropocentric approach to climate change education, which has implications for how people perceive and learn about climate change (Verlie, 2017). Another ecofeminist approach is offered by MacGregor (2014), who calls for feminist ecological citizenship as a means to promote women's active participation in civil society and democracy to resist neoliberalism and create a world beyond human dominance. MacGregor (2014) advocates for feminist ecological citizenship as a means to move women's voices into the public sphere of climate action.

Ecofeminism also has been critiqued for appropriating Indigenous knowledge, experiences, and worldviews regarding the connections between Indigenous women and land (Cree-Métis-Saulteaux scholar Lindsay Nixon, 2015; Wilson, 2005). Some older ecofeminist theories, including spiritual, anti-colonial, and socialist ecofeminisms, drew on Indigenous perspectives to theorize the connections between women and nature (Wilson, 2005). Through listening to Anishinabek perspectives on gender-nature connections, Wilson (2005) concluded that these ecofeminist theories not only misappropriated Indigenous cultures and the gendered relationships with "nature" but also silenced Indigenous people. In Wilson's (2005) study, Anishinabek men and women highlighted how "nature" is considered to be a dynamic entity that is equally respected by both women and men. The misappropriation of Indigenous knowledge in ecofeminism neglects the profound connection between Indigenous land, knowledge, and life and effectively re-centres White settler feminist perspectives and perpetuates settler colonialism (Native Hawaiian Scholar Maile Arvin, Tuck, & Klamath scholar Angie Morrill 2013; Nixon, 2015).

All feminist researchers and practitioners are challenged to problematize settler colonialism, recognize Indigenous ways of knowing, and create feminist alliances that directly address differences between non-Indigenous and Indigenous women and their associated colonial histories (Arvin et al., 2013). Ecofeminist perspectives and Indigenous feminist theories are considered valuable for reframing climate change (Williams et al., 2018); therefore, my research draws on both. As a non-Indigenous person, I do not claim expertise in Indigenous knowledge systems, Indigenous feminist theories, nor Indigenous perspectives on climate change. My intention is to promote more ethical and just climate change education approaches that use gender as a lens to foster critical discussions about climate change within the Indigenous lands of what is now called Canada.

Indigenous Feminist Theories

Indigenous feminist theories[6] centre settler colonialism as a historic and ongoing gendered process within settler colonial nations such as Canada, and highlight the connections between settler colonialism, heteropatriarchy, and heteropaternalism (Arvin et al., 2013). Heteropatriarchy refers to social systems that normalize heterosexuality and patriarchy and disadvantage other social arrangements (Arvin et al., 2013; Williams et al., 2018). Heteropaternalism assumes that heteropatriarchial family arrangements, where the father is the leader and boss, should be mirrored in institutional structures (Arvin et al., 2013). Settler colonialism is a social and political structure where settlers claim land as their own, destroy Indigenous people, communities, cultures, land and knowledge systems, and exploit the land to extract its value (Arvin et al., 2013). Settler colonialism forced, and continues to force, unequal

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[6] The term "Indigenous feminist theories" describes a broad field that connects settler colonialism with heteropatriarchy and heteropaternalism, regardless of whether theorists identify as Indigenous, feminist, and/or women (Arvin et al., 2013). The terms "feminist" and "feminism" themselves are associated with Whiteness, and thus "Indigenous feminist theories" is meant to capture a broader audience (Arvin et al., 2013).

gendered relations—including heteropatriarchy, heteropaternalism, and gender-based violence—onto Indigenous people, communities, and land (Arvin et al., 2013; Nixon, 2015; Simpson, 2014; Vinyeta et al., 2016).

Within traditional Indigenous societies, gender played an important role in shaping social structures and responsibilities to land and knowledge systems (Vinyeta et al., 2016). Prior to colonialism, many Indigenous communities had gender systems that were egalitarian, where gender violence was minimal, and gender-variant individuals were recognised and respected (Vinyeta et al., 2016). These gender systems were/are disrupted through multiple settler colonial actions that introduced heteropatriarchy and heteropaternalism, and created narrow gender binary distinctions (Arvin et al., 2013). For example, the 1867 and 1951 Indian Acts in Canada regulated Indigenous marriages, forced matrilineal societies into patrilineal structures, defined what constituted a "legitimate" Indigenous woman, granted Indigenous women fewer rights than men, and ultimately caused tensions between Indigenous women and other Indigenous people and organizations (Arvin et al., 2013; Métis scholar Brenda Gunn, 2014; Simpson, 2008).

In addition, Residential Schools forced Indigenous students into heterosexual and patriarchal gender norms (Arvin et al., 2013; Whyte, 2017a), and introduced gender violence to Indigenous communities both within and outside the Residential Schools (Gunn, 2014). As Anishinaabe researcher Rebekah Elkerton (2019), who works with the Quebec Native Women Association, highlights, settler colonialism continues to negatively affect traditional gendered roles and the safety of Indigenous women. Given these historic and ongoing constraints forced on Indigenous women, identity recognition and associated rights are key issues for Indigenous feminist theories (English, Ktunaxa, and Cree-Scots Métis scholar Joyce Green, 2017).

Settler colonialism is an important issue in relation to climate change because climate change itself is considered an intensification of colonialism (Whyte, 2017a). Climate change and associated environmental changes can disrupt traditional, non-hierarchical gendered relationships and responsibilities to land (Elkerton, 2019; Nixon, 2015; Whyte, 2014). For example, Indigenous women in many Nations have a traditional gendered responsibility to protect water (Elkerton, 2019; Whyte, 2014). Climate change impacts and related activities that degrade water can make it more challenging and dangerous for Indigenous women to continue their traditional responsibilities for water (Native Women's Association of Canada, 2018), which can also affect Indigenous women's identities and roles within their communities (Elkerton, 2019; Whyte, 2014). Indigenous feminist theories also make clear the connections between settler colonialism, environmental degradation, climate change, and gender violence, including the ways that fossil fuel exploration, extraction, and shipping industries perpetuate colonial gender violence (Cameron, 2012; Anishinaabe scholar and lawyer Victoria Sweet, 2014), and cause toxic pollution that harms the reproductive freedoms of Indigenous women and communities (Nixon, 2015; Perkins, 2017). In short, "land justice is gender justice" (Native Women's Association of Canada, 2018, p. 2) in the context of settler colonial land management practices and climate change in Canada.

Indigenous feminist theories are grounded in history, activism, and desire and highlight that "one of the most radical and necessary moves toward decolonization requires imagining and enacting a future for Indigenous peoples—a future based on terms of their own making" (Arvin et al., 2013, p. 24). It is recognised that Indigenous resurgence needs to centre gender and queerness and address sexual and gender violence (Simpson, 2016), and that Indigenous women need to be actively involved in this process (Gunn, 2014). Climate activism offers an important

opportunity for the restoration of healthy gendered relationships and responsibilities (Vinyeta et al., 2016) as well as challenging colonialism, heteropatriarchy, heteropaternalism, and capitalism in relation to climate change (Williams et al., 2018). Indigenous women have unique agency and leadership for taking climate action and these Indigenous women-led actions need to be honoured, promoted, and reclaimed in climate change research (Perkins, 2017; Whyte, 2014, 2017a; Williams et al., 2018). Indigenous climate change studies scholar Whyte (2014) calls for non-Indigenous groups to honour their political responsibilities to Indigenous women, which includes fostering Indigenous women's own forms of climate action.

While the gendered aspects of settler colonialism are at the heart of Indigenous feminist theories, ultimately this field centres Indigenous land connections (Green, 2017) and Indigenous sovereignty, futurity, and decolonization (Arvin et al., 2013). Even though Indigenous feminist theories share similarities with other feminisms (Green, 2017), Indigenous feminist theories are distinct and ultimately incommensurable with other feminisms (Tuck & Yang, 2012). However, "the opportunities for solidarity lie in what is incommensurable rather than what is common across these efforts" (Tuck & Yang, 2012, p. 28). Feminist alliances that address differences between colonial histories and current positionalities offer opportunities for working together in taking climate action (Arvin et al., 2013; Williams et al., 2018).

Intersectionality

Intersectionality is a feminist theory that refers to "the interaction between gender, race, and other categories of difference in individual lives, social practices, institutional arrangements, and cultural ideologies and the outcomes of these interactions in terms of power" (Davis, 2008, p. 68). Intersectionality emerged within Black feminist thought and activism, and similar ideas simultaneously developed within other feminisms including ecofeminism and Indigenous

feminist theories (Kaijser & Kronsell, 2014; Lloro-Bidart & Finewood, 2018). Social categories are an important concept in climate change research because characteristics such as gender, ethnicity, and socio-economic status ultimately affect individual responsibility, vulnerability, and decision-making powers related to climate change (Kaijser & Kronsell, 2014; Williams et al., 2018). Hence, intersectionality provides a lens into how various social categories interact with power structures to shape the lived experiences and knowledge generated in relation to climate change (Kaijser & Kronsell, 2014; Williams et al., 2018).

As noted earlier, gender is a key point of difference in relation to climate change, and intersectionality allows focusing on the differences within the "women" category (Fletcher, 2018). There is a need for gender and climate change research that explores specific groups of women in localized contexts to better understand the relationships between climate change and gender (Kaijser & Kronsell, 2014; Moosa & Tuana, 2014). However, a key challenge for intersectional research is to identify and select appropriate social categories for analysis (Davis, 2008; Fletcher, 2018; Walker et al., 2019). For example, there are many social categories within, and intersecting with, one's gender identity and it is not feasible to address them all in empirical research (Walker et al., 2019).

A full intersectional analysis is outside the scope of this thesis research. However, in the context of settler colonial Canada, individuals' colonial history and associated social positioning is a critical consideration to ensure that climate change education research does not entrench colonial power relations and associated inequities (Walker et al., 2019). My research attends to intersectionality by focusing on climate change, gender, and social movements within Canada, and respects non-Indigenous and Indigenous women as two social categories of difference.

Gender and Climate Change in Canada

The concept of gender is complex and dynamic. Gender is a social relation that emerges out of social situations and interactions, and varies across time and place (Connell & Messerschmidt, 2005; Fletcher, 2018; West & Zimmerman, 1987). Gender is distinct from sex. Sex determination is a social process and is typically based on physical and biological characteristics for classifying people as either female or male (West & Zimmerman, 1987). However, both Western (West & Zimmerman, 1987) and Indigenous (Luiseño, Cupeño scholar Sheila Meissner & Whyte, 2017) notions of gender highlight that sex is not the sole determinant of one's gender, and that gender binary categorizations do not account for the complexity of gender identity. Gender might include sex-based considerations, as well as sociocultural dimensions such as socially constructed roles, relationships, behaviours, and histories (Fletcher, 2018; Reid et al., 2017; West & Zimmerman, 1987). In fact, West and Zimmerman (1987) introduce the concept of "doing gender" to highlight how gender is an "ongoing activity embedded in everyday interaction" (p. 130).

Masculinity and femininity are gendered orders and relations associated with being male or female, which ultimately determine power relations between women and men (Connell, 1990; MacGregor, 2010; Stoddart & Tindall, 2011). Hegemonic masculinity is the socially preferred representation of maleness at a particular time and place, and in the dominant culture, this includes being competitive and rational, while devaluing women, feminine activities, and other forms of masculinity (Connell, 1990; MacGregor, 2010; Stoddart & Tindall, 2011). Hegemonic masculinities ultimately maintain patriarchy and gender inequity (Connell, 1990; Kennedy & Russell, 2020).

Gender and climate change is a relatively under-researched topic in Canada (Sellers, 2018). Emerging research demonstrates that there are gendered dimensions to climate change discourses, impacts, and mitigation and adaptation opportunities as well as climate change knowledge and politics as they relate to non-Indigenous and Indigenous women in Canada. These gendered dimensions to climate change are not related to women's intrinsic characteristics and are not applicable to women as a universalized group (Pearse, 2017). Rather, women and men in Canada often engage in different kinds of paid and unpaid work, have different physical attributes, and have different social, economic, cultural, and historical relationships and responsibilities that ultimately create gendered inequities related to climate change (Cohen, 2017; Williams et al., 2018).

Climate Change Discourses

Masculinities are significant in the context of climate change because men dominate all levels of climate decision-making in Canada (Williams et al., 2018), including political, scientific, governmental, and corporate decisions (MacGregor, 2009, 2014). That being the case, climate change is framed by masculine discourses that determine how climate change is understood and addressed (MacGregor, 2010; Williams et al., 2018). The hegemonic masculine climate change discourses evident in Canadian climate change publications and media reporting include gender-neutral science modelling, new technologies, and market-based solutions that typically operate from the top-down and are based on Western knowledge systems (MacGregor, 2010; Terry, 2009; Williams et al., 2018). These technological and market-based solutions are economically profitable, support capitalism and neoliberal development (Hultman & Anshelm, 2017; MacGregor, 2010; Williams et al., 2018), exclude Indigenous perspectives, and perpetuate settler colonialism (Williams et al., 2018).

Hegemonic femininity refers to the socially preferred representation of femaleness at a particular time and place, and in the dominant culture, this includes roles and responsibilities such as childcare, household work, and making household consumption decisions (MacGregor, 2009). Feminized climate discourses include social responses such as promoting human security, ethical consumption, and adhering to the precautionary principle (MacGregor, 2009). Masculine climate discourses are thought to undervalue and undermine typically feminine issues of concern in climate politics, including environmental health, habitats, and livelihoods (Gaard, 2015; MacGregor, 2009, 2010). Hegemonic femininity discourages women's involvement in math and sciences, which further distances women from the dominant masculinized climate change discourses and solutions (MacGregor, 2009).

Ecofeminism and Indigenous feminist theories offer alternative discourses that reframe climate change issues and solutions by challenging capitalism, neoliberalism, patriarchy, and colonialism (Williams et al., 2018). These alternative lenses also provide valuable insight into how and why non-Indigenous and Indigenous women in Canada experience inequities related to climate change, and why the field of climate change education ought to respond to these injustices.

Women and Climate Change Impacts

In Canada, women are disproportionately affected by climate change impacts due to women's livelihoods, social statuses, gendered roles and responsibilities, and colonial histories (Cohen, 2017; Williams et al., 2018). For example, in Saskatchewan and Alberta, extreme drought entrenched farm women's gendered roles and perspectives as caregivers, helpers, and supporters of their farm and families, which ultimately caused physiological stress and limited their ability to cope (Fletcher, 2017). In Qikiqtarjuaq and Kangiqtugaapik, Nunavut, both

changing ecological conditions and ongoing colonialism affect Inuit women's land-based activities, identities, and well-being as well as culturally derived gendered roles, responsibilities, and livelihoods relating to food preparation, craft production, and intergenerational knowledge transmission (Dowsley et al., 2010).

Climate change impacts also pose significant health implications for women in Canada (Williams, 2018). Demonstrated impacts include heat waves and ice storms affecting pregnancy outcomes (Auger et al., 2014; King et al., 2012), extreme flooding resulting in mental health issues and increased sexual violence against women (Sahni et al., 2016; Sellers, 2018), and changing ecological conditions affecting traditional food sources and diets for Indigenous women (Dowsley et al., 2010; Elkerton, 2019; Whyte, 2014). Furthermore, warming Arctic conditions and associated increased economic development opportunities exacerbate colonial gender violence against Indigenous women and girls (Sweet, 2014; Whyte, 2017a, 2020). Indeed, in Canada, there is a strong correlation between resource extraction industry work camps ("man camps") and violence against Indigenous women at the camps and in neighbouring communities (National Inquiry into Missing and Murdered Indigenous Women and Girls, 2019). As Mi'kmaq lawyer and scholar Pam Palmater (2020) highlights, climate change is a result of colonial violence against Indigenous people and land, including genocide against Indigenous women and girls (see also Fernwood Publishing, 2020). While these gendered dimensions of climate change are disturbing, there also is a need to shift climate change discourses from portraying women as vulnerable victims of climate change impacts and instead focus on their agency and futurities (Arvin et al., 2013; Williams et al., 2018), which my research sought to achieve.

Women and Climate Change Mitigation and Adaptation

The gendered dimensions of climate change mitigation and adaptation in Canada are directly related to women's gendered norms and roles, including their paid and unpaid work (Cohen, 2017; Pearse, 2017). Women are less involved in greenhouse gas emitting industries (Cohen, 2014) and more involved in fields such as health, teaching, and administration (Perkins, 2014). Women are underrepresented, underpaid, and treated negatively in Science, Technology Engineering and Math (STEM) jobs and training, including in the renewable energy sector that seeks to reduce greenhouse gas emissions and support climate adaptation strategies such as green infrastructure (Baruah, 2017; McFarland, 2013).

With respect to unpaid work and typical feminized household responsibilities, climate mitigation and adaptation policies can create new gendered inequities (Pearse, 2017; Williams, 2018), including additional work to reduce household greenhouse gas emissions and other responses to climate change impacts (Clancy & Roehr, 2003; MacGregor, 2009). For example, energy conservation initiatives, such as reducing electricity rates during off-peak times, can result in household duties being pushed into the night when electricity costs are cheaper (Cohen, 2017). In addition, women are also the primary target of the "green agenda" in that private sphere lifestyle choices that could support climate change mitigation and adaptation, such as recycling and growing food, are typically women's unpaid work (MacGregor, 2009, 2014).

Climate change mitigation and adaptation themselves are often framed within masculine discourses that emphasize science, technological, and economic solutions and neglect the broader sociopolitical structures that create gendered inequities (Cohen, 2017; MacGregor, 2009). Overall, women are generally underrepresented in climate change mitigation and adaptation policy in Canada (Williams et al., 2018). For example, Indigenous women's

traditional knowledge, agency, and perspectives of climate change being intricately connected

with resource extraction and pollution remain neglected in climate mitigation and adaptation

policy and actions (Whyte, 2014, 2017a). Carbon taxes have disproportionate impacts on people

with lower incomes, and women's generally lower socio-economic status and combined

responsibilities of their professional, household, and childcare work can affect their ability to

manage these additional costs (Chalifour, 2010). Furthermore, tax policy analysis and refundable

low-income carbon tax credits are generally conducted at the household level rather than the

individual level and do not account for gendered roles and responsibilities within a household

(Chalifour, 2010, 2017).

Despite the Canadian Government's commitment to gender mainstreaming[7] in

governmental policy (Government of Canada, 2017), gender inequities in Canada's climate

mitigation and adaptation policies persist and perpetuate gender-related climate injustices

(Williams, et al, 2018). Furthermore, the implementation of gender mainstreaming can reinforce

gender inequities based on the assumptions and expectations of gendered roles (Alston, 2014;

Pearse, 2017). There is a need for policies that move beyond scientific and technical climate

solutions to instead support and empower non-Indigenous and Indigenous women alike to take

climate action on their own behalf (Alston, 2014; MacGregor, 2010, 2009; Whyte, 2014).

Women are also considered leaders and agents of change for responding to climate

change because of how climate change affects their paid and unpaid work, roles, and

responsibilities (Pearse, 2017; Perkins, 2014, 2017; Williams et al., 2018). For example, women-

led climate activism initiatives in both Toronto and New Brunswick benefited from women's

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[7]Gender mainstreaming is a strategy for ensuring that gendered perspectives and implications for men and women are incorporated into any legislation, research, policies, programs, and actions (Alston, 2014; Government of Canada, 2017; UN Women, n.d.). The goal of gender mainstreaming is to promote gender equality at all levels (Government of Canada, 2017; UN Women, n.d.).

community connections, local knowledge, and caring roles (Perkins, 2014). These climate

activism initiatives can change the lives of the women involved as well as the lives of other

women (Perkins, 2017), which makes women's learning through climate activism an important

matter in the field of education.

Many Indigenous women are also at the forefront of climate activism because of the way

colonialism and resource extraction and consumption are impacting their lands, communities,

bodies, and associated well-being (Perkins, 2017; Whyte, 2017a). For example, the Ontario

Indigenous Women's Water Commission was created by the Anishinabek Nation to honour

Indigenous women's traditional and emerging responsibilities for caring for water in a colonial

context (Anishinaabe scholar Deborah McGregor, 2012; Whyte, 2014, 2017a).

Indigenous women have also coordinated a variety of significant climate activist

responses within Canada, ranging from international actions for protecting Arctic and Inuit

communities, to the national Indigenous, environmental and gender justice movement, "Idle No

More," to challenging tar sand exploitation in Alberta (Perkins, 2017). For example, Inuit

politician, activist, and author Sheila Watt-Cloutier led the first international legal action on

climate change that challenged the United States' greenhouse gas emissions for violating the

human rights of Inuit peoples (Perkins, 2017; Prior & Heinämäki, 2017; Watt-Cloutier, 2018a,

2018b). Watt-Cloutier's leadership in a human rights-based approach to international climate

action expanded the climate change dialogue beyond economic and technical solutions to ethical

considerations addressing the human rights of Indigenous peoples (Prior & Heinämäki, 2017;

Watt-Cloutier, 2018a, 2018b).

Idle No More is a national movement initiated by four Indigenous women representing

Treaty lands of Kahkewistahaw, Nêhiyaw Cree, and Pasqua First Nations (Idle No More, 2020;

Perkins, 2017) that expanded into a diverse Indigenous movement that centres Indigenous rights (Anishinaabe artist and author Wanda Nanibush, 2015). Idle No More originated in opposition to the weakening of environmental protection laws in Canada, and continues to advocate for Indigenous rights, land and water protection and the inclusion of marginalized voices of women, two-spirited people, and youth in climate justice initiatives (Nanibush, 2015).

While this small collection of examples highlights the diversity of Indigenous-women-led climate activism in Canada, Simpson et al. (2018) also note that Indigenous resistance takes many forms and Idle No More, as an example, builds on a long history of Indigenous resistance; it is "only the latest mass mobilization visible to white Canada" (p. 77). Indigenous people are involved in a variety of resistance and resurgence activities in Canada that may or may not fall under contemporary Western articulations of climate change mitigation, adaptation, activism, or education, which further reveals the importance of incorporating Indigenous voices in climate change-related research.

Women and Climate Change Knowledge

There are significant gendered differences regarding climate change knowledge and how women come to know about climate change that are related to women' gendered roles, responsibilities, and work (Perkins, 2014). Various surveys indicate that women in Canada are more likely than men to consider climate change a significant risk (Sellers, 2018). For example, women in New Brunswick coastal communities perceived climate change as a serious threat, both before and after a public information session (Lieske et al., 2014). Women in Alberta were shown to trust climate science-based information sources more than men, but actually used these scientific information sources less (Boulianne & Belland, 2019). These results align with feminist scholarship that demonstrates how climate science falls within masculine discourses that

tend to exclude women and their concerns (MacGregor, 2010) as well the gendered inequities

that women experience within science-based institutions (Baruah, 2017). Furthermore, the

gender and climate change literature highlights that women "possess invaluable local ecological,

social and political knowledge that is crucial for climate change adaption and mitigation"

(Perkins, 2014, p. 17).

Many Indigenous women have significant cultural, spiritual, historical, and ecological

knowledge and experience regarding climate change, based on non-hierarchical traditional

gendered roles, land-based activities, and knowledge systems (Elkerton, 2019; Whyte, 2014,

2017a; Williams et al., 2018). Indigenous women hold unique knowledge and are responsible for

sharing their knowledge across generations (Elkerton, 2019), including Indigenous ecological

information, languages, mentorship protocols, spiritual relationships with plants and animals, and

memories of environmental change (Whyte, 2017a). Colonial research practices can narrowly

portray Indigenous perspectives on climate change as expressed through local and traditional

knowledge only and neglect colonialism as the larger climate justice issue (Cameron, 2012)[8].

This limited view of Indigenous climate change-related knowledge neglects Indigenous-led

contemporary climate actions such as Indigenous women's organizing of strategic political

movements (Whyte, 2014) or Indigenous communities leading renewable energy projects in

Canada (Lowan-Trudeau, 2017a). Regardless of the climate actions, the renewal of Indigenous

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[8] Indigenous climate justice movements centre colonialism, capitalism, and industrialization in their work (Whyte, 2017b). Issues such as sovereignty and land-based relationships are not typically interpreted as being part of the climate justice nor the environmental movement (Curnow & Helferty, 2018). However, environmental and Indigenous issues are entangled, with climate change being just one example (Tuck & McKenzie, 2014). Given the siloed nature of academic disciplines (Tuck & McKenzie, 2014), colonial research framing, literature search parameters, and citation practices can effectively limit which scholarly voices and literature are associated with "climate change" research. While I have specifically searched for Indigenous authorship on gender and climate change research in Canada, I have had to rely on Potawatomi scholar Kyle Whyte as the primary voice on Indigenous climate change discourse. I acknowledge that my literature review thus is lacking Indigenous women scholars' explicit perspectives on climate change.

women's knowledge and relationships through collective action is itself considered an important

response to climate change (Whyte, 2014, 2017a).

Non-Indigenous and Indigenous women are recognized as having unique knowledge and

agency with respect to climate change. However, patriarchal and colonial research institutions,

paradigms and practices themselves prevent non-Indigenous and Indigenous women's

experiences, agency, and values from entering into climate change-related research, discourse,

and knowledge production (Gough & Whitehouse, 2019, 2020; Lloro-Bidart, 2018; Williams et

al., 2018). This research gap exists because women's voices, interests, and knowledges have

been overlooked in both climate change research in general (Alston, 2014; Williams et al., 2018)

and climate change-related education research specifically (Gough & Whitehouse, 2019, 2020;

Hart & Gough, 2019).

Overall, more research is needed to better understand the relationship between gender,

Indigeneity, and climate change knowledge and the associated opportunities for taking climate

action within Canada (Bunce & Ford, 2015; Kluttz & Walter, 2018; Williams et al., 2018). In

order to create more effective climate solutions, climate change-related research ought to

incorporate historically marginalized voices (Kaijser & Kronsell, 2014), including the voices of

non-Indigenous and Indigenous women. As women continue to lead various climate activism

initiatives in Canada and around the world, it is critical to know what and how knowledge is

being generated, privileged, and reproduced to foster transformative social change (Kluttz &

Walter, 2018). As Gaard (2011) highlights, there is a need to reframe issues such as climate

justice in ways that "people can recognize common cause across the boundaries of race, class,

gender sexuality, species, age, ability, [and] nation" (p. 44) in order to promote more effective

theory, education, and activism. My research sought to fill an important void in gender and

climate change literature by focusing on women's subjective knowledges as well as broader power structures that influence knowledge production.

Women and Climate Change Politics

Both non-Indigenous and Indigenous women are underrepresented in all levels of electoral politics in Canada. Women represent only 35% of all legislator positions in Canada, including 27% in the Parliament of Canada, 11-43% in provincial and territorial legislatures, 18% of municipal government mayors, and 28% of municipal government councillors (House of Commons, 2019). Indigenous women are also underrepresented, with only 1% in the Parliament of Canada, 17% of First Nations band chiefs, and 31% of First Nations band councillors (House of Commons, 2019). Overall, women are underrepresented in all positions of power related to climate change decision-making in Canada, including in the public and private sectors (Chalifour, 2017; Williams et al., 2018), environmental, and engineering sectors, resource management, and co-management with Indigenous governments (Sellers, 2018).

The lack of women's participation in formal politics is considered an issue of justice, equity, and democracy that has been attributed to the male-centred culture and patriarchal nature of politics (Clover & McGregor, 2012). The attributes of being a good leader align with hegemonic masculinities and are contrary to the preferred feminine qualities of compassion, emotion, and teamwork (Clover & McGregor, 2012). This results in a masculinized political culture and associated discourses that determine acceptable political behaviour and reinforce how people think about gender in politics (Clover & McGregor, 2012). The masculinized nature of politics has implications for climate change because even when women hold positions of power, both women and men engage in and reproduce the dominant Western masculine climate

change discourses (Williams et al., 2018), which further entrenches and perpetuates gender

inequities (MacGregor, 2010).

Various organizations and researchers are calling for gender parity in Canadian politics in

general (Clover & McGregor, 2012), and climate change politics specifically (Williams et al.,

2018). However, there is debate as to whether gender parity will affect the masculinized nature

of Canadian politics. For example, Clover and McGregor (2012) studied how women in British

Columbia learned to become local government politicians. All 50 women came to politics

through activism, but their learning within the political sphere was influenced by the gendered

norms of the masculinized ideal of a successful political leader (Clover & McGregor, 2012).

Similarly, an analysis of the relationship between gender, decision-making, and resource

co-management in the Yukon concluded that the active involvement of women decision-makers

resulted in a holistic decision-making process that incorporated knowledge and experiences from

women's roles in the community and on the land (Staples & Natcher, 2015). However, these

women decision-makers generally felt that their voices were not valued, and that they had to

prove themselves on male-dominated boards.

Non-Indigenous and Indigenous women experience various barriers to participating in

Canadian politics, including gender-biased media coverage and gender-based violence and

harassment (House of Commons, 2019; Rheault et al., 2019). For example, the recent woman

Minister of Environment and Climate Change in Canada, Catherine McKenna, has been subject

to gender-based harassment on social media (Anderson, 2019; Syed, 2019), in the public sphere

(CBC News, 2020b; Glowacki & Foote, 2019), and within parliament itself (Collier & Raney,

2018). This harassment has been directly associated with climate politics, where the Minister

was inappropriately referred to as "Climate Barbie" by a male member of parliament, a media

reporting firm (Collier & Raney, 2018), and social media users (Anderson, 2019; Syed, 2019).

As the above examples demonstrate, Canadian climate politics and decision-making are

not separate from the patriarchal gendered social structures and power dynamics that exist within

Canada (Staples & Natcher, 2015). Transformative change is needed to achieve gender justice in

Canadian politics in general (Clover & McGregor, 2012), and climate politics specifically.

Climate change education for all levels of society is considered critical for addressing the root

causes of climate change and gender justice issues alike (Kagawa & Selby 2010; Selby &

Kagawa, 2018), which presents an important research opportunity for the field of climate change

education.

Climate Change Education: An Overview and Critique

Climate change education is considered a critical component in addressing the world's

climate emergency (Gough & Whitehouse, 2020; Reid, 2019; United Nations, 2015). Despite the

general consensus on the role and importance of climate change education in addressing the

climate emergency, and the growing body of climate change education literature, there remain

various research gaps and opportunities (Busch et al., 2019; Reid, 2019). The following sections

provide a critique of existing climate change education research. The scope of this critique

incorporates climate change education research that covers a variety of educational settings

including from formal,[9] informal,[10] and non-formal[11] venues. This critique highlights the

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[9] Formal education refers to education that is institutionalized and planned through public and private organizations, and constitutes the formal education system of a country (UNESCO, 2020).
[10] Informal education refers to intentional lifelong learning activities that are not institutionalized (UNESCO, 2020).
[11] Non-formal education refers to education that is organized, institutionalized, and planned, but occurs outside of the formal education system (UNESCO, 2020).

limitations of, and opportunities for, climate change education research as related to knowledge systems, educational approaches, climate action, and lifelong learning.

Knowledge Systems

Climate change education research covering a variety of educational settings remains largely within the science and environmental education fields, both of which tend to privilege science as the most appropriate form of climate knowledge (Busch et al., 2019; Cantell et al., 2019; Gonzalez-Gaudiano & Meira-Cartea, 2010; Henderson, Long et al., 2017; Monroe et al., 2019; Verlie, 2017; Wibeck, 2014). However, scientific knowledge is considered epistemologically limited, value-neutral and non-subjective (Gonzalez-Gaudiano & Meira-Cartea, 2010), and does not necessarily resonate with people's values systems for promoting the social change needed to address climate change (Cantell et al., 2019; Moser, 2010; 2016; O'Neil et al., 2010).

Overall, the scientific focus of climate change education prioritizes and perpetuates Western knowledge systems (O'Neil et al., 2010; Wibeck, 2014) and masculinized climate change discourses, which makes it challenging to incorporate gender equality into climate change discussions (Terry, 2009). Furthermore, the scientific focus of climate change education can reproduce the human-nature dualism as climate change "knowers" (both students and educators) remain separated from the climate itself (Verlie, 2017). In contrast, both feminist (Verlie, 2017) and Indigenous perspectives (Anishinaabe scholar Megan Bang et al., 2014) on climate change education highlight the relationships, opportunities, and necessity for linking science education with other ways of knowing to understand how climate change impacts land, the more-than-human world, and the lives of all people.

Climate change is increasingly recognized as an interdisciplinary issue with social, political, ecological, emotional, economic, and scientific dimensions (Cantell et al., 2019; Henderson, Long et al., 2017; Monroe et al., 2019; Moser, 2016), and climate change education research is beginning to expand to other disciplinary domains (Busch et al., 2019). However, there remains limited research that investigates social and ecological justice issues in climate change education (Henderson, Long et al., 2017; Monroe et al., 2019; Selby & Kagawa, 2018; Stapleton, 2019). Climate justice thus is an important lens in climate change education research, because education itself plays a key role in reducing and responding to climate injustices (Henderson Long et al., 2017; Kagawa & Selby, 2010; Kanbur, 2015; Reid, 2019). There is a need for more critical climate change education approaches that challenge the dominant power structures and knowledge systems that create climate injustices, including patriarchy, neoliberalism, and colonialism, and instead incorporate other ways of knowing to foster transformative change (Busch et al., 2019; Cantell et al., 2019; Gough, & Whitehouse, 2020; Henderson, Bieler et al., 2017; Selby & Kagawa, 2018).

Educational Approaches

Traditional information-based climate change education occurring in a variety of educational settings has failed to reflect the broad scope and complexity of both climate change and learner subjectivity (Cantell et al., 2019; Monroe et al., 2019; Moser, 2016; Reid, 2019; Wibeck, 2014). Information-based climate change education approaches typically aim to increase climate (science) knowledge, but do not necessarily influence the learner's perception, engagement, or personal connections with climate change nor translate learning into climate action (Kagawa & Selby, 2010; Monroe et al., 2019; Moser, 2016; Wibeck, 2014). These Western approaches to education also neglect Indigenous knowledge systems where learning is

meant to occur through informed consensual engagement between all those involved, and where intellectual knowledge alone is insufficient (Simpson, 2014).

As Moser (2010) states, it is "too simplistic to assume that individuals merely lack education, information or understanding of climate change" (p. 36). Furthermore, this informational approach to education neglects the strength and knowledge of the public as well as the root causes of climate change-related issues (Clover, 2002). There is a need for multiple education approaches to overcome the gap between climate knowledge and action (Wibeck, 2014). Climate change education needs to be varied and dynamic and operate at multiple levels simultaneously by incorporating educational approaches that address other factors in learning such as worldviews, ideologies, social norms, and agency in taking action (Wibeck, 2014; Wolf & Moser, 2011).

Climate change education research highlights the need for participatory climate change education approaches to engage learners, foster positive emotional responses, and promote the motivation and behaviour change needed for climate action (Cantell et al., 2019; Monroe et al., 2019; Selby & Kagawa, 2018; Wibeck, 2014). Effective climate change education approaches need to be engaging, personally relevant, and meaningful (Monroe et al., 2019). Instead of merely receiving information, the focus on personal engagement with climate change promotes learners' active involvement in learning and action, and fosters a personal connection with climate change that involves the "minds, hearts and hands" (Wolf & Moser, 2011, p. 550). These participatory education approaches value the human experience and social construction of knowledge, but still default to Western, masculinized climate science as climate knowledge, and offer limited options for climate action (Busch et al., 2019; Wibeck, 2014; Verlie, 2017).

Climate Action

The ultimate goal of climate change education is climate action (Verlie, 2017). Climate action is framed as actions that support sustainable development goals and reduce climate change impacts (Wibeck, 2014). However, there remains little consensus on what specific outcomes should be sought in climate change education (Reid, 2019). As noted above, in the climate change education literature, climate action generally focuses on the role and responsibilities of the individual in combatting climate change (Reid, 2019; Wibeck, 2014). Yet this concept of climate action is rooted in personal value systems, social norms, cultural ideologies, worldviews, and individual lifestyles (Monroe et al., 2019; Moser, 2016; Wibeck, 2014). While individual actions are important, they are inadequate for the scale of the climate change problem (Busch et al., 2019; Gonzalez-Gaudiano & Meira-Cartea, 2010). Also noted above, individualized climate mitigation and adaptation actions, such as reducing energy consumption and lifestyles changes, also have gendered dimensions as they tend to target feminized activities in the private sphere of a home (MacGregor, 2009, 2014).

Individualized climate actions fail to address the systems, structures, and dominant Western worldview as root causes of climate change (Kagawa & Selby, 2010). When climate change is approached from more critical and relational perspectives, there is potential for broadening climate actions. For example, Verlie and CCR 15 (2020) advocate for an approach to climate change education that "work[s] with the world, rather than upon the world, to foster the capacity to respond to climate change in previously unthought ways" (p. 11). Through this lens, alternative climate actions can be identified, such as "killing carbon joy" that refers to lessening people's pleasure from engaging in unsustainable activities that contribute to climate change (Verlie & CCR 15, 2020). While killing carbon joy might be a novel form of climate action, it is

nonetheless still connected with generic and individualistic climate actions like recycling (Verlie & CCR 15, 2020).

There is a need for climate change education to move beyond a focus on individual actions and instead address the roles and responsibilities of other social actors in taking climate action (Wibeck, 2014). For example, Indigenous climate justice advocates highlight how climate change is entangled in systems of settler colonialism, capitalism, and industrialization that degrade relationships between Indigenous peoples and non-Indigenous social actors (Whyte, 2019). As Whyte (2019) articulates, by focusing on relational qualities such as consent, trust, accountability, and reciprocity, society could coordinate more effective responses to climate change. Some climate change education researchers already acknowledge that collective climate action holds broader possibilities for addressing climate change (Gonzalez-Gaudiano & Meira-Cartea, 2010; Reid, 2019). Thus far, however, there is little climate change education research that focuses on learning through collective climate action (Reid, 2019; Wibeck, 2014), which presents an important research gap that my thesis seeks to address.

Lifelong Learning

Climate change is considered an urgent problem necessitating "all-age learning" that moves beyond the formal curriculum in educational institutions (Kagawa & Selby, 2010). There is a need for informal and non-formal climate change education that engages the public generally (Wibeck, 2014), and the public in Canada specifically (Field et al., 2019). Adult learners from the general public are underrepresented in climate change education literature (Monroe et al., 2019) and some argue that small-scale qualitative research is needed to target specific audiences and develop effective learning opportunities for adults (Wibeck, 2014; Wolf & Moser, 2011). Climate change education researchers like Busch et al. (2019) do acknowledge that learning is

lifelong and occurs in diverse ways and settings, thus there is a need for researchers to "blur the boundaries from the young to old, formal to informal, and individual to community" (p. 11).

Lifelong learning is an educational approach that values learning over a lifetime within and beyond institutional structures (Leathwood & Francis, 2006). However, all educational institutions are criticized for replicating the societies they represent (Jickling, 2013), and this is demonstrated through the lack of climate change content (Berger et al., 2015) and the persistence of gender inequities (Gough, 2004), neoliberalism (Leathwood & Francis, 2006), and settler colonialism (Simpson, 2014) in sites of lifelong learning. For example, a study exploring the effectiveness of Lakehead University's first Climate Change Pedagogy course found that teacher candidates were lacking in climate change knowledge and most were reluctant to engage with the political nature of teaching climate change (Berger et al., 2015). There are also gendered dimensions to lifelong learning where women experience inequities related to access, participation, and outcomes across the field of lifelong learning (Leathwood & Francis, 2006). Furthermore, educational institutions are criticized for legitimizing settler colonial authority over Indigenous knowledge systems and are challenged to provide the proper context for Indigenous learning and intelligence (Simpson, 2014).

Even when attending to climate change, higher education institutions in Canada generally limit themselves to climate policies focused on lowering emissions and modifying built infrastructure while ignoring other key domains of climate action such as education, research, community outreach, and governance (Henderson, Bieler et al., 2017). Typically, these institutions' climate policies frame climate change as an opportunity for economic investment in green technology (Henderson, Bieler et al., 2017), thereby perpetuating both neoliberalism and Western, masculinized climate change discourses.

The primary focus of education is meant to be learning (Reid, 2019), pointing to the importance of lifelong learning outside of educational institutions. Community-based lifelong learning can be valuable for challenging the dominant focus on technological climate solutions, raising awareness about gender issues, and sharing local Indigenous knowledge (Agostino, 2011). I thus chose to focus my own research on the learning opportunities available to non-Indigenous and Indigenous women participating in the climate justice movement.

The Climate Justice Movement

The climate justice movement is an emerging and dynamic social movement in Canada and around the world. The definitions of social movements vary; however, for the purposes of this research, I understand social movements as "processes of political protest that mobilize human, material, and cultural resources in networks linking individual actors and organizations together in pursuit of a common cause" (Jamison, 2010, p. 812). Social movements have played an important role in challenging capitalism and promoting equity, justice, and environmentalism (Clover, 2003) as well as generating climate change knowledge (Jamison, 2010). As a contemporary example, the climate justice movement is a complex network of movements consisting of various individuals and organizations that highlight the relationship between climate change and other environmental and social issues, including Indigenous and gender justice (Kluttz & Walter, 2018; Schlosberg & Collins, 2014).

Climate justice advocates highlight that climate change impacts and policies are created and experienced differently across individuals, communities, and cultures around the world (Kluttz & Walter, 2018). As a result, the climate justice movement focuses on "democratic accountability and participation, ecological sustainability and social justice and their combined ability to provide solutions to climate change" (Chatterton et al., 2013, p. 5). While the climate

justice movement is meant to challenge neoliberal approaches to climate change politics and actions (Routledge et al., 2018), many climate justice-orientated solutions remain within the realm of scientific, technical, and bureaucratic management of greenhouse gas emissions (Curnow & Helferty, 2018). Therefore, what and how people learn through their participation in the broad networks of the climate justice movement is important in understanding the implications and opportunities for taking climate action (Kluttz & Walter, 2018). The following section outlines some of the practical and theoretical social movement learning opportunities in Canada.

Social Movement Learning in Canada

Feminist educators have called for stronger networks, partnerships, and learning cultures within social movements to link education with activism (Clover, 2003). As noted in Chapter One, social movement learning refers to the informal, intentional, and/or incidental learning that occurs within and beyond social movements (Hall, 2009). Social movement learning can occur through direct participation, structured initiatives, and/or observation, and can foster emotional, practical, collective, and discursive learning (Hall, 2009). Furthermore, Hall (2009) asserts that social movements have "magic power" (p. 67) in that they can influence and educate people well beyond the social movement itself.

Social movements provide an opportunity to explore, recognize, and build upon what people already know in order to create new knowledge (Clover, 2002) and to transform peoples' lives and the structures around them (Hall, 2004). Social movement learning is also considered to align with Indigenous decolonizing perspectives, where social movement learning involves deconstructing power relations through resistance, traditional knowledge recovery, and changing of institutional structures (Hall, 2009; Lowan-Trudeau, 2017b). Movement-building offers an

opportunity for Indigenous resurgence, engaged learning, and new knowledge production beyond

education systems (Simpson, 2014). Therefore, social movement learning offers an opportunity

to link climate activism with lifelong learning for both non-Indigenous and Indigenous women.

There is a growing body of research outlining both feminist and Indigenous perspectives

on social movement learning in Canada. Recognizing that the climate justice movement is an

extension of, and addition to, Indigenous and environmental justice movements (Schlosberg &

Collins, 2014), the following examples draw on a collection of social movements in Canada to

highlight associated practical and theoretical learning opportunities. I argue that social movement

learning can offer a broadened perspective on climate change education, where the focus

expands beyond learning *about* climate change to learning *through* climate change activism.

Women and Learning in Practice. The movement to protect Clayoquot Sound, British

Columbia in the 1990's provides insight into the gendered dimensions of social movement

learning. This movement sought to challenge clear-cut logging through protests and logging road

blockades that were primarily supported by women activists representing environmental, peace,

and feminist movements (Walter, 2007). These women became the face of the movement and

were involved in organizing, media, and follow-up reporting, and over two thirds of the arrested

protestors were women (Walter, 2007; Wine, 1997). Activists drew upon feminist principles to

create an "Ecofeminist Peace Camp" that became a site for structured educational activities and

learning within the movement (Walter, 2007). Through being involved in various aspects of the

movement, including the peace camp, blockades, arrests, and legal trials, participants learned

about forest preservation and destruction, logging corporation interests and powers, provincial

and global markets, and injustices in the Canadian legal system and prison system (Walter,

2007). While not explicitly framed as a climate justice movement at the time, both historical

(Wine, 1997) and contemporary (Sierra Club BC, 2018) Clayoquot Sound movement publications recognize the role of forests in preventing and responding to climate change.

Gender was not the key issue taken up in the movement to protect Clayoquot Sound, but feminist principles played an important role in movement activities and outcomes. Stoddart and Tindall (2011) sought to analyse the role of feminism in this movement to understand how both female and male participants viewed the relationship between gender and environmental politics. They found that this environmental movement offered a space for men to encounter feminist politics, foster transformative learning about gender privilege and inequity, and learn to question hegemonic masculinity. Furthermore, both hegemonic masculinity and ecofeminist discourses were considered useful interpretative frameworks for participants to better understand and articulate their view of the relationship between gender and the environment (Stoddart & Tindall, 2011). The combination of women's leadership and feminist approaches to activism ultimately resulted in transformative individual and collective learning and action for both the activists and the wider public (Clover, 1995; Walter, 2007).

The movement to protect Clayoquot Sound also offers important learning opportunities regarding Indigenous land and sovereignty rights and the ongoing impacts of settler colonialism. The movement originated in Indigenous-led sovereignty actions to promote sustainable forestry practices within Nuu-chah-nulth Nations' traditional territories (Tsimshian and Nuu-chah-nulth scholar Clifford Atleo, 2010; Curnow & Helferty, 2018; Walter, 2007). When environmentalists joined this movement in solidarity with Indigenous groups (Curnow & Helferty, 2018), however, the movement's purpose was effectively reframed as protecting "pristine wildness" from "destructive humanity" (Braun, cited in Atleo, 2010, p. 90). This reframing reproduced a human-

nature dualism that is contradictory to Indigenous worldviews and land-based relations (Atleo, 2010).

The reframing of the campaign to protect Clayquot Sound from logging is a powerful example of the blindspots of the settler colonial environmental movement and the imperative for intersectional social movement learning. The movement to protect Clayoquot Sound ultimately became a White, settler colonial environmental movement (Atleo, 2010) that perpetuated colonial relationships to land (Curnow & Helferty, 2018). The Clayoquot Sound movement illustrates why social movement learning needs to create space for learning about unequal colonial power relations and the contradictions that can emerge in Indigenous-environmentalist solidarity work (Curnow & Helferty, 2018). Because the outcomes of social movement learning are dependent on what social movement actors bring to, and derive from, the movement themselves (Hall, 2006; Kluttz & Walter, 2018), more critical perspectives in social movement learning research are needed to ensure that all voices are captured in the process.

Contemporary Indigenous-led environmental and climate justice related movements in Canada, such as pipeline resistance, also provide valuable social movement learning opportunities. Lowan-Trudeau (2017b) drew on theories about decolonization, cultural revitalization, social movement learning, and repressive tolerance to explore the teaching and learning opportunities experienced by Indigenous and allied environmental activists participating in Indigenous-led environmental movements. Lowan-Trudeau's (2017b) research identified various learning opportunities, including learning about forms of activism beyond rallies and protests, relationship-building between cultures and institutions, and traditional cultural protocols and ceremony, highlighting how revitalizing Indigenous traditions is the ultimate form of resistance and learning. Furthermore, Lowan-Trudeau's (2017b) study contributed to the

significant life experience literature exploring peoples' motivations for participating in activism, which has predominantly focused on White, male conservationists (see also Ceaser, 2015). Lowan-Trudeau (2017b) found that both positive and negative significant life experiences were motivators for participating in activism, and argued that more research is needed to understand the significant life experiences of marginalized activists, including Indigenous and non-Indigenous women.

There are also social movement learning opportunities available in mainstream, settler colonial climate justice movements such as the fossil fuel divestment movement. Curnow (2017) drew on feminist, anti-racist, Indigenous, and sociocultural learning theories to explore what student activists learned through their participation in the fossil fuel divestment campaign at the University of Toronto. Curnow (2017) also examined the reproduction and resistance of racialization, settler colonialism, and patriarchy within that movement. Curnow's (2017) study highlighted how the student activists collectively created a White masculine space through uneven participation and power dynamics, with White males engaging in more exclusive talk and receiving more positive affirmations compared to other races and genders. Furthermore, the study showed how participants became politicized through sociocultural learning processes that included "conceptual, practical, epistemological, and identity development" (Curnow, 2017, p. 143).

Feminist and decolonizing analyses of social movement learning in Canada highlight the diversity of learning opportunities associated with climate change-related activism. Whether the movement to protect Clayoquot Sound, Indigenous-led environmental movements, or the fossil fuel divestment movement at the University of Toronto, these examples reveal some gendered dimensions of social movement learning. Curnow (2017) argues that in order to understand how

learning happens in contexts that are shaped by racialization, patriarchy, and colonialism, researchers need to actively account for these power relations and ways of knowing when analysing what and how people learn. I took this to heart in my own research, which is why I drew on ecofeminism and Indigenous feminist theories as well as critical social movement learning theories to account for the power relations inherent in the climate emergency declaration movement.

Women and Learning in Theory. Social movement learning theory itself is subject to conceptual framings that either expand or hinder the understanding of the types of learning taking place within a social movement (Kluttz & Walter, 2018). Kluttz and Walter (2018) draw on multiple social movement learning theories, including feminist and Indigenous decolonizing lenses, to develop a conceptual framework for exploring the types of learning taking place at different levels within the climate justice movement. This framework explores a continuum of individual to collective learning, through varying degrees of organization, including the "individual–interactive learning at the micro level, reframing or reorientation at the meso level, and cultural–ideological change at the macro level" (p. 97). While their framework remains largely theoretical, it is meant to provide insight into how larger power structures such as patriarchy, capitalism, and colonialism shape learning and knowledge production within the climate justice movement. Larri and Whitehouse (2019) recently applied this framework in their study of older women activists focused on the gas fields of Australia and found it to be a useful analytical tool for understanding social movement learning opportunities. Following Larri and Whitehouse, my research also drew on Kluttz and Walter's (2018) conceptual framework to explore the learning opportunities available through the climate emergency declaration movement in the Canadian context.

While not specifically referencing their theoretical framework, Walter and Kluttz (2019) theorize the adult learning opportunities available through the Indigenous-led social movement resisting the Kinder Morgan Trans Mountain Expansion Project on unceded Coast Salish territory in British Columbia. This social movement began with the construction of a traditional Kwekwecnewtxw (watch house) erected by Coast Salish peoples on the path of the pipeline that serves as a place for Indigenous ceremonies, gatherings, ongoing resistance, and learning through the pipeline project (Protect the Inlet, 2018). Walter and Kluttz (2019) draw on Indigenous feminism, decolonizing education, environmental justice theories, and their experience within the movement to theorize adult social movement learning opportunities. These learning opportunities include how Indigenous leadership fosters learning about historic and ongoing colonialism and Indigenous land rights and sovereignty, and supports learning about the Earth and non-human relations (Walter & Kluttz, 2019). Furthermore, Walter and Kluttz (2019) theorize how a community of resistance brings together people of various positionalities to negotiate power and privilege within and beyond the movement, which ultimately can generate new knowledge. For example, they suggest that movement participants learn about gender and race through strategic actions such as encouraging older, rich White men to risk arrest as well as fronting elderly women in blockades to appeal to public sympathy (Walter & Kluttz, 2019). They argue, then, that the climate justice movement offers a valuable place for learning about power, place, and socio-environmental change (Kluttz & Walter, 2018; Walter & Kluttz, 2019). Their research is preliminary, however, so more research on applying these learning theories in practice is still needed.

Climate Emergency Declarations

Recently, climate justice movement advocates have demanded rapid political climate action, including through climate emergency declarations by governments in Canada and around the world (Climate Emergency Declaration, 2020). Climate emergency declarations are a form of democratic accountability and are meant to shift governments into "emergency mode" to foster urgent and meaningful commitments for climate action within governmental decision-making (Cretney & Nissen, 2019; Davidson et al., 2020; Thackeray et al., 2020). The climate emergency declaration movement offers a place for active citizenship and engagement with local and national climate politics, decision-making, and climate action (Thackeray et al., 2020). A recent large-scale study in Canada identified the need for informal climate change education for the public that highlights "case studies of how stakeholders can work together to address climate change locally and nationally, focusing on collective processes that lead to systemic changes" (Field et al., 2019, p. 20). The climate emergency declaration movement in Canada offers a new and under-researched site for analysis for climate change education in general, and social movement learning specifically.

There is emerging research from around the world investigating the forces behind the climate emergency declaration movement. Initiated in 2018 by one Swedish girl, Greta Thunberg, "Fridays for Future" is a youth-led international movement that uses school strikes to demand urgent governmental climate action, including climate emergency declarations (Thomas et al., 2019). Recent research explores the learning opportunities afforded by the Fridays for Future movement, including the role of social media in cultivating climate action (Boulianne et al., 2020) and the motivations behind youth climate activism (Han & Ahn, 2020).

Like women, youth have been historically marginalized from climate change politics and discourses (Han & Ahn, 2020; Thomas et al., 2019). However, the Fridays for Future movement exemplifies the power of young people's agency, political leadership, mobilization abilities, and citizenship skills for cultivating collective climate action (Boulianne et al., 2020; Han & Ahn, 2020; Holmberg & Alvinius, 2020; Thomas et al., 2019). Although young people are not granted the right to vote, youth climate activists have invaluable climate knowledge and an ability to influence climate policy and social change. However, even youth climate activism cannot escape the gendered dimensions of climate change, as Greta Thunberg has been subject to sexist, paternalistic, and misogynistic comments from men in positions of power around the world (Pinheiro, 2020). Regardless of these challenges, the Fridays for Future movement has played an important role in influencing the creation of climate emergency declarations and offers a new and emerging field of social movement learning research.

The recent climate emergency declaration movement has increased the public awareness of, and engagement with, the climate emergency beyond those who were previously directly involved. Indeed, terms such as "climate crisis" and "climate emergency" are becoming more popular in media reporting (Thackeray et al., 2020) and public climate change discourse (Thomas et al., 2019). However, a recent literature search[12] using multiple databases and search parameters confirms that up until this thesis there had been no research exploring the learning dimensions of the climate emergency declaration movement in Canada specifically. Research in

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[12] I conducted my literature search using Omni, Google Scholar, ERIC, and Canadian Business and Current Affairs Database (CBCA), with various search parameters including "climate emergency," "climate emergency declaration," and "declare climate emergency," alongside search terms such as "education," "social movement learning," and "Canada." For reference, Omni is a multidisciplinary search tool that accesses the Lakehead University library's journal, print, and eBook holdings. Google Scholar is a multidisciplinary search tool that accesses a variety of scholarly publication types from different sources. ERIC is a database focusing on North American education-related topics, and CBCA covers business, current events, education, and reference topics from a broad range of Canadian sources.

this realm thus far has been limited to a climate emergency policy analysis in New Zealand and

Australia (Davidson et al., 2020) and the role of public participation in influencing climate

change law and policy in Ontario (Walker, 2020). There also has been no research specifically

exploring the learning of individual decision-makers within governmental organizations. I was

convinced that research on the learning occurring within governments offers an important

perspective on climate change education research since governments are important actors in both

climate change problems and climate justice solutions (Routledge et al., 2018; Whyte, 2013);

hence, the focus of my thesis.

While climate emergency declarations may have some potential for creating social

change, they nonetheless have been explicitly contested by climate policy researchers, and

indirectly contested by ecofeminist and Indigenous climate change scholars who are concerned

that these declarations will entrench the social systems that create gender-based injustices and

injustices towards Indigenous people (Cretney & Nissen, 2019; Hodder & Martin, 2009;

MacGregor, 2014; Thackeray). The climate emergency framing poses potential implications for

women in Canada including further entrenchment of masculinized climate discourses, gendered

roles, and other environmental justice issues because men continue to dominate climate politics

and related emergency measures (MacGregor, 2014). The climate emergency framing can also

invoke fear (Hodder & Martin, 2009), perpetuate the human-nature dualism, and create

acceptance for extreme political action and reduced citizen engagement (Cretney & Nissen,

2019; MacGregor, 2014). Furthermore, colonial power can be justified and wielded through

"emergency management" actions that ultimately silence and harm Indigenous peoples, and

perpetuate injustice against Indigenous communities and land (Whyte, 2017, 2019).

Neither gender issues nor women's political representation are at the face of the climate emergency declaration movement and there is no literature that I am aware of exploring these topics. However, this movement nonetheless engages non-Indigenous and Indigenous women involved in climate politics across Canada (e.g., CBC News, 2019, 2020a; Climate Emergency Action Act, 2020; Helps, 2019). Understanding women decision-makers' roles in the climate emergency declaration movement is important, as women's political empowerment—as both decision-makers and citizens—is considered a key element in addressing climate change (United Nations, 2015).

While there is little research focusing on Canada specifically, emerging research from around the world indicates that there is a positive relationship between the proportion of women decision-makers in a country and the robustness of national environmental policy in general (Lorenzen, 2019; Nugent & Shandra, 2009), and climate policy specifically (Lv & Deng, 2018; Mavisakalyan & Tarverdi, 2018; McKinney & Fulkerson, 2015). For example, Mavisakalyan and Tarverdi (2018) conducted a statistical analysis using data from 91 countries to identify a significant relationship between female representation in parliament and the rigour of climate change policies in reducing greenhouse gas emissions. Similarly, McKinney and Fulkerson (2015) drew on ecofeminism to conduct a cross-national statistical analysis that included Canada, and concluded that countries with higher political representation of women have smaller climate footprints.

While this body of literature remains small, there is consensus that attending to increasing women's political representation could lead to more effective climate policies (Lv & Deng, 2018; Mavisakalyan & Tarverdi, 2018; McKinney & Fulkerson, 2015). This emerging trend, in addition to the gendered dimensions of climate change politics in Canada noted above, warrants

a focus on the perspectives of women decision-makers in Canada. Therefore, my research explored the learning opportunities that women decision-makers experience in the climate emergency declaration movement in Canada.

Summary

Climate change in Canada is not gender-neutral. Ecofeminism and Indigenous feminist theories connect and challenge neoliberalism, patriarchy, and settler colonialism as among the root causes of both climate change and associated gender justice issues. While education is considered critical for addressing climate change, climate change education itself can perpetuate these gendered inequities by valuing Western masculinized climate science as climate knowledge and offering limited educational approaches that focus on individual responsibilities and neglect adult learners, including women. Existing climate change education may not be making the most of opportunities for climate action and lifelong learning.

Social movement learning within the climate justice movement offers an alternative educational approach that links women's climate activism with lifelong learning. As feminist adult educator Clover (2002) highlights, "the pedagogic and the political must be intertwined" (p. 322), and the recent climate emergency declaration movement offers an opportunity to explore the intersection of social movement learning with climate politics and gender justice issues. As women are underrepresented at all levels of climate politics in Canada, my thesis research suggests that documenting the learning opportunities afforded to women decision-makers who are involved in the climate emergency declaration movement offers important and unique insights into living with, learning about, and responding to, climate change.

Chapter Three: Methodology and Methods

Introduction

  Power relations are at the heart of my thesis research. I took a critical and feminist methodological approach to explore the research question: *What and how are women decision-makers learning through their experience within the climate emergency declaration movement?* Guided by my theoretical framework—namely ecofeminism, Indigenous feminist theories, and intersectionality—my research explored both gender and settler colonialism to understand non-Indigenous and Indigenous women decision-makers' learning through the climate emergency declaration movement.

  I begin this chapter by highlighting the need for critical research perspectives in the field of climate change education. I then describe the defining features and goals of feminist research, as well as its compatibility with the theoretical framework outlined in Chapter Two. Next, I outline the research methods, which include interview techniques, data collection, data analysis and member checking procedures, as well as my strategies for participant recruitment and critical reflexivity. I then highlight the theoretical, practical, and ethical considerations that include, and extend beyond, institutional research protocols. Lastly, I outline the limitations of this research.

Research Politics

  I approached my research through a critical paradigm that recognizes that knowledge, truth, and reality are shaped by existing power relations that need to change (Tuck & McKenzie, 2014). My view of reality is that the power structures that create gender, climate, and educational injustices—including patriarchy, neoliberalism, resource exploitation, and settler colonialism—create power imbalances in knowledge production itself. Academic research is dominated by Western (Lowan-Trudeau, 2019; Anishnaabe scholar Lana Ray, 2012) and patriarchal (Gough,

2004; Lloro-Bidart & Finewood, 2018) research paradigms, practices, and voices, which necessitates a closer look at the politics of research.

As noted in Chapter Two, to date, few research publications approach climate change education from a critical lens to understand how power relations and sociopolitical structures interact with both climate change and education (Busch et al., 2019). Furthermore, women's perspectives have been overlooked in both climate change research in general (Alston, 2014; Williams et al., 2018) and environmental education research (Gough & Whitehouse, 2019, 2020; Hart & Gough, 2019), of which climate change education is a sub-field. By attending to these politics of knowledge production, my goal was to disrupt hegemonic research practices and shift thinking (Tuck & McKenzie, 2014) in the climate change education field.

Feminist Methodology

This research process followed a feminist methodology. Feminist research offers a critical perspective that directly addresses material, ideological, and discursive power imbalances (Fletcher, 2018) inherent in institutions, education, everyday life, and the research process (Reid et al., 2017). Feminist research is based on the premise that there is no single truth or reality (Moosa-Mitha, 2015), and this applies to the field of feminism itself. There are various feminisms and feminist theories, and this field is continuously evolving in response to changing sociopolitical issues (Métis and Cree scholar Verna St. Denis, 2017). However, there are key commonalities in feminist approaches to research. Feminist research emphasizes the social construction of gender, recognizes the researcher as an individual who brings their own lived experiences and perspectives to research, reduces hierarchical researcher-participant relationships, and seeks to foster transformative social change (Campbell & Wasco, 2000; Green, 2017; Moosa-Mitha, 2015; Reid et al., 2017; Taylor, 1998).

Feminist research is grounded in the politics of knowledge production. Central to feminist research are questions such as what counts as knowledge, whose knowledge is (re)produced, and what knowledge is used for and by whom (Gough, 2013; Hart & Gough, 2019; Reid et al., 2017). Ultimately, feminist research values women's lived experiences, voices, agency, and identity as knowledge (Campbell & Wasco, 2000; Gough & Whitehouse, 2003; Hart & Gough, 2019). Feminist research also disrupts the subjectivity-objectivity dichotomy as both the participants and researcher(s) are seen as situated individuals rather than objects of research (Kaijser & Krosnell, 2014; Taylor, 1998). Subjectivity is critical for understanding participants' perspectives on everyday life as well as understanding the power relations inherent in knowledge production (Kaijser & Krosnell, 2014; Reid et al., 2017). Feminist research is also complex. It is interdisciplinary and transdisciplinary since power relations cross social, ecological, political, and cultural divides (Lloro-Bidart & Finewood, 2018). Furthermore, feminist research is an interaction of theory, methodology, and action (Childers, 2013; Green, 2017; Hart & Gough, 2019; St. Denis, 2017), where feminist theories are used as analytical tools (Gough, 2013) to identify and discuss findings.

My choice of a feminist methodology is congruent with the feminist theoretical framework I introduced in Chapter Two, which draws on ecofeminism, Indigenous feminist theories, and intersectionality. Ecofeminist research integrates feminist and ecological perspectives (Fox, 1994) and attends to neoliberalism, capitalism, patriarchy, and colonialism as power structures that result in the oppression of women and nature (Gough & Whitehouse, 2020; Plumwood, 1993; Warren, 1990). Indigenous feminist research integrates Indigenous and Western theories, seeks to advance Indigenous agendas, and centres Indigenous women's experience of colonialism, patriarchy, and racism (Green, 2017; Ray, 2012). Intersectionality

provides a research framework for understanding how various categories of difference and associated power structures interact and affect peoples' lived experiences and knowledge production (Lloro-Bidart & Finewood, 2018; Reid, et al., 2017). Taken together, the theoretical framework and feminist methodology helped me engage in a complex analysis that reflects the messiness of life itself (Hart & Gough, 2019; Lloro-Bidart & Finewood, 2018), including what it means to learn through the climate emergency declaration movement.

Methods

Data Collection

Feminist methods are diverse and include conventional data collection methods adapted to suit the research questions and feminist methodology (Campbell & Wasco, 2000; Gough, 2013). I collected qualitative data through semi-structured interviews, following an Interview Guide (see Appendix A) that I developed to help me answer the research question, guided by my theoretical framework. The Interview Guide consisted of open-ended questions that asked participants to share their perspectives on climate change, gender, settler colonialism, and what and how they have learned through their involvement in the climate emergency declaration movement. Nine interviews took approximately one hour to complete, while one took 30 minutes. Interviews were completed in January and February 2021.

I chose semi-structured interviews for data collection because I value human interaction and I wanted to engage in a conversation with participants related to my research topic and theoretical framework, while allowing for some "give and take" between me and the participants (Reid et al., 2017). Semi-structured interviews are also considered appropriate for gaining understanding of social movement learning and can help researchers gain a deeper understanding of what and how social movement messages are received as well as what and how learning

outcomes evolve (Blee & Taylor, 2002). Interviews can bring participants' agency to the fore of

social movement analysis and enable the researcher to dig deeper into the context and meaning

behind participants' interview responses (Blee & Taylor, 2002). In this research, I developed

potential follow-up questions and probes for clarification to encourage more detailed responses

when needed and appropriate.

I provided all potential participants with the Interview Guide during the participant

recruitment process to foster an open, transparent, and egalitarian research process. I began each

interview with a personal introduction to me and my research to make my positionality explicit

from the outset. Personal introductions are considered important for both feminist research

(DeVault, 1990; Oakley, 1981), and research involving Indigenous peoples (Absolon & Willett,

2005; Lowan-Trudeau, 2012) to help personalize and contextualize both the research and the

researcher.

Following informed consent procedures (see Research Ethics section below), all

interviews were conducted via video using Lakehead University's Zoom platform, with the

exception of one interview that was conducted in audio only on Zoom.[13] The audio portion of all

interviews were recorded and transcribed, and for participants who wished to remain anonymous,

I removed identifiable information from the transcripts.

Participant Recruitment

I recruited ten non-Indigenous and Indigenous women decision-makers in Canada who

have been directly involved in the climate emergency declaration movement. The participant

recruitment strategy was guided by critical attention to place and people. The following sections

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[13] I considered video and/or audio conferencing to be the most appropriate interview format for this research given the global coronavirus pandemic declared in March 2020 as well as my hope to include diverse people and places in my research.

outline the participant recruitment strategies, including the places participants were recruited

from, and the people who were recruited, and how this process was carried out.

Place. Recognizing the significance of place in research (Tuck & McKenzie, 2015) and

climate change research specifically (Galway, 2019; Tuck & McKenzie, 2014), participant

recruitment began with purposive sampling that was attentive to place. Place, as a

multidimensional social construct, is a key variable for understanding the power structures that

influence the gendered dimensions of climate change (Arvin et al., 2013; Fletcher, 2018; Kaijser

& Kronsell, 2014). Critical attention to place in research is one step towards addressing

neoliberalism and capitalism (Tuck & McKenzie, 2015) and reducing the human-nature

dichotomy (Bang et al., 2014). In addition, there is a need to explore specific groups of women

in specific places to better understand the relationships between climate change and gender in

their contextualized circumstances (Moosa & Tuana, 2014).

I used the International Climate Emergency Forum—Governments Emergency

Declaration Spreadsheet (Climate Emergency Declaration, 2020) and Google Search to identify

places in Canada that have already adopted climate emergency declarations. As one way to

attend to place, I began my participant recruitment with communities and governmental

organizations in Canada with which I was already familiar, having lived, worked, studied, or

visited the areas. Given that the importance of climate change policy in Canada appears to be

related to regional contexts, as well as population size where larger centres tend to place a higher

importance on climate change (Lucas & Smith, 2019), I sought to incorporate a mix of

geographical locations and community sizes in this research. I also sought to recruit from various

forms of governmental organizations including First Nations, federal, provincial and territorial,

regional, and local governments to reflect the diversity of places and politics within Canada. My goal was to recruit at least one participant representing each type of governmental organization.

People. Once I had a list of possible places in Canada, I explored the government websites, and sought to identify any women decision-makers (e.g. councillors, mayors, chiefs, members of Parliament, directors, board members) directly involved with the adopted climate emergency declarations. Direct involvement varied across government contexts, and included women decision-makers who proposed, moved, or seconded motions to adopt a climate emergency declaration, as well as women decision-makers who publicly advocated for a climate emergency declaration in government meetings, and/or through public government publications (e.g. formal letters or reports). To determine direct involvement, I reviewed government meeting agendas, minutes, resolutions, and live-stream webcasts of public council and committee meetings, as well as related government publications, online news articles, and relevant websites (e.g. political party websites) that were available.

I conducted an internet search to identify potential "women" participants based on various bits of information, including a combination of first and last names, published photographs and supplementary information available on the internet, such as social media postings, governmental and political party websites, news articles, and associated pronoun and prefix use.[14]

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[14] For the purposes of my participant recruitment strategy, my definition of "woman" focused on the gender identity that participants perform in the public sphere and included both sociocultural and sex-based gender considerations. I recognize that my participant recruitment strategy for identifying potential "women" participants was imperfect and subject to debate. My strategy incorporated gendered assumptions regarding name use, sex-based assumptions regarding physical appearance in photographs, and did not, and could not, capture the complexity of gender identity. Therefore, my definition of "woman" for this participant recruitment strategy remained flexible, whereby if participants self-identified with other gender identities that could be broadly interpreted to include "woman", this would still have met my participant recruitment criteria. The Interview Guide explicitly asks the participants which gender(s) they identify with to provide further clarification.

I attended to "Indigeneity" by recruiting women decision-makers directly from First Nations governments that have declared a climate emergency, and by researching all potential participants' personal information publicly available on the internet. For potential participants representing First Nations governments, as well as all other potential participants, I preliminarily identified potential participants as "Indigenous" and/or "non-Indigenous" based on decision-makers' personal profiles available on public governmental and political party websites. However, I did not assume potential participants identity to be "Indigenous" nor "non-Indigenous" based on the information that was, or was not, publicly available on the internet. The definition of "Indigenous" versus "non-Indigenous" for this participant recruitment strategy remained flexible, based ultimately on participants' self-declared identity. To provide clarification, the Interview Guide asked what race(s) and ethnic background(s) the participants identified with.

Praxis. In accordance with the place-based and people-based recruitment criteria, I generated a detailed spreadsheet listing 33 potential participants and I began by contacting ten potential participants via email to formally invite them to participate. This initial contact email included two attached documents, the Information Letter and Consent Form (Appendix B) and the Interview Guide (Appendix A). If participants did not respond, I sent them one follow-up email one week after the initial contact. If participants still did not respond or they chose not to participate, I contacted others from my list on an as-needed basis, while attending to my aim of reflecting the diversity of places and politics within Canada and recruiting equal numbers of both non-Indigenous and Indigenous women decision-makers. As my recruitment progressed, I was challenged to successfully recruit equal numbers of Indigenous women decision-makers; therefore, I reached out to the climate change coordinators from each of the First Nations

governments that declared a climate emergency and asked if they might suggest any women decision-makers who were involved in the climate emergency declarations. I also broadened my interpretation of "decision-makers" to include "climate change coordinators" themselves to account for the key role that these people play in the climate emergency declaration movement.

In the end, I contacted all 33 potential participants that I originally identified. These included six from First Nations governments, four from the federal government, four from provincial or territorial governments, five from regional governments, and 14 from local governments. The ten participants who agreed to participate included (in first-name alphabetical order):

- **Ann Baird** (Ann B), a local government councillor in British Columbia, of mixed European ancestry;

- **Ann Desmond-Snow** (Ann DS, pseudonym), a Canadian local government councillor in Ontario;

- **Elizabeth Roy**, a local and regional government councillor in Ontario, of Dutch ancestry;

- **Emily McDougall**, a climate change coordinator in a Yukon First Nations regional advocacy organization, of Southern Tutchone, Tlingit, and mixed European ancestry, and a member of the Kwanlin Dün First Nation;

- **Kate White**, a Member of the Yukon Legislative Assembly, of German and Scottish ancestry;

- **Lisa Helps**, a mayor of a local government and a director of a regional government in British Columbia, of Greek and English ancestry;

- **Michelle Staples**, a mayor of a local government and a director of a regional government in British Columbia, of mixed European ancestry;

- **Nicole Rose Smith** (pseudonym), a local government councillor in British Columbia, of Scottish descent;

- **Ruba Ghazal**, a Palestinian Quebecer, and a Member of the National Assembly of Quebec; and

- **Xtli'li'ye** (Lydia Hwitsum), a Political Executive representing First Nations and Tribal Councils in British Columbia, and a citizen of the Cowichan Nation.

The participants represent a diversity of life and career stages, ranging from early career (e.g. just over two years) to near and post-retirement. Most participants cited their climate change and environmental-related activism as beginning in their adolescent years, and continuing throughout their working life within and beyond electoral politics.

All participants are champions of the adopted climate emergency declarations within the governmental organizations for which they work, having successfully introduced the motions to declare a climate emergency and/or having publicly advocated for the adopted climate emergency declarations and follow-up climate emergency actions. Participants' specific roles within the climate emergency declaration movement varied slightly depending on government and workplace contexts.

Participants' roles within the climate emergency declaration movement included researching and writing the climate emergency declaration language based on climate emergency declarations declared in other jurisdictions, input from climate concerned community groups, and collaboration with other decision-makers, governments, and agencies. Participants' roles also included moving the motions to declare a climate emergency, and advocating for and supporting other decision-makers to vote in favor of these motions at the decision-making

forums in which they work, including local, regional, First Nations, and Tribal councils, and legislative and national assemblies.

Participants' ongoing roles within the climate emergency declaration movement included meeting with individuals, businesses, community groups, other governments, and external agencies that are interested in and affected by the climate emergency declarations. This work included ongoing collaboration with these individuals and groups to ensure that community priorities and development projects align with the climate emergency declaration language and intended outcomes. Furthermore, participants continue to uphold the climate emergency declarations within the decision-making forums in which they work by advocating for ongoing climate emergency actions such as climate action plans, strategies, projects, and associated funding.

Data Analysis

I began my data analysis by reading each approved interview transcript (see Member Checking section below) as a whole to analyze and interpret the transcripts both individually and collectively. To aid in my interpretation, I conducted inductive coding using Microsoft Word[15] to develop codes from key quotations from the interview transcripts. Next, I analyzed the codes in relation to one another to develop emerging themes and associated descriptions, namely "learning self," "learning worldviews," and "learning power". To generate these themes, I interpreted the coding in light of the research question, theoretical framework, and feminist methodology by comparing the data to the relevant literature.

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[15] My intention was to use NVivo qualitative data analysis software, however as a result of the February 16th, 2021 cyber security event affecting Lakehead University software licensing, this software was inaccessible at the time of data analysis.

In particular, as introduced in Chapter Two, I used Kluttz and Walter's (2018) conceptual framework for exploring the types and levels of learning within the climate justice movement as an analytical tool to help me answer my research question. To create the Findings and Discussion chapter of this thesis, I described and supported each emergent theme using relevant "snippet" quotations (Reid et al., 2017) from the interview transcripts. I used between five and seven quotations from each participant to ensure that my research reflects a balanced perspective across all participants. I also interpreted, discussed, and explained the key findings in relation to the relevant literature, and in light of my positionality as a researcher.

Member Checking

To improve data accuracy, I conducted up to two rounds of "member checks" (Reid et al., 2017) throughout the research process, following participant preference. First, I emailed the draft interview transcript to the associated participant for their review and approval if requested (n=2), and I used the approved transcripts as the basis for my data analysis. After my Findings and Discussion chapter was drafted and reviewed by my thesis supervisor, I emailed it to participants who requested the opportunity (n=5) to review and approve the findings before submitting my thesis. Of these five participants, three participants provided minor edits that are incorporated into this thesis, while two participants did not respond to email communications inviting feedback on the draft Findings and Discussion chapter.

Reflexivity

Feminist research centres reflexivity as a methodological tool for analysing and critiquing the power imbalances inherent in the research process (Pillow, 2003). Feminist research also respects the researcher as "a real individual with specific and locatable interests" (Gough, 2004, p. 157). This researcher subjectivity influences the entire research process, including formation

of the research question, data collection, and interpretation of the research findings (Pillow, 2003). Therefore, reflexivity surrounding power, voice, and representation (Reid et al., 2017) was critical for ensuring all perspectives were appropriately captured as well as possible and represented in this research. However, reflexivity in feminist research moves beyond researchers seeking to understand themselves, and how to represent other people and find truth, to questioning the reflexive process itself (Pillow, 2003).

Feminist researcher, Pillow (2003), advocates for critical reflexivity that is unfamiliar and uncomfortable, and includes "messy" (p. 193) examples that highlight the reality of engaged qualitative research. For example, critical attention to voice and representation begins with "behind the scenes" (Mott & Cockayne, 2017, p. 967) work related to citation practices. Citation practices are political and ultimately influence what and whose knowledge is (re)produced in research (Ahmed, 2013; Russell, 2016; Tuck et al., 2015). I critically engaged with the voices and discourses that I cited by researching and learning about the authors represented in my research (Mott & Cockayne, 2017). My citation practices focused on representing Indigenous, feminist, and activist thought (Tuck et al., 2015), including citing non-Indigenous and Indigenous women authors. While conscientious citation strategies may be challenging and debatable, they offer a method for disrupting hegemonic research practices (Ahmed, 2013; Mott & Cockayne, 2017; Russell, 2016). Ultimately, feminist research is about doing research and reflexivity differently (Pillow, 2003), which I believe includes engaging in citation politics.

In addition to my citation practices, I practiced reflexivity throughout the research process via on-going reflection. I resonated with Thompson's (2014) "feminist-inspired beliefs that thinking is feeling is doing" (p. 249); therefore, I made reflexive notes during the research as I conducted the interviews and wrote the Findings and Discussion and Conclusion chapters.

These reflexive notes allowed me to take into account the role of power relations, voice, and representation in my pursuit of generating knowledge. I explored my positioning in relation to the research (Walker et al., 2019) as well as recorded my evolving thoughts and feelings about the research (Reid et al., 2019). Feminist research calls for critical attention to the words chosen to write about women's experiences and perspectives (DeVault, 1990; Oakley, 1981; Pillow, 2003). Therefore, I reviewed my reflexive notes to inform both what I wrote and how I wrote it (Pillow, 2010) in representing others in this research. Overall, while my reflexive notes did not influence my interpretation of the research findings, they did influence my choice to represent the participants' perspectives through direct quotes rather than paraphrasing.

Research Ethics

This research was inherently political, which required careful attention to research ethics theory and practice. As outlined in Chapters One and Two, non-Indigenous and Indigenous women may (or may not) experience gendered inequities in relation to climate change discourses, impacts, mitigation, and adaptation strategies, as well as climate change knowledge and politics. This includes the real and material gender-based violence and harassment that is systemic in Canadian politics at various levels (Green, 2017; House of Commons, 2019; Rheault et al., 2019). Therefore, my intention was to strictly maintain research participants' confidentiality by protecting participants' identities including their names, geographical locations, and government affiliations as well as any other identifiable data that emerged. However, to my surprise, the majority of participants explicitly requested to have their names used in all research publications, specifying that option on the participant Consent Form (Appendix B).

As noted, my aim was to recruit both non-Indigenous and Indigenous women decision-makers across Canada to capture and share the perspectives of both. Therefore, attention to Chapter Nine of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) was warranted (Panel on Research Ethics, 2019). However, I viewed and respected Indigenous women decision-makers as being entitled to the same freedom of expression as non-Indigenous women decision-makers, and thus my recruitment strategies were the same for each. I considered the community engagement requirement as per TCPS 2 Chapter 9 (Panel on Research Ethics, 2019) to be a patriarchal and colonial research practice, which my research sought to disrupt. Lakehead University Research Ethics Board agreed that this research did not need the sort of community engagement required in TCPS 2 Chapter 9.

In accordance with TCPS 2, I applied for, and received, ethical approval for this research through the Lakehead University Research Ethics Board using the Romeo Research Portal (see Appendix C for Approval Letter). I obtained informed consent from participants via a Western consent process involving paperwork (Lowan-Trudeau, 2017b). I provided potential participants the Information Letter and Consent Form (Appendix B), as well as a copy of the Interview Guide (Appendix A). I also obtained explicit consent regarding interview audio-recording and anonymity via the completed Consent Form, which I collected prior to the interviews. Lastly, I reviewed ethical considerations with participants at the beginning of each interview as outlined in the Interview Guide.

Ethical considerations in this research extended beyond historically patriarchal and colonial research ethics protocols. Tuck and McKenzie (2015) highlight the need for researchers to reconsider and broaden both who and what needs protection through research ethics. This necessitates moving beyond research protocols towards ecological considerations that are

accountable to people, place, Indigenous land, and future generations (Tuck & McKenzie, 2015).

As Verlie (2019b) states, "all human undertakings are either contributing to, or reducing climate

change" (p. 6), and this includes the research process itself (Tuck & McKenzie, 2014).

Tuck and McKenzie (2014) advocate for relational validity, where research "prioritizes

the reality that human life is connected to and dependent on other species and the land" (p. 4).

Similarly, Warren (1990) advocates for a feminist and environmental ethic that is contextualized

and values relational qualities such as care, love, and reciprocity. These relational ethical

considerations require close attention to, and reflection on, what the research actually does over

the long term, and whether or not it compels action and change (Tuck & McKenzie, 2014, 2015).

Reflexivity plays a key role for addressing these ethical considerations. My role as researcher

included careful consideration of how both people and place are portrayed through my data

interpretation and writing (Reid et al., 2017) to avoid perpetuating both social and ecological

injustices.

Research Limitations

The theoretical framework ultimately shaped, broadened, and limited how and what

knowledge was created and reproduced through my research. The theoretical framework

influenced the topics explored, the scholarship cited, the questions asked, and the findings

disseminated. While the chosen combination of theory, methodology, and methods cannot

capture the complexity of all knowledge and actions (Gough & Whitehouse, 2003; Hart &

Gough, 2019), my hope is that my thesis research offers a reasonable start for contributing to a

broadened view of climate change education.

This research was exploratory and includes a relatively small sample size of ten

participants. Five to ten participants is considered appropriate for exploratory qualitative research

(Reid et al., 2017), although this small sample size was not expected to result in comprehensive findings that are generalizable to all women decision-makers. Furthermore, my research contains an unbalanced sample consisting of two Indigenous women decision-makers and eight non-Indigenous women decision-makers. While my intention was to recruit equal numbers of each social category, I did not intend to single out, nor describe, nor compare the responses from Indigenous versus non-Indigenous women. Rather the intention of my research was to learn and share the perspectives of both Indigenous and non-Indigenous women, and to respect individual subjectivities as climate knowledge.

My research remains largely anthropocentric and individualistic given my focus on non-Indigenous and Indigenous women's perspectives and experiences within the climate emergency declaration movement. Here, individual women are the centre of agency and knowledge production, which may perpetuate the human-nature dualism in climate change education (Verlie, 2017). This human-nature dualism is incongruent with the perspectives of ecofeminism, Indigenous feminist theories, and intersectionality, all of which emphasize and value the agency of the more-than-human world. To help mitigate this limitation, the Interview Guide probed at participants' feelings about climate change and relationships with nature to focus on participants' relational perspectives on the more-than-human world.

This implementation of the theoretical framework and methodological approach was limited by me as a researcher given my positionality, worldview, and research and writing practices that ultimately defined the knowledge that I sought and shared. My positionality as an insider and outsider both limited and broadened my perception of the participants' (Reid et al., 2017) learning within the climate emergency declaration movement. I was an insider as my social positioning is as a climate conscious woman with experience working in local government

climate change-related decision-making. My insider positioning may have enhanced my rapport and fostered participants' willingness to participate and share knowledge in my research project (Reid et al., 2017).

To mitigate my insider positionality, I strived to maintain "outsider" status as a researcher given the political nature of this research. I followed ethical participant recruitment procedures to help promote a professional research relationship. However, this approach was incongruent with feminist research as it limited my ability to incorporate reciprocity into the research process by sharing my own thoughts, feelings, and experiences (Fontana & Frey, 1994) related to the participants' learning experiences. I am also aware that the participants have public-facing political roles, which may or may not have impacted the perspectives that they were willing to share within my research.

Summary

My research goal was to provide a broadened view of climate change education that moves from "graphs, models and visualizations into tangible realms of experience and agency" (Gough & Whitehouse, 2020, p. 8). That being the case, I aimed to capture non-Indigenous and Indigenous women decision-makers' lived experiences and relational perspectives of learning through the climate emergency declaration movement.

This research emphasized feminist, Indigenous, and activist scholarship as well as the voices of non-Indigenous and Indigenous women. Both the data collection methods and participant recruitment strategies were meant to align with feminist and Indigenous research practices that are sensitive to the specificity of place and people involved in the climate emergency declaration movement. While this research was not without challenges due to ethical,

temporal, and logistical considerations and limitations, I was committed to being critical,

humble, and open as I attempted to represent others and generate new knowledge.

Chapter Four: Findings and Discussion

Introduction

This chapter shares and interprets the research findings related to participants' learning experiences within the climate emergency movement. This chapter is organized by four emergent themes: Learning Self, Learning Worldviews, and Learning Power.

I begin this chapter by introducing Learning Self, which includes participants' nature connections, climate emotions, and family matters, each of which helps situate the participants within the climate emergency declaration movement. Next, I highlight Learning Worldviews that focuses on a climate lens, climate-engaged youths' perspectives, and Indigenous knowledge systems. I then describe Learning Power, which describes participants' learning about and through material power, governmental powers, relationships, the COVID-19 pandemic, and gender, and how these influence the outcomes of their climate emergency declaration efforts. I then end this chapter by revisiting and answering my research question.

Learning Self

In order to attend to the specificity of place and people, I asked participants introductory questions about their positionalities and motivations for being involved in the climate emergency declaration movement. Their responses provided insight into the participants' situatedness, including who the participants are as people and what they bring to the climate emergency declaration movement and their climate activism work more generally. A person's situatedness is important for understanding the knowledge generation and learning opportunities (Kaijser & Kronsell, 2014) within the climate emergency declaration movement. As Walter and Kluttz (2019) highlight, each participant "contributes knowledge, information, and a sense of commitment that stems from their own sociocultural experience learned through their

positionality" (p. 193). This section highlights nature connections, climate emotions, and family matters as important factors that influenced participants' learning experiences within the climate emergency declaration movement.

Nature Connections

I asked participants about their relationships with nature to contextualize place in my research, to honour the agency of the more-than human world in learning processes, and to help reduce the human-nature dualism within my research design. As anticipated by Walter and Kluttz' (2019) work, all participants (n=10) expressed a variety of nature connections that are ultimately related to their individual positionalities and life experiences.

Five participants (Ann B, Emily, Lisa, Michelle, Xtli'li'ye) expressed relational perspectives on nature. For example, Lisa sees herself as "actually from the Earth and vice versa.... and fundamentally not separate." Xtli'li'ye and Emily shared that their relation to nature was informed by their family history and culture. For example, Xtli'li'ye described herself as having an "early connection" with the land through playing and teachings, which included "the idea of brothers and sisters as trees and rocks and the whole other thinking, that sense of connectedness." Lisa, Michelle, and Xtli'li'ye asserted that their connections with nature led to their early engagement with environmental activism, which has carried into their climate emergency declaration work. For Xtli'li'ye, her early teachings and connections with nature ultimately led her to pursue a law degree and engage in advocacy work to "stand up for the [Indigenous] peoples and for Mother Earth." As another example, Michelle described how she volunteered for the Salmon Enhancement Program in her teenage years, and that "early start" in environmental activism resulted in her lifelong engagement with climate politics.

Three participants (Ann DS, Elizabeth, Ruba) expressed how important it is for them to be in nature as a means to (re)connect with the natural world. For example, Ann DS describes going for walks in nature every day to be "mentally therapeutic" while Ruba described nature as "our home." Other participants such as Kate and Nicole spoke about their connections with nature as being directly related to the places where they live. For example, Nicole shared how moving from an urban to a rural area fostered her learning about the agency of the more-than-human world:

> The first time 20 trees came down on our driveway, let's just say it deepened my understanding of where I was and what the benefits and disadvantages were; so, my relationship to nature, I'm very much more present, much more aware of the relationship, much more aware of how things interconnect.

All participants expressed positive connections with nature, which helps provide context for the study. Participants' relationships with nature are theorized to create different knowledge and learning experiences within the climate movement (Walter & Kluttz, 2019). Indeed, Kluttz and Walter (2018) highlight how the land, Mother Earth, and human and non-human relations are an integral part of the climate justice movement, and they hold "affective, material, spiritual, and transformative power for adult learning" (p. 97).

Based on what the participants told me, as well as Kluttz and Walter's (2018) model, I suggest that participants' connections with nature have indeed influenced their roles, identities, and learning experiences as climate leaders. In the significant life experiences literature, positive connections with the natural world are often cited as the primary motivator for being involved in environmental activism (Ceaser, 2014). While I did not actively seek to explore participants' significant life experiences in detail, I speculate that participants' connections with nature

influenced their engagement with the broader climate and environmental movements, and their climate emergency declaration work specifically.

Climate Emotions

I asked participants how they felt about climate change in order to help situate the participants within the climatological system, and to understand their emotional knowledge and learning experiences within the climate emergency declaration movement. All knowledge, including emotional knowledge, is important and necessary to create a balanced learning experience (Simpson, 2014), as well as a balanced understanding of the knowledge generated within the climate emergency declaration movement. All participants expressed a variety of climate emotions, which reflect their individual positionalities and life experiences.

Three participants (Ann B, Emily, Nicole) shared mixed emotional responses to climate change, all of which motivated their lifelong learning about climate change as well as their leadership in the climate emergency declaration movement. For example, Emily shared that through her post-secondary education, she learned about climate change as a being "a deeply troubling and worrisome topic." However, she also finds "hope in finding solutions," and said "that First Nations Climate leadership is a huge part of the solution" and that the First Nations climate emergency declarations specifically make her feel "optimistic about making a positive impact."

Two participants (Elizabeth, Xtli'li'ye) shared mixed emotional responses to climate change as a result of their lived experiences in a world where the climate is changing. For example, Elizabeth described her awareness and concern about climate change as originating when her home and land were expropriated for highway development. Elizabeth highlighted that her observation of tree removal and cement being placed on her home led to her "waking up to

what was happening locally in [her] community, but then abroad as well to decisions that were

happening elsewhere."

Lisa and Michelle described their mixed climate emotions as being related to the climate

movement specifically. For example, Lisa feels "disappointed in us as a species for fouling our

own nest" in addition to also feeling "optimistic that there's mobilization locally, nationally,

provincially, globally, and certainly at the city level to take action."

Three participants (Ann DS, Kate, Ruba) discussed their climate emotions in relation to

their leadership role within the climate emergency declaration movement, and their political

responsibilities related to climate action. For example, when I asked Kate how she felt about

climate change, she described a youth-led climate event where posters and chants said, "You'll

die of old age, we'll die of climate change." Kate highlighted how this message, combined with

her sense of responsibility to young people, "definitely lit the fire" with respect to her leadership

in the climate emergency declaration movement.

Participants' climate emotions offer valuable insight into their motivations and learning

within the climate emergency declaration movement. They expressed a range of both positive

and negative climate emotions, which extend from their individual positionalities and lived

experiences. However, contrary to climate change education literature that highlights the

importance of positive climate emotions (e.g. Cantell et al., 2019; Monroe et al., 2019; Selby &

Kagawa, 2018; Wibeck, 2014), my findings show that negative climate emotions such as worry

and fear were important motivators for participants' leadership in the climate emergency

declaration movement. Participants' mixed climate emotions align with Ollis's (2008) research

on adult activism in general where learning is "not only cognitive but also embodied; it is

learning often associated with the emotions of passion, anger, desire and a commitment to social change" (p. 316).

My findings offer an alternative perspective to the critiques of the climate emergency policy framing that suggest the emergency frame problematically invokes fear, reduced citizen engagement (e.g. Cretney & Nissen, 2019; Hodder & Martin, 2009; MacGregor, 2014), and injustices towards Indigenous communities and land (e.g. Whyte, 2017, 2019). My findings suggest the opposite also can exist, namely that the climate emergency declaration movement is a place where participants' negative climate emotions are converted into climate actions, including strengthening political obligations towards current and future generations, and valuing First Nations climate emergency leadership. The alternative perspectives of the climate emergency policy framing offered by the participants are important because they bring theoretical climate emergency policy critiques into practice, and highlight the complex role that climate emotions can play in fostering women's political empowerment in addressing climate change.

Family Matters

I did not actively seek to explore participants' family matters, but seven participants spoke about these as being important for their motivation and learning within the climate emergency declaration movement so it is important to include this perspective here.

Four participants (Ann DS, Elizabeth, Emily, Xtli'li'ye) spoke about what they learned from women family members and how that was a source of inspiration for engaging with politics in general and climate activism specifically. For example, Ann DS referred to her grandmother as being a major influence in her life and how she impacted her politics and her involvement in

the climate emergency declaration movement. When I asked Ann DS how long she's been in climate change-related politics, she responded:

> It's hard to say, you know, the concept of "climate change" wasn't something I grew up with …. It's kind of inbred in me. My grandmother was always about not wasting anything. So, I was raised by a single parent and lived with my grandparents a fair bit of my formative years and my grandmother was very much about you don't waste things, period. So that's the underlying ethos behind so much of what I do.

Similarly, Xtli'li'ye described the teachings of her mom as being a key factor in shaping her identity, confidence, and sense of responsibility as an Indigenous woman, and how that influences her motivation to engage in her First Nations activism work, which includes being involved with the climate emergency declaration movement:

> I didn't go to Residential School, I was raised at home by my mom, a strong woman who taught me to have a strong voice. And it built confidence in me …. I carry a certain amount of rights and responsibilities when it comes to my wellbeing, the wellbeing of my family, my community, or connection to Mother Earth.

Three participants (Ann B, Michelle, Ruba) spoke about their families as influencing their motivation to be involved in the climate emergency declaration movement, albeit for different reasons. Ann B described herself as being "incredibly privileged" in terms of feeling loved and accepted during her upbringing, as well as having the opportunity to engage in a sustainable lifestyle with her family in their multi-generational family home. She shared how this lifestyle has enabled her to live outside of mainstream culture, which has been useful to the climate emergency work that she does.

Also related to family influence, Ruba shared that she has a strong Palestinian identity, and while she has no family left in Palestine, this identity motivates her involvement in climate change activism:

> The people from where I originate, Palestinians, are suffering also because they are poor. They are living under colonialism and their human rights are not respected and climate change and environmental problems are impacting them much more than others. So, this is also another way for me, why I want to be involved, and why I want to fight for climate change.

Overall, family histories mattered to participants and motivated them to be involved with climate activism work generally, and the climate emergency declaration movement specifically. These findings resonate with the significant life experiences literature, given other research has indicated that people important to environmental justice activists are often cited as one of the main motivators for them to get involved (Ceaser, 2015). My findings highlight that particular family members, often women, as the "important people" who motivated and influenced my participants. These findings also offer an alternative perspective to literature that critiques the emphasis on individual climate actions given they can target feminized activities in the private sphere of the home (e.g. MacGregor, 2009, 2014) since my findings suggest that women's household and childcare roles were important for shaping the motivation and agency of some of my participants.

The importance of family, particularly mothers and grandmothers, also aligns with a small body of literature on climate change education within the family context that indicates that family climate change discussions can positively impact children's and adolescent's climate

change behaviours (Lawson et al., 2019). Understanding the importance of family could offer a valuable learning tool for the field of climate change education.

This section highlights the importance of nature connections, climate emotions, and family matters, and helps contextually situate the participants and shed light on their individual positionalities and lived experiences. I turn now to an examination of their worldviews to better understand the knowledge that they bring, (re)generate, and embody within their work in the climate emergency declaration movement.

Learning Worldviews

Throughout my research, I sought to challenge dominant ways of knowing and seeing the world that create climate injustices, and instead incorporate other ways of knowing that might foster transformative change. I thus asked participants specific questions about the role of settler colonialism, Indigenous perspectives, gender, and their identity in influencing their motivations to be involved in the climate emergency declaration movement and what they might have learned as a result. Kluttz and Walter (2018) theorize that the climate justice movement is a place where individuals learn and adopt wider worldviews. My data indicate that the climate lens, an appreciation of climate-engaged youths' perspectives, and Indigenous knowledge systems informed the participants' worldviews as they engaged with the climate emergency declaration movement.

Climate Lens

Eight participants spoke of a "climate lens" as a worldview, either indirectly or directly, as something that they learned about and came to embody not only in their involvement with the climate emergency declaration movement but in their role in politics more generally. Four of these participants (Ann B, Elizabeth, Michelle, Nicole) expressed a belief in the importance of

the climate lens for making decisions and taking action within government. For example, Ann B

said "every decision that comes before council I put it through a climate lens." As Elizabeth

highlighted, these climate lens decisions can range from green technology and development

practices, tree cutting and planting policies, agricultural land preservation, small business

support, to low income housing. Similarly, Michelle highlighted:

> I think it's responsible for any organization in this day and age to make sure that climate
>
> change is sort of like one of the overarching ... issues that you're aware of as an
>
> organization. So, everything that you're doing, you have to think of how climate is going
>
> to affect the thing that you're working on.

Two participants (Ann DS, Kate) shared that they thought that the climate lens is a smart

and economically efficient worldview for making government decisions over the long term. For

example, Kate said:

> The reason why I constantly bring it back to climate—and I say, "Are you using a climate
>
> lens when you make these decisions?"—is even if we talk about the cost of infrastructure
>
> projects, or we talk about the cost of insurance, or how things will be amortized in such a
>
> shorter amount of time, because the expectation is that climate will change them, then it
>
> only makes sense for a government to make decisions with climate in mind. Even if it
>
> costs more to do, but it lasted longer. It makes more sense.

Emily and Xtli'li'ye discussed the climate lens in relation to governmental collaboration.

Emily highlighted how her work included collaborating with various First Nations governments

to ensure that the climate emergency declaration reflected "a First Nations climate lens" and that

part of her learning was becoming more aware of "what a First Nations climate lens means" and

the importance of including it. Xtli'li'ye described her understanding of the climate lens in

relation to multi-jurisdictional collaboration:

> A lot of the business I'm trying to do is collaboration and bringing people together,
>
> always trying to understand that we each have a particular role or a particular authority
>
> and let's understand it and how we can look through the climate emergency lens in terms
>
> of how we exercise those authorities at every level.

These examples highlight that participants' interpretation and use of the climate lens

varies depending on their workplace context in which the climate emergency movement is taking

place. In accordance with social movement learning theory (e.g. Hall, 2009), participants' use of

the climate lens may also have resulted in incidental learning by the other decision-makers,

government staff, and citizens with whom the participants worked. I thus suggest that the climate

lens is a way of knowing and seeing the world that offers potential for both learning and

research. The climate lens also aligns with Verlie's (2017) relational perspective, where the

climate, climate knowers (i.e., my participants,) and climate knowledge (i.e., participants'

climate lens) have emerged together to create a worldlier perspective where climate and humans

are entangled. The climate lens is a worldview that honours this complex climate-human

relationship.

Climate-Engaged Youths' Perspectives

Eight participants talked about the youth climate movement and how coming to

understand climate-engaged youths' perspectives shaped their experiences in the climate

emergency declaration movement. Of these, four participants (Kate, Michelle, Nicole, Ruba)

discussed how their learning through the youth climate movement informed their sense of

responsibility for taking political climate action. For example, Ruba described how she attends

and supports "youth mobilizations to fight climate change" and how she understands youths' perspectives and worries about an uncertain future. Similarly, Michelle's learning within the climate emergency declaration movement includes understanding that "the generation coming up is well aware of what ... needs to be done." She too feels a responsibility to keep "pushing this conversation so that by the time [the youth] get into these places, the door is blown open enough that you don't need to have the conversations anymore."

Two participants (Emily, Lisa) highlighted how youths' climate perspectives are informing their local climate action planning. For example, Lisa highlighted how she is part of a committee working on a regional climate action plan, and that they will be hosting a separate Youth Summit "to make sure that those ways of knowing inform [their] plan." Similarly, Emily is coordinating a First Nation youth climate action fellowship that will bring youth together "to hear what their views and visions are for the future, and to support them to build capacity and gain the skills to help craft and create [a First Nations climate] strategy."

Elizabeth and Ann B both talked about youth more generally, and how they have motivated their work in the climate emergency declaration movement. For example, Elizabeth shared: "A lot of our youth have really highlighted … that I need to be looking at what I'm doing" in terms of decision-making and action. Ann B described how she helped organize community support for the climate emergency declaration decision, and learned that "when you got a bunch of little kids sitting with your council at a council meeting when it's being discussed, they're more likely to pass it."

These findings show that the ways in which youth climate activists have influenced participants and how they have been able to build on their invaluable climate knowledge, agency, moral suasion, and ability to influence climate policy, climate politics, and social change. My

findings resonate with existing international literature (e.g., Thackeray et al., 2020; Thomas et al., 2019) because it confirms that the youth climate movement and climate-engaged youths' perspectives have influenced, and continue to influence, adult engagement with the climate emergency declaration movement in Canada.

Indigenous Knowledge Systems

Given my aim to challenge settler colonialism and respect and integrate Indigenous knowledge systems[16] in my research, I asked participants to describe their relationship with settler colonialism as well as if and how settler colonialism and/or Indigenous perspectives influenced their learning within the climate emergency declaration movement. All participants were able to talk about their learning about Indigenous knowledge systems throughout their work in the climate emergency declaration movement, and their political work more generally.

Emily and Xtli'li'ye shared that they are always bringing forward Indigenous knowledges and that they seek to integrate Indigenous knowledge systems with Western science. For example, Emily is working to find a balance between being a First Nations person and having a post-secondary education in Western science. She described her "learning journey" within the climate emergency declaration movement to include reconciling different ways of knowing:

> It's a bit of a learning and unlearning process, where I'm becoming more aware of First Nations worldviews and what a First Nations climate lens means, and also looking to other multi-worldviews. It's so important in this work that we don't rank or polarize knowledge systems as being better than the other ... such as what's often done with Western science and traditional/Indigenous knowledge.

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[16] I would like to reiterate here that, as a non-Indigenous person, I do not claim expertise in Indigenous knowledge systems nor Indigenous perspectives on climate change. This articulation of Indigenous knowledge systems is just as much about my learning of Indigenous knowledge systems as it is my interpretation of the participants' learning experiences.

Similarly, Xtli'li'ye described her work this way: "bringing Indigenous knowledge, perspectives, and understandings into play when it comes to climate change, and the interconnectedness, that the sort of scientific reductionist approach doesn't—it's so valuable—but that doesn't give us the whole picture."

Three participants (Ann B, Kate, Michelle) described how their lifelong learning of Indigenous knowledge systems filters into their climate emergency declaration experiences and their work as climate conscious decision-makers. For example, Kate highlighted how she is learning about Indigenous ways of knowing from recent Indigenous movements such as Idle No More. She also noted that in the place she lives and works, "a lot of leadership towards climate has come from Indigenous communities, led by Indigenous governments." Michelle stated that her learning about Indigenous knowledge systems came through her professional and personal life experiences and included recognizing the importance of deep history, relationships, and connections to land and language. As a result, Michelle highlighted how she looks at everything she does, including her climate emergency declaration work, and sees "the kind of patterns of ... colonial or Western ways of living and governing and how in conflict they are with Indigenous ways of doing the same thing."

Two participants (Nicole, Ruba) shared how they have learned about Indigenous perspectives through the Indigenous rights movement more broadly, which is filtering into their climate emergency declaration work. Nicole is learning about contemporary articulations of Indigenous knowledge in the context of climate change and she shared an example of how First Nations logging is considered by the local settler community to be a threat to trees, which are considered a "really important contribution to [local settler colonial] climate action." Nicole is learning how First Nations logging can act as an expression of Indigenous land and economic

sovereignty rights that may nonetheless appear contradictory to settler colonial climate action

plans. Similarly, Ruba highlighted an example of her learning about Indigenous perspectives of

land and climate change in relation to Protected Area legislation:

> There's 11 Nations, but we don't treat them as a Nation to Nation. We treat them as
>
> people to be consulted sometimes on things that we want to do, and this is colonialism.
>
> And everything, every project about mines, forest, everything, they need to be part of the
>
> decision and this is very hard .... It's systemic racism, something in the system. It comes
>
> from the history and it's got to be changed.

Three participants (Ann DS, Elizabeth, Lisa) asserted that listening to Indigenous people

offers valuable learning opportunities and that these create space for Indigenous knowledge

systems to enter into the climate emergency discussions. For example, Lisa highlighted how her

"approach to climate change, more generally, is very much informed by, and increasingly

informed by, Indigenous ways of knowing." That included hosting an Indigenous Summit to

listen, learn, and ensure those perspectives inform her work in climate action planning. Through

this Indigenous Summit, Lisa learned from Indigenous Elders about the value of a "really, really

long-term horizon" for climate planning. Ann DS described how she's committed to lifelong

learning about Indigenous knowledge systems, and that she's "putting herself in places" such as

an art installation about Missing and Murdered Indigenous Women and Girls to learn more about

Indigenous perspectives.

These findings demonstrate that the climate emergency declaration movement has been a

place for participants to listen to, learn about, and work to embody, Indigenous knowledge

systems. Resonating with Walter and Kluttz (2019), various Indigenous movements have

encouraged the participants to reflect on and learn about the value of different knowledge

systems within the climate justice movement generally, that they then incorporate into their climate emergency declaration movement work specifically. In contrast to some existing literature exploring Indigenous perspectives on climate change (e.g., Cameron, 2012), however, the participants expressed their learning about Indigenous knowledge systems as not only focused on the local and traditional. Rather, resonating with Lowan-Trudeau (2017), participants were learning about and through contemporary Indigenous knowledge systems that engage with social systems like science and colonial governance regimes.

Given my findings, I interpret the climate emergency declaration movement as offering transformative learning opportunities for participants, especially as they work to integrate Western ways of knowing with Indigenous knowledge systems. Indeed, I assert that the climate emergency declaration movement offers learning opportunities and engagement not only with Indigenous knowledge systems, but as this section demonstrates, also with a climate lens and climate-engaged youths' perspectives. These different worldviews move beyond traditional Western and masculinized discourses of science and technology and instead promote learning about and through larger climate justice issues. As the climate emergency declaration movement incorporates other ways of knowing to foster transformative change, perhaps the perpetuation of these alternative worldviews might help foster the "common cause" (Gaard, 2011) needed to promote more effective climate change theory, education, and activism.

Learning Power

Throughout my research, I sought to challenge dominant power structures that create climate injustices. In this section, I highlight how these power structures have influenced participants' learning experiences through their work in the climate emergency declaration movement. Kluttz and Walter (2018) theorize that the climate justice movement is a place where

individuals can learn about power structures and hegemonic forces that exist in the world outside the movement. Material power, governmental power, relationships, and the COVID-19 pandemic are five power structures that participants reported experiencing and learning about within the climate emergency declaration movement.

Material Power

Nine participants reported learning about material power structures, including the role of economic resources and economic interests, discussing how these have shaped or hindered climate action responses stemming from the climate emergency declaration movement. For example, three participants (Kate, Lisa, Ruba) have learned about the importance of allocating economic resources to support climate emergency declarations and intended climate action outcomes. Lisa described that while the climate emergency declaration itself can be "galvanizing and mobilizing," economic resources need to be allocated to climate emergency related actions to actually move projects forward. That is no easy feat since money for the climate emergency must come from somewhere in governmental budgets and so is very dependent on government and community priorities. In one of the governmental contexts where Lisa works, for example, she "learned it's very easy to make declarations and it's very difficult to put budget line items beside those declarations."

Relatedly, three participants (Ann B, Nicole, Xtli'li'ye) reported learning about the tensions between government and community-level economic interests and taking climate emergency actions. Nicole described how she advocated for the climate emergency declaration, noting that when the declaration was debated at the council table, "most of the objections that were raised had to do with money," including the cost of various climate emergency actions such

as staff time to conduct this work. Ann B also learned about the economic barriers to taking climate action:

> The economic system is broken ... it's broken in major ways and it's broken in subtle ways. At the local government level ... there's limited ability for taxation in order to fund the programs that we need, and then there's also very little appetite for systemic change.

> Despite the economic constraints, however, three participants (Ann DS, Elizabeth, Michelle) nonetheless came to understand the value of climate change education and communication as a mechanism to challenge existing material power structures and promote individual-level change across society. For example, Elizabeth highlighted:

> I've learned that we need to talk about [the climate emergency] more, we need to make it more of a focus, we need to be practicing what we're preaching and we need to be the model of that. But we also need to be sharing wherever we can .... We can throw as much money on it is as you want, but like again, it's educating the community.

Similarly, Michelle also reported continuously learning about the value of climate change communication and how it can help people better understand the relationship between material power structures and their ability to take on, and influence, climate action. She explained:

> What is that path that's going to help us recognize that we may be speaking totally different languages and we may be looking at this through completely different viewpoints? But ultimately ... the success that you want, if it's economic success, it exists in parallel to the success that I want, which is ... environmental stability for instance .... What are the conversations that we can have to help us recognize that we actually want the same thing?

These findings show that participants have learned about the interactions between finite governmental economic resources and competing economic interests and how the real and perceived economic constraints hinder opportunities for taking meaningful climate emergency action. These findings align with Davidson et al.'s (2020) climate emergency policy analysis in New Zealand and Australia, where institutional resource mobilization was found to be one of two key limitations for implementing effective climate emergency response plans. Thus my research confirms that the participants, who represent and interact with various governmental organizations across Canada, are exposed to the same economic constraints.

These findings also have implications for the field of climate change education. While various manifestations of material power structures and their constraints are considered barriers to engaging in climate action, participants also identified a need for investments in the field of climate change education to help foster meaningful climate action. As Xtli'li'ye said, "there are decisions and investments we can make now that aren't the full answer, but will contribute to the outcomes we're looking for." These investments need not be limited to scientific, technological, and market-based climate solutions, but ought to be in climate change education and communication since they can help guide government and community level priorities and ensure that any new economic investments maximize the benefits of both community priorities and climate action.

Government Power

Through their involvement in the climate emergency declaration movement, eight participants reported learning about government power as a hegemonic force that influences the climate emergency declaration movement and climate action outcomes. Four of them (Ann B, Elizabeth, Michelle, Nicole) focused on how they learned about the limits that jurisdictional

powers impose on local governments in their efforts to take climate action. For example, Ann B came to the understanding that "at the local government level, there's very limited jurisdiction in order to truly address some of the issues" of the climate emergency and that climate action "has to come from higher levels of government." Michelle highlighted that she too had learned how local governments can "hit a ceiling because of jurisdictional powers." That said, she felt that the climate emergency declaration offers a communication tool to address this challenge:

> Part of our responsibility of making these declarations is to send that message to higher levels of government that actually make a lot of the decisions that impact all of us ... to let them know that we're serious about this and we need you to be serious about this.

> Two participants (Emily, Xtli'li'ye) also described learning about the opportunities that jurisdictional powers can create for collaborating and taking collective climate action. Xtli'li'ye, for example, observed how habitat has been "eroded through multiple set of jurisdictions over time" and as a result, she is now working to bring together Indigenous peoples and First Nations governments to create a climate emergency strategy in a way that creates a "critical mass to impact policy and legislative pieces" at the First Nations, provincial, and federal government levels.

Kate and Ruba reported learning about the role and powers of majority governments within territorial and provincial parliamentary systems. Both highlighted the key differences between being a member of a Legislative Assembly versus being part of a majority government when advocating for climate action. Kate, for example, stated that advocating for climate action as an elected member of the legislative assembly is challenging in a majority government situation because "they always win in the vote." Reflecting on the need to take climate action that extends beyond election cycles, she went on to say,

I don't necessarily think that that the parliamentary system as it is established right now

works. Like honestly, I have been elected for nine years and it's kind of a frustrating

process and it's okay that it's frustrating, but what isn't okay is that it perpetuates the

status quo.

These findings show that participants are learning about the jurisdictional powers and

parliamentary systems in Canada, and how these can both hinder and foster ambitious climate

emergency actions.[17] These findings align with climate justice literature that illustrates how

governments are considered both a source of climate change problems as well as key actors in

climate justice solutions (Routledge et al., 2018; Whyte, 2013). My participants' experiences in

the climate emergency declaration movement within governments offer a nuanced understanding

of challenges, issues, and opportunities for taking climate action. They also have implications for

climate change education research.

First, given my findings I would argue that climate change education needs to attend to

the specifics of Canada's governmental structures and practices, including jurisdictional powers

and parliamentary systems in order to generate the knowledge needed to foster strategic climate

actions at multiple scales. Indeed, the climate justice literature highlights how progressive

climate action needs to approach governments as systems of "institutional structures and

practices" (Routledge et al., 2018, p. 80) that include different levels and layers of power. It is

not enough to advocate to "government" as some sort of universalized body; rather, citizens need

to learn and understand the nuanced layers of governmental powers and their roles and abilities

in taking climate action.

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[17] I was unable to recruit any participants working with the federal government of Canada. That is unfortunate since a federal perspective would have offered another lens for understanding learning related to governmental powers within the climate emergency declaration movement.

Second, these findings highlight the need for various levels and layers of governments to work together to foster ambitious climate action, which resonates with climate change education literature that advocates for collective climate action (e.g. Gonzalez-Gaudiano & Meira-Cartea, 2010; Reid, 2019 Wibeck, 2014). Highlighting the importance of different levels and layers of governments as key collaborative actors seems key to addressing the climate emergency.

Relationships

Eight participants reported learning about the power relationships between people, place, governments, and community organizations within their work in the climate emergency declaration movement. Michelle and Ann B focused on the importance of the relationships between people and place in fostering meaningful climate action. For example, Michelle described her climate emergency declaration learning experience this way:

> Through relationships, whether it's relationships with people ... through politics or through work or through community or through family, or through learning. It's all through relationships. That's what the entire thing is: relationships with the land ... relationships with my children, with my partner. It's with myself. It is all of those things.

Three participants (Elizabeth, Emily, Xtli'li'ye) reported learning about the importance of building relationships within and across governments. For example, Elizabeth described building a relationship with the local Member of Parliament (MP), and learning:

> How can we work together to look at projects for our community, how can we work together with ... the federal MP to be supportive towards the initiatives that the federal government wants to do as well too. So, it's really about partnerships and constantly doing the talk.

Similarly, Emily highlighted how, through her work with First Nations governmental and non-governmental organizations, she's "learned a lot about collaboration and coordination ... the importance of working together as organizations to try and get a First Nations climate lens, worldview and language included and in a good place."

Three participants (Ann DS, Nicole, Ruba) described learning about and through relationships with various community organizations in the places they live and work. For example, Ann DS learned about the importance of relationship-building with local community groups to ensure that the climate emergency declaration and subsequent climate actions are meaningful and effective. She stated, "We're working collaboratively. It's not just me and them, it's a collaboration .... I keep having to remind myself that just because I have the vote it doesn't mean I have to do it by myself." Nicole highlighted how she continues to learn by being involved with local organizations and participating in their education events that relate to climate change. She described these events as "fun learning experiences that are kind of by osmosis, you're learning from other people and there's an opportunity to find ways to support them."

These findings highlight the important role of relationships between people, place, governments, and community groups in the climate emergency movement. My findings align with relational perspectives of social movement learning (e.g. Hall, 2009; Kluttz & Walter, 2018; Ollis, 2020) where learning and knowledge production happen through social interaction with others. These findings contribute to the field of climate change education by demonstrating the value of relationships and collaboration for fostering collective climate action. Here, collective climate action is the simple yet powerful action of learning and working together within the climate emergency declaration movement.

My research also confirms that the climate emergency declaration movement is a place for deconstructing power relationships (Hall, 2009; Lowan-Trudeau, 2017b) as the participants learned to mitigate the power differential between themselves as decision-makers and others within their communities. The focus on relationships offers a counter-narrative to the male-centred nature of politics with participants learning about and using typically feminine practices such as collaboration and teamwork (Clover & McGregor, 2012). My findings also align with gender and climate policy literature (e.g. Staples & Natcher, 2015) in that participants brought the knowledge generated through their relationships within the community into their work in climate emergency declaration movement and related climate actions. Building such relationships across social institutions and between diverse actors are considered critical for taking coordinated, emergency-level, collective climate action to promote climate justice (Whyte, 2019) and socioecological change.

COVID-19 Pandemic

The COVID-19 pandemic is a unique time-space created by the interactions between people, sociopolitical structures, and the more-than-human world (Tuck & McKenzie, 2015). While I did not actively seek to explore the role of the pandemic, seven participants spoke about it as a transformative time-space that has shaped their learning about material, ideological, and discursive power structures operating within and beyond the climate emergency declaration movement.

Three participants (Ann DS, Elizabeth, Kate) shared how the COVID-19 pandemic has fostered ongoing learning opportunities about the political and economic possibilities for climate mitigation and adaptation actions. For example, Kate shared how some pandemic responses are highlighting the possibilities for climate action:

We saw a rollout of a guaranteed annual income with the Canada Emergency Response

Benefit, and one way to tackle climate is to tackle poverty and the disparity between the

rich and the poor, so there I think [COVID-19] is showing us opportunities in a way that

people would have said were impossible.

Three participants (Ann B, Emily, Ruba) spoke of the COVID-19 pandemic as being a

material and ideological barrier rather than an opportunity for climate action. For example, Ann

B reported that a regional climate action project she was involved in ended abruptly at the

beginning of the pandemic due to the reallocation of resources and sociopolitical actions.

Similarly, Emily shared how the onset of the pandemic also negatively impacted the climate

emergency declaration movement's momentum. She did note, however, that it had also opened

up other possibilities for learning, describing how the onset of the pandemic caused her climate

emergency work to:

Slow down a bit as we all worked from home. But throughout the summer we started to

research and read into other Indigenous climate strategies .... from the regional to global

level .... We did a lot of reading, researching, and collecting a lot of different information

and essentially compiling it, and using those best practices to help guide the drafting,

framing, and next steps process for a [regional First Nations] climate strategy.

Ruba and Xtli'li'ye highlighted how the interaction of the climate emergency declaration

movement with the COVID-19 pandemic has fostered learning opportunities about larger-scale

challenges related to the role of discursive power in taking climate action. For example, Ruba

highlighted her experience within the climate emergency declaration movement to include

learning:

That climate change is like a virus, but there will be no vaccine for this virus and people will live with the impact. But it's important that right now we try to find a way to make it so they can be involved, what they can do too, and how they can act, because it's too big. It's a lot of information that's very hard to understand. And this is a challenge. I've learned that this is a challenge.

Similarly, Xtli'li'ye said:

The lens society's looking through in a lot of ways, right now of course, is the pandemic. But I think over the years, the opioid situation, the issue with poverty, and all these big stay alive issues, I find that it's hard. It's hard for society in general to figure out those small pieces they can do and how to stay committed to a larger strategy.

These findings illustrate how climate change and the climate emergency declaration movement are not happening in a vacuum (Terry, 2009), but rather within the context of other social, political, and ecological systems and risks, such as the COVID-19 pandemic. In line with Kluttz and Walter's (2018) theorizing, the participants' work within the climate emergency movement necessarily is also very much part of the world outside of the movement, including the material, ideological, and discursive power structures highlighted by the COVID-19 pandemic. The interactions between the climate emergency declaration movement and the COVID-19 pandemic experienced by the participants fostered cultural-ideological learning (Kluttz & Walter, 2018) that enabled participants to reframe climate change and the climate emergency to fit within the "new normal" created by the pandemic. These findings also illuminate how climate change education requires individual and collective learning about the interaction of the more-than-human-world (in this case, a virus) and human sociopolitical systems, resonating well with Verlie's (2017) observations about the importance of attending to

our entanglement. By recognizing and accepting that both climate change and the climate

emergency movement are entangled within social, political and ecological systems, the field of

climate change education might more effectively incorporate alternative knowledge systems,

educational approaches, and climate actions that work towards reducing the human-nature

dualism.

Gender

Given my theoretical framework centres gender as a persistent social structure that

impacts peoples' perceptions, understandings, discourses, and responses to climate change, I

asked all participants if they thought gender influenced their own learning experiences in the

climate emergency declaration movement. All participants discussed the gendered nature of

climate politics, and how this has influenced their experiences.

Six participants (Elizabeth, Kate, Lisa, Michelle, Ruba, Xtli'li'ye) spoke about the role of

masculinities in shaping their experiences with politics generally, which includes the climate

emergency declaration movement. For example, Ruba stated that she feels gender inequality

exists in politics: "I feel it more in the way that politics is done where you need to fight, you

know, all these masculine values that you need to have to be taken seriously." In particular, both

Kate and Xtli'li'ye noted how the masculine nature of politics devalues feminine qualities like

love and care. Kate reported that her passion "gets weaponized against [her] on a fairly regular

basis" while Xtli'li'ye described her learning about the gendered nature of politics throughout her

career:

> When I first started to learn and get engaged, I would be harder. I would be trying to be
>
> as hard as the men were being at the table .... Then as I went along ... [as] I established
>
> myself more in my career ... I could bring in elements like talking about … love, and

what about interconnectedness and what about, you know, the sort of things that you

know, seem too soft around some of these tables.

Three participants (Ann B, Lisa, Xtli'li'ye) also spoke about how the gendered nature of

politics shaped their learning experiences specifically within the climate emergency declaration

movement. For example, Lisa described coming to understand how her gender identity

influenced public criticism of her work implementing climate actions:

> I think if I were a mayor who was a man, who was proposing some of these same ideas,
>
> they wouldn't be as controversial as they are, like bike lanes are actually not that
>
> controversial .... When we get our network built, it'll be 20,000 tons of carbon emissions
>
> saved on an annual basis, like it's massive, so that's a real response to the climate
>
> emergency declaration .... Some of the criticism is gendered ... but that doesn't stop me or
>
> slow me down it just makes me even more resolved to do the work we're doing.

Another example came from Ann B who learned that although feminine qualities such as

emotion and care are "frowned upon" at the council table, they also can offer valuable

perspectives for encouraging climate action:

> Human beings respond to emotions more than they do to spreadsheets. You show a
>
> spreadsheet of decline in species, or mass extinction spreadsheets, or loss of insects, a
>
> little graph that goes down, you know, that's just not going to make people care .... We
>
> have to tell a story about it, and we have to have emotion in our words.

Six participants (Ann DS, Elizabeth, Emily, Lisa, Michelle, Nicole) also spoke of gender

ratios in their work environment and how these had shaped their learning experiences within the

climate emergency declaration movement. For example, Nicole came to recognize that a gender-

imbalanced council with fewer women decision-makers can reinforce gendered role expectations

and have an impact on the potential for taking climate action. This gender imbalance ultimately

prompted Nicole to step back from her public-facing climate leadership role, and instead let a

male councilor take the lead:

> Even though I had worked ... on a climate action program for the municipality for four
>
> years, I knew that we would be more likely to get a climate declaration accepted if I took
>
> a backseat in the current configuration of the committee and the current configuration of
>
> our council .... So, after initially being pissed off, I rethought it and thought, you know,
>
> what's more important is getting some of the work done? And I'd rather get the work
>
> done than sort of assert that I worked on this for four years.

> In contrast, Michelle shared her experiences of gender-balanced decision-making and

learned that increased representation of women decision-makers can offer a counter-narrative to

the masculine nature of politics:

> I love the committees and stuff that I sit on that are primarily women ... or that are all
>
> women. Honestly, we get so much done because there isn't, like, that kind of
>
> masculine—and again, it doesn't have to be a male, it could be a female—that masculine
>
> kind of toxicity that can stream into that, that tries to either take over everything or shut
>
> the women down that are there.

Similarly, Ann DS talked about her learning about gender representation:

> We don't all have the same point of view, but when there's no female voice at the table,
>
> you're missing half the population and we have a different life experience. A lot of time
>
> people say, well, you want to hire the best person for the job. Well, yeah, but sometimes
>
> the best person is a woman because you've got a table full of men, and you do think a
>
> certain way, different than me.

These findings about gender show that patriarchy remains a key power structure and hegemonic force that were important elements of participants' learning as they engaged with the climate emergency movement. These findings align with existing gender and climate policy literature that show that the climate emergency movement is not separate from the patriarchal power structures that exist in Canada (e.g., Staples & Natcher, 2015) and resonates with the literature on gender and climate politics more generally (e.g., Williams et al., 2018). Participants found that they needed to engage in cultural-ideological learning (Kluttz & Walter, 2018) to recognize patriarchy and unequal gender relations as power structures that shaped their climate emergency declaration work, and how they could nonetheless persist in taking climate action to foster transformative change.

These findings also highlight how the role of patriarchy, masculinities, and gender relations in climate politics needs to be taken seriously in climate change education, which is in line with increasing attention to gender in the field (e.g., Gough & Whitehouse, 2020). Resonating with calls for women's political empowerment as one important factor in addressing climate change (e.g. United Nations, 2015), these findings also illuminate the participants' agency, illustrating the importance of attending to how women and feminine-identified qualities are perceived in politics in general (e.g. House of Commons, 2019) and climate politics specifically.

To recap this section on Learning Power, participants experienced cultural-ideological learning (Kluttz &Walter, 2018) that revealed to them power structures such as the systemic role of material power, the limitations associated with different jurisdictional systems within Canadian governments, the shifting power dynamics associated with the COVID-19 pandemic, and the gendered nature of Canadian politics. Further, they identified and learned about power

structures that create not only barriers but also present opportunities for taking climate action to address the climate emergency.

Summary

I end this chapter by revisiting my research question: *What and how are women decision-makers learning through their experience within the climate emergency declaration movement?* Participants encountered various types of learning opportunities within the climate emergency declaration movement that integrated their personal, professional, and political life experiences with the larger climate justice movement. They learned about themselves and the climate-changing world around them, learned about and integrated alternative worldviews into their work, and learned about power structures that created both barriers and opportunities for taking climate action.

Participants experienced learning opportunities in a variety of contexts, not only the climate emergency declaration movement itself, but also the broader climate movement and/or the political sphere more generally. Participants experienced a range of organized and unorganized learning opportunities, including conferences, workshops, professional development courses, climate change summits, council and legislative meetings, community events, social media, and independent reading and research. However, the bulk of the participants' learning occurred within the movement itself and the dynamic interactions between people and place. That resonates with Ollis' (2020) observation that in social movements, "learning is not located in the activity of the teacher, nor in the activity of the learners" (p. 226), but through social interactions with others in the movement. These social movement learning opportunities may be "complex, dynamic, and 'messy' processes that constantly shift from the individual to the

collective and back again" (Kluttz & Walter, 2018, p. 96), but they have the power to influence those well beyond the movement.

Chapter Five: Conclusion

In this concluding chapter, I begin by summarizing how my research contributes to the literatures in the intersecting fields of climate change education, gender and climate change, and climate politics. I then share recommendations for future research, focusing on critical research that integrates climate change education with climate change policymaking. Next, I discuss the implications of my research for how it could compel alternative climate actions. I then highlight what I have learned through this thesis journey, and end with a discussion of the responsibility I feel as an informed researcher committed to change.

Research Contributions

I began my thesis feeling compelled to bring climate change and gender justice issues in Canada to the fore, while respecting non-Indigenous and Indigenous women as two social categories of difference. While interested in climate change education, I sought to look beyond formal educational institutions and decided to consider the climate emergency declaration movement as a site for transformative adult education that could engage with power structures that create both gender and climate injustices. My goal, then, was to contribute to the literature by highlighting women's agency and futurities (Arvin et al., 2013; Williams et al., 2018) in climate change education and politics. I have made small contributions to the field of climate change education in four key ways.

First, my research contributes a critical perspective to the field of climate change education by considering both patriarchy and settler colonialism in my research design as power structures that are at the root of gender, climate, and educational injustices. This critical approach led me to gain a better understanding of gender relations and Indigenous ways of knowing as I learned about participants' experiences within the climate emergency declaration movement. I

attended to the politics of knowledge production throughout my research design by paying

careful attention to my citation practices, my interview questions, and how I presented my

research findings. As a result, the knowledge I generated in my research offers a needed critical

perspective (Busch et al., 2019) on learning through climate activism, and larger climate justice

issues.

Second, guided by a feminist theoretical framework and methodological approach, my

research aligns with feminist goals of valuing women's lived experiences, voices, agency, and

identities as knowledge (e.g., Campbell & Wasco, 2000; Gough & Whitehouse, 2003; Hart &

Gough, 2019). I centred the motivation and learning experiences of ten non-Indigenous and

Indigenous women engaging in climate activism and politics. This is significant given that, to

date, women's perspectives have been mostly overlooked in climate change-related education

research (Gough & Whitehouse, 2019; 2020; Hart & Gough, 2019). Focusing on these ten

women's experiences helps reframe climate change discourses by adding diverse women's

voices to the conversation and pointing to the need for alternative climate change education

opportunities.

Third, the climate emergency declaration movement in Canada is an under-researched

site of analysis for both climate change education and social movement learning. Focusing on the

climate emergency declaration movement, my research describes the formal, informal, and non-

formal climate change education opportunities of ten women directly involved in the movement,

and the broader communities in which their work is taking place. As such, my research addresses

calls for small-scale qualitative research in climate change education (e.g., Wibeck, 2014; Wolf

& Moser, 2011) and provides a needed Canadian perspective on how various groups can work

together to address climate change at multiple levels (e.g., Field et al., 2019).

Fourth, my research highlights ten women decision-makers' motivations and learning opportunities, grounded in their work within governmental organizations as part of the climate emergency declaration movement in Canada. My findings point to the ways in which climate change education can engage with citizenship education and offer a nuanced understanding of government roles, issues, and opportunities for taking climate action as well as the importance of collaboration across different levels and layers of governments to effectively address the climate emergency and the systemic power structures that maintain the status quo.

Taken together, my research highlights opportunities for climate change education research to expand with respect to knowledge systems, education approaches, climate action, and lifelong learning, a need I demonstrated in my critique of climate change education in Chapter Two. My findings confirm that the climate emergency declaration movement provides learning opportunities for women decision-makers that can challenge the dominant Western, masculinized focus on scientific and technological climate solutions and can offer personally relevant learning opportunities for women decision-makers to engage with both power structures and the more-than-human world around them to take collective climate actions that are appropriate for the places in which they live and work.

Recommendations for Future Research

Here I am going to focus on recommendations for integrating climate change education with climate change policymaking. In particular, I believe we need to explore climate change education through various critical perspectives that confront the root causes of various injustices like climate change, gender oppression, and marginalization of certain ways of knowing.

First, it would be helpful to have future research on the motivations and learning experiences of climate conscious decision-makers of various gender identities. We need to move

beyond the gender binary and instead consider the role of hegemonic and alternative femininities and masculinities in relation to climate change learning experiences (Fletcher, 2018; Hart & Gough, 2020; Hultman & Anshelm, 2017). We have much to learn about how and why various decision-makers, including elected politicians and staff, come to know and care about climate change, and what they learn through their political climate activism experiences. As Canadian climate politics continue to be dominated by male bodies and masculine discourses (Williams et al., 2018), a more nuanced understanding of how femininities and masculinities influence these spaces could help get to one root problem and illuminate how climate change education might help shift not only gender oppression in those spaces but also the ways in which all genders, as well as hegemonic masculinity and femininity, are perceived within the climate movement.

Second, it would be interesting to see future research focused on lifelong learning in climate politics in various places in Canada. For example, I would like to see research on the climate emergency declaration movement from across the country to understand how regional sociopolitical, ecological, and climatological contexts shape decision-makers' motivations and learning experiences. As well, it would be helpful to have research that explored the experiences of women working in other governmental and non-governmental organizations involved in the climate emergency declaration movement that were not part of my research, such as the federal government of Canada, self-governing First Nations, and universities and colleges. Research might also explore institutions that have rejected climate emergency declarations to better understand the institutional contexts that inhibit transformative institutional change.

Third, I would recommend future climate change education researchers incorporate relational perspectives of climate change and research into their work (Tuck & McKenzie, 2014; Verlie, 2017; Whyte, 2019). Doing so helps ensure that we humans do not "forget the world"

(Tsing, 2018, p. 75), including the ecological and climatological systems in which we, and our research, are situated.

Research Implications

Through my research, I have come to know governmental organizations as places where people are both collaborating and colliding with each other, their situated knowledges, alternative knowledge systems, the more-than-human-world, and the human-induced power structures that define Canadian society. As Verlie and CCR 15 (2020) highlight, there is a need for climate change education that "work[s] with the world, rather than upon the world" (p. 11). I concur; we climate change educators and activists need to work *with* people who represent us in government, rather than seeing the "government" as a universalized body to be targeted with uniform climate action messages.

I believe that deconstructing power relationships and (re)building collaborative relationships with decision-makers offers an opportunity for alternative, transformative, and collective climate action. My hope is that climate change educators and activists might adopt feminist and Indigenous values of relationship-building and collaboration with governments to help broaden, diversify, and strengthen the climate movement. Relationship-building offers an opportunity to learn and understand what motivates decision-makers to make decisions that either foster or hinder climate action in our climate-changing world. These relationships might also shed light on the structural powers, including jurisdictional powers and parliamentary systems, and material powers, including finite governmental economic resources and competing economic interests, that are blocking ambitious climate action, so that educators and activists can develop alternative strategies for addressing these systemic barriers.

My Learning

This thesis marks the end of my learning journey as a MEd student, but not the end of my journey as a researcher, an environmental scientist, and a climate-conscious citizen living in a complex and changing world. Opaskwayak Cree scholar Shawn Wilson suggests that "if research doesn't change you as a person, then you're not doing it right" (in Concordia University, 2016). Therefore, I end by reflecting on my learning throughout this research and how my climate action perspectives have changed.

I learned about the personal, professional, and political lives of ten women decision-makers involved in the climate emergency declaration movement across Canada. It was a delight to interview and learn from each woman and to hear her life experiences as a climate champion in Canada. I was inspired by these women's climate activism as it is clear to me that they are living and learning climate change with their "minds, hearts and hands" (Wolf & Moser, 2011, p. 550). While I felt an urge to deepen my connection with each participant by sharing my own personal experiences and perspectives related to climate change, this research taught me the value of simply listening to and learning from others.

I also learned about the "magic power" (Hall, 2009, p. 67) of social movements and experienced firsthand how engaging in researching this social movement influenced me and my climate actions. After completing the interviews and reflecting on the participants' stories and perspectives, I found myself joining a local climate action advocacy and education group. I was compelled by the participants' perspectives on relationship-building to foster positive climate emotions and community-level climate actions. Their perspectives taught me that it is not enough for me to research and write about climate change as an individual. To truly contribute to collective climate action, I need to join the climate movement myself to experience and share my

own climate knowledge at the community level and beyond. As Simpson (2014) makes clear, to learn about building social movements, one has to "get out, get involved and get invested" (p. 18).

Closing Thoughts

This chapter highlights my research contributions to the field of climate change education, my recommendations for future research in climate change education, and the broader implications of my research. I ended this thesis the same way I began by looking inwards at my own climate learning journey.

My hope is that the "magic power" (Hall, 2009, p. 67) of social movements will carry on, and that the collection of voices, ideas, and words presented in my thesis will affect and influence those who read them. However, I also maintain a sense of humility, and I accept that the knowledge (re)produced here is primarily my responsibility to carry forward. Through my future work as a doctoral student, a climate-anxious mother, a climate action volunteer, and a citizen of this Earth, my goal is to share my thesis learning experiences with anyone who is willing to listen.

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Appendix A
Interview Guide
(~60 minutes)

About Me

        I am a Master of Education student at Lakehead University and this is my thesis research. I am a White settler Canadian, and I currently live and study from my home in the Outaouais Region of Quebec. I was born and raised in the Ottawa Valley in Ontario, but the majority of my education, work, and adult life experiences occurred in the Salish Sea in British Columbia. I first learned about climate change through my education in Environmental Science. I became more aware about climate change while I worked as a land use planner for a local government. I was involved in climate change education for the public as well as local government climate change-related decision-making. As a woman and a mother, I am concerned about the intersection of climate change and gender justice issues affecting women in Canada.

About My Research

        My research purpose is to understand what and how women decision-makers are learning through their experiences within the climate emergency declaration movement. My research is guided by feminism, which values women's perspectives and lived experiences. Therefore, please consider this Interview Guide to be a flexible outline.

Administrative Questions

Consent Form signed and returned?
Permission to audio-record the interview?

General Questions

What gender(s) do you identify with?
What race(s) and ethnic background(s) do you identify with?
What marital status do you identify with?
Are you a mother?
How long have you been involved in climate change-related politics?
Are you involved in other climate change-related work and/or activism? If so, for how long?
How would you describe your relationship with nature?
How would you describe your relationship with settler colonialism?
How do you feel about climate change?

Main Questions

1. What motivated you to take part in the climate emergency declaration movement? (Probes: Climate change-related activism? Social justice or ecological concerns? Social media? Life experience or circumstance?)

2. What has your role been in the climate emergency declaration movement?

3. What have you learned through your experience in the climate emergency declaration movement? (Probes: Learning before, during, and after the declaration was made? Learning particular skills, knowledge, about yourself, other individuals, society, climate change, politics, the environment?)

4. How are you learning through your experience in the climate emergency declaration movement? (Probes: Participation in organized learning activities? Political activities? Social media? Learning through other politicians or activists? Observations? Research? Interaction with other individuals, groups or the environment?)

5. How has gender influenced your learning experience in the climate emergency declaration movement? (Probes: Do you think gender and/or gender relations have impacted your learning? Do you think gender and/or gender relations are relevant in the climate emergency declaration movement?)

6. How has settler colonialism and/or Indigenous perspectives influenced your learning experience in the climate emergency declaration movement? (Probes: Do you think settler colonial relations and/or Indigeneity has impacted your learning? Do you think settler colonialism and/or Indigenous activism, cultures, worldviews, knowledge systems, histories, land and treaty rights etc. are relevant in the climate emergency declaration?)

7. Are there other ways that your identity has played a role in your motivation and/or learning in the climate emergency declaration movement? (Probes: Family status? Age? Health? Place? Socio-economic status? Personal values?)

Closure
Thank you for your time and energy as well as for sharing your stories.

Would you like to receive a draft version of the interview transcript, key findings, and/or thesis for your approval? Would you like to receive a copy of my final thesis once it is completed?

Please feel free to contact me via email if you have any further questions or comments.

Sincerely,
Shelley Miller
millers@lakeheadu.ca

Appendix B
Information Letter and Consent Form

Research Information Letter

Dear [INSERT POTENTIAL PARTICIPANT'S NAME],

The purpose of this letter is to invite you to participate in an interview for my Master of Education thesis research. I am asking you to participate in my research based on your involvement in the [*insert the governmental organization name for which they work*] climate emergency declaration, namely your [*insert involvement description e.g. introduction of the motion to declare a climate emergency, "Yea" vote to declare the climate emergency, letter announcing a climate emergency declaration decision, advocacy for the climate emergency declaration in governmental meetings*]. I am seeking participation from both Indigenous and non-Indigenous women decision-makers representing various levels of government in Canada.

Research Description
The title of my research is "Women in Power: Learning through Climate Emergency Declarations in Canada." My research purpose is to understand what and how women decision-makers are learning through their experience within the climate emergency declaration movement. I imagine that the learning occurring in women decision-makers involved in declaring a climate emergency can offer important perspectives to justice-oriented climate change education.

Interview Details
I invite you to participate in an interview (via video and/or audio conferencing) to collect data for my research. Interviews likely will take approximately 60 minutes to complete. The full Interview Guide is included with this letter for your reference. I intend to ask questions about your motivation, role, and learning experiences associated with declaring a climate emergency, as well as if and how gender, settler colonialism, and Indigenous perspectives influenced these learning experiences. The interview is meant to be flexible in length and direction. Participation is voluntary and you are under no obligation to be interviewed. If you choose to be interviewed, you may refuse to answer any question and you may withdraw from the interview at any time.

Risks and Benefits
I do not perceive there being any known risks or harm associated with you participating in my research. There may be no direct benefit to you for participating in my research. I will consider your sharing as a gift, and I am willing to share my perspectives with you in return if you are interested. I am open to thanking you in other ways as appropriate.

Confidentiality and Data Storage
This research is meant to be confidential. I will protect your identity including your name, geographical location, and government affiliation as well as any other identifiable data that emerges. You may choose your own pseudonym (fictitious name) to be used in research publications. However, if you wish to have your real name published in this research, you may specify this option in the participant Consent Form.

I intend to interview a small number (eight) of women decision-makers across Canada, including women representing First Nations, federal, provincial, regional, and local governments. Therefore, I do not expect your views to be identifiable although it could be possible for someone who knows you and/or your views to identify you. I will invite you to review the research findings if you wish to make sure you are satisfied with how I have protected your confidentiality.

All interview data will be stored by me in password-protected files on my personal computer during the study. Anything linking your name to your pseudonym will be securely stored by me in a password protected file separate from the interview data. This data will be accessible only to me and my thesis supervisor, Paul Berger. After the thesis is complete, the data will be saved to an external hard drive and safely stored in the Bora Laskin building on the Thunder Bay campus at Lakehead University for five years.

Research Results
I will invite you to look over the interview transcripts, key research findings, and full thesis before it is submitted so that you have the opportunity to ensure that your views are represented accurately if you desire. You are under no pressure to review, however, and I will confirm your preferences for reviewing this documentation during the interview, and will follow up with you via email as requested. The research results will be published as my Master of Education thesis and will be accessible through the Lakehead University Library's electronic theses database, the Knowledge Commons. The research results may also be shared in academic and non-academic journals and conferences, magazines, newspapers, and online networks.

Your Rights
As a research participant, your rights include: the right to not participate; to withdraw at any time during the interview process; to opt out at any time and to have any collected data deleted from the data base and not included in the study (if you choose to opt out, any data pertaining to your participation will be destroyed); to privacy, anonymity and confidentiality; and to safeguards for security of data. Your consent for audio recording the interview will be obtained.

Researcher Information
This research is being conducted by:
Shelley Miller
Master of Education Student, Faculty of Education
Lakehead University, 955 Oliver Road, Thunder Bay, Ontario, P7B 5E1
Email: millers@lakeheadu.ca

Under the supervision of:
Paul Berger
Associate Professor, Faculty of Education
Lakehead University, 955 Oliver Road, Thunder Bay, Ontario, P7B 5E1
Email: paul.berger@lakeheadu.ca, Phone: 807-343-8708

This research has been approved by the Lakehead University Research Ethics Board. If you have any questions related to the ethics of the research and would like to speak to someone other than myself or my supervisor, please contact Sue Wright at the Research Ethics Board at 807-343-8283 or research@lakeheadu.ca.

Please feel free to contact me or my supervisor if you have any questions. Thank you for considering participating in my research and helping me understand what and how women decision-makers are learning through the climate emergency declaration movement.

Sincerely,

Shelley Miller
millers@lakeheadu.ca

Lakehead University
Participant Consent Form

<u>**Participant Consent Form**</u>
Research title: Women in Power: Learning through Climate Emergency Declarations in Canada

I,   , (participant name) agree to the following:
✓ I have read and understand the information contained within the Research Information Letter;
✓ I understand the potential risks and benefits of the research, specifically that there are no known risks and no direct benefits;
✓ I am a volunteer and can withdraw from the research at any time and I may choose not to answer any question;
✓ I understand that the interview data will be securely stored in the Bora Laskin building on the Thunder Bay campus of Lakehead University for a minimum of 5 years following completion of the research;
✓ I understand that the research findings will be made available to me if I request it during the interview or via email;
✓ I will remain anonymous in all research publications unless I explicitly request my name to be used (as indicated below);
✓ By consenting to participate, I have not waived any rights to legal recourse in the event of research-related harm.
✓ I agree to participate in this research.

Please check the following boxes as appropriate, and include your signature at the bottom of this form.

☐ I consent to the interview being audio-recorded.

☐ I would like to remain anonymous in all research publications.
OR
☐ I would like my name used in all research publications.

_____   _____   _____
          Print Name   Signature   Date

Please complete and return this consent form to me, via email:
Shelley Miller
millers@lakeheadu.ca

The completed consent form may also be emailed to the research supervisor:
Paul Berger
paul.berger@lakeheadu.ca

Appendix C
Research Ethics Board Approval Letter

December 14, 2020

Principal Investigator: Dr. R. Paul Berger
Student Investigator: Shelley Miller
Faculty of Education
Lakehead University
955 Oliver Road
Thunder Bay, ON P7B 5E1

Dear Dr. Berger and Shelley:

Re: Romeo File No: 1468326
Granting Agency: N/A
Agency Reference #: N/A

On behalf of the Research Ethics Board, I am pleased to grant ethical approval to your research project titled, "Women in Power: Learning through Climate Emergency Declarations in Canada".

Ethics approval is valid until December 14, 2021. Please submit a Request for Renewal to the Office of Research Services via the Romeo Research Portal by November 14, 2021 if your research involving human participants will continue for longer than one year. A Final Report must be submitted promptly upon completion of the project. Access the Romeo Research Portal by logging into myInfo at:

https://erpwp.lakeheadu.ca/

During the course of the study, any modifications to the protocol or forms must not be initiated without prior written approval from the REB. You must promptly notify the REB of any adverse events that may occur.

Best wishes for a successful research project.

Sincerely,

Dr. Kristin Burnett
Chair, Research Ethics Board

/sw