HEALTH AND SOCIAL OUTCOMES OF INDIGENOUS PARENT-CHILD SEPARATION IN THE CONTEXT OF COLONIALISM

by

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Dalhousie University is located in Mi'kma'ki, the

ancestral and unceded territory of the Mi'kmaq.

We are all Treaty people.

DEDICATION PAGE

I dedicate this dissertation to my wife Kristina (Devorah) McMillan Schwartz and my daughter Menuchah (Mina), who was born while I wrote this.

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ABSTRACT

The forced separation of Indigenous families in Canada, rooted in colonial policies, has led to profound and lasting impacts on Indigenous communities. This dissertation examines the enduring consequences of such policies, focusing on the health and social outcomes of parent-child separations among Indigenous populations in Canada and extending to other settler-colonised countries with similar policies. Chapter 1 provides a historical and theoretical context, discussing the colonial policies of assimilation and their impacts on Indigenous families and touching on social location. Chapter 2 presents a systematic review of health and social outcomes related to child welfare exposure among Indigenous populations in Canada, Australia, New Zealand, the United States, and the circumpolar region. Persistent detrimental effects include increased homelessness, low educational attainment, depression, suicidal ideation, emotional distress, and poor physical health. Justice system outcomes were inconsistent, suggesting potential indirect effects from the impacts of colonisation on systemic poverty, family instability, and community disorganisation. Chapter 3, "Keeping Families Together," uses data from the Aboriginal Peoples Survey (2012 and 2017 cycles) to examine mental health (anxiety, depression, suicidal ideation) and substance use (tobacco, alcohol, recreational drugs) among Métis, Inuit, and off-reserve First Nations youth aged 12-18. Intergenerational residential school exposure is linked to suicidal ideation, smoking, and recreational drug use. Parent-child separation was related to mood and anxiety disorders, smoking, and recreational drug use when including cannabis. Neither residential school exposure nor parent-child separation was related to heavy episodic drinking. Parent-child separation predicted abstention from alcohol use, with those separated from parents more likely to drink alcohol than those who were not separated. Chapter 4 is a policy brief assessing the devolution of child welfare systems in Canada and its potential impacts on Indigenous well-being, informed by Elder Kaquitts' teachings. The brief evaluates four policy options: Comprehensive Devolution, Partial Devolution with Full Funding, Partial Devolution with Fiscal Restraint, and Status Quo. It concludes that comprehensive devolution, aligned with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), is necessary to address colonial impacts and provide well-funded, community-specific supports. The dissertation highlights the urgent need for systemic changes in child welfare to support Indigenous self-determination and cultural continuity, while underscoring the importance of comprehensive devolution, advocating for Indigenous-led, community-specific solutions to address these issues effectively.

LIST OF ABBREVIATIONS/SYMBOLS USED

AOR: Adjusted Odds Ratio

APS: Aboriginal Peoples Survey

CI: Confidence Interval

CrI: Credible interval

FNIGC: First Nations Information Governance Centre

HR: Hazard Ratio

IRS: Indian Residential School

OR: Odds Ratio

PS: Propensity Score

SD: Standard Deviation

TRCC: Truth and Reconciliation Commission of Canada

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CHAPTER 1: INTRODUCTION

1.1 Introduction and Overview

The forced separation of Indigenous families in Canada, rooted in colonial policies, has led to profound and lasting impacts on Indigenous communities. These policies, aimed at assimilation, including intergenerational exposure to residential schools and involvement in child welfare systems, have resulted in widespread trauma and disrupted the cultural fabric of Indigenous societies. This dissertation explores the enduring and ongoing consequences of such interventions, focusing on the health and social outcomes of parent-child separations among Indigenous populations in Canada and extending to other settler-colonised countries with similar policies. It examines the continuing practices of child welfare systems that perpetuate family separations, highlighting the urgent need for system changes that honour Indigenous self-determination and cultural continuity.

1.2 Social Location of The Work

The history of research involving Indigenous communities is replete with instances of harm, exploitation, and unethical practices that disregard Indigenous rights, autonomy, and cultural beliefs, which has understandably engendered a lack of trust (Getty, 2009; Tuhiwai Smith, 1999; Wallerstein & Duran, 2010). This research history reflects a paternalistic lens that positions Indigenous subjects as the "other" in contrast to an assumed universal subject (Absolon & Willett, 2005; Moosa-Mitha, 2015). In this dissertation, I take up a social justice or anti-oppression stance that challenges universal claims and subject positions by recognising the diversity of human experiences and perspectives and the active role of the researcher in constructing knowledge by framing

the work (Moosa-Mitha, 2015). I acknowledge that different groups, including Indigenous peoples, have unique histories, cultures, and worldviews. Instead of imposing a universal framework, I use a social justice theoretical approach to seek to understand and address the specific forms of oppression and marginalisation faced by various communities through research (Moosa-Mitha, 2015).

Strega and Brown (2015) argue that a social justice orientation to research demands critical reflection on our research interests and positionality regarding the participants we study, their communities, and contexts. I agree with Strega and Brown that our identities shape our perspectives and biases, which can affect the questions we ask and the way we interpret data. Social location is therefore fundamental to an Indigenous research framework and is necessary to challenge Eurocentric "neutral" researcher self-location claims (Absolon & Willett, 2005). In terms of my own social location, professionally, I am a psychologist with a specialisation in neuropsychology employed at a large medical centre in Western Canada. Prior to becoming a clinical psychologist, I was a school psychologist with a caseload predominantly of children and youth in foster care. The majority of these children were Indigenous and from remote northern Manitoban communities, and many of their birth parents were residential school survivors. In the field of addictions, I have also worked extensively with Indigenous youth and adults with multi-generational histories of psychological and institutional trauma. These first-hand experiences working with Indigenous people affected by intergenerational trauma compelled me towards a PhD in this area. These experiences inspired me to strive to contribute towards efforts to decolonise research and healthcare systems, which also motivates my program of research.

Moreover, I am Jewish, and I have a personal interest in and family history of experiences of intergenerational trauma. I am also a parent of a 13-month-old child. Becoming a father has brought parent-child separation and the importance of nurturing and safeguarding the bonds between children and their parents into sharp focus. It is my hope that my work might contribute to reconciliation by working toward a shared future for all children.

As an Ashkenazi Jewish settler who can access white skin privilege, I occupy a position of power in relation to the topics of Indigenous child welfare system involvement and intergenerational residential school exposure. This privilege connects my work with particular systems and practices of power, authorising and enabling me to mobilise power within these contexts and leaves me well placed to make social change. The categorisation of Jewish identity as "white" has fluctuated throughout history and has been described as precarious (Boyarin, 2023). Jews have historically experienced exclusion from the privileges associated with whiteness, manifested in modern day Canada as ghettoization of Jewish communities, and not being able to own property[1].

Navigating racial identity for Jewish people in North America has a complex history and has depended on the socio-political landscape. Jewish identity encompasses

[1] From the 1880s to the 1960s antisemitism was a deep-seated part of Canadian Society (Levine, 2018). Property covenants barred Jews from buying properties or accessing clubs, resorts, and beaches, with exclusion signs in places like Halifax, the Laurentians, and vacation areas in Ontario, Manitoba, and British Columbia (Apart from Nova Scotia, the provinces with the largest population of Jews). In Manitoba, the Victoria Beach Herald referred in 1943 to Jewish people as the “unwanted” and urged their exclusion (Maron, 2019). In at least one area of Quebec, exclusionary covenants against Jewish ownership existed until very recently. Antisemitism in the Canadian government, including Prime Minister Mackenzie King, led to harsh immigration policies, exemplified by the denial of Jewish refugees aboard the MS St. Louis. Canada's record in offering sanctuary to Jewish refugees in the 1930s and 1940s was the worst among Western countries, highlighted by a senior official's infamous remark, often attributed to King, “None is too many.”

culture, religion, and ethnicity, which adds layers of complexity to this positionality (Brym et al., 2018; Pew Research Centre, 2021). In "The Price of Whiteness," Goldstein (2006) documents how Ashkenazi Jews in America navigated their racial identity from the late 19th century through World War II. Ashkenazi Jews often sought acceptance as white Americans, which opened many doors but also placed limits on their ability to assert a distinct group identity (Goldstein, 2006). Similarly, an intersectional approach highlights how Jewishness and whiteness conjoin in unique ways, sometimes reinforcing antisemitic tropes about Jewish power and influence, as discussed in various scholarly works (Schraub, 2019).

This background of societal exclusion of Jews and shifting perspectives of Jewish inclusion influences my perspective and engagement with the research. My insights into the dynamics of marginalisation, resilience, and identity within Jewish communities can help inform my approach to understanding and addressing the systemic oppression faced by Indigenous peoples. This includes being mindful of the different historical and social contexts: I want to make it clear that I am not equating Jewish and Indigenous experiences. Building on this understanding, I see the potential for clinical psychology to advance social justice, exemplified by the Hebrew concept–*tikkun olam*, meaning 'repairing the world', which guides me personally and professionally. My research, clinical work, and worldview have been shaped by Indigenous individuals, families, and communities I have met personally and with whom I have worked with in clinical and research contexts.

1.2.1 Personal Significance

As a person of Jewish descent, intergenerational trauma holds personal significance for me. The history of the Jewish people includes experiences of persecution, displacement, and collective trauma, such as the Holocaust and centuries of discrimination and pogroms (Seeman, 2020). These historical traumas have left lasting scars on individuals, families, and communities, and their legacy has influenced cultural identity, familial relationships, and mental health across generations (Lazar et al., 2008). My own family escaped a pogrom at the turn of the 20th century. Reflecting on this history underscores the importance of understanding and addressing intergenerational trauma individually and collectively. While parallels can be drawn between mechanisms of transmission of Jewish and Indigenous intergenerational trauma, acknowledging their differing social contexts is crucial to appreciating the distinctiveness of Indigenous experiences (Robertson et al., 2024). This includes recognising colonial repression as ongoing structural violence, and as a social determinant of health (Kirmayer et al., 2014; Mitchell, 2019; Robertson et al., 2024).

I argue that the philosophy of Teshuvah, as laid out by Maimonides (c.1190), a Sephardi Jewish philosopher, physician, and Rabbi provides a uniquely Jewish approach to examining reconciliation as a process of reparation and restorative justice that acknowledges responsibility for personal and structural change, meaningful apology, and restitution. Teshuvah (return) is an ongoing process focused on reflection, commitment, and action. Rabbinic tradition teaches that all steps of Teshuvah are required and interrelated. Teshuvah involves steps of modifying behaviour to stop causing harm, internalising regret, acknowledging one's mistakes, reconciliation (a sincere apology),

making amends (returning what was taken), and actual change (Bartnoff, 2019). The term "return" in teshuvah encapsulates the idea of returning to oneself and core values and to a healed relationship with others, as defined by the person(s) harmed (Bartnoff, 2019). Teshuvah informs my research and clinical work by providing a framework and guiding principles for action within a Jewish tradition in acknowledging historical and present-day wrongs, promoting reconciliation, and fostering healing.

The studies presented in this dissertation engage a postpositivist research paradigm, in that I do not consider researcher and research participants to be fully independent of one another, and I acknowledge that my ideas, beliefs, and experiences shape my research hypotheses, design, methodology, and results. However, my focus on the explanation, prediction, and verification of theories using a priori hypotheses takes up many elements of positivism (Park et al., 2020). Although there are limitations to quantitative data, it can serve as a compelling tool when advocating for social justice within Western systems (Blackstock, 2009). It is hoped that presenting statistics on disparities and injustices faced by Indigenous peoples effectively highlights the pressing need for action and has practical use for Canadian policy makers. At the same time, due to concerns raised about deficit-based research reinforcing negative stereotypes, a strength-based lens is used to interpret the findings (Hayward et al., 2021). My clinical experience informs the focus, form, and content of the manuscripts and I draw on principles of social location (Absolon, 2019) to acknowledge my own context within the work. In the words of Indigenous scholar Dr. Kathy Absolon, “We speak from our location and announce who we are, where we come from, and what our intentions are” (Absolon, 2019, p. 29).

Three aspects of the context in which I conducted this research are worth highlighting in the sections that follow: 1) the historical and contemporary context surrounding the over-representation of Indigenous children who have been separated from their parents; 2) the current theory regarding the social determinants of health among Indigenous people in Canada, particularly the impact of colonisation and intergenerational trauma; and 3) the current literature on health and social outcomes from parent-child separation among Indigenous populations, with a focus on the effects of exposure to residential school and child welfare systems.

1.3 Historical Context: Colonial policies of assimilation in Canada

The separation of Indigenous parents and children by Canadian governments has a dark history deeply rooted in colonialism and assimilation policies. Canadian governments, particularly through the Indian Act, residential school system, and later the 60s Scoop, sought to assimilate ('civilise') Indigenous peoples into Euro-Canadian society. Prime Minister John A. Macdonald clearly described these goals to parliament in 1887: "The great aim of our legislation has been to do away with the tribal system and assimilate the Indian people in all respects with the other inhabitants of the Dominion as speedily as they are fit to change" (Macdonald, January 3, 1887, p. 37).

In the broader context of governmental policies, a particularly harmful policy and early example of parent-child separation occurred in Indian residential schools, which operated from the 1880s until 1996. Residential schools, funded by the federal government and operated by Christian churches, were seen as a means of isolating children from the cultural and identity influences of their parents to fully indoctrinate

them and accelerate the process of assimilation, as articulated by Prime Minister John A. Macdonald:

> When the school is on the reserve, the child lives with its parents, who are savages; he is surrounded by savages, and though he may learn to read and write his habits, and training and mode of thought are Indian. He is simply a savage who can read and write. It has been strongly impressed upon myself, as head of the Department, that Indian children should be withdrawn as much as possible from the parental influence, and the only way to do that would be to put them in central training industrial [residential] schools where they will acquire the habits and modes of thought of white men (Macdonald, 1883, p 1107-1108.)

1.3.1 Consequences of Colonial Interventions

As a result of the Canadian government's assimilation policies, Canada's history is marked by extensive separation of Indigenous parents and children by centuries of colonial interventions, with profound and far-reaching effects. This historical separation has disrupted the primary means of identity formation and cultural transmission. From infancy, children learn about who they are and where they come from through interactions with their parents including sharing stories, passing down family and community histories, and engaging in cultural practices together (Frosch et al., 2021). This process forms the foundation of a child's identity, grounding them in their cultural heritage and providing a sense of belonging within their community.

1.3.1.1 Residential Schools operations and Impacts

Residential schools incarcerated generations of Indigenous children, subjecting them to chronic trauma with individual, family, and community impacts, and creating an intergenerational cycle of adversity (Caldwell & Sinha, 2020; Truth and Reconciliation Commission of Canada; TRCC, 2015). The intended aim of residential schools was to assimilate Indigenous children into settler society and Euro-Christian values, "saving" them from their Indigenous heritage and culture (Milloy, 1999a). However, these schools

provided only minimal education, and left many Indigenous people poorly prepared, marginalised, and facing social and economic exclusion when attempting to integrate into settler society (Milloy, 1999b). This contributed to educational disparities between Indigenous and non-Indigenous populations, perpetuating cycles of poverty and marginalisation.

Residential schools were part of a broader system of oppression that affected Indigenous peoples in Canada and other countries with settler colonisation (Australian Institute of Health and Welfare, 2018; Gone et al., 2019; Running Bear et al., 2019). Residential schools forcibly confined generations of Indigenous peoples, who also faced other collective traumas, such as loss of homeland, forced relocations to reserves, epidemics, discriminatory laws, forced assimilation, cultural suppression, and colonisation-induced violence and displacement (Milloy, 2008; TRCC, 2015). Families and communities suffered the trauma and grief of having their children forcibly taken away (Söchting et al., 2007), and some Indigenous people returned to their communities from residential school traumatised and lacking cultural supports such as traditional knowledge systems and languages, as well as a sense of personal and cultural continuity (Chandler & Lalonde, 1998) that could have been protective. With significant mental health needs, unable to speak their Indigenous language, and unfamiliar with their culture's protocols, many experienced exclusions from both Indigenous and mainstream societies after residential school (Milloy, 1999a). Together, these interrelated factors compounded the suffering and marginalisation experienced by Indigenous communities, leaving a legacy of intergenerational trauma and ongoing social, economic, and health disparities.

1.3.1.1.1 Investigations, findings, ignored recommendations

Dr. Peter Henderson Bryce, chief medical officer of the Department of Indian Affairs (1904-1921), conducted an investigation into the conditions of residential schools in 1907, highlighting appalling unsanitary conditions, insufficient ventilation, and high mortality rates (25%-69%) among Indigenous children due to tuberculosis and other diseases (Bryce, 1907, 1922). Dr. Bryce's findings, titled *The Report on the Indian Schools of Manitoba and the North-West Territories,* warned that residential schools were inhumane and detrimental to the health and well-being of Indigenous children (Bryce, 1907).

After forced retirement in 1921, free of his oath of office as a civil servant, he declared that health conditions in residential schools were a national crime, with rates of tuberculosis in residential schools as high as 93%, showing a “criminal disregard for the treaty pledges to guard the welfare of the Indian wards of the nation” (Bryce, 1922, p. 14). Despite his efforts to raise awareness and enact change, Dr. Bryce’s findings and recommendations were largely ignored or suppressed by the Conservative government of the time, led by John A. MacDonald. John A. Macdonald’s national policy of assimilation took a coercive and brutal approach to Indigenous peoples, and residential schools fit within that policy. His approach set the tone for ongoing Indigenous-settler relationships. In his own words:

> It is true that Indians so long as they are fed will not work. I have reason to believe that the agents as a whole, and I am sure it is the case with the Commissioner, are doing all they can, by refusing food until the Indians are on the verge of starvation, to reduce the expense . . . We hope that the Indians will now settle down; but Indians are Indians, and we must submit to frequent disappointments in the way of civilizing them (Macdonald, 1882, p. 1186).

1.3.1.2 Scooping: child removal in the mid to late 20th century

Building upon the traumatic legacy of residential schools, the approach of child removal and assimilation policies is also evident in child welfare systems in Canada. The 60s Scoop[2], overlapping with the residential school years, refers to a post-war period extending from the 1950s to the 1980s. During this time, thousands of Indigenous children were removed from their homes and placed in the child welfare system, resulting in devastating long-term impacts (McKenzie et al., 2016).

Similar to the residential school system, many First Nations children were forcibly separated from their families and communities, resulting in a loss of traditional knowledge, culture, and language (Blackstock, 2011; Carriere, 2005; Fournier & Crey, 1997). As provincial child welfare services extended to federal reserves in the early 1950s and 60s, First Nations children were increasingly removed from their communities, made a ward of the state, and placed in foster care, group homes and other institutions, or put up for adoption (Johnston, 1983). Adoptees were generally placed with non-Indigenous (predominantly white) families (Carrière, 2005; di Tomasso & de Finney, 2015; Johnston, 1983), where many experienced abuse and neglect (MacKenzie et al., 2016).

To further the goal of assimilation and integration, closed adoptions were encouraged, with no contact with biological families and communities of origin and often no information about them (Engle, 2012). Names and identities were hidden and changed to encourage the severing of ties and children were often taken out of province or out of country (Bennett et al., 2005). Although some adoptive parents provided loving homes,

[2] Now "scooping" refers to a much broader period, for some describe the continued removal of children following the 60s Scoop as "the Millennium Scoop."

for many First Nations peoples, adoption resulted in loss of identity and permanent separation from their families and communities (di Tomasso & de Finney, 2015; McKenzie et al., 2016; Sinclair, 2007; Stevenson, 2019).

The intent to erase Indigenous connections is clearly illustrated by the adoption advertisements of the 1960s and 1970s, placed in daily newspapers, and by a television program supported by the Ontario Welfare Ministry (Bendo et al., 2019). The captions under the children's photographs, for example, expunge all reference to the children's biological families or their identity: "Johnny looks as happy as if he had a home and parents of his very own"(April 28, 1971 entry, as cited in Bendo et al., 2019). According to Dr. Daniella Bendo, a children's rights and childhood studies scholar, and her colleagues, the advertisements implied the children "do not have parents before adoption" (Bendo et al., 2019, p. 405). The vast majority of the adoption placements of First Nations children were unsuccessful, with estimated breakdown rates between 85% to 95% (Sinclair, 2007).

The child removal policies once known as the 60s Scoop (now spoken of as "scooping") aimed to absorb Indigenous children into white settler society, mirroring the objectives of the residential school system. The underlying ideologies of paternalism and assimilation, which framed Indigenous cultures as requiring suppression or eradication, were evident in both the residential school system and the 60s Scoop (di Tomasso & de Finney, 2015). The forcible removal of children from one group to another and resulting separation from community and culture is considered cultural genocide and is a crime under the United Nations Convention of 1948 (United Nations General Assembly, 1948).

1.4 Contemporary Context: Royal Commission on Aboriginal Peoples & Truth and Reconciliation Commission of Canada

In 1996, the Royal Commission on Aboriginal Peoples (RCAP) released its comprehensive report, which examined various aspects of Indigenous life in Canada, including the impacts of residential schools. The RCAP report documented historical injustices inflicted on Indigenous peoples through colonial policies and called for reconciliation and redress. Between 1996 and 2005, a series of class action lawsuits were launched by survivors of residential schools against the Canadian government, eventually resulting in the historic Indian Residential Schools Settlement Agreement, which publicly acknowledged harms caused by residential schools and offered some degree of redress (Indian Residential School Settlement Agreement, 2006). The settlement also resulted in the formation of the Truth and Reconciliation Commission of Canada (TRCC) in 2008, with a mandate to acknowledge and document the impacts and legacy of the Indian residential school system to promote awareness. After years of hearings and testimonies from survivors of residential schools, the TRCC released its final report in 2015, which detailed systemic abuses perpetrated by the Canadian government through the residential school system.

The TRCC (2015) documented multiple impacts from residential school, including loss of culture, identity, language, and traditional knowledge, inadequate and culturally inappropriate education, social disruption, and long-term health impacts, such as psychological harm and intergenerational trauma.

Residential schools aimed to assimilate Indigenous children into Euro-Canadian culture, forcibly separating them from their cultural heritage, languages, and traditional

ways of life. The loss of cultural identity disconnected generations from ancestral knowledge, practices, and spiritual beliefs and the suppression of Indigenous languages and practices resulted in the loss of linguistic diversity and traditional knowledge systems. Disconnection from Indigenous language and traditional knowledge systems has had detrimental effects on Indigenous cultural continuity and further hindered the transmission of intergenerational knowledge. Despite the stated aim of providing education, residential schools often provided substandard and culturally inappropriate education to Indigenous children. Substandard education contributed to educational disparities between Indigenous and non-Indigenous populations, perpetuating cycles of poverty and marginalisation. The systematic removal of children from their families disrupted social structures in Indigenous communities, which led to a breakdown in traditional familial and communal relationships, social dysfunction, and challenges in community cohesion.

Over 150,000 First Nations, Inuit, and Métis children were held in residential schools or other institutions, and many did not survive the inadequate housing, hunger, cold, sub-par nutrition, and deficient medical treatment they endured (RCAP, 1996; TRCC, 2015). In addition to the language and cultural loss noted above, young Indigenous children were subjected to regimented routines, harsh punishment, severe abuse, and state-sanctioned institutional neglect (Corrado & Cohen, 2003; Fontaine, 2017; Niezen, 2016; RCAP, 1996; TRCC, 2015). Rates of disease and mortality were high and residential school attendees also suffered psychosocial and physical deprivation (Bryce, 1922; Corrado & Cohen, 2003; RCAP, 1996).

In Canada, the TRCC has named the policies and practices of residential school cultural genocide, which is a significant acknowledgement of the deliberate and systematic attempt to destroy Indigenous ways of life. The TRCC final report asserts the urgent need for ongoing acknowledgement, reconciliation, healing, and redress of harms inflicted by colonial interventions. The recognition of these harms by national-level inquiries, such as RCAP in 1996 and the TRCC in 2015, have been essential steps towards reconciliation. However, the process of healing and restoring Indigenous communities continues to require meaningful action, including the implementation of TRCC's Calls to Action[3] and efforts to address systemic inequalities and injustices.

Comack (2018) argues that residential schools and other acts of colonialism represent *corporate colonial crimes* enacted in the name of assimilation and civilisation and brought considerable financial gain to the powerful. I agree with Comack (2018) that this recognises that the state and religious orders had *mens rea,* the intent to do harm, in creating the residential school system and, thus, are culpable.

1.3.1.3 Over-representation of Indigenous children in Canadian child welfare systems: 21st Century

Despite the widespread attention brought to residential school and scooping, child welfare authorities in Canada continue to remove Indigenous children from their families

[3] The TRCC 94 Calls to Action are policy recommendations aimed at acknowledging the appalling history of the residential school system, at achieving reconciliation by implementing policy measures to address the root causes of continued inequality, and preventing similar injustices from occurring in the future. https://www.reconciliationeducation.ca/what-are-truth-and-reconciliation-commission-94-calls-to-action

and communities, at a disproportionate rate, and there is evidence that this can be ascribed to social and economic inequities (Barker et al., 2019; Bombay et al., 2020; Caldwell & Sinha, 2020; Sinha et al., 2013), which have been linked to governmental forced assimilation policies and ongoing and historical colonial violence (Blackstock, 2015; 2023; Fallon et al., 2021; Tait et al., 2013). This generates a cycle where government policies and practices create the conditions that lead to the over-representation of Indigenous children in child welfare systems. Child welfare systems perpetuate systemic inequities and discrimination through biased legislation and investigative procedures that overlook historical context, cultural needs, and the impacts of poverty. These issues are compounded by inadequate social or economic assistance or alternative services within child welfare, exacerbating disparities faced by Indigenous families.

In Canada, most child welfare investigations of First Nations children are related to neglect or perceived risk of neglect (Caldwell & Sinha, 2020; Fallon et al., 2021; Trocmé et al., 2004). Child neglect correlates to poverty when, due to material deprivation, parents cannot meet their children's basic needs (Berger et al., 2017; Bunting, et al., 2018; Slack et al., 2004). Material deprivation disproportionately affects Indigenous families, greatly increasing the risk of child welfare investigations and apprehension (Caldwell & Sinha, 2020; Fallon et al., 2021; Sinha et al., 2013). Elevated household risk factors (e.g., poor mental health, social and economic inequity, substance use) and out of home care within a child welfare system (i.e., placement in foster care, group homes) disproportionately experienced by Indigenous families can be attributed to

the enduring consequences of intergenerational residential school exposure (Barker et al., 2014; 2019; Bombay et al., 2020; Wilk et al., 2017).

1.4 Intergenerational Trauma

The concept of intergenerational trauma provides significant insight into the long-lasting impacts of historical and current injustices. Intergenerational trauma refers to the passing of trauma or its effects, such as psychological repercussions from harm or deprivation, from one generation to the next (American Psychiatric Association; APA, 2013). Prior to research into the intergenerational effects of residential schools in Canada and boarding schools in the United States, scholars and researchers had begun examining the intergenerational transmission of trauma among Holocaust survivors and their descendants, as well as within Jewish populations more broadly (e.g., Rakoff, 1966). The literature describes two different mechanisms of transmission: direct trauma, which involves a primary experience of trauma (e.g., experiencing abuse or assault), and indirect trauma, which is a secondary experience of trauma that, although not personally experienced, may transmit remnants of stress responses to a subsequent generation (O'Neill, et al., 2018; Weiss, & Weiss, 2000). Dr. Natan Kellerman, a scholar on the transmission of Holocaust trauma and clinical psychologist describes this as the "reverberation of trauma" (2011, p. 3) and suggests it may create a neurobiological susceptibility to stress.

Descendants of Holocaust survivors have greater current and lifetime prevalence of post-traumatic stress disorder (PTSD), depression, and anxiety disorders than Jewish comparison groups without a Holocaust survivor parent (Yehuda et al., 1988). Research indicates that descendants of Holocaust survivors may exhibit dysregulated cortisol

levels, a hormone related to stress response, including differences in baseline cortisol levels and abnormal cortisol responses to stressors, when compared to individuals without a family history of trauma (Yehuda et al., 2000). These findings suggest that trauma exposure in previous generations can have lasting physiological effects on descendants, influencing their ability to manage stress effectively. Biological changes, such as the intergenerational transmission of cortisol dysregulation, may contribute to an increased vulnerability to stress-related disorders and other health issues among descendants of Holocaust survivors (Dashorst et al., 2019; Yehuda et al., 2002).

The long-term physiological effects of indirect trauma exposure on the functioning of the stress response system in subsequent generations are still being discovered. Epigenetic changes, which involve modifications to gene expression without altering the underlying DNA sequence, have been observed in descendants of Holocaust survivors (Bierer et al., 2020; Yehuda et al., 2016). These epigenetic changes may play a role in transmitting the effects of trauma across generations, as they can influence how genes are expressed and regulated in response to environmental factors (Kellerman, 2013). Such research illustrates that indirect trauma can have psychological and biological impacts, which has inspired studies on intergenerational trauma in other contexts, including Indigenous communities affected by residential/boarding schools (e.g., Brave Heart, 1998; 2003).

1.4.1 Historical Trauma

Historical trauma describes the cumulative impact of collectively experienced multigenerational traumas endured by cultural, ethnic, or racial groups subjected to systemic oppression (Brave Heart, 1998; Duran et al., 1998). Systematic oppression is

often marked by violent acts due to their group status (e.g., descendants of genocide survivors; Brave Heart, 1998; Duran, et al., 1998). Historical trauma responses manifest as a reaction to collective trauma and can present through symptoms of distress, such as depression, anxiety, suicidal ideation, self-destructive behaviour, and problematic substance use (Duran et al., 1998). Brave Heart (1998; 2003) introduced a formulation of historical trauma to characterise the multigenerational harms stemming from the violent colonisation experienced by Indigenous peoples, augmenting it with the concept of unresolved historical grief. Brave Heart's work informs Indigenous clinical treatment and research, integrating historical context and its interaction with contemporary discrimination. Further, Brave Heart's and Duran and Duran's work have fostered meaningful dialogue among other survivors and descendants of genocide and group oppression (e.g., Evans-Campbell, 2008; Gone, 2013; Wirihana & Smith, 2019).

1.5 Theoretical Perspectives on Indigenous Health and Well-being

In this section, I review a variety of theoretical perspectives on Indigenous health and well-being. These perspectives encompass different frameworks and models that aim to understand the complex interplay of factors influencing health outcomes among Indigenous populations. The heterogeneity in approaches reflects the diverse methodologies and theoretical underpinnings, ranging from social determinants of health to Indigenous-specific models that incorporate cultural, historical, and systemic factors. We will explore traditional models like those developed by Dahlgreen and Whitehead (1991) and Marmot (2005), examine their gaps and limitations, and contrast them with Indigenous models that address the unique health determinants pertinent to Indigenous communities. We will delve into psychological theories that focus on the impact of

trauma on individual health, such as the Indigenist Stress-Coping Model and the concept of complex PTSD. Additionally, we will discuss the role of historical trauma and the concept of the soul wound in understanding collective and intergenerational impacts on Indigenous health. This section aims to provide a comprehensive understanding of the theoretical landscape, highlighting the importance of culturally responsive and holistic approaches in addressing health disparities among Indigenous populations.

1.5.1 Social Determinants of Health models

The Government of Canada (2024a) defines the determinants of health as personal, social, economic, and environmental factors that influence individual and population health. Within this framework, social determinants of health focus on an individual's societal position, including aspects like income, education, and employment status (Government of Canada, 2024a). In discussions on this topic, the Government of Canada typically counts race and racism as main determinants of health and offers historical trauma as an additional example of a social determinant of health. However, the Government's list of health determinants is not presented as a model or framework, is not nested (indicating impacts on health inextricably linked within an eco-system), and does not depict interactions between factors. Consequently, the compounding effects of multiple determinants or how various features of colonisation might interact may not be captured.

The United Kingdom has contributed significantly to social determinants of health models, including those by Dahlgreen and Whitehead (1991) and Marmot (2005). Both of these models of social health determinants use broad language, such as "cultural practices" or "socioeconomic and environmental factors", but do not specifically name

colonisation, which may speak to the context in which the models were developed. The Dahlgren and Whitehead (1991) model, also known as the "rainbow model," depicts the various layers of influence on an individual's health. It stresses the interplay between personal behaviour, social networks, living and working conditions, and general societal factors. Dahlgren and Whitehead (1991) draw attention to the “layered influence of individual lifestyle factors, social and community networks, and general socio-economic, cultural, and environmental conditions” (p. 18). These authors (2021) recently argued that racism should not be considered a separate health determinant but rather a pervasive force influencing all health determinants and driving social and ethnic inequities. They propose that racism shapes disparities through three mechanisms: racial discrimination and stigma (occurring at individual and community levels), institutional biases (shaping living and working conditions), and structural inequalities (shaping overarching socio-economic, cultural, environmental conditions).

Similarly, Marmot (2005) acknowledges the influence of culture and societal expectations, their importance for health behaviours and outcomes, and their subsequent role in public health strategies. The Marmot model focusses on the social determinants of health, proposing that health disparities are primarily due to social inequalities. Marmot (2005) highlights the impact of factors like education, income, and environment on health outcomes, advocating for policies that address these social determinants to improve public health.

The omission of colonisation in both the Dahlgren and Whitehead (1991) and Marmot (2005) models reflects a broader trend in public health literature of the period, roughly from the late 20th century to the early 2000s, where the focus was more on

immediate social determinants rather than historical and systemic factors (Bhopal, 2007; Navarro, 2009). Addressing this oversight is crucial, as colonisation has lasting effects on health inequities, influencing access to resources, exposure to stressors, and overall community well-being (Kim, 2019; King et al., 2009; Anderson, 2021).

Although cultural conditions are considered an over-arching health determinant in the Dahlgreen and Whitehead model, it does not describe the role of cultural continuity. Cultural continuity, as described by Chandler and Lalonde (1998; 2008; Lalonde, 2003), refers to the persistence of culture across time and generations, as indicated by markers such as self-determination, construction of facilities for the preservation of culture, and efforts toward self-governance of community services (e.g., health, education, policing, child-welfare services). Cultural continuity has been shown to be an important influence on health in First Nations communities. For example, high numbers of cultural continuity markers were linked to lower suicide rates in First Nations communities in British Columbia (Chandler & Lalonde 1998; 2008), community control of health services was related to lower rates of hospitalisation in Manitoba (Lavoie et al., 2010), and increased cultural continuity (measured by traditional Indigenous language knowledge) was associated with significantly lower prevalence of diabetes in First Nations communities in Alberta (Oster et al., 2014). As such, the lack of focus on racism and cultural continuity appears to be a gap in some of the well-known international models.

An additional gap in the Dahlgreen and Whitehead (1991) model is that genetics are considered fixed, which does not account for epigenetic changes. Environmental influences such as toxins and negative life experiences have been shown to affect gene expression, suggesting that genetics may not be as immutable as previously thought

(Ospelt, 2022). Gene-environment interactions may be relevant to a social determinants of health mode, particularly when we consider that Indigenous peoples are exposed to negative environmental influences at disproportionately high rates (Kim, 2019).

We now understand that epigenetic modifications have the potential to influence the biology of individuals exposed to historical trauma and their descendants (Conching et al., 2019). Although research on the intergenerational transmission of biological changes due to exposure to trauma is in its early stages, as previously mentioned, epigenetic changes have been identified in various populations, including descendants of Holocaust survivors (Yehuda et al., 2016), descendants of survivors of the Tutsi genocide (Perroud et al., 2014), and the Kosovo war (Hjort et al., 2021). It has been suggested that epigenetic changes due to trauma also occur in Indigenous populations, including descendants of residential school survivors (Matheson et al., 2022).

Despite the promise epigenetics offers for models of health, the conditions needed for epigenetic studies have been undermined by unethical research. Indigenous communities have a negative history with unethical researchers, including research where their genetic material has been stolen, misused, and used to stigmatise them and undermine their rights. As a result of this history, Indigenous communities worldwide have raised ethical concerns about epigenetic research, including that it risks being essentialist and reinforcing deterministic narratives of Indigeneity that focus solely on trauma and negate Indigenous sovereignty (Gone & Kirmayer, 2020; Keaney et al., 2024). Given these potential risks, some have advocated that Indigenous communities refuse to participate in epigenetic research (Keaney et al., 2024).

1.5.2 Social determinants and Indigenous health

Over the past 20 years, several Indigenous models of health have emerged in Canada. *The First Nations Wholistic Policy and Planning Model* (Reading et al., 2007) is a comprehensive framework that integrates the Medicine Wheel, underscoring the interconnectedness of mental, physical, emotional, and spiritual health. At the core of this model is the community and collective well-being. Surrounding the community are the lifespan cycles, which illustrate the various stages of life from birth to old age. These cycles serve to highlight the continuous and dynamic nature of health and well-being throughout an individual's life, recognising the influence of past experiences, current circumstances, and future aspirations on a person's holistic health. Over the past 20 years, this model, along with other Indigenous health models, has gained prominence in Canada, offering a more inclusive and culturally relevant perspective on health that addresses both immediate social determinants and historical and systemic factors, including the impact of colonisation. The Reading et al. (2007) model of health determinants builds on the Dahlgreen and Whitehead (1991) model by including additional dimensions such as justice, residency on or off reserve, elements of First Nations self-governance and self-determination, as well as considerations related to language, heritage, and culture. *The Integrated Life Course and Social Determinants Model of Aboriginal Health* (Reading & Wien, 2009) also provides a holistic perspective on health, inclusive of mental, physical, emotional, and spiritual elements, and consideration of health at different life stages. Reading and Wien (2009) extend Dahlgreen and Whitehead's (1991) model and Marmot's (2005) conceptualisation by acknowledging the influence of colonialism, cultural continuity, and self-determination

on health. These models contribute to a growing body of research on Indigenous social determinants of health in a Canadian context. Further research and engagement are needed to develop social determinants of health models that fully acknowledge the impact of colonisation. Whether colonisation is regarded as a driving force behind health determinants, as recently suggested by Dahlgreen and Whitehead (2021), or as a primary health determinant itself, it is essential to integrate this perspective into models used in social service and healthcare settings to address health inequities and provide culturally responsive care.

Models of health determinants may disagree on location or pathway but do not disagree that colonialism is implicated in poor health and social outcomes for affected communities. Colonial structures and policies such as residential schools have been described as "largely responsible for destabilizing the determinants of Indigenous health" (Pan-Canadian Health Inequalities Reporting (HIR) Initiative, 2018, p. 7). Colonialism serves as an overarching structural force shaping historic, political, social, and economic contexts, which in turn influence Indigenous health through systems such as health care, education, labour, or child welfare. An effective model will also describe how agency, Indigenous self-determination, and the ability to sustain cultural continuity can shape health behaviours and health management (Czyzewski 2011; HIR, 2018; Reading & Wein, 2009; Tait et al., 2013).

Social inequalities persist over time and across generations, perpetuated by material deprivation and sociocultural processes that create and uphold social hierarchies (HIR, 2018). A health determinants lens describing the role of colonialism is helpful for

understanding the disproportionate occurrence of parent-child separation in Indigenous communities in Canada and internationally.

1.5.3 Stress and Trauma and Indigenous Health

Psychological theories on Indigenous health tends to focus on the impact that trauma has on the individual level, rather than broader social determinants of health. The widespread effects of psychological trauma on all aspects of mental health, physical health, and social outcomes are well documented. Research by Dr. Vincent Fellitti (a physician and scholar in childhood trauma) and his colleagues revealed a dose-response relationship between the number of adverse childhood experiences (ACEs)—including child abuse, neglect, and household dysfunction—and various physical and mental health conditions, as well as leading causes of death and premature mortality in adults (Fellitti et al., 1998). This research has been expanded on and confirmed by Fellitti's colleagues (Brown et al., 2009; Dube et al., 2001; Van Niel et al., 2014). Children who come into contact with child welfare systems have commonly experienced ACEs, and involvement with child welfare systems can itself be a traumatic experience. Parent-child separation, removal from familiar environments, and placement in foster care or residential facilities can be traumatic, exacerbate existing trauma, and have long-lasting effects on children's emotional well-being and development (Gypen et al., 2017; Saraland et al., 2022; Seker et al., 2022). Children in care may experience additional adversities, including inadequate care, abuse or neglect in care settings, placement instability, or lack of access to necessary support services. These experiences can further compound trauma and negatively impact children's well-being. Dr. Tracie Afifi, a scholar in child maltreatment and mental health, and colleagues proposed that placement in a child welfare system

could constitute an adverse childhood experience or, at the very least, may not effectively shield individuals from harm despite the system's intended protective function (Afifi et al., 2018).

1.5.3.1 Vulnerability Stress Models and Traumatic Stress

When attempting to understand the aetiology of psychopathology, many clinical psychologists make use of the vulnerability-stress model (sometimes called the "diathesis-stress model"). Ingram and Luxton (2005) argue that it is the interaction between predisposition and stressful events that leads to pathology, illustrated through the diathesis-stress model. Stress triggers the diathesis (vulnerability) and the combined effects of stress and vulnerability result in the disorder. Models are generally biosocial and include ecological/developmental factors (e.g., personal, family, cultural, and social environment), biological vulnerabilities (e.g., genetics), and cognitive appraisals (Ingram & Luxton, 2005; McKeever & Huff, 2003). This framework is consistent with the concept of risk factors for stress-related illnesses such as post-traumatic stress disorder (PTSD). Gaps in the diathesis-stress models include lack of consideration for structural societal influence and lack of historical context such as intergenerational trauma. Indigenous scholars Karen Walters and Jane Simoni (2002) proposed *The Indigenist Stress-Coping Model*, which considers the influence of historical trauma, contemporary traumatic events, and discrimination on physical and mental health outcomes. Walters and Simoni (2002) proposed that the relationship between environmental adversities and outcomes is buffered by cultural factors for coping, including a sense of cultural identity, spirituality, and traditional health and cultural practices. These cultural elements may help alleviate the adverse effects of stressors on health.

Applying the Indigenist stress-coping model, Indigenous individuals who have been apprehended through a child welfare system may face an elevated risk of adverse physical and mental health outcomes. This elevated risk may be due to historical trauma, lifetime stressors such as experiences of discrimination, and increased exposure to trauma both before and during child welfare system involvement. We can further understand this dynamic if we integrate the Indigenist stress-coping model with diathesis-stress models. Stressors such as those outlined in the Indigenist framework may serve as triggers for underlying biological vulnerabilities, such as epigenetic changes from historical trauma (Conching et al., 2019; Matheson et al., 2022). The combination of stressors and vulnerabilities can lead to a cascade of effects, culminating in the manifestation of adverse health outcomes. However, given the propositions in Walters and Simoni's (2002) model, cultural engagement and connection might buffer these negative effects.

1.5.3.2 Survival of Prolonged, Repeated Trauma Under Totalitarian Control

The current diagnostic formulation of PTSD is largely based on observations of individuals who have experienced specific traumatic events such as combat, disasters, or sexual assault (American Psychiatric Association, 2013). Critics, however, argue that this formulation overlooks the diverse and complex consequences of prolonged, repeated trauma especially during developmentally critical periods (Herman, 2015; Van der Kolk & d'Andrea, 2010). Complex PTSD, as originally proposed by Herman (1992; 1998; 2015), is an attempt to classify common symptoms of individuals who have survived prolonged, repeated trauma. It involves a history of being subjected to a prolonged period of "totalitarian control" (p. 218), for example, having been a hostage or prisoner of war or repeated exposure to domestic/familial abuse, which can lead to disruptions in

relationships (e.g., distrust, isolation), hopelessness, alterations in affect regulation and self-perception, and alterations in consciousness such as dissociation (Herman, 2015). Complex trauma does not directly consider intergenerational trauma or collective trauma, but trauma researchers have described the cascading effect of cumulative consequences of trauma on development (Masten & Cicchetti, 2010). The framework of complex PTSD, as defined by Herman (2015), particularly its criterion of exposure to prolonged, repeated trauma while under 'totalitarian control,' could offer insight into the experiences of residential school survivors and other forms of Indigenous parent-child separations that involved survival of prolonged, repeated trauma.

1.5.3.3 Residential Schools as Total Institutions

Indigenous scholar and social worker Julia Rand (2011) identified residential schools as “Total Institutions” (p. 61), a term first described by Goffman (1961). In a Total Institution, inmates are cut off from the outside world to achieve institutional objectives of severing their social ties (Goffman, 1961). Similarly, Rand (2011) notes that residential school inmates’ prior social structure (family, community) is eliminated and replaced with regimentation. Karmel (1969) further specifies the elements of a “Total Institution”: markers of personal identity including clothing, possessions, name, are stripped during admission procedures. Inmates are subjected to removal of their clothes, extreme cleansing, haircutting. They are issued institutional clothing and a number, instructed on institutional rules, and assigned to quarters. Inmates must show deference to staff members and may be abused (Karmel, 1969). Goffman (1961) refers to the process of physical and psychological indignities in a Total Institution as mortification of the self (p. 16-21). Rand (2011) notes that long-term exposure to a Total Institution can result in

loss of personal identity, feelings of worthlessness, and the ongoing expectation of externally mandated regimentation.

From a developmental perspective, young children who experience a Total Institution environment are likely to have encountered institutional deprivation, which can be especially harmful during the early developmental period (Nelson, 2007; Rutter et al., 2007). When leaving a Total Institution, after years of regimented routines, the sudden absence of structure can be disorienting. Consequently, some individuals may find themselves drawn to similar Total Institution environments or to seek out new ones (Rand, 2011). Survivors of institutionalisation in childhood often face significant challenges in their later lives. Although many have shown remarkable resilience, prolonged institutionalisation can disrupt normal developmental processes across multiple domains in a dose-response relationship, including cognitive, emotional, social, and behavioural development and can extend into adulthood (van IJzendoorn et al., 2020). The effects can be far-reaching, impacting various aspects of their wellbeing, including low educational achievement, unemployment, and increased mental health service use in adulthood (Sonuga-Barke et al., 2017).

1.5.3.4 Historical Trauma and The Soul Wound

Psychological trauma has a critical influence on population-level health, but the field has typically narrowly defined trauma to the individual. Historical trauma is distinct from psychological trauma, by being rooted in colonial origins, having collective impact, being cumulative across adverse events, and transmitting risk and vulnerability across generations (Brave Heart & DeBruyn, 1998; Gone et al., 2019). Historical trauma merges

historical oppression and psychological trauma and emphasises collective impacts and shared awareness of group vulnerability, persecution, and distress.

Historical trauma underscores the importance of population health, acknowledging disparities in Indigenous mental health status and services, while highlighting the enduring legacies and histories of oppression. The concept of historical trauma helps clinicians and researchers to explain chronic mental health disparities by reframing addiction, trauma, and suicide as being caused by colonial subjugation and systemic and structural inequities rather than individual flaws (Brave Heart & DeBruyn, 1998; Brave Heart, 2003; Gone, 2013; Gone et al., 2019, 2020). Historical trauma adds to the dialogue of the influence of trauma and oppression over generations by acknowledging the enduring impact of colonisation, including forced displacement, and cultural suppression, on Indigenous communities. These traumas are not only experienced by individuals but also are embedded in the collective memory and identity of the community. Knowledge of the concept of historical trauma may encourage individuals to join group efforts for community renewal and healing (Gone, 2023), shaping "cultural understandings and shared memories" (Hartmann & Gone, 2014, p. 279).

Another name for collective grief that focusses on the felt experience is the "soul wound", coined by community members working with Dr. Eduardo Duran, a clinical psychologist (Duran, 2006). Duran notes that the soul wound is a centuries old conceptualisation of collective pain, which he considers a synonym to historical trauma as well as a reaction to collective and multigenerational wounding (Duran et al., 1998). Duran (2006) comments on the cumulative nature of intergenerational trauma, observing

that the soul wound worsens with time when trauma is unresolved. An important aspect of the soul wound is internalised oppression as a "collective ailment" (Duran, 2006, p. 21), represented by cycles of family trauma and separation. Equally important is overcoming through strength, resilience, and healing (Pooyak et al., 2023).

1.5.4 The Effects of Parent-Child Separation on Health and Social Outcomes

Children can be separated from their birth parents for a multitude of reasons, including war, immigration policy, economic migration, death, illness, imprisonment, abandonment, or state intervention, among others. This literature review describes health and social impacts related to parent-child separation in Indigenous populations in settler-colonised countries in Canada, Australia, New Zealand and the United States (sometimes abbreviated to CANZUS nations), and in the circumpolar region. These regions share some common expressions of settler colonisation, including forced assimilation policies, residential schools, child removal practices, and the prohibition of traditional languages and cultural practices (Hansen et al. 2016; Voaklandr et al., 2020). I begin by summarising relevant cohort and longitudinal research on the health and social ramifications of parent-child separation in the general population for contextual background.

1.5.4.1 Foster Care and Institutionalisation in the General Population: An Overview of Impacts

Negative mental health consequences associated with foster care are prevalent within international non-Indigenous communities. Longitudinal population studies conducted in Holland and Finland and nationally representative studies in the United Kingdom reveal that children placed in out-of-home care, including foster care or

residential care, exhibit a heightened risk of psychological distress and psychopathology compared to similarly socio-economically disadvantaged peers (Egelund & Lausten, 2009; Ford et al., 2007; Pesonen et al., 2010; Räikkönen et al., 2011), including increased rates of substance use and substance use disorders and heightened involvement in the justice system (Gypen et al., 2017; Malvaso et al., 2016; Mendes et al., 2014; Yoon et al., 2018). For instance, the majority of children in the child welfare system in the UK were found to exhibit symptoms of psychopathology, contrasting sharply with a significantly lower rate of psychopathology symptoms among socio-economically disadvantaged children outside the system (Egelund & Lausten, 2009; Ford et al., 2007).

The outcomes of out-of-home care placement vary depending on factors, such as type and continuity of placement and the child's age at entry (Malvaso et al., 2016; Roy et al., 2000). Institutionalisation, such as placement in group homes or residential care, is often linked to poorer outcomes (Malvaso et al., 2016; Roy et al., 2000). In a birth cohort study, children who experienced temporary separation from both parents and were placed in foster care due to evacuation demonstrated disruptions in the hypothalamic-pituitary-adrenocortical (HPA) axis response to stress even six decades later (Pesonen et al., 2010). Notably, this disruption persisted independent of depression, and children from higher socioeconomic status families faced an increased risk of severe mental disorders in adulthood compared to non-separated children (Räikkönen et al., 2011). These findings demonstrate that separation from parents and placement in foster care has been implicated in profound and enduring negative effects, even in the absence of known risk factors and for relatively brief durations.

Early institutionalisation has long-lasting effects, as evidenced by a study on Canadian children institutionalised at birth and throughout childhood, which revealed enduring negative physical and mental health consequences even 50 years later compared to matched controls (Sigal et al., 2003). These consequences included greater social isolation, suicidal ideation, poorer mental health, higher rates of chronic illness, and lower socioeconomic status. Prolonged institutionalisation has been associated with neurodevelopmental anatomical alterations, emotional dysregulation, anxiety, adaptive behavioural deficits, cognitive deficits, and epigenetic alterations, with a dose-response relationship with duration of institutionalisation (Naumova et al., 2019; Tottenham et al., 2010; Wade et al., 2018). The type of care received also significantly impacts developmental outcomes, with sustained negative outcomes following minimal cognitive and social-emotional stimulation and authoritarian caregiving (Sigal et al., 2003). Even in the absence of poor nutrition, institutional psychosocial deprivation lasting over six months in early life has been linked to persistently smaller head growth in childhood and elevated rates of psychopathology into adulthood (Rutter et al., 2012; Sonuga-Barke et al., 2017). The duration of exposure to negligibly responsive caregiving within institutions interacts with the severity of lack of care, with sensitive periods extending from approximately age six months to over two years (McCall et al., 2019). These outcomes are unlikely to be solely the result of prenatal exposure, as institutional effects have been found to outweigh prior risk factors (McCall et al., 2019; Sonuga-Barke et al., 2017). This section highlights the profound and long-lasting negative effects of early institutionalisation on physical and mental health, illustrating the critical impact of the quality and duration of care received during early childhood.

1.4.3.2 Foster Care and Institutionalisation in Indigenous Populations: An Overview of Impacts

Indigenous children and youth are overrepresented in the child welfare system and have a higher risk of not living with at least one of their birth parents in Canada and several other nations colonised by settlers (Baxter, 2016; de Brey et al., 2019; Kelly-Scott et al., 2015). Similar to the general population, Indigenous individuals with a history of parent-child separation due to out-of-home care are at higher risk for poor outcomes. Although Indigenous children and youth are overrepresented in child welfare systems, Caroline Tait (2013), scholar and citizen of the Métis Nation-Saskatchewan notes that research on the health impacts of government-administered care is limited. The Canadian Institute for Health Information (2022) argues that Indigenous identity data are essential for recognising and tracking health disparities caused by racism and bias, informing interventions for healthcare equity. However, data collection in healthcare often lacks consistency and coverage; moreover, research on child welfare outcomes does not always disaggregate race and ethnicity. Aggregating race and ethnicity data can obscure the systemic racism and bias inherent in colonial policies and Total Institutions that have created and reinforced cycles of disadvantage in the first place.

Within the psychology and sociology literature, institutionalisation, foster care, and separation from birth parents have been linked to adverse health and social outcomes among Indigenous youth and adults in Canada, including distress, depressive episodes, suicide ideation, self-harm, substance abuse, mental illness, homelessness, and risky behaviours (Alberton et al., 2020; Cedar Project Partnership et al., 2015; Kaspar, 2014; Kidd et al., 2019; Roos et al., 2014; Spencer, 2017). Indigenous adoptees who were

placed into white settler households during the Sixties Scoop describe experiences of loss of identity, culture, social exclusion, abuse, and mental health issues (Carrière, 2005; Fournier & Crey, 1997; Sinclair, 2007; Spencer, 2017). Similarly, Indigenous adoptees in the United States reported greater mental health problems and higher odds of poverty and poly-victimization than white adoptees (Landers et al., 2017). Indigenous individuals exposed to the child welfare system, especially those facing intersecting forms of oppression, face compounded risks, such as early homelessness, assault, violence, and poor mental health (Kidd et al., 2019). This draws attention to the severe and multifaceted adverse health and social outcomes resulting from assimilation policies, foster care, and separation from birth parents among Indigenous youth and adults, highlighting the compounded risks for those facing intersecting forms of oppression.

1.4.3.3 Cycles of Parent-Child Separation: Intergenerational Links Between Residential School and Parent-Child Separation

Scholars suggest a correlation between residential schools and the ongoing, disproportionate separation of Indigenous parents and their children across generations, although further research is necessary to fully understand this intergenerational linkage (Blackstock et al., 2020; Gerlach et al., 2017; McKenzie et al., 2016). Adversities commonly faced by Indigenous peoples have been found to include poverty, deprivation, social and economic exclusion, discrimination, and racism, and have detrimental effects on health and social welfare across generations (Marmot et al., 2012; Wilkinson & Marmot, 2003). Social and health disparities that affect Indigenous populations can be clearly linked to the cumulative effects of systemic colonial repression and discrimination, displacement, and governmental forced assimilation policies (King et al.,

2009; Reading & Wien, 2009). Chronic trauma exposure over generations contributes to increased household risk factors among Indigenous families, such as food and economic insecurity, poor health, substance abuse, and homelessness (Alberton et al., 2020; Wilk et al., 2017), which again increases the risk of child welfare system involvement.

Prospective cohort studies have shown that Indigenous youth in British Columbia, with intergenerational exposure to residential schools, have a higher likelihood of being separated from their parents through the child welfare system (Barker et al., 2019; Cedar Project Partnership et al., 2015; Ritland et al., 2021). Similarly, in two national Canadian samples, a family history of residential school attendance correlated with a heightened probability of separation from parents or child welfare system involvement among First Nations youth and Indigenous adults (McQuaid et al., 2022). Those separated from their parents exhibited significantly poorer mental health outcomes than those who had not been separated (McQuaid et al., 2022). Indigenous adults facing homelessness or precarious housing with intergenerational residential school exposure were more likely to have been involved in the child welfare system (Alberton et al., 2020; Roos et al., 2014). There is burgeoning evidence of cumulative risk where survivors of the Sixties Scoop with familial residential attendance history faced increased risks of household adversity compared to those without familial residential school exposure (Bombay et al., 2020). The intergenerational impact of residential school exposure and subsequent Indigenous child removal policies continue to reverberate.

1.6 Dissertation Aims & Overview

The primary goal for this dissertation was to investigate the impact of parent-child separation, particularly separation due to apprehension by child welfare systems, on health and social outcomes.

Manuscript 1, titled *Systematic review of health and social outcomes among Indigenous People exposed to the child welfare system* examines whether Indigenous individuals who have encountered personal or intergenerational involvement with child welfare systems within settler colonised countries Canada, Australia, New Zealand, the United States (hereafter CANZUS countries; Gover, 2015), and the circumpolar region are more susceptible to negative health and social consequences compared to both exposed and unexposed groups from other demographics. The systematic review was registered in PROSPERO and a protocol detailing the review process was submitted for publication.

In manuscript 2, entitled *Keeping families together: An analysis of the Aboriginal Peoples Survey*, I use the Aboriginal Peoples Survey (2012 and 2017 cycles), a nationally representative dataset, to explore associations between parental residential school exposure, parent-child separation, and mental health outcomes in youth aged 12-18 who live outside of their home communities ('off-reserve').

My motivation in pursuing this focus was to contribute to systemic change. In the interest of facilitating that change, my final manuscript is a policy brief titled *Indigenous child welfare system devolution: An exploration of options*. In this manuscript, I evaluate the potential effects of transferring child welfare responsibility from the federal government to First Nations, Métis, and Inuit governments, analyse the implications for

the social and mental well-being of Indigenous communities in Canada and offer policy recommendations based on these findings.

CHAPTER 2 Systematic review of health and social outcomes among Indigenous People exposed to child welfare systems

This chapter consists of a manuscript in preparation. The authors of this work include Flint D. Schwartz, Tara M. Pride, Sherry H. Stewart, Sean P. Mackinnon, and Margaret Robinson. My contributions to this project include conceptualisation and design of the review, review protocol development, project management, article screening and selection, data charting and analysis, interpretation, and write-up.

Abstract

The link between parent-child separation through child welfare systems and negative health and social outcomes in the broader population is well documented. In contrast, despite the over-representation of Indigenous children and youth in child welfare systems, the relationship between system involvement and health and social outcomes among Indigenous populations has not been systematically reviewed. Our objective was to assess whether Indigenous People who have been exposed to child welfare systems personally or intergenerationally (i.e., parents and/or grandparents) within Canada, Australia, New Zealand, and the United States (CANZUS countries) and the circumpolar region are at an increased risk for negative health and social outcomes compared to other exposed and non-exposed groups. We conducted a comprehensive exploration of literature documenting health and social outcomes for Indigenous individuals with personal or intergenerational exposure to child welfare systems. The search encompassed nine databases including OVID Medline, APA PsycINFO, Bibliography of Native North Americans, CINAHL, EMBASE, Public Affairs Index, Scopus, Social Work Abstracts, and Sociological Abstracts. 11717 studies were identified from databases, 7609 studies were screened after duplicates were removed, 107 studies were assessed for eligibility, and 40 studies were included in the review. Findings adhered to PRISMA guidelines and are presented in summary tables through narrative synthesis. A meta-analysis was not feasible due to the heterogeneity of included papers. Results demonstrated negative impacts of child welfare system involvement on Indigenous populations, especially in Canada, Australia, and the United States. These effects include increased rates of homelessness, lower educational achievement and attainment of an occupation, heightened depression and suicidal thoughts, poor mental health and emotional distress, and an increased rate of physical health conditions. However, studies on justice system outcomes show mixed results and require further research. This information could help support future policy and practice decision-making. PROSPERO registration number: CRD42023434543

Keywords: Indigenous, child welfare system, intergenerational trauma, mental health, health.

2.1 Introduction

The separation of children from their parents through child welfare systems has profound implications for the health and social outcomes of affected individuals. This issue has been particularly pronounced in Indigenous communities across Canada, Australia, New Zealand, and the United States (so-called 'CANZUS' countries), where the overrepresentation of Indigenous children in child welfare systems is a deeply entrenched problem rooted in colonial histories. These histories are marked by interlocking assimilative policies designed for cultural destruction, including forced child removal and institutionalisation into residential/boarding schools (Australian Institute of Health and Welfare, 2018; Breathett et al., 2020; Bryce, 1907; Friborg et al., 2020). Those interventions systematically disrupted Indigenous family structures and cultural continuity, resulting in widespread trauma transmitted across generations (Chandler & Lalonde, 2008; Friborg et al., 2020; Running Bear et al., 2019). The impacts of child welfare system involvement may be particularly severe for Indigenous populations due to the interaction between effects of historical trauma and ongoing systemic inequities.

In broader populations, parent-child separation through child welfare systems, including foster care and residential care, has been linked to various negative health and social outcomes. These adverse outcomes include elevated levels of psychological distress and psychopathology (Egelund & Lausten, 2009; Ford et al., 2007; Räikkönen et al., 2011), chronic dysregulation of the hypothalamic-pituitary-adrenocortical (HPA) axis (Pesonen et al., 2010), higher incidences of substance use and substance use disorders (Gypen et al., 2017), and increased involvement in the justice system (Malvaso et al., 2016; Mendes et al., 2014; Yoon et al., 2018).

Despite documented health and social disparities linked to child welfare system involvement and known over-representation of Indigenous people in child welfare systems, to my knowledge there has been no systematic review of the literature focusing on the specific experiences of Indigenous people. This research gap is concerning, since health and social problems stemming from child apprehension and intergenerational trauma (e.g., increased suicide attempts, Kaspar 2014) reflect broader systemic issues that urgently need to be addressed to improve mental health outcomes within affected Indigenous communities. A systematic review consolidating existing evidence on the health and social outcomes of Indigenous individuals exposed to child welfare systems is essential to inform culturally sensitive interventions and policy changes.

The main objective of this systematic review was to assess whether Indigenous people who have been personally or intergenerationally exposed to child welfare systems in their country of residence are at an increased risk for negative health and social outcomes compared to Indigenous people who were not exposed to child welfare systems and to non-Indigenous people in categories of exposure and non-exposure. This analysis will enable us to measure and compare the impacts of child welfare systems on the health and social outcomes of Indigenous people, both those who have experienced these systems directly or through their families, and those who have not. Moreover, it will allow us to compare these impacts to those in non-Indigenous people exposed to the child welfare system.

Given differences in experiences of colonisation internationally (Paradies, 2016) and our aim to answer questions related to commonalities in systemic experiences, we are limiting our systematic review to countries with similar patterns of colonisation in

CANZUS countries and the circumpolar region. Anglo-settler nations of Canada, Australia, New Zealand, and the United States (CANZUS) share a similar legacy of European colonisation, including widespread coercive parent-child separation by the state (e.g., residential schools), and have comparable justice systems and child welfare structures (Paradies, 2016; Smallwood, 2021). Similarly, Indigenous People in the circumpolar region (e.g., Sámi) have endured forced assimilation and separation of children from families and communities through state-run boarding schools, with deleterious health and social effects (Friborg et al., 2020). By examining patterns and outcomes across multiple countries with comparable histories and systems, the study can identify common factors and more reliably assess the impact of child welfare practices on Indigenous communities. This cross-country analysis enhances the validity and generalisability of the findings, allowing for more comprehensive and nuanced policy recommendations. The policy and practice recommendations resulting from this analysis can be adapted and applied across multiple countries with similar contexts.

Currently in Canada and many other CANZUS countries there is a significant and evolving public policy debate alongside ongoing activism concerning Indigenous peoples and child welfare systems (Sinha et al., 2021; Blackstock et al., 2023). By addressing a significant gap in the existing research, this systematic review aims to inform the efforts of Indigenous communities, policymakers, advocacy organisations, and academics engaged in this field, domestically and internationally.

2.2 Methods

The reporting of this systematic review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines (PRISMA; Page et al.,

2021), a set of evidence-based standards for reporting systematic reviews and meta-analyses. PRISMA provides a 27-item checklist covering aspects such as the review's rationale, objectives, eligibility criteria, sources, data extraction, risk of bias assessment, and results, and a 4-phase flow diagram to model the review process. The systematic review is prospectively registered with the international Prospective Register of Systematic Reviews (PROSPERO; CRD42023434543), an open access online database of systematic review protocols, to increase transparency and help prevent unintended duplication of review efforts. A link to the registration is provided in the reference section.

2.2.1 Inclusion Criteria

Peer-reviewed studies that report quantified associations between child welfare systems involvement and health/social outcomes in Indigenous People from CANZUS countries or the circumpolar region were eligible. We used a population, exposure, comparator, and outcome (PECO) framework (Morgan et al., 2018) to guide the inclusion and exclusion criteria and interpretation of the review. The dates covered by the review ranged from December 31, 2023, to the earliest date within the literature (1977).

2.2.2 Population

Studies under this review all included Indigenous individuals from CANZUS countries or the circumpolar region. Studies investigating multiple ethnic groups were included if authors had provided a separate quantitative analysis for the Indigenous sample, or if Indigenous identity had been included as a moderator of the association between child welfare system and health/social outcomes and the magnitude of the association in the Indigenous subsample had been provided.

2.2.3 Exposure

Personal exposure to the child welfare system was defined as being formally separated from biological parent(s) for any length of time by the child welfare system (e.g., foster care, out of home care, residential care, group home, adoption) before the age of majority in participants' country of residence. Intergenerational exposure to the child welfare system was defined as having at least one parent and/or grandparent who were personally exposed to the child welfare system. Defining personal and intergenerational exposure to the child welfare system in this way allows for a comprehensive analysis of the impacts across different generations, providing valuable insights into both immediate and enduring consequences on health and social outcomes.

2.2.4 Comparator(s)

This study compared outcomes for Indigenous people exposed to the child welfare system against outcomes for three comparison groups: 1) Indigenous People not exposed, 2) non-Indigenous people exposed, and/or 3) non-Indigenous people not exposed to a child welfare system. These comparisons allow for greater variability in the comparison groups, enabling us to include and analyse a wider range of studies.

2.2.5 Outcome

We examined peer-reviewed quantitative research assessing associations between child welfare systems and any mental health outcomes (e.g., depression, anxiety, suicide ideation, substance use, substance use-related problems, wellbeing), physical health outcomes (e.g., chronic disease, emergency department presentations), and/or social outcomes (e.g., housing, educational attainment, employment status, income, social connection).

2.2.6 Exclusion Criteria

Articles that involved participants not personally or intergenerationally exposed to child welfare systems were beyond the scope of this review and were excluded. Protocols of forthcoming literature and theses were tallied if they met the other criteria for inclusion but were excluded from review to ensure the analysis was based solely on peer-reviewed findings. Articles using peer reviewed qualitative analyses were excluded. Qualitative research was not included in this review due to the complexity of integrating qualitative data with quantitative measures. Additionally, including both quantitative and qualitative studies would have made the scope of the review too broad and unmanageable.

2.2.7 Search Strategy

The search was designed in consultation with Dalhousie University librarians Melissa Helwig (Associate Dean Research & Scholarly Communications) and Shelley McKibbon (Reference Librarian). We aimed to use appropriate and accurate Indigenous terminology, including group descriptors preferred by Indigenous Peoples (e.g., Mi'kmaq; *Sámi; Haudenosaunee*) as well as including other non-preferred terms that appear in the literature to be comprehensive in our search. To support this aim, guidance on terminology for the Indigenous search was provided by Samantha Adema (Indigenous Services Librarian, Dalhousie University) and Leah Boulos (Senior Evidence Synthesis Consultant, Maritime SPOR SUPPORT Unit).

The search strategy was developed in Ovid MEDLINE, then translated to other databases (APA PsycINFO, Bibliography of Native North Americans, CINAHL, EMBASE, Public Affairs Index, Scopus, Social Work Abstracts, and Sociological Abstracts). Starting with MEDLINE offered the advantage of leveraging its

comprehensive biomedical and health-related literature, which provides a strong foundation for the search. This ensures a thorough and systematic approach, allowing for a well-rounded and robust retrieval of relevant studies when expanded to other specialised databases. The search strategy template can be found in the PROSPERO registration CRD42023434543 through the following link: https://www.crd.york.ac.uk/PROSPEROFILES/434543_STRATEGY_20230612.pdf

To identify potentially qualifying studies not captured by the search, we examined the reference lists of qualifying articles. We applied our search criteria (e.g., excluding qualitative studies) and also excluded case reports and grey literature (e.g., dissertations, conference papers, presentations, or other unpublished or non-peer reviewed research). Our main reason for excluding grey literature was to avoid introducing colonial bias through reports authored by implicated structures (e.g., those involved in paying restitution for colonial policies related to parent-child separation). We expect that grey literature would offer different insights. We imported all citations into COVIDENCE systematic review management software (Veritas Health Innovation, 2023), where it was screened, and selections were documented by two reviewers (Flint Schwartz and Tara Pride) with co-reviewer votes obscured to reduce bias. Duplicates identified by COVIDENCE were verified by a team member (Flint Schwartz), and 104 duplicates not identified by the software that become apparent during review were removed. For identical articles published in different years, only the most recent published version was retained. We placed no restrictions on language of publication to decrease selection bias. All articles retrieved were either in English, French, or a translation in English was

available for the title and abstract. Both authors who screened the articles can read both English and French.

Authors Flint Schwartz and Tara Pride independently screened all articles. Articles retained in the first stage of screening (title and abstract) were independently reviewed in full (full text) by the two reviewers to determine if they met inclusion criteria. Disagreements during screening were resolved by consensus, or a third reviewer selected from one of the co-authors as needed. Papers included after full-text review were extracted into COVIDENCE using a standardised form created by FDS in consultation with the co-authors, then independently pilot-tested with 10 articles. The remaining articles were extracted and synthesised into the finalised data extraction form. The data extraction process encompassed study characteristics, participant details, and outcomes. This included country, study design and sampling, measurement of child welfare involvement, population and comparison group(s) characteristics, outcome measurement, and measures of effect.

2.3 Data extraction

Figure 1 depicts the PRISMA participant flow diagram. Table 1 provides a summary of the characteristics of the included studies, detailing study design, population demographics, type of exposure to the child welfare system, comparators, and outcomes. The studies were a mix of prospective/cohort, longitudinal, and cross-sectional designs, with a few case control studies.

2.4 Results

A total of 11717 studies were retrieved using the search strategy (see Figure 1). After removing duplicates, 7609 were left for title and abstract screening. Following title

and abstract and full-text review, 40 studies were identified for inclusion. These studies varied widely in terms of outcomes and exposures and comparators were heterogeneous (e.g., non-Indigenous exposed to child welfare vs Indigenous not exposed), so our criteria of a minimum of three comparable studies for meta-analysis for a specific outcome was not met. Instead, we conducted a narrative synthesis according to the Synthesis without Meta-analysis (SWiM) guidelines (Campbell et al., 2020), focusing on structured approaches to summarising and comparing the findings. In interpreting the findings, we considered the heterogeneity of the studies, the variability in study design, and risk of bias.

Key study characteristics and results are synthesised in narrative summary tables (see Appendix A) using SWiM guidelines (Campbell et al., 2020). We summarised group characteristics between Indigenous People exposed to child welfare and health and/or social outcomes with three comparison groups: 1) Indigenous people not exposed to child welfare, 2) non-Indigenous people exposed to child welfare, and/or 3) non-Indigenous people not exposed to child welfare. We grouped health and social outcomes according to mental health, physical health, and social outcome categories and subcategories. Our categorisation reflected the health and social outcomes in the studies that we identified in the literature review. Mediators and/or moderators and covariates of the associations were qualitatively summarised.

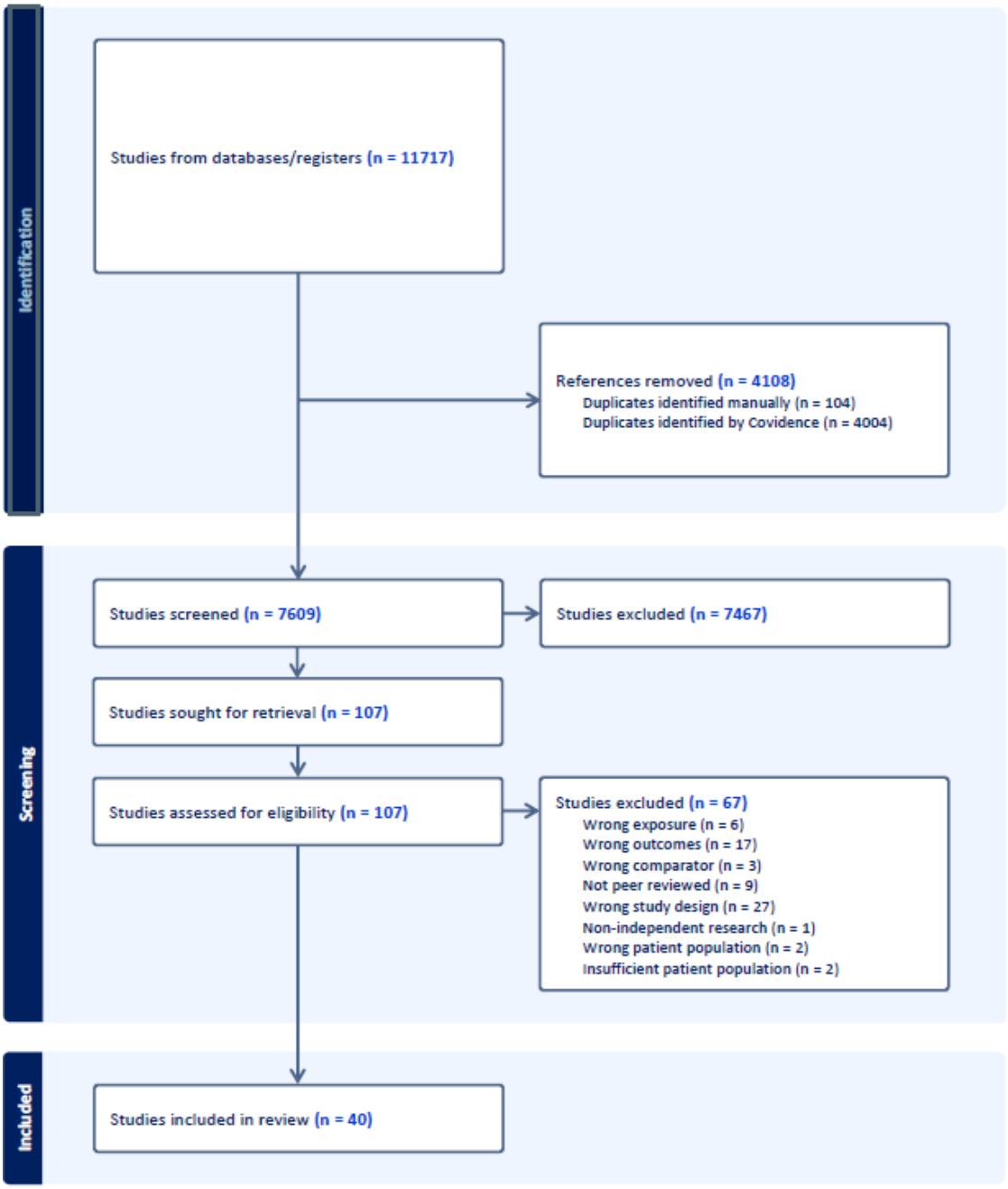

Figure 1 PRISMA flowchart.

2.4.1 Mental health outcomes

A total of 20 studies in our review focussed on mental health outcomes, featuring children and adolescents, youth, and adults. These studies provided insights into aspects

of mental health and substance use among Indigenous populations with a history of involvement in the child welfare system and residential schools. Countries included were Canada, Australia, United States, and Arctic Norway. Mental health outcomes included were depression, suicidal ideation, self-harm, anxiety, substance use, and a proxy for mental and emotional problems, such as emergency room visits. The studies will be reviewed by mental health outcome subsections.

Studies consistently linked parent-child separation through the child welfare system with negative mental health outcomes. A notable exception to this pattern of negative associations with parent-child separation was a study of Inuit customary adoption (outside of a formal child welfare system), which did not find worse outcomes for adopted children compared to non-adopted Inuit children when controlling for socio-environmental factors.

2.4.1.1 Depression, suicidal ideation, and expressions of emotional distress

Kaspar (2014) and Kumar et al. (2012) both examined suicidal ideation in Métis adults using data from a nationally representative Canadian survey. Kaspar (2014) found that Métis adults with a history of foster care placement (N=7534) had significantly higher rates of depression and suicidal thoughts compared to those without such a history. Kaspar also found that these individuals faced considerable psychosocial and economic challenges, with self-esteem, income, and community adversity mediating the link between their foster care history and psychiatric status. Kumar (2014; N=11,362) focused on gender effects and found that among Métis women, heavy and frequent drinking, a history of foster care, and low levels of social support were significant risk factors for suicidal thoughts.

In a cross-sectional study of 233 adopted adults in the United States, Landers et al., (2017b) found that white and Indigenous adoptees had similar rates of depression, but Indigenous adoptees had much higher suicidal ideation, attempts, and self-injury than white adoptees. The authors did not indicate type of adoption or whether the adoptions were transracial/transcultural. Decaluwe at al.'s (2015) research was a notable exception to this pattern, wherein they presented a prospective 5-year longitudinal study of Inuit customary adoption (traditional adoption by family members at birth outside of a formal child welfare system, maintaining birth ties), (n =46 adopted and 231 nonadopted children), which did not find worse outcomes (internalising and externalising behaviours) for adopted Inuit children compared to other Inuit children, controlling for socio-environmental factors. The authors concluded that it is more probable that the psychosocial stressors tied to the context of adoption are the cause of heightened childhood behavioural problems rather than the act of adoption itself.

Three North American studies explored the behavioural and emotional outcomes of Indigenous and non-Indigenous children in various care settings. Thompson and Fuhr (1992) investigated 50 children aged 6-18 years in temporary and permanent out-of-home care in Alberta, Canada, using data from client files and social worker ratings. They found no significant group differences between Indigenous and non-Indigenous children in out-of-home care but reported high levels of psychopathology, emotional disturbance, and social competence impairments across groups. Landers et al. (2017a) conducted a nationally representative longitudinal study using U.S. child protective services data (N= 3498) of American Indian, African American and white children ages 2–16 and found that Indigenous children were more likely to present with internalising behaviour, but not

externalising behaviour, compared to matched non-Indigenous controls, after controlling for various demographic and risk factors. Sharma et al. (1996) examined adoptees (n = 4682; grades 6-12) to a control group of non-adoptees (n=4682) matched by age, sex, ethnicity, and parental education, and found that American Indian adoptees reported higher negative emotionality and lower parental nurturance compared to non-adopted American Indian, Hispanic, African American, and Caucasian children. Despite some variations in findings, all studies highlighted significant emotional and psychological challenges faced by children in these care settings, showing consistent high levels of emotional disturbance across contexts but inconsistencies in observed group differences, potentially due to variations in study design, sample size, and control variables.

A longitudinal study on emergency mental health presentations using linked population health datasets in four Aboriginal Community Controlled Health Organisations in New South Wales, Australia (1476 Aboriginal children aged 0–17 years), found that Aboriginal children with child welfare histories were significantly more likely to experience acute mental health crises than Aboriginal children without this history. Over a six-year follow-up, Williamson (2018) found that the frequency of emergency department visits and admissions increased with age. Emergency department visits were four times more likely among Aboriginal children in foster care and three times more likely among those with high baseline emotional and/or behavioural problems, or whose caregivers had chronic health conditions. Hospitalisations were 4.5 times higher among Aboriginal children with unemployed caregivers and almost four times higher among those whose caregivers had chronic health problems. Williamson et al. (2018) concluded that tertiary care for mental health issues was common among

Aboriginal children, particularly those in foster care, those with prior mental health issues, and those whose caregivers face chronic illness and/or unemployment.

2.4.1.2 Substance use, symptoms of distress, and the role of maltreatment and trauma

In the United States, Koss et al. (2003) conducted face-to-face interviews (N=1660) over a three-year period, examining the relationship between adverse childhood exposures (childhood maltreatment, parental alcohol dependence, out of home placement, including boarding school placement, foster care placement, and adoption), and alcohol dependence among seven Native American tribes. Single childhood exposures of foster care placement, boarding school attendance, parental alcoholism, childhood maltreatment, predicted alcohol dependence among women, compared to Native Americans without adverse childhood exposures. Only boarding school attendance and sexual abuse remained significant in predicting alcohol dependence among Indigenous women in the adjusted model, whereas only combined physical and sexual abuse was a significant predictor for men. Adoption was not included in the analyses due to small sample sizes. The study predicted alcohol dependence among Indigenous women in a dose-response relationship, where a greater number of exposures to these factors increased the likelihood of alcohol dependence.

Roos et al. (2014) recruited 504 participants experiencing homelessness or precariously housed (including 376 Indigenous individuals) from shelters, justice services, community drop-in centers, social assistance, and medical providers across Winnipeg, a western Canadian city over three years, presenting the baseline data. Ross et al. (2014) found that 50% of people who experienced homelessness reported a history of being in care and most of those with a foster care history were young, Indigenous, and

female. A history of being in care was linked to a greater number of interpersonal traumatic events, an almost 50% higher odds of suicidal ideation, 89% increase in odds of a major depressive episode, and double the odds of an alcohol use disorder compared to participants who did not report a foster care history. Roos et al. (2014) did not provide separate analyses of mental disorders by ethnicity, apart from former residential school attendees, who were found to be 2.5 times more likely to develop substance use disorders than Indigenous people from the same sample who did not attend, highlighting the long-term impact of such experiences. In a Canadian prospective cohort (baseline study; N=937), Barker et al. (2014) found that street-involved youth who use drugs are twice as likely to be Indigenous and have a history of government care exposure as Indigenous and non-Indigenous youth from the same cohort who did not have a history of governmental care. Findings highlight the intersection of child removal (residential schools, child welfare systems), trauma, mental health challenges, and substance use within marginalised populations.

Leckning et al. (2021) analysed linked administrative records (N=6467), in the Northern Territory of Australia and found that the cumulative risk of hospital admission of Aboriginal adolescents aged 12-18 with any child protection involvement due to self-harm is double than Aboriginal children with no child protection involvement. Compared to those without child protection history, adolescents were six times more likely to self-harm if they had a history of early childhood notifications and substantiated maltreatment in middle childhood, indicating the significance of developmental timing in self-harm risk. Robin et al. (1999) conducted clinical interviews with 580 Southwestern American Indian tribe members to examine the impact of out-of-home placement on mental health.

They found that maltreatment significantly increased the risk of psychiatric disorders for females with a history of child protection placement, with those reporting child sexual abuse and foster care having almost four times higher odds of multiple psychiatric disorders than those abused but not in foster care. Southwestern American Indian males with a history of foster care had six times the odds of multiple psychiatric disorders compared to those without foster care experience. However, due to wide confidence intervals, these findings should be interpreted with caution. Yuan et al. (2014) examined the intersection of LGBTQ2S identity and out-of-home placement in a multi-site project called the Honor Project. Two-Spirit American Indian/Alaska Native people (N=294) reported high levels of childhood maltreatment: 50-60% of men and 60-80% of women experienced physical, emotional, and/or sexual abuse. Child maltreatment and alcohol misuse were not associated in this study. For Two-Spirit men, Indian boarding school attendance and foster care placement significantly predicted past-year alcohol dependence compared to Two-Spirit men without these experiences. For Two-Spirit women, being adopted was the only significant predictor of past-year binge drinking compared to Two-Spirit women who were not adopted. The authors suggest that Two-Spirit children and adolescents may be particularly susceptible to maltreatment due to the intersecting oppressions they face.

Pearce et al. (2015a), in the Cedar Project Partnership cohort (n=259; female participants) showed that women in the cohort (Indigenous youth age 14-30 who use drugs) had over twice the odds of being sexually assaulted if at least one of their parents attended residential school, over nine times the odds of being assaulted if they had experienced sexual abuse, and over three times the odds of being assaulted if they were

involved in sex work. There was no significant relationship between sexual assault and a history of foster care.

2.4.1.3 Culture, community, and resilience

A 12-month longitudinal study as part of a 2.5-year study tracking youth development (Waechter et al., 2011) examined cannabis use and self-reported caseworker identification among Indigenous and non-Indigenous adolescents randomly selected from three child protection agencies. Indigenous and non-Indigenous adolescents did not differ on child maltreatment type, PTSD symptoms, past 12-month cannabis use, or CPS worker identification. Waechter et al. (2011) found that Indigenous youth who identified positively with their child protection caseworker reported less cannabis use in the past year compared to those with negative identification. However, overall cannabis use did not differ significantly between Indigenous and non-Indigenous youth. The authors concluded that positive caseworker identification may be an important protective factor for Indigenous youth outcomes in child welfare systems.

In a cohort study (phase 1 of a longitudinal study), Williamson et al. (2016) examined factors that influenced good mental health of Aboriginal children aged 4-17 (N=1005) in urban communities in New South Wales, Australia. Williamson found that Aboriginal children brought up by their parent or relative had higher odds of good mental health than Aboriginal children raised by unrelated foster carers; this may be especially relevant for adolescents. Stability was also important for good mental health: living in less than four homes since birth was associated with higher odds of good mental health, particularly in early childhood, compared to children who have lived in four or more homes. Carer's wellbeing was a critical factor to children's mental health: children whose

carers were not psychologically distressed had three times the odds of good mental health compared to those whose cares were distressed. The authors concluded that their findings indicate that Aboriginal children should be placed with relatives whenever feasible, and that carers should be provided with culturally relevant mental health services, supports and resources for carers of Indigenous children. Decaluwe at al.'s (2015) 5-year longitudinal study of Inuit children who had been adopted through customary adoption, maintaining contact with birth parents, discussed above, was consistent with Williamson's findings.

In Arctic Norway, Silviken and Kvernmo (2007) explored suicide attempts using a longitudinal epidemiological survey (ongoing) focussing on Sámi youth (91 Indigenous Sámi and 2100 majority adolescents in Arctic Norway; two previous waves). The study found no ethnic differences in suicide attempt rates between Sámi adolescents and their non-Indigenous peers but highlighted cross-cultural variations in risk factors. Not living with parents was a risk factor for 'majority' adolescents, while for Sámi adolescents, significant associations included living in single-parent homes, alcohol intoxication, and paternal overprotection, which diverge from traditional Norwegian cultural norms. The authors contrasted the findings to North American Indigenous outcomes, and noted a recent cultural identity revival may be protective against suicide attempts by Sámi adolescents by mitigating the previous era of forced assimilation and colonisation imposed by the Norwegian government.

A Canadian cohort study of young Indigenous people who use drugs (The Cedar Project; Ritland et al., 2021; N=293) found that young Indigenous women affected by substance use were more likely to attempt suicide if their children had been apprehended

or they had experienced intergenerational residential school exposure, recent sexual assault, violence, or overdose. Speaking a traditional language at home growing up reduced the rate of suicide attempt by half, and 52% of participants reported growing up speaking their traditional language. A history of removal from their biological parents was not a significant predictor of suicide attempts in the adjusted model. Almost three quarters (72%) had a history of removal from their parents, with the median age of removal being five years old. Another study with the Cedar Project, Pearce et al., (2015a), examined risk and resilience factors for the same cohort of young Indigenous people who use drugs. Nearly half (48%) of the cohort reported a history of familial residential school exposure and the majority (71%) had been removed from their parents by a child welfare system. Descriptive findings showed that those without a history of foster care had significantly greater mean resilience scores than those with this history. Participants who spoke their traditional language at home and currently live by their traditional culture had higher resilience levels than those without language knowledge or cultural practice in an adjusted model (Pearce et al., 2015b).

2.4.2 Health outcomes

A total of five studies in our review focused on health outcomes among Indigenous populations, particularly those with a history of involvement in the child welfare system. These studies were conducted in Canada and the United States. The health outcomes investigated included self-rated health, physical illnesses (such as pneumonia, diarrhea, and otitis media), mortality rates, and early childbirth.
Studies consistently linked parent-child separation through the child welfare system with negative health outcomes. Findings revealed higher incidences of poor self-rated health,

physical illnesses, mental health issues, substance use, and higher mortality rates among Indigenous populations who experienced involuntary child removal. Additionally, foster care and experiences of maltreatment were significant predictors of early childbirth among young Indigenous and marginalised women.

A prospective Canadian study initiated in 2010 with data collection every six months, Kenny et al. (2019) examined the physical health of Indigenous women sex workers (N=466) and found that those who experienced involuntary child removal had higher odds of poor self-rated health. Indigenous women sex workers were over twice as likely to have their own children removed by the state, and more than three times as likely to experience intergenerational family separation compared to non-Indigenous women. The research also revealed that 60% of Indigenous women had a family member who attended a Residential School, and among these, 75% experienced intergenerational family separation through the child protection system.

For the Cedar Project Partnership (2015) demonstrated that having been apprehended as a child by the child welfare system was associated with a range of health, mental health, and social outcomes, including having a parent who attended residential school, being HIV positive, having Hepatitis C, suicide ideation, hospitalisation for mental illness, experiencing homelessness, and street involvement, compared to Indigenous youth from the same cohort without a history of apprehension. Joengblood et al. (2017) examined mortality rates in the same Cedar Project cohort and found very high mortality rates, particularly among young women, who were 9.6 times more likely to die than other Indigenous Canadians. Proximal predictors included Hepatitis C virus, suicide,

and fatal overdose. The authors note the relationship between these proximal predictors and more distal predictors such as intergenerational trauma.

Two papers examined predictors of early childbirth. Putnam-Hornstein (2013) linked birth records with Child Protection Services records in California and found that one-third of Indigenous mothers had experienced substantiated maltreatment, and a fifth had been placed in foster care. Similarly, King and Van Wert (2017) identified foster care as a significant predictor of early childbirth, particularly for adolescents aged 13-16 in California who are newly entering care, not placed with relatives, or living in group homes or residential care. The study highlights that young women who are Native American, Latina, or Black American faced the highest risks. These findings suggest that foster care and experiences of maltreatment significantly increase the likelihood of early childbirth among young women, particularly those from marginalised groups.

Spivey and Hirschhorn (1977) investigated incidences of pneumonia, diarrhoea, and otitis media in adopted Apache children. Comparison groups were the children's adoptive siblings and Apache children who lived in their home community (reservation). Questionnaires were completed by adoptive families and the children's physicians. Apache children were being adopted outside of their community due to concerns of high rates of children's illnesses. Adopted Apache children showed higher incidences of pneumonia, diarrhoea, and otitis media than their non-Apache siblings during the two-year period of the study. Apache children living in their home communities had higher illness rates, except for otitis media, which did not show a significant difference. The occurrence of multiple illnesses, such as pneumonia and diarrhoea, in adopted Apache children was comparable to that of their non-Apache siblings and lower than that seen in

children on reservations. However, multiple episodes of otitis media were common in both groups of Apache children. The authors recommended implementing intensive programs to improve living conditions and environmental factors on reservations to reduce illness rates and lessen the need for "off-reservation" adoptions.

2.4.3 Social Outcomes

2.4.3.1 People experiencing homelessness/precarious housing

Six studies focused on homelessness among Indigenous peoples. The studies reviewed had varied foci and demographics, and included projects both local and national in scope, from Canada, Australia, and the United States. Two studies concentrated on youth (Kidd et al., 2019; Watt & Kim, 2019), one study included both youth and adults (Alberton, ages 15-55+), and two studies focused on adults specifically (Roos et al., 2014; Thurstone et al., 2014). All five studies reported that Indigenous youth and adults with a history of removal from their birth parents by the child welfare system had an increased risk of experiencing homelessness compared to various non-Indigenous populations. This finding was consistent across national and local studies conducted in Canada, Australia, and the United States. All the studies highlighted that the historical and systemic inequities faced by Indigenous peoples significantly contribute to their overrepresentation among homeless populations. These studies collectively shed light on experiences and challenges across different age groups. They show the pervasive impact of child welfare system involvement on homelessness among Indigenous individuals.

Watt and Kim (2019) found that Indigenous youth in the United States emancipated from child welfare systems faced a 40 to 60% higher likelihood of experiencing homelessness or incarceration compared to their white counterparts.

Although the odds ratio for homelessness was attenuated and no longer significant once state services were included, the disparity remained notably greater than that observed among Hispanic, African American, and white youth with a history of being in care. Similar findings were described by Kidd et al. (2019) in a national study of Canadian youth (N= 1103, Indigenous n=322). Canadian estimates ranged from 50% (Roos et al., 2014) to nearly three-quarters (74.8%; Kidd et al., 2019) of Indigenous youth experiencing homelessness having a history of child welfare involvement. These studies highlighted that a history of foster care, mental health challenges, substance use issues, and systemic disadvantages faced by Indigenous peoples are significant factors contributing to homelessness.

Using a nationally representative Canadian survey (n=23,052 non-Indigenous white participants, n=1081 Indigenous participants) Alberton et al. (2020) distinguished between visible and hidden homelessness, which was not specifically addressed by other studies focussed on homelessness. Alberton et al. (2020) did not find the expected interaction between ethnicity and homelessness but found that Indigenous individuals aged 15 and above experiencing homelessness were four times more likely than non-Indigenous White settler individuals to have had involvement with child welfare services. Additionally, education, which typically serves as a protective factor against homelessness, did not have the same influence for Indigenous people. Alberton et al. (2020) found that for white individuals, higher education decreased the likelihood of visible homelessness by 83% and hidden homelessness by 18%. However, for Indigenous people, education did not offer the same protective benefits, showing no significant correlation with preventing homelessness.

Kidd and colleagues found that for Indigenous youth, child protection removal, negative experiences with child protection, and self-reported drug and alcohol use were most strongly related to homelessness, compared to non-Indigenous youth with and without child protection histories and Indigenous youth with child protection histories. Indigenous women, Indigenous LGBTQ2S youth, and Indigenous individuals raised on reserves, faced compounded risks of poor outcomes, with child protection relatively more salient for Indigenous youth raised on reserve becoming homeless. Indigenous women and LGBTQ2S youth faced significantly greater adversity, including higher rates of violence and assault, and over three quarters (78.6%) of Indigenous LGBTQ2S youth experiencing homelessness reported suicide attempts. Higher rates of abuse, child protection removal and negative child protection experiences, and self-reported and parental mental health and drug and alcohol use were more strongly related to homelessness for Indigenous LGBTQ2S youth, than Indigenous non-LGBTQ2S Indigenous youth. In a third Canadian cross-sectional study (N=504, n=376 Indigenous), Roos et al. (2014) found significant associations between family history of residential school attendance and increased likelihood of being in the child welfare system and experiencing homelessness, with 57% of the sample reporting both. This finding underscores the enduring impact of intergenerational trauma on Indigenous populations.

The studies reviewed varied in study design quality, with Alberton et al. (2020), Kidd et al. (2019), and Watt and Kim (2019) rated the highest due to having nationally representative studies, longitudinal designs, and cohort studies. Other study designs included two cross-sectional studies, and one study using linked administrative data. Common weaknesses included low sample sizes of Indigenous participants relative to

substantially larger comparators; unequal sample sizes can result in reduced statistical power to find an effect, as may have been the case with Alberton et al. (2020) and Watt and Kim (2019). Most studies on homelessness did not address intersectionality, with the exception of Kidd et al. (2019). Four Canadian studies (Alberton et al. 2020; Kidd et al., 2019; Roos et al., 2014; Thurstone et al., 2013) focusing on experiences of homelessness noted the context of colonisation and multigenerational parent-child separations, but only one measured intergenerational trauma. The undermeasurement of intergenerational trauma (e.g., links between residential school and scooping or child removal by child welfare systems) in Indigenous contexts is a significant issue, but outside of one regional study (Roos et al., 2014), the topic has not been measured by research on experiences of homelessness included in this section.

Despite these limitations, the studies consistently indicated that parent-child separation by the child welfare system is a significant driver of homelessness among Indigenous populations. Protective factors against homelessness, such as education (Alberton et al., 2020), may not operate similarly for Indigenous people compared to majority populations, suggesting a need for further research and replication in different contexts to better understand these dynamics.

2.4.3.2 Justice involvement

This section systematically reviews the characteristics of studies examining justice system involvement among Indigenous peoples, highlighting the influence of the child welfare system. Nine Australian studies and one study from the United States examined aspects of justice involvement in relation to a history of exposure to the child welfare system among other social factors. Six studies focussed on children, adolescents,

and youth, including crossover (involvement in justice and child welfare systems) children and adolescents (Baidawi, 2020; Malvaso & Delfabbro, 2015; Malvaso et al 2017a; 2017b; 2018; Watt & Kim, 2019) and two studies involved adults (Ryan et al., 2019; Trofimovs & Dowse, 2014), and one study involved youth (Watt & Kim, 2019). Outcomes included predictors of children and youth initial offending and youth convictions, predictors of adult reincarceration, and patterns of police contact and custody. Sampling techniques include a purposive sample, a cohort study, sub-analysis of the same cohort study, and self-report data linked to administrative child protection and justice data.

Overall, there is a consistent theme highlighting the negative impact of out-of-home care, maltreatment, and adversity. Ryan et al. (2019) in a study of self-report prospectively linked with Corrective Services administrative data (N=1238, Indigenous n=303) found that Indigenous (Aboriginal, Torres Strait Islander or South Sea Islander) adults who were reincarcerated were more likely to have low education (≤9 years), experience forcible removal from family as a child, have a history of prior juvenile and adult imprisonments, longer sentences, and recreational drug and alcohol use prior to prison, compared to non-Indigenous people. Controlling for these factors resulted in a large reduction on the risk of reincarceration for Indigenous people based on the hazard ratio, highlighting the importance of social inequities prior to prison. In the multivariate model, high-risk drug use remained a significant predictor, while participation in transition programs, perception of social support, and psychological distress were not significant in either the bivariate or multivariate models. Older age at the time of release was a protective factor for Indigenous people. Forced removal in childhood was

significant in the unadjusted model but was no longer significant controlling for demographics, prior criminal history, and experiences before and after prison.

Ryan et al. (2019) suggested that systemic biases may influence reincarceration rates and decision-making by parole officers, as Indigenous people face higher levels of police surveillance and system contact. They noted that heightened surveillance and control, justified by the rule of "colonial difference"[4], perpetuates racial disparities in arrest and sentencing. Ryan et al. (2019) also note that they did not differentiate between reincarceration for a new offence or a parole breach, acknowledging that predictors of recidivism may differ if parole breaches were controlled for in the analysis. Since parole breaches often result from recreational drug use (Weatherburn & Ringland, 2014), this could explain why high-risk drug use remained significant in predicting reincarceration. Future research should distinguish between these factors to determine if different predictors exist for each.

Trofimovs and Dowse (2014) conducted a cross-sectional survey on purposively selected cohort of Indigenous Australian men (N=131) from an inmate health survey and disability service data base. Trofimovs and Dowse (2014) identified four significant factors impacting the frequency of police custody for the cohort, who have been in

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[4] The "rule of colonial difference," coined by Partha Chatterjee (Chatterjee, 1993), refers to the colonial practice of viewing the colonised as fundamentally different and inferior to the colonisers. This concept justifies the imposition of colonial rule and the maintenance of unequal power dynamics by creating and perpetuating a division between the "civilised" colonisers and the "uncivilised" colonised. It rationalises the differential treatment and control over colonised populations by emphasising their perceived cultural and racial differences and viewing them as 'less civilised'. This principle underpins the exclusion of the colonised from the "universal" rights and privileges enjoyed by the colonisers, legitimising surveillance, intervention, and control over colonised populations. Ultimately, this framework supports the maintenance of colonial power structures and the subjugation of colonised peoples.

custody in New South Wales and have a cognitive disability: early life instability, problematic use of alcohol and drugs, young age at first police contact, and locational stability. Trofimovs and Dowse (2014) found that an unstable early life involving out-of-home care or juvenile custody, predicted a higher frequency of police custody episodes. They found that public intoxication is one of the four most frequent reasons Indigenous males with complex needs are held in police custody, underscoring both the widespread issue of alcohol use and its substantial role in police custody. Those who live in the same area for most of their lives experience higher police contact and more frequent episodes of police custody. The study found that a mental health diagnosis did not correlate with higher police custody rates. Trofimovs and Dowse (2014) surmised that the interplay of social, material, and individual factors, rather than mental illness alone, predicts frequent police contact and custody.

Trofimovs and Dowse (2014) concluded that early police contact, combined with instability due to factors like parental substance abuse, poverty, neglect, and early exit from the education system, sets the stage for frequent police encounters. This instability is framed within the broader history of colonisation and dispossession, which often interact to increase rates of police custody over time. The need for policy and practice reforms that consider these complex factors is highlighted. Recognising and addressing these interconnected issues within a systemic framework across education, disability services, child protection, and criminal justice is crucial for reducing Indigenous over-representation in the justice system.

Baidawi (2020) conducted an exploratory and descriptive study of children aged 10-17 using administrative child protection and criminal justice data from three Victorian

Children's Courts in Australia using a purposive sample of Indigenous and non-Indigenous children (N=300; Indigenous children *n*=55). This research focused on "crossover" youth, those involved with both the justice system and the child welfare system, to identify predictors of initial offending. The study found that Indigenous children are disproportionately represented among those who first encounter the criminal justice system, often facing earlier and more severe sanctions. Early charges (before age 14) were more likely to involve Indigenous children, those with neurodisabilities, and were associated with greater cumulative maltreatment and adversity, earlier child protection involvement, and a history of out-of-home care. Similarly, in a three-wave national longitudinal survey (n=9342) conducted by Watt & Kim (2019) of youth in foster care at ages 17, with follow-up at ages 19 and 21, American Indian/Alaska Native youth who had been in foster care were 63% more likely to be incarcerated compared to white youth also in care. They were also less likely to register in higher education than African American and Hispanic youth in care and were 53% more likely to be unhoused than Hispanic youth in care at follow-up ages 19 and 21. These findings remained significant in the multivariate analysis, controlling for demographics and state services; however the low response rate for the survey should be taken into consideration: the response rate for the initial survey was 54%, with follow-up response rates of 27% and 24% for waves two and three.

Malavaso and colleagues presented four studies on justice involvement outcomes with respect to maltreatment and out-of-home care in Australia using a purposive sample (Malvaso & Delfabbro, 2015; N=364, Indigenous n=65), cohort study from administrative data (Malvaso et al., 2017a; N=74,673), sub-analysis of the same cohort

study (Malvaso et al., 2017b; N=17,671, Indigenous n=2606), and self-report data linked to administrative child protection and justice data (Malvaso et al., 2018; N=1819, Indigenous n=485). The studies collectively highlight the over-representation of Aboriginal and Torres Strait Islander youth in justice involvement, with Indigenous youth consistently showing higher odds of being convicted compared to non-Indigenous youth. Persistent maltreatment emerges as a consistent predictor of youth convictions, as shown in both Malvaso et al. (2017a) and Malvaso et al. (2018).

There were some inconsistencies across the studies. In Malvaso and Delfabbro (2015), Aboriginal and Torres Strait Islander status as a predictor did not reach statistical significance in the full model compared to 'Anglo-Australians', whereas it was a significant predictor of convictions in Malvaso et al. (2017a) and Malvaso et al. (2017b) in comparison with non-Aboriginal/Torres Strait Islander youth. The sample sizes in Malvaso and Delfabbro (2015) were unequal (Aboriginal and Torres Strait Islander individuals n=56; comparator population n=232). Furthermore, while foster and residential care variables were significant in predicting the outcome in other studies (Malvaso et al., 2017a, 2017b) they were not significant in Malvaso and Delfabbro (2015), with very large confidence intervals and lost significance in the final model of Malvaso et al. (2018), possibly as noted by the author due to multicollinearity of maltreatment factors.

The interaction between Indigenous background and residential care was not tested in Malvaso & Delfabbro (2015). Malvaso et al. (2017b) observed that Aboriginal and Torres Strait Islander youth with at least one residential care placement had 2-3 times greater odds of general convictions and violent convictions, however, non-Indigenous

youth in residential care had over seven times greater odds of general and violent convictions. Malvaso et al. (2017b) also demonstrated that Indigenous background (Aboriginal and Torres Strait Islander) was associated with 13 times greater odds of breach convictions, suggesting potential biases against Indigenous people in placement and policing decisions. Malvaso et al. (2017b) acknowledges that this bias against Indigenous young people could lead to a higher concentration of non-Indigenous white youth with severe or challenging behaviour in residential care.

Ryan et al. (2019) found that Indigenous (Aboriginal, Torres Strait Islander or South Sea Islander) adults who were reincarcerated were more likely to have low education (≤9 years), experience forcible removal from family as a child, and have a history of prior juvenile and adult imprisonments, longer sentences, and recreational drug and alcohol use prior to prison, compared to non-Indigenous people. Controlling for these factors resulted in a large reduction on the risk of reincarceration for Indigenous people (attenuating effect using a hazard ratio), highlighting the importance of social inequities prior to prison. In the multivariate model, high-risk drug use remained a significant predictor, while participation in transition programs, perception of social support, and psychological distress were not significant in either the bivariate or multivariate models. Older age at the time of release was a protective factor for Indigenous people.

2.4.3.3 Educational and employment attainment

Two studies examined educational attainment. Maclean et al. (2020) examined reading achievement in a population birth cohort of West Australian children with linked administrative data (N=33,866) in year 3 (child protection records) and year 9. Findings indicated that Aboriginal students (n=3637) in out-of-home care showed higher odds of

low reading achievement compared to Indigenous children who are not in out-of-home care after adjusting for child, family and neighbourhood risk factors. O'Brien (2010) conducted a retrospective cohort study of American Indian/Alaska Native adults across the United States who had been in foster care for at least 12 months and compared them to white foster care alumni. O'Brien found that American Indian/Alaska Native participants with experience of foster care had poorer educational and employment outcomes compared to white participants (lower odds of completing college, being employed, or owning a home). O'Brien et al. (2010) noted that American Indian/Alaska Native with foster care experience had a greater likelihood of running away from their site of care placement compared to their white counterparts. He and his colleagues suggested that these higher rates of flight may be related to unsuitable placements and a wish to reside in a more culturally familiar environment. O'Brien et al. recommend developing culturally appropriate practices and being sensitive to trauma, family and community separation, racism, and frequency of placement changes.

2.5 Methodological and Conceptual Limitations

The studies reviewed were generally of high quality and included 15 cohort studies using linked administrative data, one of which was a prospective study using self-report data, six longitudinal studies, and four national surveys, one that involved a small purposive sample and two that were longitudinal (with one presenting baseline data). Nevertheless, several limitations and some statistical concerns may have affected the conclusions of these articles. For example, Malavaso et al. (2018) report a concern for multicollinearity in maltreatment factors which may have interfered with foster and residential care variables predicting youth convictions. However, this was not discussed

in the conclusion of the paper. Similar to studies focussed on homelessness, some studies (e.g., Malavaso & Delfabbro, 2015; Watt & Kim, 2019 had unequal sample sizes, with substantially smaller Indigenous samples relative to the comparator, which in one case was over four times the size. This can create low power to detect an effect, particularly when paired with unequal variances (Rusticus, 2019), limiting the generalisability of the results. The potential for systemic biases in placement and policing decisions also complicates interpretation of the data, as findings may reflect these biases rather than true differences in offending behaviour. Furthermore, the failure to differentiate between types of reoffending (e.g., new offences vs. parole breaches) may obscure specific risk factors and predictors of recidivism. These methodological and conceptual limitations highlight the need for more nuanced and comprehensive research to better understand the dynamics at play. Finally, seven of the eight studies come from Australia, and may therefore not generalise to other countries and communities.

Three out of the eight studies reviewed (Baidawi 2020; Trofimovs & Dowse, 2014; Watt & Kim, 2019) showed a consistent link between Indigenous people with a history of child welfare involvement (out of home care/foster care) and justice system involvement (police charge, frequency of police custody, incarceration), and two studies (Malvaso et al., 2017a; 2017b) demonstrated a link between out of home care and convictions across groups. For one study (Ryan et al., 2019) foster care was no longer a significant predictor of reincarceration once demographic variables and other social inequities were entered into the model. A possible explanation for these inconsistencies may be insufficient statistical power in some cases. However, more importantly, the associations may be indirect rather than direct. Historical trauma is linked to lifetime

trauma and adversity, as supported by Roos et al.'s (2014), who found that intergenerational residential school exposure is related to increased child welfare involvement and a greater number of lifetime traumatic events. Historical trauma, such as the intergenerational impacts of residential schools, creates conditions that elevate the risk of involvement in the child welfare and justice systems. However, this relationship is likely not straightforward and direct; it is influenced by a range of intervening variables, such as poverty, educational opportunities, and health disparities.

Collectively, these findings underscore the complex interplay of social, material, and individual factors, rooted in broader historical and systemic issues, that influence the high rates of justice involvement among Indigenous youth and adults. Early adversity plays a clear role across justice outcomes. See Appendix B for study quality and risk of bias assessment.

2.6 Discussion

This is the first systematic review of whether Indigenous individuals, personally or intergenerationally exposed to a child welfare system, face an elevated risk of adverse health and social outcomes. The review used a comprehensive and rigorous search strategy across nine databases, with an international focus, and was designed in consultation with experienced librarians and registered prospectively in PROSPERO. Co-authors and scholars Dr. Margaret Robinson and Dr. Tara Pride from the Indigenous (Mi'kmaw) community have played a pivotal role in guiding and co-developing the protocol. Results were reported according to PRISMA guidelines. This systematic review is limited by a focus on quantitative, peer-reviewed studies. A total of 40 peer-reviewed studies were included in the review, providing a substantial body of evidence

predominantly from the United States, Canada, and Australia. This robust approach underscores the significant and diverse negative outcomes associated with child welfare interventions in Indigenous communities, highlighting the urgent need for policy and practice reforms.

2.6.1 Key Findings

This systematic review highlights the profound and consistent associations between parent-child removal by child welfare systems and various adverse health and social outcomes for Indigenous people, including experiences of homelessness, low educational attainment, depression, suicidal ideation, and emotional distress across the lifespan. Additionally, negative mental and physical health outcomes were frequently linked to these separations. The review underscores the persistent detrimental effects of child welfare system involvement on Indigenous populations, primarily in Canada, Australia, and the United States. Studies such as those by Watt and Kim (2019), Kidd et al. (2019) consistently found that Indigenous individuals with a history of child welfare involvement face a significantly higher risk of homelessness. These studies suggest that systemic inequities and historical traumas significantly contribute to this overrepresentation. For instance, Canadian national estimates showed that nearly three-quarters of Indigenous youth experiencing homelessness had a history of child welfare involvement (Kidd et al., 2019).

A key theme emerging from the review is the strong link between child welfare system involvement and negative mental and physical health outcomes. Indigenous individuals who experienced separation from their parents exhibit higher levels of depression, anxiety, suicidal ideation (Kaspar, 2014; Kumar et al., 2012), and substance

use disorders. Additionally, there is an increased incidence of chronic diseases and higher rates of emergency department visits among these individuals. These findings suggest that the trauma inflicted by the child welfare system compounds existing vulnerabilities, leading to long-term health disparities. Results consistent with Wilk et al. (2017) review on intergenerational impacts of residential school, another form of Indigenous parent-child separation, in Canada. The review also identifies several protective factors that can help mitigate negative health and social outcomes. Cultural connectedness and strong personal relationships, such as positive identification with case workers, play a significant role in improving outcomes for Indigenous youth. Waechter et al. (2011) found that Indigenous youth who positively identified with their case workers reported lower cannabis use. Additionally, involvement in traditional cultural practices and maintaining connections with community and family were associated with better mental health outcomes and higher resilience (Ritland et al., 2021; Pearce et al., 2015a).

Justice involvement, however, presents a more complex picture. The review found inconsistent results regarding the relationship between child welfare involvement and justice system outcomes. While studies from Australia predominantly examined these aspects, varied statistical power due to small Indigenous sample sizes and other methodological concerns highlight the need for further research in diverse jurisdictions to better understand these dynamics (Malvaso et al., 2017a; Ryan et al., 2019). Common criticisms of research on child welfare outcomes stress the need to control for upstream effects, such as maltreatment and socio-environmental conditions. While maltreatment undoubtedly plays a role, evidence suggests that the interaction with the child welfare system itself may exacerbate negative outcomes, as supported by Afifi et al. (2018). This

review aligns with broader research suggesting that child removal may lead to more harm at the population level (Gypen, 2017).

2.6.2 Theoretical and Clinical Implications

From a theoretical perspective, the review reinforces the framework of colonisation as a critical driver of health determinants. Child welfare systems in countries like Canada, Australia, and the United States evolved from assimilative policies aimed at cultural destruction, which cannot be disentangled from current policy outcomes. Indigenous populations face a compounded risk due to pre-existing vulnerabilities and the additive effects of child welfare interventions, intensifying the severity of negative outcomes (Roos et al., 2014; Williamson, 2018).

The comparative approach using the PECO framework allowed for a nuanced understanding of the impact of child welfare systems by controlling for significant environmental factors. For instance, studies within the Cedar Project, comparing Indigenous street-involved youth exposed to child welfare systems to their peers without such exposure, revealed additive negative effects from both direct and intergenerational child welfare interventions (Ritland et al., 2021). This points to a compounding effect where pre-existing risks are magnified by child welfare system involvement, particularly for Indigenous people who experience higher levels of risk factors and systemic disadvantages.

2.6.3 Limitations and Gaps

The systematic review identified several limitations and gaps in the existing literature concerning the impacts of child welfare systems on Indigenous populations. One major limitation within the review is the exclusion of qualitative research, which

restricts the depth of understanding regarding the lived experiences of Indigenous individuals. Qualitative nuances and personal narratives were not captured, which could have enriched the understanding of the complex interplay between child welfare involvement and health and social outcomes.

A significant limitation of this systematic review is a focus on negative outcomes, which risks pathologizing Indigenous peoples. To balance this limitation, a section was included in the review on culture, community, and resilience. Four studies examining child welfare systems impacts investigated the role of traditional cultural practices, language involvement, identity, and relationships in build strength and resilience. However, the fact that only about 10% of the studies reviewed included a strength-based perspective indicates that more research is needed on resilience and positive outcomes among Indigenous peoples.

The focus of the review was on CANZUS countries and the circumpolar region, however from the circumpolar region, only one study from Artic Norway and no studies from New Zealand were included in the search, limiting the generalisability of the findings. It is unclear whether this was related to distinct aspects of colonialism in those countries or for other unknown reasons.

2.6.4 Future directions

Data collection in healthcare and child welfare systems often lacks consistency and does not always disaggregate data by race and ethnicity. This can obscure the specific impacts on Indigenous populations. Disaggregating data by race and ethnicity in child welfare research is essential to uncover systemic racism and biases in colonial policies. Improved data collection methods within administrative data are needed to consistently

include disaggregation by race and ethnicity, enabling a clearer understanding of the specific impacts on Indigenous populations. Historical/intergenerational trauma is another area where comprehensive measurement and analysis could be improved to provide context for findings. Comprehensive measurement of intergenerational trauma is important for understanding its impact but varied by country: there was a greater focus in Canada and to some extent the United States and a lesser focus in Australia.

The geographic scope of the review, although focusing on CANZUS countries and the circumpolar region, included few studies from certain areas, such as New Zealand and the circumpolar region. Expanding research to include more studies from these underrepresented regions would provide a broader and more comprehensive understanding of the effects of child welfare practices on Indigenous populations within settler colonised countries.

The review demonstrated a relatively larger proportion of studies documenting mental health impacts from child welfare systems, with fewer documenting health and social outcomes. Justice involvement was predominantly in Australia, apart from a single study from the United States. More research is needed that examines health social impacts, and diverse and intersecting experiences. For example, Kidd et al., 2019 examined the intersection of LGBTQ2S experiences among Indigenous youth who were homeless or precariously housed; this was unusual among the literature surveyed, and could be an important area for future research.

Finally, future reviews, ideally with a team of Indigenous scholars, should incorporate qualitative methodologies to capture nuanced and personal narratives that provide deeper insights into the impacts of child welfare involvement on Indigenous

populations. Accordingly, shifting the focus from merely documenting adverse outcomes to exploring resilience and positive outcomes within Indigenous communities would highlight strengths, agency, and community as well as individual strategies for overcoming challenges.

2.6.5 Conclusion

The systematic review in this chapter has demonstrated negative impacts of parental residential school exposure and subsequent parent-child separations on the mental health and well-being of Indigenous youth and adults. The findings underscore the heightened risks of poor mental health among individuals with such historical traumas. Additionally, the results reveal a significant link between child welfare system involvement and adverse mental and physical health outcomes. Social outcomes, such as lower educational attainment and increased rates of homelessness, are also prevalent among these individuals. However, justice involvement presents mixed findings, indicating the need for further research.

The systematic review also identifies several protective factors that can help mitigate negative health and social outcomes. Engagement in traditional cultural practices and maintaining strong connections with community and family were associated with better mental health outcomes and higher resilience.

CHAPTER 3 Keeping families together: An analysis of the Aboriginal Peoples Survey

This chapter consists of a manuscript in preparation. The authors of this work include Flint D. Schwartz, Sean P. Mackinnon, and Margaret Robinson. My contributions to this project include proposal, conceptualisation, project management, data analysis, interpretation, and write-up.

Abstract

Previous research has linked residential school exposure to poor adult mental health, but has focussed less on contemporary youth parent-child separation. Utilising data from the Aboriginal Peoples Survey (APS) 2012 and 2017 cycles, Chapter Three examines the impacts of parent-child separation and intergenerational residential school exposure on the mental health and substance use of Indigenous (First Nations, Métis, Inuit) off-reserve youth aged 12-18 (N=8,370; 238,060 weighted) in Canada. We hypothesised that parent-child separation and familial residential school exposure would predict increased mental health difficulties and substance use, and that Indigenous language involvement would buffer these expected adverse effects. Additionally, the combined negative impact of parent-child separation and familial residential school exposure was expected to be strongest in those with less Indigenous language involvement, highlighting a three-way interaction. Using logistic regression models, we found that parent-child separation was significantly associated with an increased likelihood of mood disorders, anxiety disorders, smoking tobacco, and recreational drug use with cannabis. However, it was not significantly related to suicidal ideation or recreational drug use excluding cannabis. Intergenerational residential school exposure significantly predicted suicidal ideation, smoking tobacco, and recreational drug use both with and without cannabis. Over 70% of the sample did not drink alcohol, therefore we used a Poisson model to analyse alcohol use. Neither residential school exposure nor parent-child separation predicted the count portion of heavy episodic alcohol use in a zero-inflated Poisson model, but parent-child separation predicted alcohol abstention, that is youth who were separated from their parents were more likely to drink alcohol. Analyses of interactions failed to provide evidence of a buffering effect. The results of this study demonstrate that parent-child separation affects the mental health and substance use of First Nations, Métis, Inuit youth. This study calls attention to the significant impact of parent-child separation and intergenerational residential school exposure on the well-being of Indigenous youth in Canada, emphasising the importance of family reunification, prevention of parent-child separations, and the integration of culturally rooted practices.

3.1 Introduction

Residential institutions initiated by the Government of Canada, now commonly known as the Indian residential school system, stand out as one of the most harmful legacies of Canada's colonial history towards Indigenous peoples (Milloy, 1998). The residential school system forcibly separated generations of First Nations, Inuit, and Métis children from their families and communities, which resulted in exposure to chronic stress and trauma for Indigenous people for over a century (Gone et al., 2019; Miller, 2003; Wilk et al., 2017). Operating from the mid-1800s until the 1990s, the residential school system compelled Indigenous children to live apart from their families with the stated aim of assimilating them into white settler society (TRCC, 2015; Milloy, 2008). Within these boarding institutions, children faced cultural degradation, institutional abuse including overcrowding, malnutrition, and the transmission of avoidable communicable diseases, pervasive incidents of physical, psychological, and sexual abuse, and high rates of fatalities (Bryce, 1907, 1922; Milloy, 1998). The residential school system extended over multiple generations, coinciding with collective traumas endured by Indigenous people in Canada, such as community relocations, cultural suppression, interrupting cultural continuity, social exclusion, and denial of self-determination (Evans-Campbell, 2008; Milloy, 2008; Truth and Reconciliation Commission of Canada, 2015; TRCC). These collective traumas had a profound impact, severing cultural, community, and family ties, disrupting the continuity of parenting, and led to intergenerational health consequences (Gone et al., 2019; McQuaid et al., 2022; Toombs et al., 2023; Wilk et al., 2017).

Although many who attended have shown remarkable resilience, there is consistent evidence that survivors of residential schools are at increased risk of poor health and negative social outcomes compared to those who did not attend (Corrado & Cohen, 2003; Kaspar, 2014a; Hackett et al., 2016; Wilk et al., 2017). The impacts of residential school extend to subsequent generations. First and second-generation descendants of survivors report elevated levels of psychological distress, suicidal thoughts, attempts, substance use, homelessness, and poorer self-reported mental and physical health compared to those without a residential school family history (Elias et al., 2012; Kaspar, 2014a; FNIGC, 2012, 2018; Hackett et al., 2016; Toombs et al., 2023; Wilk et al., 2017). The intergenerational transmission of trauma is a well-documented phenomenon, where the effects of trauma experienced by one generation can influence trust, attachment, emotional regulation, and parental modelling (Cohen, Hien, & Batchelder, 2008; Jensen et al., 2021; Lomanowska et al., 2017; Schwerdtfeger et al., 2013). Individuals separated from their families during their formative years may subsequently replicate their experiences in residential school as parents, which in turn can result in parenting challenges and parent-child separation in subsequent generations (Lafrance & Collins, 2003; Madden et al., 2015; Metz et al., 2017; Morrissette, 1994).

This study aims to examine the cumulative effects of intergenerational exposure to residential schools and parent-child separations on mental health and substance use outcomes among Indigenous youth in Canada. By analysing data from the Aboriginal Peoples Survey (APS) 2012 and 2017 cycles, this research seeks to provide empirical evidence on the negative outcomes associated with these historical and contemporary separations and to explore the role of protective cultural factors in mitigating these

effects. The findings are intended to inform policymakers and child welfare professionals in developing strategies to promote the well-being of Indigenous children and families affected by these separations.

3.1 Parent-child separation and historical trauma

Scholars identify current and ongoing high rates of parent-child separation among Indigenous populations through child welfare systems as an extension of over 100 years of residential school, perpetuating a cycle of disruption of family, community, and cultural continuity (Blackstock, 2015, 2020; Chandler & Lalonde, 2008; Kirmayer, 2003; McKenzie et al., 2016; Tait et al., 2013, TRCC, 2015). During the 'Sixties Scoop' from 1950 to 1990, about 20,000 Indigenous children were taken from their families and communities by a child welfare system. This intensified a generational cycle initiated by the residential school of disrupting family relationships, disconnecting children from their traditional knowledge, culture, and language (Blackstock, 2015; Carrière, 2008; McKenzie et al., 2016; Tait et al., 2013). The Sixties Scoop marked a pivotal shift in assimilation policy objectives from institutionalising children to placement in private homes, mainly into middle-class Euro-Canadian families. During the closures of Indian Residential Schools, Indigenous children were placed with non-Indigenous foster parents, adoptive parents, and in group homes, and often faced permanent separation from their families and communities (McKenzie et al., 2016; Sinclair, 2007; Stevenson, 2019).

Indigenous children in colonised nations, including Canada, Australia and the United States, face a higher likelihood of living apart from at least one biological parent compared to the general population (Baxter, 2016; de Brey et al., 2019; Kelly-Scott et al., 2015). The scholarly literature consistently links disproportionate Indigenous parent-child separation to the cumulative impact of colonisation, marked by systemic discrimination,

displacement, forced assimilation policies, and discriminatory child protection practices (Blackstock et al., 2020; Caldwell & Sinha, 2020; Falon et al., 2021; Ma et al., 2019). The root cause of enduring disparities in health and social resources for Indigenous communities has been identified as stemming from direct and indirect effects of colonisation (Brave Heart & DeBruyn, 1998; King et al., 2009; McKenzie et al., 2016; Wilk et al., 2017). Findings from the First Nations/Canadian Incidence Study of Reported Child Abuse and Neglect (2019) shows that First Nations children were 17.2 times more likely to be placed in formal out-of-home care than non-Indigenous children, excluding informal care such as kinship care; the placement rate of First Nations children was 12.9 times the rate of non-Indigenous children when including all placement types (Fallon et al., 2021). First Nations children whose families are under child protection investigation are more likely to be experiencing structural inequities (e.g., poverty, overcrowded housing) than non-Indigenous children (Barker et al., 2014; Fallon et al., 2021; Ma et al., 2019), suggesting colonisation interacts with and compounds the social determinants of health.

3.2 Parent-child separation and child welfare systems: health and social outcomes

Children may face separation from their parents for various reasons, such as parental death, illness, undocumented migration, incarceration, or involvement with a child welfare system. Substantial evidence indicates that parent-child separation is detrimental, causing distress to children, placing them at developmental risk, and contributing to intergenerational cycles of such separation, irrespective of the underlying reasons for the separation (Crittenden & Spieker, 2023; Paksarian et al., 2015; Sankaran & Church, 2016). Separation from parents, even in the absence of known risk factors and

for a relatively short period, has been implicated in lifelong negative effects, including alterations in stress response 60 years later (Pesonen et al., 2010). Placement in a child welfare system may itself be an adverse childhood experience or at least fails to protect from or mitigate harm despite intentions (Afifi et al., 2018). Exposure to a child welfare system has been described as a "sentinel event" (Zlotnik et al., 2012, p. 539), defined in health care as an avertable event that causes significant temporary harm, permanent harm, or death (Joint Commission, 2017).

3.2.1 Substance use as a coping mechanism for stress and trauma

The role of stress plays a significant role in substance use. First Nations, Metis, and Inuit youth have significantly higher rates of tobacco use compared to non-Indigenous youth (Sikorksi et al., 2019). In a survey of over 28,000 Grade 9-12 Indigenous (living on-reserve) and non-Indigenous students, First Nations, Metis, and Inuit youth were more likely than non-Indigenous youth to be current smokers, to have tried cannabis at a younger age, and to use it daily (Sikorksi et al., 2019). Tobacco use is often employed as a coping mechanism to manage psychological stress and trauma. A higher prevalence is linked to various stressors, including historical and intergenerational trauma, family separation, and discrimination. In fact, tobacco use is strongly correlated with PTSD (Pericot-Valverde et al., 2018). Smoking tobacco is also tied to social disadvantage, as it is in other populations; in a national survey of Aboriginal and Torres Islander people aged 15 and over, tobacco use increased as household income decreased (Thomas et al., 2008).

Given these significant mental health burdens, it is crucial to examine the role of stress and trauma in substance use among Indigenous population. Research on the mental

health outcomes of Indigenous individuals with a history of placement in care highlights significant risks. Two cohort studies involving at-risk Indigenous youth found that those with a history of placement in care were significantly more likely to report suicidal ideation than those without such a history (The Cedar Project, 2015; Ritland et al., 2021). Additionally, two studies using nationally representative surveys in Canada similarly found that Métis adults with a history of having been placed in foster care had higher odds of major depression and suicidal ideation compared to Métis adults without such a history (Kaspar, 2014; Kumar, 2012). Furthermore, adults who are homeless and have a history of being in care, most of whom were Indigenous, have higher odds of major depression, suicidal ideation, and any alcohol or substance use disorder than their homeless peers from the same city (Roos et al., 2014).

3.3 Residential schools and parent-child separation

Scholars postulate that residential schools are linked to ensuing and disproportional present-day parent-child separation across generations (Blackstock et al., 2020; Gerlach et al., 2017; McKenzie et al., 2016), but more quantitative research is needed to understand the intergenerational linkage. Prospective cohort studies revealed that Indigenous youth in British Columbia, with intergenerational exposure to residential schools, had a higher probability of being separated from their parents through a child welfare system (Barker et al., 2019; Cedar Project Partnership et al., 2015a; Ritland et al., 2021). Previous research (McQuaid et al., 2022) demonstrated that a nationally representative sample of "on-reserve" First Nations youth aged 12-17 living in their home community and a purposive sample of Indigenous adults with a family history of residential school attendance, had a higher likelihood of being separated from their

biological parents or being involved in a child welfare system, compared to those without such family history. Furthermore, youth who experienced parent-child separation showed significantly higher symptoms of psychological distress compared to those who did not experience separation (McQuaid et al., 2022). Similarly, Indigenous adults in Manitoba who were homeless or precariously housed were more likely to have been involved in a child welfare system, which was linked to a history of intergenerational residential school exposure (Roos et al., 2014).

Evidence is mounting that residential school exposure is associated with higher household risk factors. Household risk factors, akin to Fellitti's et al.'s (1998) concept of adverse childhood experiences (ACEs), for example increased risk of household problem alcohol or drug use, mental illness, incarceration, and lower household stability and economic security. Survivors of the Sixties Scoop with a history of familial exposure to residential school were more likely to have experienced higher household risks and were more likely to have been placed in a child welfare system compared to individuals whose parents did not attend residential school (Bombay et al., 2020). There is preliminary evidence of a potentiated effect from multiple generations of child removal. For example, Kenny et al. (2019) found that women who were sex workers who had experienced two generations of child removal had twice the odds of lower self-rated health. This emerging body of research provides evidence for the intergenerational repercussions of colonial trauma, contributing to cycles of parent-child separation, lifetime trauma, and depression, suicidal ideation, and drug and alcohol use.

3.4 Protective factors and resilience

Cultural connectedness and sense of belonging, including speaking one's Indigenous language, may be protective. Traditional Indigenous culture has been shown to be protective against substance use problems and to promote resilience and wellbeing (Bryant et al., 2021; Currie et al., 2013). Connection with culture and home community was found to be protective by increasing prosocial behaviour towards peers for First Nations youth in out-of-home care (Filbert & Flynn, 2009) and reducing recreational and prescription drug problems among First Nations, Inuit, and Métis adults in an urban setting (Currie et al., 2013). In a cohort of at-risk Indigenous youth, growing up traditionally, currently following their traditional culture, and knowing how to speak a traditional Indigenous language was associated with greater resilience (Pearce et al., 2015b). The majority (71%) of the cohort had been in foster care and almost half (48%) had at least one parent who attended residential school (Pearce et al., 2015b), suggesting traditional cultural connection was a protective factor for historical and lifetime trauma. Connecting with culture may act as an antidote for intergenerational repercussions stemming from care systems and institutions that separated Indigenous youth from their culture, language, and community.

3.5 Current research

Given the negative impacts associated with separation from parents, culture, and communities, understanding the cumulative effects of parent-child separations (including intergenerational exposure to residential school attendance) for Indigenous youth is needed. This research provides empirical evidence on depression, anxiety, suicidal ideation, and alcohol and drug use that may arise from parent-child separations across

generations and examines factors that may buffer these effects. The significance of the study's research questions is underscored by recent legislation affirming Indigenous rights in child and family services, stressing the importance of comprehending the distinct challenges faced by these communities.

The Aboriginal Peoples Survey (APS), conducted by Statistics Canada, is a national survey aimed at gathering information on the health, social, and economic status of First Nations, Métis, and Inuit individuals. Previous research using the APS 2017 dataset has linked residential school exposure to substance use and mental health problems in adults (Toombs et al., 2023), and the moderating effects of cultural identity, cultural engagement, and cultural exploration also with adults (Hahmann et al., 2023). McQuaid et al. (2022) examined parent-child separation in relation to distress in youth living within their home communities. Building on the work of Toombs et al. (2023), Hahmann et al. (2023) and that of McQuaid et al. (2022), our study focused on youth aged 12-18 living "off-reserve". We combined two datasets: the APS 2012 cycle and the APS 2017 cycle. We investigated the association between familial residential school exposure and youth mental health and substance use (mood disorder, anxiety, suicide ideation, and drug use, heavy episodic drinking, and tobacco use). Additionally, we extended prior research by considering the additive influence of parent-child separation (beyond familial residential school exposure) and the role of protective cultural factors in shaping mental health outcomes. We also examined the relationship between food security and residential school exposure.

We hypothesised that:

H1: Parent-child separation and familial residential school exposure would predict increased mental health difficulties and substance use.

H2: There would be a two-way interaction between parent-child separation and familial residential school exposure when predicting mental health and substance use outcomes. That is, the positive relationship between parent-child separation and outcomes would be larger when youth also have familial residential school exposure.

H3: Indigenous language involvement would buffer the effect of parent-child separation on mental health outcomes from H1; that is, a two-way interaction wherein the mean difference between separated and non-separated groups would get smaller as protective factors increase. Indigenous language involvement would buffer the negative effect of familial residential school exposure on mental health and substance use outcomes in a similar fashion.

H4: The intensifying effect of familial residential school exposure on the relationship between parent-child separation and familial residential school exposure on mental health and substance use outcomes (i.e., Hypothesis 2) would be strongest in those with less Indigenous language involvement. By contrast, more Indigenous language involvement would buffer the additive adverse effects of parent-child separation and familial residential school exposure on mental health outcomes. That is, we proposed a 3-way interaction between familial residential school exposure, parent-child separation, and Indigenous language involvement.

Though not a formal hypothesis, we also explored some models controlling for sex and age, since these are common predictors of anxiety, depression, and substance use

(Anderson, 2021; Bingham et al., 2019). There would be an increase in the proportion of substance use as age increases (Aderibigbe et al., 2022).

Because data were combined across the 2012- and 2017-year cycles, we adjusted for year cycle. We also conducted exploratory analyses to determine model differences (if any) among First Nations, Métis, and Inuit populations at the national level. These categories reflect distinct histories with the Canadian national government including child apprehension that could result in differing outcomes on the variables we examined

3.6 Methods

3.6.1 Data source

The Aboriginal Peoples Survey (APS 2012; 2017 cycles) is a cross-sectional national survey designed to provide data on the health, social, and economic conditions of Indigenous peoples. combined across two surveys (the 2017 and 2012 cycleThe APS focuses on First Nations (living outside their home communities or "off reserve"), Métis, and Inuk (plural Inuit) individuals, living in private residences in Canada. The 2012 cycle included individuals aged 6 and above, while the 2017 cycle included individuals aged 15 and above (we included individuals aged 12-18 in combining the two cycles). First Nations, Métis, and Inuit from across Canada were consulted on the survey questionnaire, leading to adjustments in language and phrasing of questions. Individuals selected for the survey were chosen from those who reported Indigenous ancestry and/or identity on the 2016 Census of Population long-form questionnaire. Participation in the survey is voluntary, and individuals provided consent before being interviewed, which included consent for combining their survey responses with the 2016 census variables. The interviews were conducted by telephone and in person, using a computer assisted

interviewing process to ensure standardised data collection and efficient processing. The Canadian Research Data Centre Network approved our team's access to the 2017 APS data file, with a documented exemption from Dalhousie University Health Research Ethics Board, aligning with the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (Canadian Institutes of Health Research et al., 2022). Detailed descriptions of the variables can be found in Appendix B.

3.6.2 Respondents

Respondents were First Nations, Métis, and/or Inuit youth, age 12-18, who participated in the 2012 or 2017 APS cycle. The weighted sample is used for all descriptive and multivariable statistics, as per Statistics Canada reporting requirements. On average, 53.1% identified as First Nations, 41.1% as Métis, and 5.9% as Inuk for a total of weighted population N=8370 (238,060 weighted) participants. The mean age of the youth sample (age 12-18) was 15 (*SD* = 1.82) years old. 50.3% identified as male, 49.7% identified as female. Transgender or non-binary identity options were not offered in the survey.

3.6.3 Measures

3.6.3.1 Demographics

Demographics included in years, sex (0 = male; 1 = female), and Indigenous identity. Indigenous identity encompassed individuals who self-identified as First Nations, Métis, or Inuk and also included those who report being registered under the Indian Act of Canada, and/or who hold membership/citizenship in a First Nation community.

3.6.3.2 Food security

For a proxy of income, we looked at household food security, indicating food security, moderate food insecurity, and severe food insecurity. The food security variable was derived by Statistics Canada within the APS and is a summed score of six questions describing the food situation for a household using the Canadian method for calculating food security.

3.6.3.3 Residential school exposure

Residential school exposure was assessed by whether respondents' mother, father, and/or grandparents attended an Indian Residential School. We derived a dichotomous variable to indicate whether a respondent had any intergenerational residential school exposure or none (1 = exposure, 0 = no exposure).

3.6.3.4 Parent-child separation

Parent-child separation was measured by a survey question on household living arrangements: What members of your family and other people usually live at this address? We derived a dichotomous variable to indicate whether a respondent lived with at least one parent (mother or father) or with neither parent (1 = separated from parents, 0 = living with parents).

3.6.3.5 Mental health outcomes

Mental health outcomes assessed were self-reported mood disorder or anxiety disorder diagnoses (both dichotomous), and lifetime suicidal ideation (dichotomous).

3.6.3.6 Substance use outcomes

Substance use variables included heavy episodic alcohol use (6-point Likert scale, 0=no alcohol use to 5=daily heavy episodic alcohol use), past 12 month recreational drug

use (dichotomous), including and excluding cannabis, and tobacco smoking (dichotomous, derived), which was recoded to a dichotomous variable from the original 3-point scale (current daily, occasionally, not at all). In all cases, presence of the disorder or substance use = 1, and absence = 0. The majority of youth (70.1%) indicated they never drank alcohol and were thus excluded from the sample on this question (i.e., not asked questions about heavy episodic alcohol use). To include non-drinking youth, we recoded the heavy episodic alcohol use variable, setting never drinking as the zero point on the scale. Cannabis use was measured as a dichotomous variable in APS 2012 and as a 5-point Likert scale in APS 2017 (1=not at all to 5=daily or almost daily). Consequently, we used two combined drug use variables created by Statistics Canada that included and excluded cannabis use to maintain consistency across the APS cycles.

3.6.3.7 Protective factors (Indigenous language involvement)

Potential protective factors measured traditional Indigenous language knowledge, measured with five items: (a) ability to speak (5-point Likert scale; 0=does not speak – 4= very well) and/or (b) understand a traditional language (4-point Likert scale; 0=does not understand), (c) the personal importance of knowing a traditional language (4-point Likert scale; 0=not important – 4=not important), and exposure to a traditional language (d) within and (e) outside the household (both 5-point Likert scales; 0=never-4=every day). These five items were combined into a single composite index via calculated factor scores using Thurstone's regression method following exploratory factor analysis, which will be described in the results section to follow.

3.6.4 Analysis plan

In compliance with Statistics Canada regulations for the 2012 and 2017 APS analytic files, individual data points were weighted based on demographic characteristics such as age, sex, Indigenous identity, and region to represent sampled and non-sampled individuals in the population. This ensures the sample represents the larger population and improves the accuracy of the final estimate. No individual cell counts were equal to or less than 10, therefore none needed to be excluded in adherence with Statistic's Canada confidentiality rules. All analyses were conducted in STATA 18 SE (StataCorp, 2024).

A chi-square test of independence was performed to examine the relation between residential school and food security.

A series of multiple regression analyses were conducted. Age was mean-centred. Missing data was less than 5% overall therefore listwise deletion was used in all analyses. To test hypothesis 1, both familial residential school involvement and parent-child separation were entered in as predictors of each of the seven outcomes (mood disorder, anxiety disorder, suicidal ideation, smoking, recreational drug use (including cannabis), recreational drug use (excluding cannabis), and heavy episodic drinking). Logistic regression was used for all outcomes except for heavy episodic drinking, which was analysed using a zero-inflated Poisson model.

I also present adjusted estimates controlling for sex, age, Indigenous group identity, and year cycle by entering these four variables as covariates. Indigenous group identity (First Nations, Métis, and Inuit) was dummy coded with First Nations set as the reference group and entered in as a predictor alongside other covariates (but without the

interactions) to explore these relationships. Following these main effect models, Hypothesis 2 was tested by adding in the residential school by parent-child separation two-way interaction effect to each of the 7 models and re-running them.

Prior to testing Hypothesis 3 and 4, we conducted an exploratory factor analysis (EFA) on five language protective factors. The goal was to create composite scores for a concise representation of language, while reducing the family-wise error rate (for an example of this method, see Stewart et al., 2023). We used STATA 18 SE (StataCorp. 2024) for the EFA. We extracted factors using maximum-likelihood estimation, with oblique promax rotation, and determined the optimum number of factors using parallel analysis (Horn, 1965; 1979) through the paran package in STATA (Dino, 2009). Factor scores were saved using Thurstone's regression method and used as a composite measure for use in subsequent analysis. Details of the results of this factor analysis will follow in the results section, but to understand what follows it is important to note that a 1-factor solution was found.

Hypotheses 3 and 4 were tested by adding Indigenous language involvement (i.e., a protective factor) to the model. Moreover, to fully test hypotheses all 2-way interactions and the 3-way interaction were added to each model as in the following regression equation:

Outcome = b0 + b1(residential school) + b2(parent-child sep) + b3(protective var) + b4(residential school)(parent-child separation) + b5 (residential school)(protective var) + b6(parent-child sep)(protective var) + b7(residential school)(parent-child sep)(protective var)

This process was repeated seven times, once for each outcome variable. Since none of the proposed interaction effects were statistically significant, when presenting the final models below I present only the main effects, since the interpretation of main effect coefficients becomes difficult when interaction terms are retained in the model. Nonetheless, the coefficients for all interactions are still presented at the end in separate tables for completeness.

3.7 Results

3.7.1 Descriptive statistics

Descriptive statistics for the sample are described in Table 2. On average, a fifth (20.3%) of respondents did not live with either of their parents. Two fifths (40.3%) experienced intergenerational residential school exposure. Moreover, 55.6% of youth reported never drinking. On average 15.3% of those who reported drinking did not engage in heavy episodic alcohol, 17.8% engaged in heavy episodic alcohol use less than once a month; 4.9% reported heavy episodic drinking once a month, 4.1%, 2-3 times a month or more, 2.0%, once per week, and 1.1%, more than once per week. About a fifth (19.9%) smoke tobacco, and a tenth (10.4%) use recreational drugs[5] (excluding cannabis). When including cannabis, recreational drug use rises to 42.2%. About a tenth of the sample (10.8%) report a mood disorder diagnosis, just over 1 in 7 (15.2%) report an anxiety disorder diagnosis, and almost 1 in 5 (19.2%) report seriously contemplating suicide over their lifetime[6].

[5] Recreational drug use (including and excluding cannabis) should be interpreted with caution given that the data only included a selected sample of youth who completed the survey independently. Caregivers filling out the survey for a youth were not questioned about suicidal thoughts or recreational drug use (or suicidal ideation) because of the sensitivity of these topics.

[6] See limitations above for interpretation of suicidal ideation.

3.7.2 Food Security as predicted by residential school exposure

Three quarters (75.1%) of youth reported that their household was food secure. On average, 17.7% of the sample reported moderate food security, and 7.2% reported that their household was severely food insecure. We conducted a cross-tabulation of food security and residential school exposure (see Figure 2). Residential school exposure was significantly related to food insecurity, $X^2(2) = 112.92$, $p<.001$, with higher proportions of food security for those without residential school exposure. For individuals without residential school exposure, 80.2% (95% CI [.779, .823]) reported their household was food secure, compared to 69.1% (95% CI [.661, .720]) with residential school exposure. Moderate food insecurity is more common among those with residential school exposure at 21.8% (95% CI [.192, .247]) versus 14.2% (95% CI [.124, .163]) without residential school exposure. Severely food insecure individuals are also more prevalent among those with residential school exposure at 9.1% (95% CI [.075, .109]) compared to 5.6% (95% CI [.044, .075]) without residential school exposure. The narrow confidence intervals indicate precise estimates

3.7.3 Multivariable analyses

Though simple bivariate relationships without covariates are presented in Tables 2-7, we focus on interpreting the models adjusted for age, sex, year cycle, and Indigenous group identity in-text for brevity and because adjusting for covariates likely improves the trustworthiness of results by controlling for possible confounding variables. Coefficients should be interpreted as holding all other covariates constant in adjusted analyses. We also discuss the point estimates for the effect sizes (e.g., odds ratios) in-text but readers

should be advised to interpret the confidence interval for the full range of plausible values for the population effect sizes.

3.7.3.1 Factor analysis

The EFA included the five language variables (see Table 12 for each item and proportions of endorsement). Parallel analysis suggested one factor. The factor contained measures tapping language knowledge and salience and contained positive loadings from the ability to speak and understand a traditional Indigenous language, language exposure within and outside the household, and importance of a traditional language; it was labelled language involvement. Factor loadings ranged from .59 to .96, with no significant cross-loading (none >.40; Table 13).

Greater language involvement was significantly associated with lower odds of an anxiety disorder diagnosis but was not significantly associated with a mood disorder diagnosis. Greater language involvement was associated with an increase in tobacco smoking and recreational drug use (including cannabis). Specifically, for each unit increase in language involvement, the odds of an anxiety disorder diagnosis decreased by 1.25 times. For each unit increase in language, the odds of abstaining from alcohol increased 1.35 times. Smoking tobacco was 1.59 times more likely for each one-unit increase in language involvement[7]. Drug use (including cannabis) was 1.20 times more likely for each one-unit increase in language involvement.

[7]Language involvement was associated with smoking tobacco, with an odds ratio of 1.85 (p<.001) when no other variables were included in the model. After controlling for parent-child separation and residential school exposure, the odds ratio for language involvement decreased slightly to 1.81 (p<.001). In the fully adjusted model (age, sex, year cycle, Indigenous group), the odds ratio for language decreased further to 1.59 (p<.001), suggesting that the language-smoking association is partially explained by these factors. Drug use (including cannabis) showed a similar relationship.

3.7.3.2 Regression analyses predicting mental health variables

Three regression analyses predicted the mental health variables in Tables 3, 4, and 5. Greater parent-child separation predicted increased odds of having mood and anxiety disorder diagnoses, but results were non-significant for suicidal ideation, in partial support of H1. Specifically, the odds of having a mood disorder were 1.74 times more likely when a youth was separated from their parents, 2.46 times more likely for female participants, 2.58 times more likely in the 2017 cycle and the odds of having a mood disorder increased by a factor of 1.30 for every one-year increase in age. However, intergenerational residential school exposure was not significantly related to mood. The odds of having an anxiety disorder were 1.59 times more likely when a youth was separated from their parents[8], 2.07 times more likely for female participants, 2.71 times more likely in the 2017 cycle and increased by a factor of 1.15 for every one-year increase in age. Residential school exposure was not significantly related to anxiety. The odds of reporting suicidal ideation was 1.85 times more likely when there was intergenerational residential school exposure and 3.79 times higher in 2017 compared to 2012; relationships with age and sex were nonsignificant.

Neither Métis nor Inuit participants significantly differed from First Nations in terms of diagnosed mood disorders. First Nations youth had 1.81 higher odds of an anxiety disorder diagnosis than Inuit youth. There were no significant differences between First Nations and Métis youth in anxiety disorder diagnoses. Inuit individuals had 2.27 higher odds of lifetime suicidal ideation than First Nations individuals. There

[8] Note that this relationship held only after covariate adjustment, and not in the unadjusted analyses.

were no significant differences between Métis and First Nations respondents in suicidal ideation. There were no significant 2-way or 3-way interactions for any of the variables, therefore H2, H3, and H4 were not supported.

3.7.3.4 Regression analyses predicting substance use

Two regression analyses predicted the substance use variables in Tables 6, 7, and 8. Greater parent child separation predicted increased odds of smoking tobacco and recreational drug use with cannabis, but the results were non-significant in predicting recreational drug use without cannabis, in partial support of H1. Residential school exposure predicted increased odds of tobacco smoking, and recreational drug use both with and without cannabis. Specifically, the odds of smoking tobacco was 1.76 times more likely when a youth was separated from their parents, 1.38 times more likely with residential school exposure, and the odds of smoking tobacco increased by a factor of 1.55 for every one-year increase in age. The odds of recreational drug use with cannabis was 1.51 times more likely when a youth was separated from their parents and 1.45 times more likely with residential school exposure and increased by a factor of 1.35 for every one-year increase in age. The odds of recreational drug use with cannabis was 1.75 times higher in 2012 than in 2017. The odds of recreational drug use without cannabis was 2.18 times more likely with residential school exposure and was 1.81 times higher in 2012 than in 2017. All other relationships were insignificant.

In examining group differences, Inuit youth had 2.58 higher odds of smoking tobacco than First Nations respondents. There were no significant differences between Métis and First Nations respondents in smoking tobacco. There were no significant group differences in recreational drug use with or without cannabis.

3.7.3.5 Zero-inflated Poisson model predicting alcohol use

The majority (55.6%) of respondents reported never drinking alcohol, therefore a zero-inflated Poisson model was used to examine whether intergenerational exposure to residential school and/or parent child separation predicted heavy episodic alcohol use (see Table 9). When examining the Poisson portion of the model, in the unadjusted models, intergenerational residential school exposure and parent-child separation were significantly related to heavy episodic alcohol use but were no longer significant in the adjusted model. Older age respondents were more likely to engage in heavy episodic alcohol use than younger respondents; for every 1-year increase in age, participants had an 23% increase in heavy episodic drinking. There were no other significant differences in the Poisson portion of the model.

In the logistic regression portion of the model, parent child separation predicted excess zeros in heavy episodic alcohol use, defined as reporting never drinking any alcohol. The odds of drinking any alcohol was 1.5 times more likely for youth who experienced parent-child separation (we took the reciprocal of the odds ratio for ease of interpretation). This means that parent-child separation status predicted the decision to drink alcohol, such that those who were separated from the parents were more likely to drink, in partial support of H1. Moreover, First Nation participants were approximately twice as likely to not drink compared to Métis respondents (reciprocal of the odds ratio). In the unadjusted models, intergenerational residential school exposure was significantly related to abstaining from alcohol use but was no longer significant in the adjusted model. All other relationships were nonsignificant (see language involvement above).

3.7.3.2 Interaction effects

All 2-way and 3-way interaction effect coefficients are presented in Tables 10 and 11. The interaction between language involvement and residential school exposure in relation to smoking tobacco was significant; however, given the number of tests conducted, the observed interaction is likely an artifact of multiple testing rather than a true effect. This interpretation is further supported by the unexpected direction of the interaction, which diminishes the plausibility of this finding being substantive. There were no other significant 2-way or 3-way interactions for any of the variables, therefore H2, H3, and H4 were not supported.

3.8 Discussion

The findings from this study underscore the significant impact of parent-child separation on the mental health and substance use outcomes of Indigenous youth in Canada. The results demonstrated that parent-child separation was independently associated with increased risks of mood and anxiety disorders, smoking, and recreational drug use, when including cannabis. Parent-child separation was not related to suicidal ideation or recreational drug use when excluding cannabis. Intergenerational residential school exposure was related only to suicidal ideation, smoking, and recreational drug use (both including and excluding cannabis). Notably, neither residential school exposure nor parent-child separation predicted the intensity of heavy episodic alcohol use (binge drinking) in the count portion of the model; however, youth who were separated from their parents had higher odds of drinking alcohol in the zero-inflated portion of the model.

The depression and anxiety results are consistent with Landers et al. (2017b) and McQuaid et al. (2022). Landers et al. (2017b) found that American Indian/Alaska Native

children were more likely to present with internalising behaviour (i.e., depression, anxiety) in contrast to externalising behaviour (i.e., conduct problems). McQuaid et al. (2022) found that among on-reserve youth, parent-child separation was related to psychological distress, a composite of depression and anxiety symptoms (in contrast to measuring mood and anxiety diagnoses separately, in our study). We also found that Inuit youth had a lower rate of anxiety diagnoses than First Nations youth. The lower rate among Inuit youth may be due to underestimations in diagnoses, likely influenced by limited access to healthcare providers who can make such diagnoses.

The results of this study align with existing literature that highlights the long-term and intergenerational effects of residential school exposure and parent-child separation on Indigenous peoples. Previous research has consistently shown that survivors of residential schools and their descendants face elevated risks of psychological distress, substance use, and poor mental health outcomes (Elias et al., 2012; Kaspar, 2014a; Hackett et al., 2016; Wilk et al., 2017). This study extends these findings by demonstrating similar patterns among youth, further underscoring the pervasive impact of these historical traumas. Importantly, this study has also extended these findings to parent-child separation, an area that has been less examined in the literature. Additionally, McQuaid et al. (2022) found that both intergenerational residential school exposure and parent-child separation predict higher levels of psychological distress among Indigenous youth living in their own communities ("on reserve"). This further supports the findings of the current study, illustrating the pervasive impact of these historical and contemporary separations on mental health. The observed association between parent-child separation and increased mental health difficulties is consistent with findings from other studies that

document the detrimental effects of such separations on children's psychological well-being (Crittenden & Spieker, 2023; Paksarian et al., 2015; Sankaran & Church, 2016).

The finding that parent-child separation predicts the decision to drink alcohol is particularly significant. It supports previous evidence suggesting that early life separations can lead to higher rates of substance use as individuals attempt to cope with the resulting stress and trauma (Gypen et al., 2017; Kaariala et al., 2017). However, the lack of association between these separations and heavy episodic alcohol use indicates that while these youths may initiate drinking, they do not necessarily engage in heavy episodic alcohol use behaviours, which could be influenced by other factors not measured in this study.

Furthermore, we conducted exploratory analyses on traditional language as a protective factor. Although we did not find that language buffered the effects of residential school and parent-child separation, this should not necessarily be assumed that this is not the case as many other studies have found this effect. For instance, Currie et al. (2013) demonstrated that cultural continuity, including traditional language, plays a crucial role in mitigating suicide risk among Indigenous youth. Similarly, Pearce et al. (2015b) found that traditional cultural connection, including traditional language, was associated with greater resilience among at-risk Indigenous youth. These findings suggest that traditional language and cultural engagement remain important protective factors that warrant further investigation.

Language knowledge was associated with increased odds of smoking, increased drug use with cannabis but not without cannabis increased odds of abstaining from alcohol, and lower odds of having an anxiety diagnosis. The unusual result of the link

between language, tobacco, and cannabis use may be explained by the stress and increased salience of historical trauma associated with Indigenous stress-coping through smoking tobacco or cannabis use (Walters, 2010) or homogenous social networks where smoking is normalised. Indigenous youth have smoking rates that are 2-5 times higher and cannabis use rates that are double those of non-Indigenous youth (Sikorski et al. 2019). Similarly, an increased prevalence of tobacco use is observed among Indigenous adults compared to non-Indigenous adults (Public Health Agency of Canada, 2018).

Strengths

One of the primary strengths of this study was the use of a nationally representative survey, which provides a broad and comprehensive examination of the mental health and well-being of Indigenous youth. The large sample size and inclusion of various Indigenous groups (First Nations, Métis, and Inuit) enhanced the generalisability of the findings. Furthermore, the study's focus on multiple mental health and substance use outcomes, including mood and anxiety disorders, suicidal ideation, smoking, and drug use, allowed for a nuanced understanding of the complex interplay between historical trauma, contemporary parent-child separation, and mental health.

Another notable strength of this study was its focus on parent-child separation in the context of residential school exposure. This focus illuminates the intergenerational nature of trauma and the effects of multiple layers of separation experienced by Indigenous families. The high rates of multi-generational parent-child separation through residential school, the 60s scoop, and the child welfare system demonstrate the enduring impact of these practices on Indigenous communities (Blackstock, 2015; Bombay et al., 2020; Wilk et al., 2017). By addressing these interconnected factors, the study contributes

valuable insights into the mechanisms by which historical and ongoing traumas influence mental health outcomes. This approach not only stresses the importance of considering historical context in mental health research.

Limitations

Despite these strengths, the study has several limitations that should be acknowledged. One key limitation was the restriction of protective factors to a single composite language variable. Although traditional language knowledge and exposure were not found to be significant protective factors, other sense of belonging variables used in the 2017 APS, such as cultural engagement and community connectedness, were not available in the 2012 cycle. This limits the ability to fully explore the range of protective factors that may mitigate the negative effects of residential school exposure and parent-child separation. Additionally, the cross-sectional design of the APS data limits the ability to establish causal relationships between the variables. Another limitation of this study is that the APS does not examine mental health symptoms, only self-reported diagnoses, which also relates to access to a healthcare provider for a diagnosis. Additionally, suicidal ideation and recreational drug use represent a subset of the sample who directly answered these questions, resulting in fewer children under 15 being represented as more answered the survey by proxy. Therefore, the results for these variables should be considered in this context. Overall, this study contributes to the growing body of literature on the intergenerational impacts of colonial trauma and highlights the need for culturally relevant interventions and policies that support the mental health and well-being of Indigenous youth. Future research should aim to include a broader range of protective factors, such as cultural engagement and community

support, to provide a more comprehensive understanding of resilience among Indigenous youth. Longitudinal designs may help better understand the causal pathways and long-term effects of these historical and contemporary traumas.

Implications

These findings highlight the complex interplay between historical trauma, contemporary family separations, and mental health outcomes among Indigenous populations. Half of children and youth in the child welfare system are First Nations, Metis, and Inuit. Specifically, Indigenous children represent 53.8% of all children in foster care, despite accounting for only 7.7% of the child population under the age of 15 (Hahmann et al., 2024). Although we were not able to directly measure the reason for parent-child separation, this study adds further evidence to research in non-Indigenous populations as well as growing research in Indigenous populations that parent-child separation itself is a cause of harm (Afifi et al., 2018; Barker et al., 2014; Tait et al., 2013; Wilk et al., 2017). Future studies should consider incorporating a wider range of protective factors, such as cultural engagement and community support, to provide a more comprehensive understanding of resilience among Indigenous youth.

The findings from this study identifies parent-child separation and intergenerational residential school exposure as risk factors for adverse mental health and increased substance use, providing important insights for policymakers and child welfare professionals. From a policy perspective, these results underscore the importance of culturally relevant Indigenous-led interventions that address both historical and contemporary traumas. Policies aimed at supporting the mental health and well-being of Indigenous youth should prioritise family reunification and the prevention of parent-child

separations. Additionally, these policies should incorporate culturally grounded practices that strengthen cultural identity and community connections, which have been shown to be protective against adverse mental health outcomes (Currie et al., 2013; Pearce et al., 2015).

Conclusion

This study highlights the significant impact of intergenerational exposure to residential schools and parent-child separation on the mental health outcomes of Indigenous youth in Canada. By utilising data from the Aboriginal Peoples Survey, this research provides a comprehensive examination of how historical trauma, and contemporary separations influence mood and anxiety disorders, suicidal ideation, and substance use.

The findings underscore the critical need for culturally relevant interventions that address both historical and ongoing traumas within Indigenous communities, reinforcing the importance of family reunification, the prevention of parent-child separations, and the incorporation of culturally grounded practices, all of which can significantly improve mental health outcomes for Indigenous youth.

CHAPTER 4 Policy Brief

This chapter consists of a manuscript in preparation. The authors of this work include Flint D. Schwartz and Margaret Robinson. My contributions to this project include conceptualisation, project management, analysis, interpretation, and write-up.

Date: July 17, 2024

Subject: Indigenous child welfare system devolution: An exploration of options

4.1 At Issue

The brief will examine how transferring (devolving) responsibility for child welfare from the federal government to First Nations, Métis, and Inuit governments may impact the social and mental wellbeing of Indigenous people in Canada.

Child Welfare Devolution Defined

Child welfare devolution refers to the process of transferring control and responsibility for child welfare services from provincial/territorial governments to Indigenous Nations.

In 2019 the Government of Canada put forward legislation devolving child welfare to affirm the jurisdiction of First Nations, Inuit and Métis peoples over child and family services and set minimum standards (e.g., an Indigenous child cannot be apprehended solely based on their socio-economic conditions). In Bill C-92, *An Act respecting First Nations, Inuit and Métis children, youth and families*, Canada affirmed its commitment to the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) and ratified the United Nations Convention on the Rights of the Child and the International Convention on the Elimination of All Forms of Racial Discrimination. Bill C-92 became law on June 21, 2019 and is currently being implemented. In addition to exploring the impacts of this policy change, the brief will also propose a set of evidence-based policy recommendations.

4.2 Executive summary

- The Indian Residential School system operated in Canada for nearly 150 years and exposed generations of children to chronic stress and trauma. In addition, the "60s Scoop," removed approximately 20,000 Indigenous children from their families.
- In 2019 the Government of Canada put forward Bill C-92, An Act Respecting First Nations, Inuit and Métis Children, Youth and Families, devolving child welfare to affirm the jurisdiction of First Nations, Inuit and Métis Peoples over child and family services.
    - 67 communities (38 governing bodies) have signalled their intention to enter into coordinating agreements with the Government of Canada on devolution of child welfare.
    - The Government of Canada, provincial governments and First Nations governments may see devolution differently and hold differing expectations.
- Early attempts at devolving child welfare systems failed due to lack of full Indigenous self-governance, jurisdictional challenges, inadequate funding, and lack of redress for colonial interventions. National data on the full extent of the problem is lacking.
- International examples from New Zealand and the United States provide evidence for devolution processes that includes clear enforceable legislation, appropriate levels of funding and relationships which respect Indigenous sovereignty.
- Self-governance is a key determinant of well-being for First Nations communities and Nations have long fought for control over their own child welfare services.
    - Four policy options are proposed:
        - #1 Comprehensive Devolution
        - #2 Partial Devolution with full funding
        - #3 Partial Devolution with fiscal restraint
        - #4 Status quo
    - A comprehensive devolution scenario would encompass all aspects needed by First Nations communities, as identified by the communities themselves. This may include decision making authorities, accountability, funding, cultural programming models, and tailor-made solutions specific to each First Nation.
    - There is a risk of the federal government implementing partial devolution given historical relationships between First Nations and the federal government.

4.3 Background

4.3.1 Indigenous over-representation in child welfare systems

Canadian federal and provincial governments, in partnership with Christian churches, developed and implemented institutions, policies, and practices to assimilate Indigenous peoples. The Indian Residential School system, which operated in Canada from the mid-1800s until 1996 (nearly 150 years), exposed generations of children to chronic stress and trauma. First Nations, Métis, and Inuit children were forcibly removed from their parents and communities in an attempt by the state to eradicate Indigenous languages, traditions, and practices and replace them with Western Christian values (Milloy, 2017; Sinha et al., 2021). There is increasing awareness that the Indian Act, Indian Residential Schools, and the 60's Scoop have caused intergenerational harms (RCAP, 1996; TRCC, 2015).

The Indian Residential Schools, along with other government policies and practices, ruptured vital Indigenous cultural, community, and familial bonds. Residential schools disrupted cultural transmission and negatively impacted parenting continuity (LaFrance et al., 2003; Morissette, 1994. Indigenous youth whose parents attended Indian Residential Schools face increased risk of apprehension by child welfare systems (Barker et al., 2019; Cedar Project Partnership et al., 2015). This risk was compounded by the "60s Scoop," (which took place from 1950 to 1990), in which approximately 20,000 Indigenous children were taken from their families and communities by child welfare services, placed in group homes, or adopted and fostered by non-Indigenous families (DiTomasso et al., 2015; McKenzie et al., 2016; Sinclair, 2007; Stevenson, 2020). The

legacy of these historical injustices continues to manifest in present-day child welfare inequities.

4.3.1.1 Child welfare inequities

Inequities in child welfare systems were further aggravated by systemic biases and by the underfunding of health and social resources in reserve communities (Blackstock et al., 2020). Anti-Indigenous bias permeates child protection legislation and investigative protocols, which overlook historical context, cultural needs, and the impacts of poverty (Fallon et al., 2013; 2021). Moreover, child welfare systems offer disproportionately lower levels of social and economic support to Indigenous families and offer them alternative services less frequently (Caldwell & Sinha, 2020; Sinha et al., 2013). In a 2016 federal Human Rights decision[9], the government was found to have discriminated against First Nations by inadequately funding child and family services, over relying on child apprehension, neglecting culturally appropriate services, perpetuating harm, and maintaining the assimilative goals of the residential school system. Recently, federal courts approved a $23 billion dollar settlement between the Assembly of First Nations and the federal government to compensate First Nations children and their families who endured chronically underfunded on-reserve child welfare services. This amount was increased from the $20 billion negotiated in 2019 to include those who had been left out the agreement. However, addressing these inequities is further complicated by the lack of reliable national data on children in out-of-home care.

[9] *First Nations Child and Family Caring Society of Canada et al. v. Attorney General of Canada*

4.3.2 Unreliable data

As child welfare is a provincial responsibility, each province has different measurement systems and reporting structures for their child welfare system. This makes it challenging to accurately compare or combine data between jurisdictions. As a result, national statistics on children in out-of-home care (kinship/extended family, foster care, residential care/group home), which would help determine adequate funding levels, have been unreliable, and may underestimate the number of children in care.

National data on outcomes for children in care are not currently available. In a recent attempt at combining and examining national data about out-of-home care in Canada, Pollock and colleagues (2024) conducted a cross-sectional analysis (i.e., a single measurement, without following up across years) of children in out-of-home care in 2022 using the Canadian Child Welfare Information System (CCWIS) developed by the Public Health Agency of Canada. That study found gaps in the CCWIS data, including gaps related to First Nations children on reserve, and for children in informal or emergency placements with family; thus, Indigenous-specific rates of out-of-home care could not be determined.

Analysing the extent of crucial child welfare issues, like the overrepresentation of Indigenous and Black children, proves challenging given extensive missing ethno-racial data in CCWIS (Esposito et al., 2020). Pollock et al, (2024) raised concerns regarding self-governance of Indigenous data. Child welfare systems outcomes have been identified as important by CCWIS, but national population-based statistics detailing evidence on outcomes such as mental health are not currently available (Pollock et al., 2024).

4.3.3 Essential background on devolution in Canada

Understanding the context of devolution efforts is essential for addressing child welfare inequities. However, data challenges remain.

4.3.3.1 Why is devolution important?

Indigenous peoples in Canada have long fought to control their own child welfare services and to restore culturally appropriate parenting supports (Blackstock et al., 2020; Carriere & Richardson, 2016; Sinclair, 2007). Self-governance has emerged as a key determinant of health and well-being for First Nations communities (World Health Organization, 2008, WHO; Chandler & Lalonde, 1998; 2003). In a British Columbian study, Chandler and Lalonde (1998) found that over a five-year period, communities with no markers of Indigenous government control had 5-100 times the provincial youth suicide rate while communities with multiple markers of Indigenous control had virtually no suicides. Likewise, in Manitoba, Indigenous governance of community health care services was associated with lower rates of avoidable hospitalisation, compared to communities without self-governance (Lavoie et al., 2010). Despite the clear importance of Indigenous self-governance for individual and community wellbeing, Indigenous communities have not had full jurisdiction over child and family services in Canada. Understanding the reasons behind the limitations of early devolution attempts is crucial for improving future efforts.

4.3.3.2 Why did early attempts at devolving child welfare fail?

In this section I examine four causes of failure in early attempts at devolving child welfare systems: 1) lack of full Indigenous self-governance over child welfare; 2) unclear responsibility for funding and similar jurisdictional challenges; 3) inadequate funding for

Indigenous children in care; and 4) lack of redress for a history of harmful colonial interventions. As detailed below, rather than solving the problem, these attempts increased the over-representation of Indigenous children in care.

Lack of full self-governance and displaced accountability

Devolution has been presented as a concept of horizontal accountability among partners with the same level of authority, but in practice has been shown to be neither collaborative nor equal (MacDonald & Lavasseur, 2014). Instead, attempts at devolving child welfare systems have been incomplete and have maintained a paternalistic relationship with Indigenous peoples. Vertical authority was maintained, with Indigenous child welfare authorities remaining subordinate to the provincial government, who had the ultimate decision-making power (MacDonald & Lavasseur, 2014). For instance, provincial and federal governments have continued to maintain control over child welfare administration, policy, structure, and funding (Fryer & Leblanc-Laurendeau, 2019; Manitoba Legislative Review Committee, 2018). Maintaining control while delegating administrative responsibilities allowed the provincial government to offload accountability while retaining power and control, significantly undermining Indigenous autonomy.

Unclear funding responsibility and jurisdictional challenges

The division of powers between federal, provincial, and Indigenous governments creates confusion over responsibility for child welfare. While child welfare typically falls under provincial jurisdiction, it is a federal responsibility for First Nations people living on reserves. The federal government's authority overlaps with provincial responsibilities, such as healthcare, leading to ambiguity regarding which level of government is responsible (Fryer & Leblanc-Laurendeau, 2019). As a result, Indigenous Nations often

have limited authority over child welfare matters within their territories. This overlap complicates the delegation of responsibilities and undermines Indigenous autonomy, leading to denial of essential medical and support services for Indigenous children. Despite having a vested interest in their children's welfare, Indigenous Nations face significant barriers to exercising full control and authority over these matters.

Inadequate funding for Indigenous children in care

Jordan's Principle is a child-first policy that aims to ensure First Nations children in Canada can access public services without delay or denial, regardless of jurisdictional disputes between governments over payment. Although Jordan's Principle was introduced to address jurisdictional disputes and was unanimously adopted by the House of Commons in 2007, many consider that it has not been fully implemented (Sinha et al., 2021). Its application process has been criticised for being "burdensome, inconsistent, and highly discretionary" (Sinha et al., 2021, p. 24). Those familiar with the process are more likely to get funding, while those in greatest need may miss out (Sinha et al., 2021).

Jordan's Principle

Jordan's Principle is named after Jordan River Anderson, a young boy from Norway House Cree Nation in Manitoba, with complex medical needs. He spent his life in hospital due to jurisdictional disputes between the federal and provincial governments over the cost of his home care.

In 2016, the Canadian Human Rights Tribunal determined that insufficient and inequitable funding of child and family services in First Nations communities in Canada constitutes discrimination against First Nations People (Blackstock, 2016). Federal policies mandated that First Nations Child and Family Services agencies deliver programs and services at provincial or territorial levels. However, federal funding was insufficient to match these levels, causing a growing disparity over time, and severely

underfunded preventative services (Barker et al., 2014). Chronic underfunding has had long-term adverse impacts on health and social outcomes, increasing healthcare costs more than preventative efforts would have. This chronic underfunding has led to many First Nations children being apprehended and placed off-reserve, disrupting families, culture, and communities (Fallon et al., 2021). Jurisdictional issues between provincial and federal governments will inevitably shape funding allocations.

To address these issues, the Federal Court approved a $23.4 billion Revised Final Settlement Agreement to compensate First Nations children and families for Canada's inequitable funding and failure to meet Jordan's Principle obligations. Consequently, the federal government has been mandated to increase funding. The Tribunal ruled that First Nations children living on reserves are entitled to substantive equality. Achieving substantive equality for First Nations Peoples requires tailored strategies that address historical disadvantages, the origins of past inequities, and unique geographic and cultural needs (Hughes, 1999; Macklem, 1995). This ruling could influence future cases on substantive equality in Canada.

4. Lack of redress for a history of harmful colonial interventions

Assimilationist policies during the 150-year residential school period have led to multiple generations of Indigenous children being separated from their parents (Bombay et al., 2020; Fallon et al., 2021; McQuaid et al., 2022). This pattern has compounded over time, contributing to the over-representation of Indigenous children in Canadian child welfare systems today. The Truth and Reconciliation Commission (2015) highlights that the parenting challenges within Indigenous communities are worsened by inadequate upstream supports and the legacy of residential schools. These complex challenges include poverty, housing issues, psychological trauma, addictions, and other parental

mental health issues. To effectively support Indigenous families and communities, there must be adequate funding, support for self-governance, and meaningful acknowledgment and redress for historical injustices and ongoing impacts of colonisation. Without these measures, efforts to support Indigenous families will remain incomplete and insufficient.

4.3.3.3 An early attempt at devolving a child welfare system

Manitoba made an early attempt to transfer control of a child welfare system into Indigenous hands. That province established four child welfare authorities: First Nations Authority of Northern Manitoba; First Nations Authority of Southern Manitoba; Métis Authority; and General Authority, each responsible for managing services administration, funding allocation, and culturally appropriate services (Child and Family Services Authorities Act, 2003). While the establishment of these four authorities has been characterised as devolution, there was no substantive transfer of power or resources to Indigenous governments and communities (Manitoba Legislative Review Committee, 2018), and the authorities continue to operate under the administration of the Government of Manitoba through the Minister of Family services. Media articles have noted that Indigenous control over child welfare is insignificant in a complex system with unclear accountability (CBC, 2015; Turner, 2013; Welch, 2015).

> As described by the Winnipeg Free Press, the Indigenous child welfare authorities "were given nominal control over a system that was still essentially white in nature, with all the same rules, funding constraints, standards and structures" Welch, 2015.

Currently, among Canadian provinces with available data, Manitoba has the greatest proportion of Indigenous children in care of the provinces: 91% of the 8,990 children in care in Manitoba are Indigenous (Manitoba Minister of Families, 2023).

Additionally, Manitoba ranks among the highest globally in terms of foster care rates (Milne et al., 2023, p. 4). The number of children in care increased by 85% from 2008-2018 (Manitoba report, 2018).

4.3.3.4 Commitment to Indigenous Rights and Self-Governance

In *An Act respecting First Nations, Inuit, and Métis children, youth and families*, Canada acknowledges harms from colonial policies and practices, including intergenerational trauma from residential school. Parliament affirmed the aim of reuniting Indigenous children with their families and communities, and upheld inherent rights to

The Act lists three guiding principles for its interpretation and administration:

1. **Best interests of the child**: this includes physical, emotional, and psychological well-being and cultural connection.
2. **Cultural continuity**: including preserving Indigenous languages, cultures, and traditions, prioritising familial and community placements, preventing assimilation, and considering regional characteristics and challenges.
3. **Substantive equality**: the Act mandates equal participation opportunities for children with disabilities in family and community activities, considers children's views and preferences, extends rights to family members and Indigenous governing bodies, and bars jurisdictional disputes from creating service gaps.

Indigenous self-determination and self-governance, including jurisdiction over child and family services. Canada commits to the principle of substantive equality and recognises the need for sustainable funding to ensure positive outcomes for Indigenous communities. A federal government protocol guides relationships with the Assembly of First Nations.

To provide a comprehensive understanding of the financial commitments and initiatives taken by the Government of Canada in support of the *Act respecting First Nations, Inuit, and Métis children, youth, and families*, the following text box summarises key budgetary allocations and their intended purposes. This summary

describes the investments made to support engagement, capacity-building, and Indigenous governance development activities over a five-year period, starting from 2020.

Summary of Budgetary Commitments in support of the *Act respecting First Nations, Inuit and Métis children, youth and families* (Government of Canada, 2024)

Government of Canada has committed over $542 million over 5 years, starting in 2020 to 2021:

- nearly $10 million over 2 years to support First Nations, Inuit and Métis engagement to advance the co-development of the implementation process, including the establishment of and participation in distinction-based governance engagement mechanisms
- $425 million over 5 years to support capacity-building activities that would enable First Nations, Inuit and Métis groups to work within and across their communities to build strong foundations for a successful transition toward the exercise of jurisdiction
- nearly $73 million over 5 years to support Indigenous governing bodies for, and participation in, coordination agreement discussions
- over $35 million for internal services at Crown-Indigenous Relations and Northern Affairs Canada and Indigenous Services Canada in the national capital region and in the regions to support the above 3 activities

Indigenous Services Canada has provided almost $115 million in capacity-building funding to 230 Indigenous governing bodies to support jurisdictional development activities in preparation to enter a coordination agreement discussion.

Budget 2021 provided $73.6 million to invest in operating funds over 4 years, 2021 to 2022 to 2024 to 2025 to support First Nations, Inuit and Métis Nations in exercising their right over child and family services.

4.5 Issue

What's at issue:

The harm resulting from colonial policies and practices in child welfare systems is a long-standing, and increasingly well-documented issue. These harms have been cumulative and cyclical, leading to the over-representation of Indigenous children in care, which is a crisis that needs urgent attention. Although legislation addressing these issues took effect on January 1, 2020, Manitoba, Alberta, British Columbia, and the Northwest Territories joined Quebec in a constitutional challenge, claiming Bill C-92 infringes on provincial jurisdiction (Attorney General of Québec, et al. v. Attorney General of Canada, et al.). However, on February 9, 2024, the Supreme Court of Canada upheld the constitutionality of the Act.

Many Indigenous authorities have agreed to govern the child welfare system in their territories, but there are questions about how control will be interpreted and implemented, based on relationships with the Crown. National data and reporting inconsistencies have led to questions about transparency, responsibility and accountability, and data governance. There is a need to elevate this issue, so the public understands the lack of clarity and the extent of the issue of child welfare systems. Accurate data is needed for research and advocacy, for funding, and for the planning purposes of those involved.

4.5.1 Political Responsibility

The wellbeing of Indigenous children in Canadian child welfare systems reflects poorly on both provincial and federal governments, indicating a lack of political will to address the problem. Jurisdictional issues among federal, provincial, and First Nations governments create ambiguity in responsibility due to constitutional overlaps. Although

Jordan’s Principle was enacted to address this ambiguity, Indigenous Services Canada is often criticised for failing to meet Indigenous children's needs in a reasonable timeframe. Recently, the First Nations Child & Family Caring Society filed a Notice of Motion to the Canadian Human Rights Tribunal regarding Canada's failure to comply with its 2016 legal obligations.

Indigenous children in urban settings face unique, often overlooked challenges due to constitutional confusion and funding shortfalls. These political and jurisdictional complexities hinder effective reforms and perpetuate inadequate support and care for Indigenous children. The inability of provincial and federal governments to clearly define responsibilities is a significant barrier to addressing funding shortfalls effectively.

4.5.2 The Need for Devolution

The issue of devolution in child welfare systems accentuates the growing recognition of Indigenous sovereignty and self-governance in Canada, and the understanding of control over child welfare systems as a critical part of an Indigenous community's inherent rights. *An Act respecting First Nations, Inuit, and Métis children, youth and families* acknowledges Indigenous jurisdiction over their child welfare systems, aligning with the Canadian Supreme Court's affirmation of Indigenous peoples' right to self-governance. Movement towards devolution is also a response to the Truth and reconciliation Commission of Canada’s Calls to Action (1-5) and an UNDRIP priority as shown in articles 3, 4, 18, 23, 24(2), and 39.

The challenge lies in transitioning control from provincially managed systems to full Indigenous self-governance. Partial delegation of control risks maintaining the paternalistic relationship inherent in current policies, contravening UNDRIP's emphasis

on self-determination (article 3). Without effective devolution, child welfare practices remain inadequately responsive to Indigenous needs, perpetuating a cycle of mistrust and poor outcomes. Prior partially devolved systems have transferred responsibility without

Supreme Court of Canada's 2024 Decision on Indigenous Child Welfare Legislation: Alignment with UNDRIP Articles:

- **Article 3:** Recognises Indigenous peoples' right to self-determination; upheld constitutionality of federal law affirming Indigenous self-government over child and family services.
- **Article 4:** Affirms Indigenous peoples' right to autonomy in internal affairs, including child welfare.
- **Article 18:** Acknowledges Indigenous peoples' right to participate in decision-making and maintain and develop their own indigenous decision-making institutions on matters affecting their rights; emphasises legislative reconciliation and recognition of Indigenous legal traditions in Canada's legal framework.
- **Article 23:** Affirms Indigenous peoples' right to determine and develop priorities for exercising their right to development; implications for future devolution of powers to Indigenous governments.
- **Article 24(2):** Indigenous individuals, especially children, have the right to the highest attainable standard of physical and mental health; supports the authority of Indigenous communities to design and implement culturally appropriate health and wellness programs.
- **Article 39:** States Indigenous peoples have the right to financial and technical assistance from States to enjoy the rights contained in the Declaration; Supreme Court's 2024 ruling acknowledges the need for adequate funding to support these rights.

Significance:

- By upholding this legislation, the Supreme Court has taken a significant step towards implementing UNDRIP's principles in Canadian law, particularly in the crucial area of child welfare.

providing the necessary power or funding to effect meaningful change. This fails to honour Indigenous peoples' rights to self-governance and culturally appropriate care and has been linked to increased Indigenous child removal.

4.5.2.1 Implementation

Some jurisdictions, such as Manitoba, have experimented with devolving their child welfare systems. As noted, these interpretations of devolution maintained provincial government control and their funding models did not support success. The severe consequences of poor implementation is highlighted by the ruling in the First Nations Caring Society Supreme Court case, which found that the government discriminated against First Nations children by underfunding child welfare services. Underfunded services often exacerbate mental health, physical health, and social outcomes. Additionally, issues like lack of transparency and insufficient political will to measure the problem further hinder progress.

Effective implementation requires deep work on the part of provincial and federal governments. This includes work to build trust and relationships, robust true collaboration, define clear roles, responsibilities and accountabilities for all parties involved, and cultural protocols to guide engagement with First Nations governments. These measures may help maintain and develop the relationships and identify how issues will be addressed when they occur.

4.6 Method and Approach

4.6.1 Literature review, Indigenous law, legislative review and jurisdictional analysis

This policy brief provides results from a thorough literature review of historical and present-day issues surrounding the child welfare system, a review of Indigenous law (including court cases, challenges and court decisions), and a legislative review of federal, provincial, and First Nation legislation on child welfare. A jurisdictional analysis examined actions taken by jurisdictions within Canada, highlighting best practices and lessons learned.

4.6.2 Comparative analysis and oral teachings

The brief uses comparative analysis to explore child welfare at the national, provincial, and First Nation levels and report successes, failures, and potential pitfalls of tried approaches. By triangulating available data, historical information, legal cases, and legislation, and comparing policy, this policy brief provides a broader context on the issue of child welfare authority.

4.6.3 Elder engagement

Elders provide a deep cultural wisdom and historical perspective, offering valuable guidance on interpreting policy within a community context. The textual sources described above were enriched and contextualised by a consultation with Elder Alice Kaquitts from Stoney Nakoda Wesley First Nation. Elder Kaquitts was recommended by the Indigenous Research Support Team at the University of Calgary during a consultation for community engagement and was subsequently consulted through the Elder's Guidance Circle at the Calgary Public Library. Elder Kaquitts, who is a social worker with expertise in the child welfare system offered teachings, described in the textbox. Prior to the consultation, Elder Kaquitts was provided with a written summary of the research and the following biographical information: Flint Schwartz is a settler (Jewish descent), PhD student, and a father. This work (part of his dissertation) is supervised by Dr. Margaret Robinson, Mi'kmaw scholar (Lennox Island First Nation). He is also a psychologist at a medical centre in western Canada. As a former school psychologist in Manitoba, he performed cognitive assessments with youth from Northern First Nations communities under child welfare care. During this work, he witnessed substantial

adversity stemming from intergenerational parent-child separation through residential schools and child welfare systems.

4.6.3.1 Elder Kaquitts Teachings on child welfare systems in Canada

The following conversation took place on November 16, 2023, and has been summarized. It has been reviewed by Elder Alice Kaquitts for accuracy.

Elder Alice Kaquitts is a mother, grandmother, knowledge keeper, interpreter and translator of the Îethka Nakoda language. She is a social worker who has worked extensively with Indigenous children and families in child welfare systems. Elder Alice was involved in the Indian Residential School hearings as an interpreter. She also serves as an Elder advisor for the National Gathering of Elders. The consultation took place within the Elder's Guidance Circle (Calgary Public Library), which Elder Alice is a part of[1]. The library gave a land acknowledgement and offered Elder Alice tobacco and a gift. Elder Alice offered teachings, which are described below.

KEY TEACHINGS:

1. **Child welfare systems have caused harm in the name of saving children, but did they save them?**
   - Child welfare systems are a continuation of residential school
   - Tragedy occurs when a child is disconnected from their culture, language, and the sacred bond of parenthood – colonial oppressive system that destroyed family continuity
   - Recognize harm to families and communities: We are all impacted by what happened
   - Child welfare systems affect Indigenous workers physically, emotionally, spiritually, and cause grief
   - Child welfare systems are set up for failure, creating a vicious circle

2. **We need creative solutions to avoid taking children away from their environment**
   - We need to prioritize preserving a sense of stability
   - Children need a lot of resources to stay within their home with their parents
   - E.g., a grandmother can move into the home while the parents temporarily move out and get treatment

3. **The far-reaching impacts of intergenerational trauma must be acknowledged**
   - We lose many young people to intergenerational trauma and the effects of residential school
   - Whole families are impacted and have suffered from intergenerational trauma
   - Social conditions (e.g., housing shortages/substandard conditions) must be addressed

4. **Acknowledge the resilience of Indigenous communities and cultures.**
   - E.g., my community has the highest language retention of Indigenous communities in North America. The community is working on a dictionary building project

5. **A policy change is needed that looks at the overall system and its historical context, including the Indian Act, how the 94 Calls to Action are implemented, and how we will develop our own policies**
   - Tripartite agreements: We can take over child welfare agencies but there are questions of start-up costs. It does not address whether the government will dictate how funding will be allocated or used.
   - Will the government ever give up imposing their child welfare systems or strings attached or insufficient funding?

6. **Communities need to be involved in coming changes.**
   - True community engagement needs to occur: involvement in research and community collaboration

7. **Policies should be unique to each location and community**

8. **How did we raise healthy children, healthy adults, healthy leaders in the past?**
   - Use traditional parenting models
   - e.g., in my community we will be starting traditional training for young parents, including information about the impacts of colonization and emphasizing resiliency
   - Apply ceremonies and teachings to today's world
   - Children are born into ceremony and will leave this world through ceremony. Developmental transitions are acknowledged through ceremony. The teachings will be given through storytelling, play (childhood), and mentorship (adolescents, young adults)

4.7 Analysis

4.7.1 Challenge: a broken system of unknown proportions

Our analysis reveals significant challenges associated with devolution. A primary concern is the unknown scope of the problem, which makes it difficult to anticipate the full impact of devolution. If accompanied by continued underfunding, the shift of authority could exhaust the resources of Indigenous communities.

However, devolution also presents opportunities and highlights strengths. Indigenous communities possess a deep understanding of their cultural practices and social structures, which can inform more effective and culturally appropriate child welfare systems. Furthermore, self-governance can empower Indigenous communities, fostering resilience and long-term positive outcomes for children and families.

4.7.2 Challenge: differing perspectives on devolution

The reviewed literature, legal and policy papers demonstrate that interested parties do not share the same perspectives on devolution. The federal government has acknowledged Indigenous jurisdiction over child welfare through the *Act respecting First Nations, Inuit, and Métis children, youth and families*, but has been inconsistent in its implementation. Provincial governments face the challenge of relinquishing control and addressing funding concerns. Provinces may support devolution conceptually but be concerned it will exacerbate health and social services costs if not implemented effectively. Indigenous nations advocate for greater self-governance and control over child welfare, underscoring the need for adequate funding and resources and for a timeframe that accommodates the immense amount of work required to do this work in a good way with their communities. Advocacy groups support devolution to rectify

historical injustices and improve outcomes for Indigenous children and appear to be pushing for immediate changes with maximum transfer of power, something federal and provincial governments have thus far been unwilling to do.

4.7.3 Opportunity: international models

Other CANZUS countries (Canada, Australia, New Zealand, and the United States) provide valuable insights. For example, Aotearoa New Zealand's Oranga Tamariki (Ministry for Children) is working towards implementing policies recognising Māori self-governance in social services (2021), which have shown promising results (see the Oranga Tamariki Evidence Centre's Decentralisation Brief).

The Oranga Tamariki evidence brief acknowledges the importance of decentralisation, the transfer of decision-making to Māori and Indigenous nations internationally. Decentralisation, as defined by Oranga Tamariki, is broad and multi-faceted, encompassing political, administrative, fiscal, and market components. It aligns with self-determination and autonomy, aiming to transform the relationship between central and Indigenous governments. Oranga Tamariki notes that internationally, the focus is on administrative decentralisation, which exists on a continuum of autonomy including deconcentration, delegation, and devolution (Oranga Tamariki Evidence Centre, 2021). Effective decentralisation requires community empowerment, self-determination, and active participation in governance reflecting Indigenous values and aspirations, alongside significant investments in capacity building to ensure accountability and financial sustainability. Equal partnerships in child welfare necessitate power sharing between governments and Indigenous groups, recognising Indigenous authority and ensuring that Indigenous choice drives governance solutions.

Whānau Ora is a Māori-led initiative for delivering social and health services to enhance outcomes for Māori families, partnering with central governmental and non-governmental agencies. It is the first such initiative to have been nationally funded (Smith et al., 2019). Whānau Ora, which can be translated as the holistic wellbeing of a multigenerational family group, has engaged with whānau who were previously disconnected from mainstream social services, using Whānau Ora 'navigators', ensuring they receive support (Smith et al., 2019).

Whānau Ora had three main initiatives: funding and supporting whānau to find their own solutions and improve their lives through a series of grants, building provider capacity for coordinated whānau-centred services, and integrated government contracting with Te Puni Kōkiri (the Ministry of Māori Development) and other ministries for comprehensive service delivery. Subsequently there was a shift away from Te Puni Kōkiri and funding was devolved to several independent non-governmental agencies. An independent evaluation initiated by Te Puni Kōkiri found the Whānau Ora model achieved strong outcomes in areas like whānau cohesion, healthy lifestyles, and participation in Māori culture (Allen & Clarke, 2016). This initiative represents a significant shift in Aotearoa New Zealand's approach to social and health services, with a focus on family empowerment, cultural relevance, and holistic wellbeing. Whānau Ora has been embedded as a unique policy innovation that improves Māori governance over services for Māori. Implementation has been affected by the realities of New Zealand's public management approach and limited resourcing (Smith et al., 2019)

Other examples of decentralisation include the Indian Child Welfare Act (ICWA) of 1978 in the United States. The ICWA enabled many American Indian and Alaska

Native tribes to establish their own child welfare services, complete with tribal codes, court systems, and welfare programs, respecting sovereignty and autonomy. It also aimed to preserve American Indian and Alaska Native culture by keeping children within their communities, addressing the historical trauma of forced removals (Francis et al., 2023). Furthermore, ICWA set minimum federal standards for the removal of Native American children, promoting culturally sensitive practices in child welfare proceedings (Francis et al., 2023). Despite this progress, systemic bias and non-compliance with the federal law persist, leading to varied interpretations and inconsistent application. This has contributed to the over-representation of American Indian and Alaska Native children in the child welfare system, being 2.7 times more likely to have their children removed compared to white families (National Indian Child Welfare Association, 2021). ICWA's history lacked official oversight, national data collection, and enforcement mechanisms, leading to inconsistent compliance across states. To address these issues, the Indian Child Welfare Act Proceedings introduced the first legally binding regulations in 2016 to ensure better adherence to ICWA standards (Bureau of Indian Affairs, 2016). The proceedings clarified and reinforced the original intent of ICWA, which had been in place since 1978 but lacked specific federal guidelines for implementation. The 2016 regulations accomplished a more consistent and uniform application of ICWA across states, providing clearer guidance on how to protect the rights of Indian children, families, and the sovereignty of Indigenous communities over their child welfare. However, recent research shows that American Indian children are often not placed in environments that maintain their familial bonds and cultural traditions (Francis et al., 2023).

4.7.4 Opportunity: UNDRIP as a guiding framework

UNDRIP emphasises self-determination, with a transfer of certain powers from a centralised government to an autonomous Indigenous entity. This is viewed by many Indigenous nations as a promising model for group protection and empowerment as it opens space for self-government. UNDRIP principles can be applied to child welfare by affirming Indigenous peoples' inherent right to self-government and jurisdiction over child and family services. This includes recognising Indigenous laws and legal systems, prioritising cultural preservation, and maintaining children's connections to their families, communities, and cultures. UNDRIP supports the development of culturally appropriate, Indigenous-led child welfare systems that give precedence to preventative care and community involvement in decision-making. It also calls for adequate resources and funding to support these autonomous functions. The framework promotes consultation and cooperation with Indigenous peoples to obtain their free, prior, and informed consent in matters affecting their children.

While there are significant risks and challenges with devolution, the evidence supports fostering self-governance and culturally appropriate care for Indigenous communities as a compelling case for pursuing this policy direction. Effective collaboration and adequate support from all levels of government will be essential to navigate these complexities and ensure successful implementation.

4.7.5 Coordinating agreements

In 2019, the Manitoba Métis Federation signalled their intention to enter into a coordinating agreement on child welfare devolution with the Government of Canada. Other Indigenous communities and governing bodies have since followed their example:

- 67 communities (38 governing bodies) have signalled the intention to enter into coordinating agreements;
- Of the groups who have signalled intention, 7 governing bodies have entered into coordinating agreements;
- 27 Indigenous governing bodies appear to be working on their coordinating agreements
- 53 Indigenous governing bodies have provided notice of intention to exercise legislative authority; and
- Eleven have come into force as law, as of February 29, 2024.

A document scan of First Nation acts and laws which have come into force has identified numerous child welfare approaches and considerations that stand in contrast to colonial practices that have previously been in place. Some examples of unique features of the acts and laws include, but are not limited to:

- Consideration for kinship care/customary adoption, and age;
- Inclusion of guiding principles;
- Broad definitions of family;
- Role of culture and cultural continuity;
- Consideration of child's spiritual needs;
- Elder cultural support for parents;
- Services for improving the families financial and housing situation; and
- Child's participation in decision-making.

Indigenous (First Nations, Métis, Inuit) & jurisdiction over child welfare

	Notice of intention to exercise legislative authority		**Signalled intention to enter agreement (number)**		**Working on coordinating agreements**	**Entered into coordinating agreements**	**Indigenous law is in force**
Province/ territory	Indigenous governing bodies** –	Nations/ Communities	Indigenous governing bodies** –	Nations/ Communities	Indigenous governing bodies – (number)TBD	Indigenous governing bodies – (number)	All
Alberta	7	7	8	13	4	2	2
British Columbia	2	7	10	14	8	1	2*
Manitoba	12	12	10	16	7	1	1
New Brunswick	0	0	1	1	1	0	0
Newfoundland & Labrador	2	3	0	0	0	0	0
Northwest territories (Inuvialuit)	1	2	1	6	0	0	1
Nova Scotia	0	0	0	0	0	0	0
Ontario	15	15	5	5	3	2	2
Quebec	9	15	1	1	0	0	1*
Saskatchewan	5	5	5	5	4	1	1
Yukon (Inuvialuit)	0	0	1	6	0	0	1
Total	53	66	42	67	27	7	11

Note. Adapted from: Government of Canada. Notices and requests related to An Act respecting First Nations, Inuit and Métis children, youth and families. Retrieved from: https://www.sac-isc.gc.ca/eng/1608565826510/1608565862367#wb-auto-5
**"a council, government or other entity that is authorised to act on behalf of an Indigenous group, community or people that holds rights recognised and affirmed by section 35 of the Constitution Act, 1982"

Notice of intention to exercise authority

	First Nations	Métis	Inuit
Alberta	6	1	0
BC	7	0	0
Manitoba	12	0	0
Newfoundland & Lab	3	0	0
Northwest Territories	1	1	0
Ontario	15	0	0
Quebec	15	0	0
Saskatchewan	5	0	0
Total	64	2	0

Note. Adapted from: Government of Canada. Notices and requests related to *An Act respecting First Nations, Inuit, and Métis children, youth and families*. Retrieved from: https://www.sac-isc.gc.ca/eng/1608565826510/1608565862367#wb-auto-5

Some agreements are with individual nations, some are with groups of nations. As of February 29, 2024, 64 First Nations have signalled intention to exercise legislative authority (approximately 10% of total First Nations in Canada). 43 First Nations, 5 Métis communities, and 18 Inuit communities have signalled intention to enter into a coordinating agreement. 12 Inuit communities and eleven First Nations, but no Métis, have Indigenous law concerning child welfare in force.

Notice of intention to enter coordinating agreement with the Federal Government

	First Nations	Métis	Inuit
Alberta	5	1	6
BC	13	1	0
Manitoba	15	1	0
New Brunswick	1	0	0
Northwest Territories	0	0	6
Ontario	4	1	0
Quebec	1	0	0
Saskatchewan	4	1	0
Yukon	0	0	6
Total	43	5	18

Note. Adapted from: Government of Canada. Notices and requests related to *An Act respecting First Nations, Inuit, and Métis children, youth and families*. Retrieved from: https://www.sac-isc.gc.ca/eng/1608565826510/1608565862367#wb-auto-5

It is important to note the difficulties of categories, particularly in the context of the Métis, who are a distinctive cultural group. The category of Métis used in government surveys includes not only the Métis of the Red River Region and their descendants, but also others who identify as Métis. The tables use the Federal Government definition.

4.8 Key Findings (from analysis)

Elder Kaquitts's teachings stress the need for comprehensive Indigenous-led policy change that addresses child welfare as a whole system. An effective policy would consider the historical context of current child welfare systems, including the Indian Act, and guide the implementation of the 94 Calls to Action. Elder Kaquitts highlights the limitations of tripartite agreements, particularly the risk of continuing Federal Canadian government control over funding allocation and utilisation. Given the enduring legacy of the relationship between the federal government and Sovereign Nations, including First Nations, Inuit, and Métis communities, she questioned whether the government will ever relinquish its control over child welfare systems and ensure adequate funding.

4.9 Policy Options

Several policy options emerge as a result of our broad background research, legal, legislative and jurisdictional review, Elder consultation, and data analysis. The policy options below are ranked in order of evidential support and loosely structured around Sherry Arnstein's 1969, Ladder of Citizen Participation, one of the most widely used theories in democratic public participation. The table below lays out four policy options and details the risks for federal/provincial governments as well as First Nation governments and explores mitigations associated with each option.

Devolution options, risks and considerations, mitigations

Option	Description	Risks and Considerations	Mitigations
#1 Comprehensive Devolution **(citizen control)**	Devolution that encompasses all aspects needed by First Nations communities, as identified by the communities themselves: • authority solely resting with communities; • accountability structured within community identified models; • funding formula guarantees equality in funding with a multiplier for child needs, remoteness, and colonial impacts; • fiscal supports to bridge community child welfare transformation; • fiscal supports for resilience and wellbeing including cultural, and spiritual services; and • child welfare models and systems are unique to each Nation.	**Risks to Federal/Provincial governments** Governments may hesitate to relinquish authority and control. First Nation accountability structures may not be welcomed by provincial and federal governments. Federal and provincial governments may struggle with child welfare systems tailored to each nation's history, culture, and context, preferring a standardised approach. Openness to funding spiritual and family resilience may not be consistent across provinces. Lack of data about demand for child protection services may mean that funding needs are greater than anticipated.	Collaboration and relationship building may help to create trust and ease fears about loss of authority. Protocols may be useful in this regard. An Indigenous led child welfare data project to help clarify scope of the issue, data governance and drive funding advocacy. Collecting accurate data will help better estimate financial costs.

Option	Description	Risks and Considerations	Mitigations
		Risk to Indigenous nations Nations dealing with substantial social issues may be too stretched to take on child welfare transformation.	
#2 Partial Devolution with full funding **(delegated/partnership)**	Devolution of operational aspects of the child welfare system with expectations for accountability and reporting to provincial governments and use of a common child welfare model by First Nations. Funding provided to meet needs. Specifically: • The Minister of Social Services at the provincial level holds ultimate legislative and policy making authority for First Nation's child welfare. • Accountability and reporting to the Department as agreed upon by the First Nation and the Department. • Funding formula guarantees equality in funding with non-Indigenous children,	**Risk to Indigenous nations** Lack of Indigenous autonomy may delay positive changes for Indigenous children and families. Will not generate Indigenous data governance. Maintains colonial relationships; does not advance reconciliation objectives. Nations may need more than start-up funding to create systemic changes.	Develop collaboration structures (e.g. committees) to ensure First Nation's ideas and concerns are heard and understood. Consult when legislation and policy changes are being made. Offer transformation funding, as needed.

Option	Description	Risks and Considerations	Mitigations
	• Transformation funds available for a limited number of years to help First Nations establish child welfare systems.		
#3 Partial Devolution with fiscal restraint	Partial devolution as above and government requires maximum fiscal constraint given current economic conditions. • funding on a per capita basis; • no funds for resilience or wellbeing supports; • no funds to support transformation efforts; and • funding formula not indexed to inflation.	**Risk to Indigenous nations** Lack of Indigenous autonomy may delay positive changes for Indigenous children and families. Funding amounts may be insufficient to both transform and operate child welfare systems.	Support First Nations to streamline child welfare operations to save money.
#4 Status quo	Child welfare system is largely left as is, with minor improvements.	**Risk to Indigenous nations** Issues continue to compound and negatively impact Indigenous children, families and communities. **Risks to Federal/Provincial governments**	Public campaign to highlight improvements and reasons the system is needed.

Option	Description	Risks and Considerations	Mitigations
		Does not respond to recent legislation (Bill C-92), potential for First Nations to bring court cases. Does not address or respond to public and community pressure.	

4.10 Implications

Our research found that when child welfare models lacked full devolution of decision-making and legislation, and had insufficient financial resources, they did not achieve the desired outcomes for Indigenous children and their families.

Given the historic and present-day relationships between the federal government and Indigenous nations, there is a high risk of the federal government implementing partial devolution. In a partial devolution scenario, when either financial or full autonomy is missing, evidence suggests that the goals of improving child welfare are not achieved. This has been demonstrated in Manitoba and what has taken place with some American Indian tribes in the United States. In future, some nations may use the court system to push for maximal interpretation of devolution, as advocated by the First Nations Caring and Sharing Society.

As identified in UNDRIP and discussed by Elder Kaquitts, under conditions of full autonomy, communities can create their own solutions. Ongoing transformation funding is critical to support long-term change. A comprehensive devolution model must consider structural factors from colonisation that contribute to child apprehension. It can be expected that children and families who have experienced housing issues or poverty will need greater supports. Those supports may be diverse in nature and require additional funding. There is a need for Indigenous-led nation and community-specific models of child welfare systems, as identified in policy option number 1.

4.11 Conclusion

An Act Respecting First Nations, Inuit, and Métis Children, Youth and Families affirms UNDRIP, including the right of self-government, focusses on the best interest of

the child, and recognises the principle of substantive equity. A comprehensive devolution model is necessary to meet the framework and approach identified in the Act. Sixty-seven communities (represented by 38 governing bodies) have signalled their intention to enter into coordinating agreements with federal governments regarding child welfare, and 53 Indigenous governing bodies have provided notice of intention to exercise legislative authority over child welfare. Therefore, change is underway as it relates to Indigenous control over child welfare in Canada. The time is now for the Government of Canada to ensure that devolution takes place in a manner in a comprehensive manner to ensure best possible outcomes for Indigenous children and families.

CHAPTER 5: GENERAL DISCUSSION

5.1 Introduction and Overview

The findings of this dissertation concern the separation of Indigenous parents and children over generations, in the context of a long colonial history characterised by assimilative policies and practices. In this dissertation, I focused on the historical and ongoing impacts of colonial policies on Indigenous families in Canada, particularly through forced separations witnessed in residential schools and child welfare systems. I examined how these practices have caused widespread trauma and disrupted Indigenous cultural continuity. My dissertation extends its scope to other settler-colonised countries with policies similar to those in Canada, analysing the health and social outcomes of parent-child separations. My key theme is the need for systemic changes in child welfare practices to support Indigenous self-determination and preserve cultural continuity.

The first manuscript of my dissertation, a systematic review described in Chapter Two, investigates parent-child separation within settler colonised, countries, focusing on personal or intergenerational child welfare exposure and health and social consequences. The literature found persistent detrimental effects of child welfare system involvement within Indigenous populations (primarily in Canada, Australia, and the United States) on homelessness, low educational attainment, depression, suicidal ideation, emotional distress across the lifespan, and frequent poor physical health outcomes. Among studies examining justice system outcomes, findings were inconsistent. Three studies found that a history of child welfare apprehension was associated with increased justice involvement for Indigenous peoples, including initial convictions, any convictions, and patterns of

police contact and custody. However, four studies reported null effects and/or no group differences after accounting for covariates, suggesting potential indirect effects from the impacts of colonisation on systemic poverty, family instability, and community disorganisation (Reading & Wien, 2009; Kirmayer, et al., 2014). These factors contribute to cumulative risks, which have a cascading effect on the development of substance abuse, mental health issues, educational failure, and associations with antisocial peers, ultimately leading to legal system involvement.

The second manuscript, "Keeping Families Together" (described in Chapter Three), uses a nationally representative sample of Métis, Inuit, and off-reserve First Nations youth living in Canada aged 12-18 from the Aboriginal Peoples Survey (2012 and 2017 cycles combined). The analysis focuses on mental health (anxiety and depression diagnoses, suicidal ideation) and substance use outcomes (smoking tobacco, heavy episodic alcohol use, and recreational drug use from two drug use variables devised by Statistics Canada—one including cannabis and one excluding it). Intergenerational residential school exposure (dichotomous) was related to suicidal ideation, smoking, and recreational drug use (prescription, street drugs) both including and not including cannabis. In contrast, parent-child separation was a more comprehensive predictor, associated with self-reported mood and anxiety disorder diagnoses, tobacco smoking, and abstention from alcohol use, with those separated from parents more likely to drink. Additionally, parent-child separation predicted recreational drug use including cannabis but not when excluding it. Parent-child separation was not related to suicidal ideation, and neither parent-child separation nor residential school exposure were related to heavy episodic drinking. The third manuscript, described in

Chapter Four, is a policy brief examining the devolution of child welfare systems in Canada and its potential impacts on the social and mental well-being of Indigenous people as *An Act Respecting First Nations, Inuit and Métis Children, Youth and Families* is being implemented. My analysis makes comparative assessments of historical information, legislation, legal cases, policy, previous devolution efforts, and international models of child welfare system reform. Elder Kaquitts provided teachings on child welfare systems in Canada that informed the analysis.

My findings identified four policy options: Comprehensive Devolution, Partial Devolution with Full Funding, Partial Devolution with Fiscal Restraint, and Status Quo, and I discuss the risks, considerations, and mitigations for each. My analysis found that child welfare systems without full devolution and adequate funding fail Indigenous children and families. The federal government risks implementing partial devolution (delegating responsibility without full control, with or without adequate funding), which has historically been ineffective. Comprehensive devolution, aligned with UNDRIP, is necessary to address colonial impacts and provide well-funded, community-specific supports. The brief recommends that the federal government ensure a thorough and effective devolution process, supporting Indigenous-led child welfare models.

In the sections below, I summarise key findings and detail the theoretical, social, and clinical implications of my work. I then discuss strengths, limitations, and opportunities for future research.

5.2 Impacts of Parent-Child Separation

Intergenerational trauma is a central theme in this dissertation, reinforcing the impact of parent-child separation across multiple generations. Both the systematic review

and the Keeping Families Together study demonstrate an increased risk for adverse outcomes related to parent-child separation and child welfare system involvement, including higher risks of mental health issues, substance use, and other social problems. For example, my analysis of data from the Aboriginal Peoples Survey demonstrates that parent-child separation is significantly associated with higher odds of diagnosed mood and anxiety disorders, tobacco smoking, alcohol, and recreational drug use (likely driven by cannabis) among Indigenous youth aged 12-18. These findings are consistent with previous studies, such as those by McQuaid et al. (2022), which also documented mental health impacts on psychological distress (using an anxiety and depression composite measure) and For the Cedar Project Partnership et al. (2015) who showed an association between child welfare system placement and drug overdose. The Aboriginal Peoples Survey asked about self-reported diagnoses, such as anxiety and depression, rather than symptoms of depression and anxiety in the FNIGC survey analysed by McQuaid et al. (2022). Diagnoses of mental health conditions may be underestimated due to a lack of access to healthcare, which is an important consideration when evaluating the full scope of health outcomes linked to parent-child separation.

Parent-child separation and intergenerational residential school exposure are potentially stressful and traumatic experiences that can lead to significant health issues. Applying the Indigenist stress-coping model (Walters & Simoni, 2002), Indigenous individuals apprehended through a child welfare system may face an elevated risk of poor physical and mental health outcomes. Smoking tobacco, alcohol, and drug use may be attempts to manage mood and stress. Historical trauma, chronic stressors such as discrimination, and parent-child separation may be strong contributors to heightened rates

of substance use and mental health disorders within some Indigenous populations. Research on national populations in the United States supports the connections between trauma, mental health, and substance use. Population studies show that a higher number of lifetime adverse experiences is linked to poor mental health and increased health risk behaviours, such as smoking tobacco, which are in turn associated with reduced life expectancy (Felitti et al., 1998; Brown et al., 2009; Dube et al., 2001; Van Niel et al., 2014). Felitti et al. (1998) and colleagues' findings indicate that psychological trauma is a significant health risk factor. Specifically, trauma is a known risk factor for problem substance use.

Chronic and early life exposure to stressors, along with developmental factors, individual-level factors, genetic predispositions, and family history, can affect brain development through neurobiological changes, particularly in corticostriatal-limbic dopamine pathways (Sinha, 2008). Corticostriatal-limbic dopamine pathways are crucial for stress regulation and cognitive-behavioral self-control (e.g., executive function). High stress can trigger these pathways, increasing the risk of addiction or problem substance use (Sinha, 2008). Trauma, especially early in life, increases the risk of experiencing further stressors, potentially leading to a cycle of stress and maladaptive behaviors (National Institute on Drug Abuse, 2021). The cyclic nature of trauma, stress, and addiction implies that stress compounds for individuals with a trauma history, raising the risk of maladaptive coping mechanisms, with historical trauma adding an extra layer of stress.

The role of maltreatment prior to child welfare services apprehension is complex and often challenging to isolate. Maltreatment can occur at various stages—before,

during, and after apprehension—making it difficult to fully understand its unique impacts. Furthermore, apprehension itself can be a traumatising experience for children, many of whom face multiple entries into care. Research indicates that the trauma of separation from parents may have independent and significant effects on a child's wellbeing. For instance, Afifi et al. (2018) found that children who experienced apprehension had increased suicidal ideation compared to those not apprehended, even after controlling for the severity of maltreatment. This suggests that the adverse effects of apprehension are not merely by-products of prior maltreatment. Additionally, documented biases within child welfare systems highlight systemic inequities, particularly affecting Indigenous children, who are more likely to be apprehended for neglect tied to poverty (Blackstock et al., 2020; Fallon et al., 2021). This neglect often reflects broader societal issues rather than parental inadequacies, making apprehension a harmful intervention rather than a solution. Further supporting this, research by Pesonen et al. (2010) with a Finnish population found increased stress markers, such as elevated cortisol levels, in individuals who experienced parent-child separation, persisting even decades later, independent of socioeconomic factors. If such effects are significant in non-Indigenous populations, they are likely even more pronounced in Indigenous communities, compounded by historical trauma and systemic discrimination. While maltreatment remains a pressing concern, the act of apprehension itself may have profound and distinct effects that cannot be fully explained by prior maltreatment alone. The removal of children from their families and communities is traumatising, perpetuating cycles of intergenerational trauma. Although the goal is to ensure child safety, the current system of removal has proven ineffective. Innovative alternatives, such

as parent removal and treatment programmes, present promising solutions that should be seriously considered.

Parent-child separation has significant and persistent harmful effects in various populations (Crittenden & Spieker, 2023; Paksarian et al., 2015; Pesonen et al., 2010; Sankaran & Church, 2016). Evidence from this dissertation demonstrates that separation has detrimental impacts on Indigenous People across the lifespan, leading to a range of negative health and social outcomes. As found in the systematic review, these impacts are not isolated but engage multiple systems that interact with individuals, including healthcare, education, and justice. Systemic inequities and biases are important in these interactions. For example, Alberton et al. (2020) found that post-secondary education was an important protective factor in preventing homelessness for white people but had no effect for Indigenous people. The systematic review and empirical studies in this dissertation demonstrate that Indigenous people exposed to child welfare systems have higher rates of mental health issues, substance use, and other social problems. This aligns with findings of Waechter et al. (2011), Ritland et al. (2021), and Pearce et al. (2015a), which highlight the pervasive negative outcomes associated with child welfare exposure. For instance, my systematic review found strong associations between child welfare apprehension and outcomes such as homelessness, street involvement, low educational attainment, and employment difficulties among both youth and adults.

A surprising finding is that parent-child separation was not related to suicidal ideation. Having been placed in foster care has been shown to be associated with suicidal ideation in at risk Indigenous youth and Métis adults, as well as adopted Indigenous adults. It is unclear why the association between parent-child separation and suicidal

ideation was not statistically significant in Chapter 3. A possible explanation for the unexpected findings is the measurement limitations within the APS administration. The survey questions on suicidal ideation were only posed to a limited sample—specifically, youth who answered the survey themselves. Caregivers who completed the survey on behalf of a youth were not asked about suicidal ideation or recreational drug use due to the sensitive nature of these questions. This selective questioning could result in incomplete data, failing to capture the full scope of suicidal ideation and recreational drug use among the youth. Another potential explanation is the variability in the nature of separation experiences, which may influence the results in ways not fully understood. Different contexts and circumstances of separation—such as voluntary versus involuntary separation, the quality of foster care placements, and the presence of supportive relationships—can significantly impact mental health outcomes. Parental and caregiver factors, not available in the data, could also be contributing factors. These nuances might not be fully captured in the survey, leading to an incomplete understanding of the relationship between parent-child separation and suicidal ideation.

It was also surprising that the interaction between parent-child separation and residential school exposure was not significant. Specifically, the negative impact of parent-child separation on mental health and substance use was not intensified by familial residential school exposure. Instead, my analysis supported an additive model with main effects for parent-child separation and residential school exposure, where parent-child separation was related to most of the outcomes. This suggests that while both factors independently contribute to adverse mental health and substance use outcomes, findings did not support that the combined effect exacerbated these issues beyond their individual

impacts. McQuaid et al. (2022) similarly found main effects for parent-child separation and residential school in predicting distress (anxiety and depression composite) with youth living in their own communities. While my analysis did not find a significant interaction effect between parent-child separation and residential school exposure, it is important to consider how residential school experiences may indirectly influence outcomes related to parent-child separation, including intergenerational trauma disrupting family structures, impacts of trauma on mental health, socioeconomic disadvantage resulting from residential school (as seen in the relationship between residential school and food security found in this dissertation), and systemic bias within child welfare systems (Blackstock, 2016; Reading & Wien, 2009; TRCC, 2015).

Negative mental health outcomes, as well as homelessness, substance use and overdose, street involvement, health conditions (e.g., HIV positive status), and higher adolescent birth rates are also evident in the systematic review of the Canadian literature (Alberton et al., 2020; Barker et al., 2014; For the Cedar Project Partnership et al., 2015; Kenny et al., 2019) and extend to other CANZUS countries, including also educational attainment, employment after leaving care, earlier youth police charges and convictions (Baidawi, 2020; King & Van Wert, 2017; Koss et al., 2003; Landers et al., 2017b; Maclean et al., 2020; Malvaso et al; 2017a).

Overall, I found evidence for the hypothesis that parent-child separation and familial residential school exposure predict increased mental health issues and substance use (Hypothesis 1). Historical trauma theory, as articulated by Brave Heart (1998), provides a framework for understanding these findings by illustrating how traumas experienced by previous generations continue to affect the mental health and wellbeing of

current generations. For example, studies have shown that survivors of residential schools and their descendants are at elevated rates of psychological distress, substance use, and poor mental health outcomes (Corrado & Cohen, 2003; Elias et al., 2012; Kaspar, 2014b).

The heightened risk observed may be exacerbated by historical trauma, chronic stressors (e.g., discrimination), and exposure to trauma both prior to and during child welfare system involvement. According to the Indigenist framework, these stressors may activate underlying biological susceptibilities, such as epigenetic modifications resulting from historical trauma (Conching et al., 2019; Matheson et al., 2022). This interplay between stressors and vulnerabilities can lead to a series of negative outcomes, culminating in adverse health effects.

5.2.1 Colonisation as a Social Determinants of Indigenous Health

The findings of this dissertation affirm that colonisation is a critical social determinant of health. The implications of the results of the systematic review, empirical study, and policy brief are that colonisation exacerbates risks due to pre-existing vulnerabilities and the additive effects of child welfare interventions. For example, intergenerational exposure to residential schools correlates with higher levels of food insecurity among Indigenous youth, aligning with the social determinants of health models proposed by Dahlgreen and Whitehead (1991), Marmot (2005), Reading et al., (2007), and Reading and Wein (2009). My research extends these models by emphasising the impacts of colonisation on Indigenous populations. These persistent harmful effects, including policies like the Sixties Scoop and contemporary child welfare practices, underscore the need for models that explicitly incorporate the historical and ongoing impacts of colonialism on health outcomes. The relationship between food security and

residential school exposure, for example, shows that issues of residential school exposure and child welfare systems are not trapped in the past. Rather, the ongoing impacts of historical trauma are tied to current financial instability and social class issues. Individuals exposed to residential schools may struggle more with basic necessities like food security compared to those who were not exposed. This struggle results in increased surveillance from social systems, which in turn heightens the risk of encountering child welfare services.

5.2.2 Policy Implications of the Findings

The findings from manuscript 1 and 2 are relevant for policy because contemporary child welfare systems continue to separate Indigenous children from their parents and communities. The current approach to child welfare is insufficient and often exacerbates the problems it aims to solve. These manuscripts also highlight some of the complexity of child welfare systems interacting with other systems such as justice, and demonstrate that child welfare removal of children is influenced by factors including historical trauma and current systemic issues, including underfunding of child welfare systems affecting preventative services, bias in child welfare systems, and increased surveillance of Indigenous People.

Despite these complexities, Indigenous communities demonstrate resilience and agency in navigating, resisting, and reshaping these systems to protect their health and well-being. In this dissertation, the impact of Indigenous People taking care of themselves, and their own health is most apparent in the policy brief. Indigenous-led international models, such as Aotearoa New Zealand Whanau Ora project and the Nisichawayasihk Cree Nation Family and Community Wellness Centre in Manitoba,

highlight growth and capacity, and offer possibilities for child welfare system transformation. These models will be discussed in more detail in the alternative models section below, in section 5.3.2.2.

The federal government of Canada, the country where the data from Chapter 3 was located, recently put forward legislation to move towards devolving child welfare, affirming the jurisdiction of First Nations, Inuit, and Métis peoples over child and family services, and setting minimum standards. The *Act Respecting First Nations, Inuit, and Métis Children, Youth and Families* became law in 2019, and Canada is currently undergoing a restructuring process of its child welfare systems. The policy brief in this dissertation identifies potential impacts of this policy change on the social and mental wellbeing of Indigenous people in Canada, notes policy options, and recommends comprehensive, Indigenous-led, nation-specific devolution for child welfare in Canada.

In a comprehensive devolution model, Indigenous nations have full self-governance over their child welfare systems, including decision-making, accountability, funding, cultural programs, and solutions tailored for the community or communities involved. Evidence suggests that partial devolution, lacking financial or full autonomy, fails to improve child welfare. Yet given the historic and present-day relationships between the federal government and Indigenous nations, there is a risk the federal government may opt for partial devolution, maintaining some control over governance and funding. The recommended model includes a funding formula that guarantees substantive equity in funding with a multiplier for child needs, remoteness, and colonial impacts, and fiscal supports to bridge community child welfare transformation, resilience, and wellbeing (including cultural and spiritual services). In the event of partial devolution

or maintenance of the status quo, the court system can be used to advocate for a maximal interpretation of devolution, as recommended by the First Nations Caring and Sharing Society.

My policy recommendations align with Shelly Arnstein's work on participatory decision making. Arnstein was a policy analyst and author of the highly influential paper, "Ladder of Citizen Participation" (Arnstein, 1969), which uses the analogy of a ladder to illustrate the extent of citizen power in determining the outcome of policies and programs. The bottom rungs of Arnstein's ladder represent participation in name only, named "illusory" participation. The next set of rungs represent "degrees of tokenism," such as forms of consultation in which people have little to no influence on results. The highest rungs of the ladder signify more fully realised degrees of citizen power: partnership, delegated power, and citizen control. In a partnership model (Arnstein, 1969), citizens have some influence in decision making, which they may have fought to achieve. In a delegated power model, citizens have decision-making authority limited to particular aspects of a program or area. Finally, citizen control involves full governance over a program or institution. My assessment classes partial devolution (with full funding) as a partnership or delegated power, given that the Minister of Social Services has ultimate legislative and policy making authority. Funding with fiscal restraint fits the "degrees of tokenism" section of the ladder of citizen participation, since there is partial control over operation of child welfare system and little control over funding, which may be insufficient.

Together the systematic review of outcomes related to child welfare system, analysis of the APS, and policy brief point to a critical need for structural changes in

child welfare systems. My aim is to offer my research as a translational tool to effect change in current child welfare system practices. The policy brief recommends comprehensive devolution, a policy option in line with self-determination that encompassing needs identified by First Nations communities. This includes decision-making authority, accountability, funding, cultural programming models, and customised solutions for child welfare specific to each Nation. Devolution supports cultural continuity (Chandler & Lalonde, 1998; 2008) and aligns with protective factors identified in the systematic review.

5.2.3 Paternalism and the Universal Subject

A tension lies between Indigenous research and the positivistic paradigm common in Western research. Key assumptions in positivist research are: 1) that there is a single unified reality that can be identified and measured through prediction and theory verification, with a focus on generalisation; and 2) that science is objective and value-free (Park et al., 2020). Blackstock (2009) argues that quantitative research, and positivism more generally, can meet Indigenous research goals as well as qualitative research, provided the research is "enveloped" in Indigenous knowledge and research protocols (p.136). Blackstock proposes that quantitative research can operate as a “translational tool” (2009, p. 136), by, for example, offering Western paradigm evidence to “evidence a community reality” and promote policy change (2009, p. 137). This is the approach I have taken in this dissertation.

The United Nations identifies commonalities among Indigenous peoples worldwide, including distinct social, economic, and political systems, languages, cultures, beliefs, and a historical continuity with and connection to their lands, which

have been adversely affected by settlement, displacement, or colonisation. While it is not my role to define Indigenous identity, in this dissertation I use a framework of colonisation to understand shared experiences, focusing on CANZUS countries. I acknowledge that although broad patterns of colonisation may be similar, distinct manifestations occur at the country and community level. My review synthesises research that in some instances compares Indigenous people to non-Indigenous people, including non-Indigenous white settlers. While useful for highlighting disparities resulting from ongoing colonisation, a comparative approach that takes white settlers as a standard against which all others are judged also has risks and limitations, including the risk of framing Indigenous peoples as racial groups (Alfred, 2009)[10]. However, using a collective term like "Indigenous" can facilitate the creation and implementation of policies and legal frameworks that protect the rights and interests of Indigenous peoples such as is described in UNDRIP, and I use this term with this intent and not as a racial group. I agree with Alfred (2009) and recognise Indigenous peoples as separate nations with distinct cultural and political identities. My use of political categories created by settler governments in this dissertation is discussed in the limitations section below.

Paternalism is pervasive in research, and history is filled with instances of harm and unethical studies that frame Indigenous subjects as the "other" against a presumed universal subject (Absolon & Willett, 2005; Moosa-Mitha, 2015; Wallerstein & Duran, 2010). While the "soul wound" (Duran, 2006) concept may capture aspects of trauma experienced by Indigenous peoples, its universal application may obscure the diverse

[10] Alfred (2009) argues against the reduction of Indigenous identities to racial categories and emphasises the significance of recognising Indigenous peoples as distinct nations with unique cultural and political identities. He critiques the colonial frameworks that often lead to such reductions and calls for a deeper understanding of Indigenous sovereignty and nationhood.

experiences and specific needs of communities. My dissertation findings reflect on the danger of over-generalising concepts like the "soul wound" (Duran, 2006) without considering the historical and cultural contexts of specific Indigenous groups. For example, on a population level, Chandler and Lalonde (2008) found high rates of youth suicide in First Nations communities in British Columbia. However, when they examined individual communities, some had none or next to no youth suicides, while others had very high suicide rates that were skewing the average for First Nations as a whole. Chandler and Lalonde (2008) found that the moderating factor was cultural continuity, measured by various aspects of self-determination, with communities that featured all of the identified cultural continuity factors having no youth suicide. Concepts such as soul wound (Duran, 2006) usefully illustrate the widespread harms from colonisation (including that which occurs on an individual, clinically measurable level), but do not capture more nuanced experiences. Furthermore, if misused, pan-Indigenous concepts of colonial trauma risk framing all Indigenous people as inevitably damaged, perpetuating negative stereotypes. Indigenous organisations have called for less deficit-based research (First Nations Information Governance Centre, 2020), which may include work demonstrating the ongoing harms of colonialism. The research in my dissertation does demonstrate the ongoing harms of colonialism but also highlights successful initiatives and solutions developed within Indigenous communities and advocates for self-determination over child welfare.

5.3 Theoretical implications

5.3.1 Social determinants of health and colonialism

Over the span of more than a century, assimilation efforts led to the widespread separation of Indigenous parents and children through residential school, the 60's scoop, and current child welfare systems. Individual, family, and community connections were disrupted, and cultural practices abolished, damaging protective factors, including self-determination, self-governance, and cultural continuity. Structural discrimination against Indigenous people has resulted in inequitable educational opportunities, poor housing conditions, and unequal access to resources and inadequate funding (HIR, 2018). As such, it is not surprising to find negative health and social outcomes emerging resulting from such colonial interventions.

Colonialism is a dominant structural force that shapes historical, political, social, and economic contexts, subsequently impacting Indigenous health through systems like health care, education, labour, and child welfare (Czyzewski 2011; HIR, 2018; Reading & Wein, 2009; Tait et al., 2013). Findings from the systematic review and Keeping Families Together paper are consistent with a social determinants of health framework, extending Dahlgreen & Whitehead's (1991) model to include colonialism as a driver of health. An important finding of the systematic review was culture and community factors that promoted resilience in children, youth, and adults with a history of child welfare placement.

Five studies from Canada (Decaluwe at al., 2015; Pearce et al., 2015b; Ritland et al., 2021; Waechter et al., 2011), one from Australia (Williamston et al., 2016), and Artic Norway (Silviken & Kvernmo, 2007) showed that overall positive mental health and

resilience were associated with kinship care and stability, cultural revival and continuity, including speaking a traditional Indigenous language, practicing traditional culture, and social connection (positive identification with a case worker) mitigated externalising and internalising behaviour, substance use, and suicidal attempts. Although only a small number of studies in the review examined protective factors, these findings align with literature regarding the importance of cultural continuity (language, cultural practice) and preserving family and community connection, outlined in models of social determinants of Indigenous people's health outlined by Reading and Wein (2009) and Reading J., et al., (2007).

In the "Keeping Families Together" paper, the research found that greater involvement with traditional language—defined as both knowledge and exposure—was linked to lower diagnoses of anxiety and greater likelihood of abstaining from alcohol among respondents. However, unexpectedly, traditional language involvement also predicted higher rates of smoking and drug use, specifically cannabis. One possible explanation for these unusual results is the influence of homogenous social networks. When individuals are part of close-knit communities that share a common language and culture, they might also share similar behaviours and attitudes toward substance use, which can include higher rates of tobacco and cannabis use. Another contributing factor could be the stress stemming from historical trauma. Indigenous communities often face intergenerational trauma due to past and contemporary injustices, such as residential schools and cultural assimilation policies. Historical trauma can create ongoing stress that individuals may attempt to manage through substance use, including smoking and cannabis.

5.3.2 Social and Clinical implications

5.3.2.1 Are Child Welfare Group Homes "Total Institutions"?

Total Institutions, as defined by Goffman (1961), are environments where residents are isolated from broader society and their lives are regulated by a strict routine and hierarchy. Examples include prisons, psychiatric hospitals, and residential schools. These institutions typically strip individuals of their personal identity and autonomy, leading to significant psychological distress and a diminished sense of self-worth. This phenomenon has been found to be particularly damaging for children, as the loss of familial and social connections exacerbates feelings of isolation and abandonment (Hill, 2006; Rand, 2011).

In Canada, the term "group homes" describes a facility for youth in the care of child welfare authorities, potentially masking their resemblance to Total Institutions. Group homes can vary widely, with some being highly institutional, restrictive environments with little personal autonomy and others being akin to foster homes (a temporary place to live that may be in a family home). Out-of-home placement, in a facility such as a group home or treatment centre, is a form of residential care typically offered to children facing issues, such as behavioural and adjustment difficulties. In Australia, cohort studies examining justice system involvement have found links to residential care, compared to alternative forms of care in child welfare systems (Malvaso et al. (2017b). When out-of-home care placements (including group homes) exhibit characteristics of Total Institutions—such as regimentation, lack of individuation, and excessive control—they can be particularly harmful for children and adolescents. Being severed from familiar environments, social ties, and community connections, for

example, has been found to lead to profound losses, including family, social circles, community, home, and school (Hill et al., 2006), and extended time in out-of-home-placements can establish to a cycle of institutionalisation that extends into adulthood (Rand, 2011).

Child removal also has impacts that extend beyond the child, to the family unit and the community. When parents lose their children to child welfare authorities, they often face additional losses, including financial supports such as child tax benefits and social housing, that are often contingent on having children in the home. This creates additional barriers to regaining custody, particularly for families living in poverty (Sinha et al., 2013). Parents who have lost housing may have additional difficulty maintaining employment under these circumstances. Having a child apprehended can be deeply traumatising to families, communities, and nations by perpetuating historical trauma, and has been found to be associated with an increase in suicide attempts (Ritland et al., 2021).

5.3.2.2 Child Welfare Innovation: Alternative Models

Indigenous communities are implementing innovative solutions to child removal crises. A different model, described by Elder Kaquitts, in which the parent is removed from the home instead of the child, focusses on treatment and reunification. By removing the parent(s) instead of the child, disruption to the child's life is minimised and their sense of belonging is maintained. In such a model, safety is maintained but children remain in their home, at their schools, and continue to interact with friends, family, and their broader community circle. The child may feel loss at the absence of their parent, but the impacts of parental removal may be buffered by aspects of their lives that provide positive support. This approach emphasises belonging and interconnectedness with

family, community, and the broader environment, which play a significant role in mental health and well-being (Hill et al., 2006). By keeping children in familiar environments and involving the community in their care, their sense of belonging is preserved, proximal to cultural continuity factors, which is fundamental to their emotional and psychological health.

The Nisichawayasihk Cree Nation Family and Community Wellness Centre has developed the Intervention and Removal of Parent Program, which offers a community-based approach to reducing the trauma of child apprehension. Instead of removing children from their homes, the program temporarily removes the parent(s), allowing children to remain in a familiar environment. This model aims to maintain the child's social and community connections while providing the parent(s) with the support and treatment needed to address their issues (e.g., removal of parent brochure). The program includes six key steps: 1) initial assessment, 2) intervention and support, 3) Circle of Care and 4) Rediscovery of Families, 5) reunification, and 6) aftercare. The Circle of Care model is based on the holistic teachings of the Medicine Wheel, including respect, caring, sharing, and honesty. This approach helps families find balance in their lives through the active participation of extended family, elders, and community members, and by reconnecting families with their traditional cultures (Nisichawayasihk Cree Nation Family and Community Wellness Centre, 2015). This program imagines the potential for community-based, culturally sensitive approaches to child welfare that prioritise the child's stability and social ties over institutional care.

5.3.2.3 Clinical implications for psychology

The three manuscripts of this dissertation give the scope of the problem, the mechanics of the problem, and the directions we need to move in our obligations as Canadians to align with Indigenous self-determination. In examining the clinical implications as a practicing neuropsychologist, it's clear that we must develop a greater awareness of the scope and essence of the issues at hand to effectively adapt our practices. Medical institutions have caused great harm to Indigenous people, and we have at minimum a responsibility to not continue the harm. Many Indigenous individuals experience the compounding effects of parent-child separation and intergenerational trauma, significantly impacting their health outcomes. Moreover, institutional settings can exacerbate these traumas—both directly and indirectly. For instance, I have witnessed the hospital environment I work activating past institutional trauma. Recently, I saw a patient for a neuropsychological assessment. She disclosed that she had attended residential school and stated to myself and her daughter, also attending the interview, that it was time to face her trauma. It was clear to me that she was triggered by the institutional environment we were in and did not fully understand the nature and purpose of the assessment. By mutual consent we decided to not continue with the assessment on that day. I asked permission to begin again in a good way and provided a more detailed introduction of myself and my social location. We did a grounding exercise together and afterwards continued to talk about what she wanted to talk about that day – which was not her cognition. After she shared some of her story, she seemed to be in a good place. I provided her with resources should she wish to pursue therapy for her traumatic experiences. I explained again what the assessment would involve, that it was completely

voluntary, and that she could defer her decision to proceed to a different day. She was interested in an opportunity to meet the psychometrist who would be conducting the testing, so I facilitated this and showed her the testing room. She appeared to have a good experience with the psychometrist, who had created a warm and inviting test room. Ultimately, she did decide to proceed with the assessment in a months' time. We used a culturally appropriate, Indigenous developed assessment tool[11]. In both meetings I did not take notes, which she let me know she appreciated. When we met to review the results, she brought her whole family, including a grandchild. We gathered in a circle and collaborated to develop a plan to maximise her autonomy and quality of life. She told me that throughout the assessment she felt cared for and seen as a whole person, not just a number.

This experience highlights the necessity for trauma-informed practices that are responsive to the needs of Indigenous patients, and consider the broader context of direct, intergenerational, and historical trauma. A broader definition of trauma and resilience that integrates knowledge of ongoing impacts of colonisation and community and individual strengths is often missing from conventional trauma-informed practice models. It can be challenging because the institutions we work in do not always support taking extra time and resources to deliver culturally appropriate care. A trauma-informed responsive

[11] Canadian Indigenous Cognitive Assessment (CICA). Canadian Indigenous Cognitive Assessment (CICA). http://www.ccnateam18.ca/canadian-indigenous-cognitive-assessment-cica-tool.html.
Gale et al. (2022). Beyond Appropriate Norms: Cultural Safety with Indigenous People in Canadian Neuropsychology. Journal of Concurrent Disorders provides an excellent guide to assessment and report writing, including a sample neuropsychological report.

practice is important for both patient experience and assessment validity. We know that if a patient is overly distressed during an assessment, the results may reflect their distress rather than their actual cognitive functioning. Therefore, our approach must consider the whole person, centring Indigenous individuals' autonomy and self-determination. I am committed to continuous education and advocacy within our discipline.

5.4 Strengths and Limitations

This dissertation is notable for including the first systematic review of Indigenous health and social outcomes related to child welfare system exposure, setting a foundation for future research in this area. The empirical study analyses data from a nationally representative sample of First Nations, Métis, and Inuit youth aged 12-18 in Canada, enhancing the generalisability of the findings in the Canadian context. The research integrates various theoretical frameworks, including historical trauma and social determinants of health, to identify the complex factors influencing parent-child separation and their impacts on Indigenous communities. It also provides clear and actionable policy recommendations aimed at transforming child welfare practices to better support Indigenous self-determination and cultural continuity, directly applicable to current policy debates in Canada. An interdisciplinary approach, drawing on social work, public health, sociology, and Indigenous studies, works toward a well-rounded and comprehensive analysis of the issues. This dissertation explores innovative Indigenous-led models for child welfare, demonstrating the potential for community-based, culturally sensitive approaches. Additionally, the dissertation examines mental health, substance use, physical health, and social outcomes, providing a holistic understanding of the

impacts of parent-child separation on Indigenous communities, ensuring that the multifaceted nature of the issue is addressed.

My research has been limited by its exclusion of qualitative data, which constrains the depth of understanding of the lived experiences of Indigenous individuals affected by parent-child separation. Qualitative data could offer richer, more nuanced perspectives on personal and community experiences and strengths, crucial for understanding the full impact of child welfare practices on Indigenous communities. My analysis of the APS is cross-sectional, which limits the ability to understand the long-term impacts of parent-child separation. Longitudinal studies would provide a more comprehensive view of these impacts and the effectiveness of Indigenous-led child welfare models over time. The limitations of the geographic focus of the studies that met criteria for inclusion on Canada, Australia, and the United States limits its generalisability to Indigenous populations in other settler-colonised regions, such as the circumpolar area and Aotearoa New Zealand, which, while sharing some similarities in colonial histories, have unique aspects and policies. Additionally, we were limited by the constraints of the Aboriginal People's Survey. The research is limited by a “lumping” approach to Indigenous identity in Canada. Although we did some within-group analysis, we were constrained by political categories created by the Canadian federal government that reflect distinct histories with the settler government rather than distinctions between Indigenous nations. However, to reflect the harms of colonisation, this strategy may be appropriate. A specific limitation of the Aboriginal People's Survey is that where caregivers responded to the survey on behalf of a youth, questions deemed to be sensitive were not asked. Relevant to my study, recreational drug use and suicidal ideation may be

under-reported due to the smaller sample who had the opportunity to answer the questions. My findings should be interpreted with this caveat in mind.

There were also constraints in measuring protective factors related to sense of belonging, as these variables were only available in the most recent dataset and therefore only language was included in the combined dataset. The variability in cannabis measurement between the 2012 and 2017 surveys affects the consistency and accuracy of findings related to cannabis use. In addition, cannabis became legalised in Canada in 2015. We included year cycle as a variable in our analysis and interestingly, there was increased overall drug use in 2012 compared to 2017. While the study acknowledges historical trauma, it may not fully capture the complex, multi-generational effects on mental health and social outcomes. The findings are specific to Indigenous populations in CANZUS countries and may not be directly applicable to other Indigenous groups with different sociopolitical and cultural contexts. Finally, while the dissertation provides policy recommendations, potential challenges and barriers to implementation, such as political resistance, and funding limitations may be considerable.

5.5 Future Directions

Building on the strengths of this dissertation and addressing its limitations, I propose several future research directions to deepen the understanding and improve the outcomes of Indigenous child welfare practices. More research is needed on the impacts of parent-child separation in Aotearoa New Zealand and the Circumpolar region to include unique Sámi and Māori perspectives and variations in colonial histories to see if our findings generalise to these contexts. There is also a lack of national child welfare system data in Canada, in contrast to countries such as Australia with linked administrative datasets.

Longitudinal studies are needed to provide a comprehensive view of the long-term effects of parent-child separation and the effectiveness of Indigenous-led child welfare models over time, as the reliance on cross-sectional data limits the ability to understand long-term impacts. Additionally, it will be important to include more strength-based measures on national surveys in Canada and move towards Indigenous data governance, particularly involving child welfare systems and in line with the Act.

Future research should capture the lived experiences of Indigenous individuals affected by parent-child separation using qualitative data which may offer richer, more nuanced perspectives on personal and community experiences and strengths, providing a fuller understanding of the impacts of child welfare practices on Indigenous communities. Future research should also consider conducting a qualitative systematic review of health and social outcomes from child welfare systems. Such a review would provide a comprehensive understanding of health and social outcomes, as well as the breadth of mental health impacts, offering a more holistic view of the effects of child welfare practices.

Finally, future research should focus on evaluating the effectiveness of policy changes to provide valuable feedback for refining and improving child welfare practices. By addressing these areas, future research can build on the foundation established by this dissertation, leading to a more comprehensive and nuanced understanding of Indigenous child welfare practices and their impacts on health and social outcomes.

5.6 Conclusion

This dissertation highlights the profound and lasting impacts of colonial policies, particularly forced separations, on Indigenous families in Canada, revealing significant

negative health and social outcomes. The comprehensive systematic review and empirical study underscore the urgent need for systemic changes in child welfare practices to support Indigenous self-determination and cultural continuity. The policy brief further underscores the importance of comprehensive devolution in child welfare systems, advocating for Indigenous-led, community-specific solutions to effectively address these longstanding issues effectively.

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Appendix A

Table 1 Study characteristics

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Alberton et al., 2020	Canada, national	Cross-sectional	Youth/adults age 15-55+ N=24,133 Indigenous (First Nations, Métis, Inuit) n= 1081 Indigenous adults with child welfare exposure n=77	Out-of-home care	Non-Indigenous (white) adults with history of child welfare exposure n=433 (1.9%) Indigenous adults without history of child welfare exposure,	Primary outcome: Homelessness (visible and hidden) Predictors of homelessness: child welfare system AOR: 4.15; Indigenous 3.7 times higher child welfare exposure. Indigenous: AOR: 1.47 (visible homelessness) AOR: 1.56 (hidden homelessness) Secondary outcome: education (moderation) white participants: university sig. moderator (AOR = 0.17); likely prevents 83% of visible homelessness; 18% of hidden homelessness. Indigenous: university (AOR=.70) ns (*p* not provided)
Baidawi, 2020	Australia, Victoria	Cross-sectional Victorian Children's Courts (administrative data);	"Crossover children" age 10-17, N=300 68% male (n = 204); 31% female (n = 94); 1% transgender (n =2) Indigenous n=55.	Out-of-home care	Non-Indigenous children in out-of-home care	Earlier police charge (<14 years) more likely to be Indigenous than over 14 (37.9% vs 17.5%, p < .01) OR 2.8* *Calculated

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Barker et al., 2014	Canada, Vancouver British Columbia	Prospective cohort study (cross-sectional) Snowball sampling approach with extensive outreach.	Street-involved youth aged 14–26 who use illicit drugs. Median age =21; N=937 31% female (n=292) 24% Indigenous (n=224). Indigenous participants in out-of-home care n=139	Government care	Indigenous participants without history of out-of-home care non-Indigenous youth with and without history of care	Indigenous identity independently associated with child welfare system exposure for street involved youth who use illicit drugs (AOR= 2.07 (1.50 – 2.85) p <0.001
Decaluwe et al., 2015	Canada, Nunavik, Quebec	Prospective longitudinal study (5 years; prenatal, 1-month post-partum, school age, Sample from Nunavik Child Development Study	Inuit children n=277; 46 were adopted; Mean age: 11.3 years; 8.5 and 14.5 years; 50.2% girls (n=139) N=277	Customary adoption	Inuit children living with their birth parent(s)	Before adjusting, adoption status associated with externalising behavioural problems (B=0.39, p<.05.). Externalising behaviour non-significant after adjustment for prenatal and familial variables (B=.02) Adoption status was not significantly related to internalising (B= -.01.). or attention problems (B= -.01.). either at the first step of the regression analysis or in the final model.

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
For the Cedar Project Partnership et al., 2015	Canada, Vancouver and Prince George, British Columbia	Prospective cohort study Referral by healthcare providers, community outreach, and word of mouth	Street-involved Indigenous youth aged 14–30 who use illicit drugs N=605 Indigenous youth with history of child welfare exposure n=391 Median age at baseline: 22.8 years; 14-30; 50.9% female	History of apprehension	Indigenous participants without history of out-of-home care (n=214)	Child welfare system involvement: HIV-positive: AOR: 2.4, CI: 1.2–5.1; Parent attended residential school: AOR: 2.1, CI: 1.4–3.2; Lifetime suicide ideation: AOR: 1.8, CI: 1.3–2.6; Lifetime mental illness diagnosis AOR: 1.6, CI: 1.1–2.3; Lifetime homeless AOR: 1.7, CI: 1.2–2.4; Lifetime involved in sex work: AOR: 1.7, CI: 1.1–2.8; Lifetime self-harmed: AOR: 1.5, CI: 1.1–2.2 Overdose AOR: 2.7, 95% CI 1.6–4.5

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Jongbloed et al., 2017	Canada, Vancouver and Prince George, British Columbia	Prospective cohort study (The Cedar Project)	Indigenous youth aged 14–30 who use illicit drugs N=610 History of child welfare exposure *n*=395 Median age: 23.5 years (IQR: 20.5–26.9) 48% female	Out-of-home care	Indigenous young people without a history of out-of-home care (n=215)	Mortality Child welfare involvement: HR 0.73 (95% CI: 0.39–1.36) – ns Parental residential school attendance HR: 1.22 (95% CI: 0.54–2.73) – ns "Lack of direct associations between historical and lifetime traumas and mortality in this analysis may be a result of insufficient statistical power or the fact that statistical association is not necessarily transitive. (p. E1358)
Kaspar, 2014	Canada, national	Cross-sectional study Public Use Microfile data from the 2006 Aboriginal Peoples Survey and Métis Supplement survey form	N=7534 Métis adults with history of child welfare exposure n= 599; Age 25-55+; 54.7% female	Foster care	Métis without a history of foster care placement	Major depressive episode: child welfare AOR: 1.3, $p<.05$ Suicidal ideation: child welfare AOR: 1.8, $p<.001$

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Kenny et al., 2019	Canada, Vancouver British Columbia	Prospective cohort study – 5 years, median 5 waves of follow-up Community-based open prospective cohort study with time-location sampling	Marginalised mothers; N=950 Indigenous *n*=173 history of Out-of-home care (n=93) (53.8%) Indigenous: History of out-of-home care, involuntary child removal, familial residential school exposure (3 generations) (n= 44 (25.4%)	Out-of-home care	Non-Indigenous with child welfare exposure Indigenous without child welfare exposure	Women sex worker reporting a live birth Self-reported poor/fair health, joint child welfare and involuntary child removal (2 generations): AOR: 2.04 (95% CI: 1.27, 3.27) – collapsed across groups* *Intergenerational family separation more likely to be Indigenous (34.7% vs. 10.9%). 2 generations of child welfare removal: Indigenous OR: 4.3 (vs non-Indigenous) – calculated from proportions.
Kidd et al., 2019	Canada, national	Cross-sectional Canada, Nationwide (convenience data collected from 57 agencies across 42 communities	Indigenous (First Nations, Inuit, and Métis people) N=332	Child protection involvement	Non-Indigenous youth with and without child protection involvement	Drug overdoses, age of first homeless episode; suicide Homelessness Child protection Indig. vs non: OR 2.3, $p < 0.001$)* Negative child protection experiences Indig. vs non (self-report): Cohen's d=.24, $p < 0.001$* Child protection predicting distress B=.22 (collapsed across groups) * calculated from proportions.

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
King & Van Wert, 2017	USA, California	Longitudinal prospective population-based study (9 years) Probabilistic matching of child protective service records to maternal information on birth records	N= 5567 (who gave birth before age 20) Indigenous female adolescents aged 12-19 in foster care n= 338	Foster care (kinship, nonrelative, congregate (group home/residential care	Non-Indigenous (white, Latina, Black) female adolescents in foster care	Predicting first births (age 12-19) for adolescents in care vs. white: Native American: HR 1.53 (95% CI: 1.20-1.95) AHR: 1.46 (95% CI: 1.14, 1.87) Latina: HR 1.89 (95% CI: 1.77,2.01) AHR: 1.95 (1.82, 2.08) Black: 1.37 (1.27-1.48) 1.48 (1.37e1.60) Moderators of higher birth rate: collapsed across groups Age 15-16: AHR 6.91 (95% CI: 6.27-7.61) 3.78 (95% CI: 3.38-4.22) Less than 3 months AHR: 3.85 (95% CI: 3.47-4.26) AHR 4.03 (95% CI: 3.53-4.71) Re-entry to care. HR 1.25 (95% CI: 1.19-1.33) AHR 1.18 (95% CI: 1.11-1.26) Ever in nonrelative foster home, Ever in congregate care, HR: 2.35 (2.19-2.53) AHR: 1.26 (95% CI: 1.16-1.38) Nonrelative foster home HR: 1.68 (95% CI: 1.59-1.79) AHR: 1.22 (95% CI: 1.14-1.30) Neglect: HR 1.30 (95% CI: 1.18-1.44; hr)) 1.22 (95% CI: 1.10-1.35)

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Koss et al., 2003	USA, Seven tribes across Minnesota, Oklahoma, Oregon, Tennessee, and Arizona	Cross-sectional study Random selection from tribal enrolment lists, voting registers, or health service registries	N= 1660 Mean age for men: 40.5 years, Mean age for women: 39.5 years 59% female	Out-of-home placement: Boarding school, foster care, adoption	Indigenous participants without history of out-of-home placement	Predicting ETOH dependence Controlling for age and community: Boarding school attendance (women) AOR: 1.79 (95% CI: 1.19, 2.70) Men: AOR: 1.44 (95% CI: 0.92, 2.25) Foster care (women) AOR: 1.77 (95% CI: 1.13, 2.75) Men: AOR 1.45 (95% CI: 0.84, 2.51) Controlling for parental alcoholism and child abuse: Boarding school (women) AOR: 1.57 (95% CI: 1.03, 2.40) Men AOR: ns (not reported) Foster care (women) AOR: ns (not reported) (men) AOR: ns (not reported)
Kumar et al., 2012	Canada, national nationally representative survey data	Cross-sectional study Aboriginal Peoples Survey, Métis Supp., 2005 Canadian Community Health Survey	Métis 20-59 years N= 11,362	Foster care	Métis participants without foster care exposure.	Suicidal ideation Foster care history: Métis women OR*: 2.0, p <.001 (vs men) *Calculated from proportions.

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Landers et al., 2017a	USA, national National Survey of Child and Adolescent Well-being	Longitudinal study	N= 3,498 Indigenous children: n=379; Indigenous children exposed to child welfare n=99 51.7% female Mean age 8.13 years; 2-16	Child welfare system *mixed)	African American (n=1128), Caucasian children (n=1,991) in child welfare system	Internalising and externalising behavioural problems (CBCL) American Indian children increased internalising behavioural problems at 18 months compared to caucasian (*PS*=1.5, $p< 0.05$) and African American (*PS*=1.74, 95% CI: [1.02, 2.20], $p<.001$) and at 36 months compared to African American children (*PS*= 1.59, 95% [1.04, 2.45], $p<.05$)
Landers et al., 2017b	USA	Cross-sectional Community-based participatory research project	N=233 Mean age 48.96 years 81% female Indigenous adoptees n=99	Adoption	White adopted children (n=134)	Mental health problems, substance abuse, self-injury, suicidal ideation, suicide attempts American Indian adoptees more likely to self-report the variables below compared to white participants*: Alcohol addition: *d*=.60, *p*=.001 Alcohol recovery: *d*= .61, *p*=.001 Drug addition: *d*=0.27, *p*=.048 Drug recovery: *d*=.36, *p*=0.003 Self-injury: *d*=.37, *p*=0.006 Suicidal ideation: *d*= .39, *p*=.004 Suicidal attempt: *d*=.25, *p*=0.046 Eating disorders (self-report): *d*=.36, *p*=.006 ns: Depression (self-report): *d*=.16, *p*=.242 *Cohen's d calculated

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Leckning et al., 2021	Australia, Northern Territory	Retrospective population birth cohort study with linked administrative data	N= 6,476 Aboriginal children (all Aboriginal children born within 10-year period)	Child protection involvement	Aboriginal children with no history of child welfare involvement	Admissions to all public hospitals in the NT between 1 July 2000 and 31 December 2017 Child protection in middle childhood (5-10 years) at greatest risk of self-harm in adolescence. Conclusion: greater risk of self-harm for Aboriginal children involved with child protection compared to those who are not, increases with each level of protection involvement.
Maclean et al., 2020	Western Australia	Longitudinal birth cohort study Linked administrative data from Departments of Health, Communities, Education, and the Disability Services Commission	Year 3, 9 students Mean age 14 years (national reading tests: 2008-2010) N= 33,866 47% female Indigenous participants n=3637 Indigenous exposure to Out-of-home care n=222	Child protection involvement	Indigenous youth with no history of child welfare involvement	Educational attainment Odds of low Year 9 reading scores with or without maltreatment allegations (across groups): OR: 6.01 (95% CI: 5.52, 6.55) AOR: 2.71 (95% CI: 2.42, 3.02) (Adjusted for Maltreatment. Odds of low Year 9 reading scores by Year 9 out of home care. (Indigenous out of home care vs no allegations): AOR: 1.73* (1.14, 2.64) Increased likelihood of low reading achievement among the Indigenous out-of-home care group, (caution, smaller sample size), compared to Indigenous substantiated and unsubstantiated groups

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Malvaso & Delfabbro, 2015	Australia	Retrospective cohort study National comparative profile study of high support needs children	Children who had experienced two or more unplanned placement breakdowns within 2 years of their placement in care N = 364 Mean age of entry into care: 7.48 years 58.2% male Aboriginal or Torres Strait Island n=65	Out-of-home care placement, Residential care	Residential care	Justice involvement: documented criminal activity, arrests or police caution Residential care OR: 11.79 [95% CI: 0.87, 160.34]* of arrest (vs. non-residential care across groups) Aboriginal Torres Island OR: 2.90 [95% CI: 0.97, 8.64] of arrest (vs. non-Aboriginal) Interaction between residential care and Aboriginal Torres Island not reported. *Caution in interpretation due to wide confidence interval.
Malvaso et al., 2017a	South Australia	Cross-sectional	N= 71,739 n= 9844 placed in out-of-home care n=2045 with convictions	Out-of-home care (mixed)	Non-Indigenous youth with child welfare exposure	Across the sample: Persistent maltreatment AOR: 3.11 Placement in Out-of-home care AOR: 4.41 Aboriginal or Torres Strait rates of conviction: AOR 2.40

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Malvaso et al., 2017b	Australia, South	Linked child protection and youth justice data	N= 17,671 53% female Placement sample: n=4677 Indigenous in out-of-home care: 984 (21.0%)	Out-of-home care: foster care, residential care, kinship care	Non-Indigenous youth with child welfare exposure	Justice involvement: youth convictions: comparison non-Aboriginal youth Indigenous: any convictions OR 2.63 [95% CI: 2.20, 3.15), $p < 0.001$ Indigenous: violent convictions OR 2.92 [95% CI: 2.39, 3.57], $p < 0.001$ Aboriginal Torres Islander Breach convictions OR: 8.34 [95% CI: 3.31, 21.04]* Any convictions: Indigenous × residential care OR 0.43 [95% CI: 0.22, 0.86], $p < 0.01$. Violent convictions: Indigenous × residential care OR 0.40 [95% CI: 0.19, 0.81] *Caution in interpretation due to wide confidence interval. One of the strongest effects in this study was that of Indigenous background on convictions for breach related offenses, suggesting potential bias in policing/courts.

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Malvaso et al., 2018	South Australia	Cross-sectional study;	N=1819 Males (n=1540) Females (n=278) Indigenous (n=485)	Out-of-home care (foster care, residential care, kinship care)	Non-Indigenous youth with child welfare exposure	Justice involvement: violent crime convictions Indigenous AOR: 1.52 [95% CI: 1.11, 2.04], $p<.001$ Residential care AOR 1.71 [95% CI: 0.92, 3.17] Interaction between residential care and ethnicity not reported.
O'Brien et al., 2010	Various locations across the USA	Retrospective cohort study	N=1,068 Foster care alumni: Casey Family Programs' alumni who were in foster care for at least 12 consecutive months N= 243 (23%) identified themselves as American Indian/Alaska Native Average age at interview: 30.5 years 56.8% male	Foster care	White adults with history of foster care	White participants with history of foster care had 3.1 times higher odds of completing post-secondary than American Indian/Alaska Native participants with a history of foster care. White participants had higher odds of employment after leaving care than Indigenous participants. OR: 2.1 [95% CI: 1.5–3.1] White participants had higher odds of employment than Indigenous participants after leaving care OR 2.3 [95% CI: 1.6–3.2]

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Pearce et al., 2015a	Canada, Vancouver and Prince George, British Columbia	Prospective cohort study: The Cedar Project Recruitment through health care providers, street outreach, and word of mouth	Mean age 23 years (SD 4 years, range 16-30 years) N=605 49% female	Foster care, residential school attendance of parents	Indigenous participants not exposed to child welfare, Intergen. residential school	Sexual assault Odds of sexual assault when at least one parent attended residential school: OR 2.38 [1.06, 5.34] *p*=.035; AOR 2.35 [95% CI: 1.05, 5.30] *p*=.039 Ever in foster care: OR 0.88 [0.52, 1.49] .629
Pearce et al., 2015b	Canada, Vancouver and Prince George, British Columbia	Prospective cohort study: The Cedar Project Recruitment through health care providers, street outreach, and word of mouth	Mean age= 28.89 (5.07), participants aged 14-30 years N=191 Male=94; female=97	Foster care, residential school attendance of parents	Indigenous participants not exposed to child welfare	Resilience Familial connection to culture predicted increased resilience: adj. B=7.70 2.2.53, 12.87 *p*=0.004 Intergenerational residential school exposure decreased resilience d=.06, *p*=.629 Foster care reduced resilience *d*=.37, *p*= 0.044 Family lived by traditional culture unadj. *B*= 7.96 (95% CI: 2.97, 12.95), *p*= 0.002; adj *B*= 7.70 (95% CI: 2.53, 12.87), *p*= 0.004 Traditional language spoken at home predicted increased resilience: Unadj. *B*=10.66 (95% CI: 5.94,

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
						15.38), p <0.001; Adj *B*= 10.52, (95% CI: 5.72, 15.33), *p* <0.001 Know how to speak traditional language: unadj. *B*= 13.37 (95% CI: 5.15, 21.58), p= 0.001; adj. *B*=13.06 4.19 3.12 (95% CI: 4.85, 21.27), *p*= 0.001
Putnam-Hornstein et al., 2013	USA, California	Population-based study Vital birth records linked with statewide child protective service data	12-19 years N= 35,098	Foster care	Non-Indigenous placed in foster care Black White Latina Asian/Pacific Islander	Pregnancy in young people (adolescence) Native American adolescence who have been in foster care were significantly more likely to have given birth than white (OR = 2.02), Latina (OR = 3.28) or Asian/Pacific Islander (OR = 4.56) adolescence and about the same as Black adolescence (OR = 1.01).
Ritland et al., 2021	Canada, Vancouver and Prince George, British Columbia	Prospective cohort study: The Cedar Project Referral by health workers, community outreach, and word of mouth	Median age 27 years (IQR: 24-30) N=293	Child apprehension by Ministry of Child and Family Development	Indigenous -No removal from parents by child welfare	72% of this population of street-involved people had been involved with the child welfare system as children. Indigenous participants with recent child apprehension were almost twice as likely (HR = 1.88) to attempt suicide compared to those who did not experience recent child apprehension.

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
						Participants whose parents attended residential schools were more likely to attempt suicide (HR: 4.12, 95% CI: 1.63–10.46). Participants who had a traditional language spoken at home growing up were less likely to attempt suicide (HR: 0.49, 95% CI: 0.23–1.01).
Robin et al., 1999	USA, Southwestern	Cross-sectional survey Pedigree-based sampling from three large multigenerational families	All subjects were 21 years or older; specific mean age not provided N=580 43.5% male, 56.5% female	Out-of-home placements: Adoption, foster care, boarding school, missionary programs	Indigenous adults without history of out-of-home placements	Indigenous males with foster care placement history were at a significantly higher risk 6.14 OR [95% CI: 2.34, 16.08], $p < 0.001$ for multiple (>3) psychiatric disorders compared to their counterparts who did not experience foster care. For females reporting child sexual abuse, the likelihood of multiple psychiatric disorders was almost four times higher than for females who had been abused but were not placed in foster care OR 3.96 [95% CI: 1.36, 11.57), p =0.012
Roos et al., 2014	Canada, Winnipeg, Manitoba	Cross-sectional survey Recruited from homeless service settings	Mean age 39 years; age 18-50+ N = 504 63.5% male 74.7% of the total sample were Indigenous	Foster care	Winnipeg homeless population without history of care	Indigenous participants with a history of foster care involvement are more likely to: • have familial history of residential school attendance: father (OR = 1.77 (95% CI: 1.04–2.99)); maternal grandmother (OR = 3.62 [95% CI: 1.88–6.99], maternal grandfather (OR = 2.42 [95% CI: 1.22, 4.81]

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
						• have a substance use disorder (OR = 2.46 [95% CI: 1.71, 3.52], AOR = 1.67 [95% CI: 1.10, 2.53]; an alcohol use disorder (OR = 1.99 [95% CI: 1.34, 2.92] • experience suicidality (OR = 1.47 [95% CI: 1.03, 2.10] • experience traumatic events such as sexual assault (OR = 2.67 [95% CI: 1.84, 3.87], AOR = 2.39 (95% CI: 1.51–3.79)) and child physical abuse (OR = 2.98 [95% CI: 2.06, 4.31], AOR = 2.58 [95% CI: 1.70, 3.90].
Ryan et al., 2019	Australia, Queensland	linked administrative data and survey Passport study. Self-report data were linked prospectively with administrative data from Queensland Corrective Services	Median Indigenous age 29.98 (8.15) N=1238 Indigenous 71.6% male; non-Indigenous male: 81.7% Indigenous n=303	Removed from family (OHC)	No history of removal from family	Justice involvement Being forcibly removed from family as a child was significantly associated with an increased hazard of reincarceration (HR=1.35, [95% CI: 1.12,1.62]

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Shando et al., 2020	Australia, New South Wales	Longitudinal cohort study Random selection from four urban Aboriginal Community Controlled Health Services (ACCHSs)	Mean age 4.5-8 years N=725 Boys and girls (405 males, 320 females) Boys and girls (323 females, 268 males)	Out of home care (OOHC)	Living with parent	Children in foster care were significantly more likely to be at high developmental risk (OR 5.45, [95% CI 2.32, 12.78].
Sharma et al., 1996	USA, national	Matched control cross-sectional survey Random selection from public schools within over 350 communities	Mean age 14.9 years N = 4682	Adoption	Matched control group of 4682 nonadoptees Asian Americans Caucasians, Hispanics, African Americans	Indigenous adopted adolescents are slightly more likely (OR = 1.22; [95% CI:1.21, 1.23]) to use illicit drugs compared to their non-adopted Indigenous peers. Indigenous adopted adolescents are significantly more likely (OR = 1.78 [95% CI: 1.75, 1.81) to experience negative emotions, such as sadness and anxiety, compared to their non-adopted peers.
Silviken & Kvernmo, 2007	Norway, Arctic Norway: Finnmark, Troms and Nordland	Longitudinal epidemiological anonymous questionnaire survey Random selection from	N= 2691 Sámi: n=591 Mean age 16.9 years (SD 0.8 years); 15-21 323 females	Classified parent-child separation (boarding school, foster parents, relatives)	"Majority" adolescents (with and without parent-child separation	Indigenous Sámi youth living with others (not their biological parents) are significantly more likely (OR=6.05, [95% CI 3.36, 10.88]) to attempt suicide compared to those living with at least one parent.

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Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
		21 state high schools				
Spivey & Hirschhor, 1977	USA, Arizona	Longitudinal Questionnaires sent to adoptive families, completed by physicians and families	N=86 Apache male 43%; Apache female 55%. Non-Apache male 61%; non-Apache female 37%. 2% from each group not stated.	Adoption	Non-adopted Apache children living on reservation; adoptive siblings (non-Indigenous)	Adopted Apache children are 2.75 times more likely [95% CI = 1.05, 7.21] to experience pneumonia compared to their non-Apache siblings, with a statistically significant increase in risk. Adopted Apache children are 4.38 times more likely [95% CI: 1.77, 10.86] to experience diarrhoea compared to their non-Apache siblings, with a statistically significant increase in risk. Adopted Apache children are 4.24 times more likely [95% CI: 1.72, 10.49] to experience otitis media compared to their non-Apache siblings, with a statistically significant increase in risk.
Thompson & Fuhr, 1992	Canada, Alberta	Cross-sectional study Random sampling from caseload;	N=50 Mean age 13 (6-18) 19 females and 31 males	Foster care: 31 children in foster homes, 8 in group homes, 7 in residential institutions, 3 with relatives, 1 living	Non-Indigenous children in out-of-home placements	Indigenous children in the child welfare system have a slightly higher, but not significantly different, likelihood of being emotionally disturbed compared to non-Indigenous children (OR: 1.09; 95% CI: 0.30 to 3.98)

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
				independently		
Thurston et al., 2013	Canada, Calgary Alberta	Cross-sectional survey Re-Housing Triage and Assessment Survey (RTAS)	N=325 Indigenous participant n=77 Mean age 37.75 years for Aboriginal participants, 42.17 years for non-Aboriginal participants	Foster care	Non-Indigenous participants with and without child welfare histories; Indigenous participants without child welfare histories	Indigenous participants in the study who are Unhoused or in precarious housing are significantly more likely to have experienced foster care compared to their non-Indigenous counterparts (OR: 3.91; [95% CI: 2.30, 6.66]
Trofimovs & Dowse, 2014	Australia, New South Wales	Cross-sectional survey Purposively selected cohort from Justice Health 2001 NSW Inmate Health Survey and NSW Corrective Services State-wide Disability Service Database	Mean age 16 years at first police contact, median age 14 years N=131	Out of home care (OOHC)	Indigenous without out-of-home care history	Police custody for Indigenous participants with OOHC vs without: OR = 1.81; [95% CI: 29.26, 47.06]

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Waechter et al., 2011	Canada, large urban centre	Cross-sectional survey Random sampling from CPS agency provided master lists	Mean age 15.8 years; 13-17 N = 476	Foster care, Crown wards	Non-Aboriginal youth with low and high identification with caregiver	Aboriginal youth who reported a more negative (low) identification with their caseworker were five times more likely (OR: 5.47; [95% CI: 1.20, 24.87] to use cannabis in the past 12 months compared to non-Aboriginal youth who reported a low identification with their caseworker. Aboriginal youth who reported a medium-high (positive) identification with their caseworker reported less past 12-month cannabis use (43%) compared to Aboriginal youth who reported a more negative (i.e., low) identification with their caseworker (87%). This suggests that a more positive identification with their caseworker may be associated with lower cannabis use among Aboriginal youth (OR: 8.67)*. These results suggest that having a moderate-to-high positive identification with a caseworker may be a protective factor related to abstinence from cannabis use among youth in the CPS system. *Calculated.
Watt & Kim, 2019	USA, national	Longitudinal study Non-probability sample from baseline; National Youth in Transition database	Age 17-21 N=9342 youth American Indian/Alaska	Foster care	White youth in foster care	Educational attainment Justice involvement Unhoused/precarious housing American Indian/Alaska Native (AI/AN)

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
			Native Participants: *n*=160 (1.7%) Male (48.5%) 4529 Female 4813 (51.5 %)			AI/AN youth in foster care are more likely (OR: 1.63; [95% CI: 1.12, 2.38] to have justice involvement compared to their white youth in foster care. Almost half (47%) of AI/AN youth report becoming incarcerated after emancipating from foster care. AI/AN youth were less likely to enrol in higher education than African American (OR=0.51) and Hispanic youth (OR=0.63). AI/AN youth were 53% more likely to experience homelessness than Hispanic youth.
Williamson et al., 2016	Australia	Cross-sectional survey Recruitment through Aboriginal Community Controlled Health Services	Indigenous participants N=1005 Mean age 9 years; 4-17 male n=532; female n=473	Foster care: 63% have lived in <4 homes; 37% lived in 4 or more homes.		Being raised by a foster carer (OR=0.2, 95% [CI 0.01, 0.71] and having lived in 4 or more homes since birth (OR=0.62, 95% CI 0.39 to 1.0) were associated with significantly lower odds of good mental health amongst Indigenous participants in this study.

Study ID	Country	Study design & sampling	Population	Child welfare system exposure	Comparator	Outcome
Williamson et al., 2018	Australia, Urban areas in New South Wales	Prospective cohort study Recruitment through Aboriginal Community Controlled Health Services	N=1476 Mean age at recruitment into the study was 6.73 years; the median age was 5.86 years. Median follow-up 6 years	Foster care		Risk of Emergency Department presentation for mental health conditions was increased with living in foster care versus parental care (adjusted rate ratio (RR=3.97, 95% Credible interval (CrI): 1.26, 11.80)
Yuan et al., 2014	USA, Seven metropolitan sites (Seattle-Tacoma, San Francisco-Oakland, Los Angeles, Denver, Tulsa-Oklahoma City, Minneapolis-St. Paul, New York)	Cross-sectional Targeted, partial-network, and respondent-driven sampling	LGBTQ2S Mean age 38 years (male, 39 years (female) N=294 177 (60.2%) participants were male, 117 (39.8%) were female.	foster care placement, adoption Boarding school attendance		For Two-Spirit men, Indian boarding school attendance (OR = 3.34, 95% CI = 1.28, 8.75, $p < 0.05$) foster care placement (OR = 2.99, 95% CI = 1.19, 7.53, $p < 0.05$) significantly predicted past-year alcohol dependence compared to Two-Spirit men without these experiences. For Two-Spirit women, being adopted was the only significant predictor of past-year binge drinking compared to Two-Spirit women who were not adopted (OR = 0.12, 95% CI = 0.02, 0.60, $p < 0.05$).

Notes: HR: Hazards Ratio; AHR: Adjusted Hazard Ratio; OR Odds Ratio; AOR: Adjusted Odds Ratio; PS=Propensity Score matching, RR Relative Risk; d Cohen's d

Appendix B

Study Quality Assessment: Newcastle Ottawa

Study	Selection				Comparability	Outcome		Total*
	Representative	Selection /Sample size	Non-respondents/attrition	Ascertainment of exposure	Comparability of subjects	Outcome assessment	Statistics	
Alberton et al. (2020)	1	1	1	1	2	2	1	***
Baidawi (2020)	1	0	1	2	2	2	0	***
Barker et al. (2014)	0	1	1	1	2	1	1	***
Decaluwe et al. (2015)	0	0	1	2	2	2	1	***
For the Cedar et al. (2015)	0	1	1	1	2	1	1	***
Jongbloed et al. (2017)	0	1	1	1	2	2	1	***
Kaspar, 2014	1	1	1	1	2	1	1	***
Kenny et al., 2019	0	1	0	1	2	1	1	**

Study	Selection				Comparability	Outcome		Total*
	Representative	Selection /Sample size	Non-respondents/attrition	Ascertainment of exposure	Comparability of subjects	Outcome assessment	Statistics	
Kidd et al., 2019	0	1	1	1	2	1	1	***
King & Van Wert, 2017	1	1	1	2	2	2	1	***
Koss et al. (2003)	1	1	1	1	2	1	0	**
Kumar et al., 2012	1	1	1	1	2	1	1	***
Landers et al., 2017a	1	1	0	1	2	1	1	***
Landers et al., 2017b	0	0	1	1	2	1	1	**
Leckning et al. (2021)	1	1	1	1	2	1	1	***
Maclean et al., 2020	1	1	1	1	2	2	1	***
Malvaso & Delfabbro, 2015	0	0	1	1	2	2	0	**
Malvaso et al., 2017a	1	1	1	1	2	2	1	***
Malvaso et al., 2017b	1	1	1	2	2	2	1	***

Study	Selection				Comparability	Outcome		Total*
	Representative	Selection /Sample size	Non-respondents/attrition	Ascertainment of exposure	Comparability of subjects	Outcome assessment	Statistics	
Malvaso et al., 2018	1	1	1	2	2	2	1	***
O'Brien et al., 2010	1	1	1	1	2	1	1	**
Pearce et al., 2015a	0	1	1	1	2	1	1	***
Pearce et al., 2015b	0	1	1	1	2	1	1	***
Putnam-Hornstein et al. (2013)	1	1	1	1	2	2	1	***
Ritland et al., 2021	0	1	1	1	2	2	1	***
Robin et al. (1999)	0	1	1	1	2	1	0	*
Roos et al., 2014	0	1	1	1	2	1	1	***
Ryan et al., 2019	0	1	1	1	2	1	1	***
Pearce et al., 2015a	0	1	1	2	2	2	1	***
Pearce et al., 2015b	0	1	1	1	2	1	0	*
Putnam-Hornstein	0	1	1	1	2	1	1	**

Study	Selection				Comparability	Outcome		Total*
	Representative	Selection /Sample size	Non-respondents/attrition	Ascertainment of exposure	Comparability of subjects	Outcome assessment	Statistics	
et al. (2013)								
Ritland et al., 2021	0	1	0	2	2	1	1	**
Robin et al. (1999)	0	0	1	2	2	1	0	*
Roos et al., 2014	0	0	1	1	2	1	0	*
Ryan et al., 2019	0	0	1	2	2	2	0	***
Waechter et al. (2011)	0	0	1	1	2	1	1	**
Watt & Kim, 2019	1	1	0	1	2	1	1	***
Williamson 2016	0	1	1	1	2	1	1	***
Williamson 2018	0	1	1	2	2	2	1	***
Yan 2014	0	1	1	1	2	1	1	***

Risk of Bias

Study ID	Confounding	Selection of Participants	Classification of Exposures	Deviations from Intended Exposures	Missing Data	Measurement of Outcomes	Selection of Reported Result	Overall Bias
Alberton et al. (2020)	Low	Low	Low	Low	Low	Low	Low	Low
Baidawi (2020)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Barker et al. (2014)	Low	Moderate	Low	Low	Low	Low	Low	Low
Decaluwe et al. (2015)	Low	Low	Low	Low	Low	Low	Low	Low
For the Cedar Project et al. (2015)	Moderate	Moderate	Low	Low	Moderate	Low	Low	Moderate
Jongbloed et al. (2017)	Low	Moderate	Low	Low	Low	Low	Low	Low
Kaspar (2014)	Low	Low	Low	Low	Moderate	Low	Low	Moderate
Kenny et al. (2019)	Low	Low	Low	Low	Low	Low	Low	Low
Kidd et al. (2019)	Low	Low	Low	Low	Low	Low	Low	Low
King & Van Wert (2017)	Low	Low	Low	Low	Moderate	Low	Low	Moderate
Koss et al. (2003)	Low	Low	Low	Low	Low	Low	Low	Low
Kumar et al. (2012)	Low	Low	Low	Low	Low	Low	Low	Low
Landers et al. (2017a)	Low	Low	Low	Low	Low	Low	Low	Low

Study ID	Confounding	Selection of Participants	Classification of Exposures	Deviations from Intended Exposures	Missing Data	Measurement of Outcomes	Selection of Reported Result	Overall Bias
Landers et al. (2017b)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Kumar et al. (2012)	Low	Low	Low	Low	Low	Low	Low	Low
Landers et al. (2017a)	Low	Low	Low	Low	Low	Low	Low	Low
Landers et al. (2017b)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Leckning et al. (2021)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Maclean et al. (2020)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Malvaso & Delfabbro (2015)	Low	Low	Low	Low	Low	Low	Low	Low
Malvaso et al. (2017a)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Malvaso et al. (2017b)	Low	Low	Low	Low	Low	Low	Low	Low
Maclean et al. (2020)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Malvaso & Delfabbro (2015)	Low	Low	Low	Low	Low	Low	Low	Low
Malvaso et al. (2017a)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Malvaso et al. (2017b)	Low	Low	Low	Low	Low	Low	Low	Low

Study ID	Confounding	Selection of Participants	Classification of Exposures	Deviations from Intended Exposures	Missing Data	Measurement of Outcomes	Selection of Reported Result	Overall Bias
Malvaso et al. (2018)	Low	Low	Low	Low	Low	Low	Low	Low
O'Brien et al. (2018)	Low	Low	Low	Low	Low	Low	Low	Low
Pearce et al. (2015a)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Pearce et al. (2015b)	Low	Low	Low	Low	Low	Low	Low	Low
Putnam-Hornstein et al. (2013)	Low	Low	Low	Low	Low	Low	Low	Low
Ritland et al. (2021)	Low	Moderate	Low	Low	Low	Low	Low	Low
Robin et al. (1999)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Roos et al. (2014)	Low	Low	Low	Low	Low	Low	Low	Low
Ryan et al. (2019)	Low	Low	Low	Low	Low	Low	Low	Low
Shando et al. (2020)	Low	Low	Low	Low	Low	Low	Low	Low
Sharma et al. (1996)	Low	Low	Low	Low	Low	Low	Low	Low
Silviken & Kvernmo (2007)	Low	Low	Low	Low	Low	Low	Low	Low
Spivey & Hirschhorn (1977)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate

Study ID	Confounding	Selection of Participants	Classification of Exposures	Deviations from Intended Exposures	Missing Data	Measurement of Outcomes	Selection of Reported Result	Overall Bias
Thompson (1992)	Low	Low	Low	Low	Low	Low	Low	Low
Thurston et al. (2013)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Trofimovs et al. (2014)	Low	Low	Low	Low	Low	Low	Low	Low
Waechter et al. (2011)	Low	Low	Low	Low	Low	Low	Low	Low
Watt & Kim (2019)	Low	Low	Low	Low	Low	Low	Low	Low
Williamson et al. (2016)	Low	Low	Low	Low	Low	Low	Low	Low
Williamson et al. (2018)	Moderate	Low	Low	Low	Moderate	Low	Low	Moderate
Yuan et al. (2014)	Low	Low	Low	Low	Low	Low	Low	Low

Appendix C

Variables for Keeping families together

Variables, data cleaning and data set combining data sets are described in the sections below.

APS 2017

Household composition

HC_Q15: What members of your family and other people usually live here at this address?

c) Mother (yes, no)

d) Father (yes, no)

Food Security

FS_Q01: Food didn't last/no money to buy more - Past 12 months (often true, sometimes true, never true)

FS_Q02: Balanced meals unaffordable - Past 12 months (often true, sometimes true, never true)

FS_Q03: Meals skipped/cut meal size - Past 12 months (yes/no)

FS_Q04: Meals skipped/cut meal size – Frequency (almost every month, some months but not every month, only 1 or 2 months

FS_Q05: Ate less than felt you should - Past 12 months (yes/no)

FS_Q06: Hungry but could not afford food - Past 12 months (yes/no)

SU_Q15 Have you ever seriously attempted suicide? (dichotomous)

SMK_Q05 At the present time, do you smoke cigarettes daily, occasionally or not at all?

1: Daily, 2: Occasionally, 3: Not at all

ALC_Q05 During the past 12 months, have you had a drink of beer, wine, liquor or any other alcoholic beverage? (dichotomous)

ALC_Q15 How often in the past 12 months have you had [five/four] or more drinks on one occasion? (1=never, 2: Less than once a month, 3: Once a month, 4: 2 to 3 times a month, 5: Once a week, 6: More than once a week

DRUG USE (DU) - Question identifier:

DU_Q05

In the past 12 months, how often have you used cannabis (marijuana, pot, grass, hash)? Please exclude use of cannabis exclusively for medical purposes.

- 1: Not at all
- 2: Less than once a month
- 3: At least once a month
- 4: At least once a week
- 5: Daily or almost daily
- 8: RF
- 9: DK

DU_Q10

In the past 12 months, how often have you used street drugs (such as cocaine, speed, solvents or steroids)?

- 1: Not at all
- 2: Less than once a month
- 3: At least once a month
- 4: At least once a week
- 5: Daily or almost daily
- 8: RF
- 9: DK

DU_Q15

In the past 12 months, how often have you used prescription drugs for recreational purposes?

- 1: Not at all
- 2: Less than once a month
- 3: At least once a month
- 4: At least once a week
- 5: Daily or almost daily
- 8: RF
- 9: DK

Residential Schools: **RS_Q10A**

Were any of the following members of your family ever a student at a residential school?

[Your] parents?

- 1: Yes
- 2: No

RS_Q10B

(Were any of the following members of your family ever a student at a residential school?)

Any of your grandparents?

- 1: Yes
- 2: No

Language involvement: **LAN_Q20**

How would you rate your ability to speak [your primary Indigenous language]? Would you say you can speak it... ?

- 1: Very well
- 2: Relatively well
- 3: With effort

- 4: Only a few words
- 5: Does not speak

LAN_Q25

How would you rate your ability to understand this language? Would you say you can understand it... ?

- 1: Very well
- 2: Relatively well
- 3: With effort
- 4: Only a few words

LAN_Q30

How important is it to you that you speak and understand an Aboriginal language? Is it... ?

- 1: Very important
- 2: Somewhat important
- 3: Not very important
- 4: Not important
- 5: No opinion

LAN_Q35

Within your home, how often are you exposed to an Aboriginal language?

- 1: Every day
- 2: A few times a week
- 3: Once a week
- 4: Less than once a week
- 5: Never

LAN_Q40

Outside the home, how often are you exposed to an Aboriginal language?

- 1: Every day
- 2: A few times a week
- 3: Once a week
- 4: Less than once a week
- 5: Never

CHRONIC CONDITIONS (CC) - Question identifier:**CC_Q80**

Do you have a mood disorder such as depression, bipolar disorder, mania or dysthymia?

- 1: Yes
- 2: No

CC_Q85

Do you have an anxiety disorder such as a phobia, obsessive-compulsive disorder or a panic disorder?

- 1: Yes
- 2: No

Data Cleaning

Weighted 2012 and 2017 cycles of the APS were appended in STATA to increase the number of observations. A variable for the cycle year was created for each data set to control for the year the respondents completed the survey.

Only respondents aged 12-18 were included in the analyses. There were no missing observations for age. Age was mean-centred.

Sex was recoded so that 0=male and 1=female

Independent variables

Residential school exposure

The dichotomous residential school exposure variable indicates if either parent, grandparent, or both attended residential school, marked as 1 vs none attended, marked as 0. The variable was created by combining rs_10a (parents attended residential school) with rs_10b (grandparents attended residential school) (2017 cycle) and mother (RS_02B), father (RS_02C), and/or grandparent (RS_02A) attendance variables (2012 cycle). Responses of don't know, refused, or not stated on both parent and grandparent residential school attendance were replaced with a missing observation.

Parent-child separation

The dichotomous parent-child separation variable indicates if the respondent lives with their mother and/or father, marked as 0 to indicate no parent-child separation, or if they do not live with either parent, marked as 1 to indicate that yes there is parent-child separation. It was created by combining household composition variables whether the respondent lives with their mother (hc_15c) and with the variable indicating whether they live with their father (hc_15d) for the 2017 cycle and with mother (HC1_09C) or father (HC1_09D) for the 2012 cycle. Responses of don't know, refused, or not stated on either variable were replaced with a missing observation.

Food security

APS 2017 cycle has a derived variable DFSECCAN that uses the Canadian method for calculating food security. Responses of 'Often true' or 'Sometimes true' on questions FS_Q05 and FS_Q10, and 'Yes' on FS_Q15, FS_Q25 and FS_Q30 are coded as affirmative (Yes). Responses of 'Almost every month' and 'Some months but not every month' on FS_Q20 are coded as affirmative. The sum of affirmative responses to the six questions in the module is the household's score on the scale.

The 2012 cycle was recoded the same way. Responses of 'Often true' or 'Sometimes true' on questions FS_Q01 and FS_Q02, and 'Yes' on FS_Q03, FS_Q05 and FS_Q06 are coded as affirmative (Yes). Responses of 'Almost every month' and 'Some months but not every month' on FS_Q04 are coded as affirmative. The sum of affirmative responses to the six questions in the module is the household's score on the scale. The household food security questions originate from the U.S. Household Food Security Survey Module Six-Item Short Form. "This measurement method has been used to

monitor household food security in the U.S. annually since 1995. The questions have also been used in the Canadian Community Health Survey (CCHS) 2015" (APS, 2017, p. 361)

The APS 2012 and APS 2017 food security composite variables were each recoded to a new variable and merged when the two datasets were merged. The new variable was labelled to match and combined into a new variable, where:

0 are classified as being 'Food secure',

1, 2, 3 or 4 are classified as having 'Moderate food insecurity'

5 or 6 are classified as having 'Severe food insecurity'.

Outcome variables

Smoking– past 12 months (all respondents)

The dichotomous smoking variable was derived from a variable on type of smoker. Responses of occasionally or daily smoking were combined to indicate the presence of smoking and marked as 1, and not smoking at all was marked as 0. Responses of "don't know", "refusal", or "not stated" were replaced with a missing observation.

Heavy Alcohol Use– past 12 months (universe: respondents who have had a drink in the past 12 months)

The heavy alcohol use variable Alc_15 was recoded to prepare for zero inflation model so that a response of no alcohol use was 0 (from alc_05, frequency of drinking), a response of never heavily using alcohol was 1, heavy alcohol use less than once a month was 2, once a month was 3, 2 to 3 times per month was 4, 4 to 6 times a month was 5, and greater than once a week was 6. Responses of "don't know", "refusal", or "not stated" were replaced with a missing observation.

Any recreational drug use – past 12 months (universe: respondents aged 14 and older who were not interviewed by proxy)

Statistics Canada (2017 cycle) derived two dichotomous variables for illicit drug use: DDUSE12M includes any use of cannabis (DU_05), and/or prescription drugs for recreational purposes (DU_15), and/or street drugs (such as cocaine, speed, solvents or steroids) (DU_10) in the past 12 months. A second Statistics Canada (2017 cycle) derived variable DUSE12EX. It is the same as DDUSE12M, except it does not include Cannabis.

I derived an illicit drug use variable from the 2012 cycle using recreational prescription drug use (DU_02) and recreational 'street drug' use (DU_03) with and without cannabis (DU_01) to be equivalent to the 2017 cycle. Valid skip, don't know, refusal, and not stated were coded as missing.

Suicide Ideation -lifetime (universe: respondents who were not interviewed by proxy)

Suicidal ideation (SU_05/SU_01), dichotomous, was dummy coded. Don't know, refusal, and not stated were coded as missing.

Diagnosed mood disorder (universe: all respondents)

Self-reported mood disorder diagnosis (as depression, bipolar disorder, mania, or dysthymia), dichotomous, was dummy coded. Responses of don't know, refusal, or not stated were replaced with a missing observation.

Diagnosed anxiety disorder (universe: all respondents)

Self-reported anxiety disorder diagnosis (such as a phobia, obsessive-compulsive disorder or a panic disorder), dichotomous, was dummy coded. Responses of don't know, refusal, or not stated were replaced with a missing observation.

Protective factors

Language knowledge (universe: all respondents)

2012

In 2012 a variable derived by Statistics Canada from LAN_01 and LAN_04, indicating the ability for a person to speak their primary Indigenous language (dskilspk). The variable was reverse coded so that 0=does not speak, 1=speaks with effort, 2=speaks relatively well, and 3= speaks very well.

In 2012 a variable derived by Statistics Canada from lan_05 and lan_08 indicated ability of a person to understand their primary Indigenous language (dskilund). The variable was reverse coded so that 0=understands only a few words, 1=understands with effort, 2=understands relatively well, and 3= understands very well.

In 2012 a variable indicated the perceived importance of an Indigenous language. The variable ranged from not important to very important. The variable was reverse coded so that 0=not important, 1=not very important, 2=somewhat important, 3=very important. Don't know, refusal, or not stated were coded as missing.

Both APS 2012 and 2017 importance of language variable contains a "no opinion" answer, which only a small number (<2%) endorsed. After examination, this was recoded as missing, since the data is being treated as ordinal.

In 2012, a variable indicated how often an individual was exposed to an Indigenous language at home. I reverse-coded the variables and combined once a day and more than once a day to match the 2017 variable. The codes were 0=never, 1=less than once a week, 2=once a week, 3= a few times a week, 4=every day. Don't know, refused, and not stated were marked as missing.

In 2012, a variable indicated how often an individual was exposed to an Indigenous language outside the home. I reverse-coded the variables and combined once a day and more than once a day to match the 2017 variable. The codes were 0=never, 1=less than once a week, 2=once a week, 3= a few times a week, 4=every day. Don't know, refused, and not stated were marked as missing.

2017

The five-language knowledge and language exposure variables were reversed-coded so that a score of 1 was strongly disagree and a score of 5 was strongly agree. These variables included: self-rated ability to speak an Indigenous language (lan_20/), self-rated ability to understand an Indigenous language (lan_25), the perceived importance of speaking/understanding Indigenous language (lan_30), frequency of exposure to Indigenous language within the home (lan_35), and frequency of exposure to an Indigenous language outside the home (lan_40). Responses of don't know, refusal, or not stated were replaced with a missing observation. For the language exposure at home and outside of home variables in the APS 2017 cycle, what was coded as "once a day" and "more than once a day" in 2012 was combined into a single point in 2017. I recoded the 2017 data set to match.

Language variables were recoded to match 2012 variables. To match the 2012 variable derived by Statistics Canada on the ability to speak a respondent's primary Indigenous language, I derived the ability to speak an Indigenous language (never) from the binary question asking if the respondent speaks or understands an Indigenous language, if only a few words. The variable was reverse-coded, and ranges from does not speak (derived) to speaks very well.

To match the 2012 variable derived by Statistics Canada on the ability to speak a respondent's primary Indigenous language, I derived the ability to understand an Indigenous language (never) from the binary question asking if the respondent speaks or understands an Indigenous language, if only a few words. The variable was reverse-coded, and ranges from does not understand (derived) to understands very well. The variable was recoded so that 0=does not understand and 4= understands very well. There was no change with the respect to the language importance variable. The variable was reverse coded as was in 2012.

Language exposure: the 2012 variables was recoded to match the 2017 variable. Both were reverse-coded.

In comparing the 2017 language variables ability to speak, understand, importance, and exposure to an Indigenous language, the valid skip was equivalent to people who responded that they did not speak or understand an Indigenous language. For the APS 2017 cycle, Statistics Canada created a derived variable, language frequency. This derived variable was not offered in the 2012 cycle, so I recoded exposure to Indigenous language within the home and outside of the home to make a matched derived variable (as adjusted above). A specific language frequency was met if endorsed on either using the 'or' function.

Both APS 2012 and 2017 importance of language variable contains a "no opinion" answer. This was recoded as missing, since the data is being treated as ordinal. The scale therefore is rated as not important, not very important, somewhat important, very important.

Appendix D

Table 2 Descriptive statistics (weighted sample)

Variable		% or M(SD)
Age		15.7 (1.82)
Sex		
Male		50.3%
Female		49.7%
Indigenous Group Identity		
First Nations		43.1%
Métis		41.1%
Inuit		5.9%
Food security		
Food secure		75.1%
Moderate food insecurity		17.7%
Severe food insecurity		7.2%
Mood disorder diagnosis		10.8%
Anxiety disorder diagnosis		15.2%
Suicide ideation (lifetime)		19.23%
Alcohol use (past 12 months)		
	No alcohol use	55.6%
(heavy episodic use)	No heavy alcohol use	15.3%
(heavy episodic use)	Less than once per month	17.8%
(heavy episodic use)	Once per month	4.9%
(heavy episodic use)	2-3 times per month	4.1%
(heavy episodic use)	Once per week	2.0%
(heavy episodic use)	More than once per week	1.1%
Recreational drug use without cannabis (dichotomous, past 12 months)		10.4%
Recreational drug use with cannabis (dichotomous, past 12 months)		42.2%
Smoking (dichotomous, current)		19.9%

Percentages may not add to 100 due to rounding.

Table 3 Residential school and parent-child separation predicting diagnosed mood disorder (weighted sample)

	Unadjusted			Adjusted		
Predictor	OR	*p*	95% CI	OR	*p*	95% CI
Intergenerational residential school	1.28	.088	[.96, 1.69]	1.27	.160	[.91, 1.78]
Parent-child separation	**1.45**	**.018**	**[1.06, 1.98]**	**1.74**	**.002**	**[1.21, 2.48]**
Age				**1.30**	**<.001**	**[1.19, 1.42]**
Sex				**2.46**	**<.001**	**[1.80, 3.59]**
Year cycle				**2.58**	**<.001**	**[1.86, 3.59]**
Métis				0.98	0.89	[0.70, 1.36]
Inuit				0.73	0.247	[0.44, 1.23]
Indigenous Language				0.98	0.86	[0.81, 1.19]

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). The referent for Indigenous group is First Nations. Indigenous language was a factor score. Mood disorder diagnosis (0=no mood disorder diagnosis, 1=yes mood disorder diagnosis).

Table 4 Residential school and parent-child separation predicting diagnosed anxiety disorder (weighted sample)

	Unadjusted			Adjusted		
Predictor	OR	*p*	95% CI	OR	*p*	95% CI
Intergenerational residential school	1.07	.618	[.82, 1.40]	1.16	.349	[.85, 1.57]
Parent-child separation	1.17	.319	[.86, 1.58]	**1.59**	**.010**	**[1.12, 2.25]**
Age				**1.15**	**.001**	**[1.06, 1.25]**
Sex				**2.07**	**<.001**	**[1.56, 2.75]**
Year cycle				**2.71**	**<.001**	**[2.01, 3.67]**
Métis				0.99	.930	[.74, 1.32]
Inuit				**0.55**	**.024**	**[.33, .93]**
Indigenous Language				**0.80**	**.024**	**[.66, .97]**

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). The referent for Indigenous group is First Nations. Indigenous language was a factor score. Anxiety disorder diagnosis (0=no anxiety disorder diagnosis, 1=yes anxiety disorder diagnosis). CI=confidence interval.

Table 5 Residential school and parent-child separation predicting lifetime suicidal ideation (weighted sample)

	Unadjusted			Adjusted		
Predictor	OR	*p*	95% CI	OR	*p*	95% CI
Intergenerational residential school	**1.73**	**.004**	**[1.19, 2.50]**	**1.85**	**.003**	**[1.22, 2.78]**
Parent-child separation	.96	.828	[.65, 1.41]	1.23	.318	[.82, 1.83]
Age				0.98	.793	[.83, 1.16]
Sex				0.90	.593	[.61, 1.33]
Year cycle				**3.79**	**<.001**	**[2.40, 5.99]**
Métis				0.88	.558	[.58, 1.34]
Inuit				**2.27**	**.004**	**[1.30, 3.95]**
Indigenous Language				0.89	.288	[.72, 1.10]

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). The referent for Indigenous group is First Nations. Indigenous language was a factor score. Suicidal ideation (0=no lifetime suicidal ideation, 1=lifetime suicidal ideation). CI=confidence interval.

Table 6 Residential school and parent-child separation predicting tobacco smoking (weighted sample)

	Unadjusted			Adjusted		
Predictor	OR	*p*	95% CI	OR	*p*	95% CI
Intergenerational residential school	**1.80**	**<.001**	**[1.47, 2.26]**	**1.38**	**.012**	**[1.07, 1.78**
Parent-child separation	**1.71**	**<.001**	**[1.58, 2.63]**	**1.76**	**<.001**	**[1.26, 2.33**
Age				**1.55**	**<.001**	**[1.44, 1.68]**
Sex				1.15	.254	[.90, 1.48]
Year cycle				**0.75**	**.049**	**[.60, 1.00]**
Métis				0.93	.635	[.70, 1.24]
Inuit				**2.58**	**<.001**	**[1.92, 3.45]**
Indigenous Language				**1.59**	**<.001**	**[1.38, 1.84]**

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). The referent for Indigenous group is First Nations. Indigenous language was a factor score. CI=confidence interval. Tobacco smoking (0= does not smoke, 1=smokes occasionally or regularly).

Table 7 Residential school and parent-child separation predicting recreational drug use (including cannabis) (weighted sample)

	Unadjusted			Adjusted		
Predictor	OR	*p*	95% CI	OR	*p*	95% CI
Intergenerational residential school	**1.67**	**<.001**	**[1.30, 2.13]**	**1.45**	**.006**	**[1.11, 1.89]**
Parent-child separation	**1.94**	**<.001**	**[1.46, 2.57]**	**1.51**	**.008**	**[1.21, 1.51]**
Age				**1.35**	**<.001**	**[1.11, 1.89]**
Sex				1.17	.427	[.80, 1.71]
Year cycle				**0.57**	**.005**	**[.39, .84]**
Métis				0.90	.459	.693, 1.180
Inuit				0.94	.750	[.626, 1.40]
Indigenous Language				**1.20**	**.032**	**[1.01, 1.42]**

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). The referent for Indigenous group is First Nations. Indigenous Language was a factor score. Recreational drug use including cannabis (0=no recreational drug use over the past 12 months, 1=recreational drug use over the past 12 months). CI=confidence interval.

Table 8 Residential school and parent-child separation predicting recreational drug use (excluding cannabis) (weighted sample)

	Unadjusted			Adjusted		
Predictor	OR	*p*	95% CI	OR	*p*	95% CI
Intergenerational residential school	**2.27**	**<.001**	**[1.55, 3.33]**	**2.18**	**<.001**	**[1.48, 3.21]**
Parent-child separation	2.08	.001	[1.37, 3.14]	1.56	.05	[1.00, 2.44]
Age				1.05	.571	[.88, 1.26]
Sex				1.16	.427	[.80, 1.71]
Year cycle				**0.55**	**.004**	**[.39, .84]**
Métis				0.97	.891	[.66, 1.44]
Inuit				0.62	.190	[.31, 1.26]
Indigenous Language				1.06	.624	[.84, 1.34]

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). Recreational drug use excluding cannabis (0=no recreational drug use over the past 12 months, 1=recreational drug use over the past 12 months). The referent for Indigenous group is First Nations. Indigenous language was a factor score. CI=confidence interval.

Table 9 Zero inflated Poisson model examining residential school exposure and parent-child separation predicting heavy episodic alcohol use (weighted sample).

	Unadjusted				Adjusted			
	b	*p*	e^b	95% CI	*b*	*p*	e^b	95% CI
Poisson (count) portion								
Residential school exposure	. 119	.028	1.126	.013, .225	.088	.106	1.092	-.019, .195
Parent-child separation	.100	.082	1.105	-.013, .2123	.019	.727	1.020	-.090, .129
Age					**.226**	**<.001**	**1.254**	**.177, 0.276**
Sex					.003	.958	1.003	-.100, .101
Year cycle					-.091	.089	.913	-.197, .014
Métis					-.051	.376	.950	-.164, .062
Inuit					.039	.703	1.210	-.163, .242
Indigenous Language					.035	.256	1.036	-.026, .096
Zero-inflated portion (predicting zeros)								
Residential school exposure	**.251**	**.036**	**1.286**	**.016, .485**	.048	.796	.954	-.401, .313
Parent-child separation	**-.451**	**.002**	**.637**	**.744, -.159**	**-.422**	**.04**	**.655**	**-.826, -.019**
Age					**-.724**	**<.001**	**.486**	**-.840, -.609**
Sex					-.204	.227	.815	-.536, .127
Year cycle					.187	.319	1.205	-.181, .556
Métis					**-.684**	**.002**	**.504**	**-1.11, -.259**
Inuit					.301	.169	1.352	-.128, .731
Indigenous Language					**.296**	**.003**	**1.345**	**.102, .490**

The Poisson model examined whether intergenerational residential school exposure and parent-child separation predicted heavy episodic alcohol use over the past 12 months. The zero-inflated model. The zero-inflated model examined whether residential school exposure and parent-child separation predicted the excess zeros in drinking any alcohol, thus a negative coefficient in this model means that as residential school exposure and/or parent-child separation increases, abstention from alcohol (i.e., zero alcohol use) decreases. Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). Heavy episodic alcohol use (0=never uses alcohol, 1=never heavy drinking, 2= heavy drinking <once a month, 3= heavy drinking < once a month, 4= heavy drinking 2-3 times a month, 5=heavy drinking once a week, 6=heavy drinking > once a week). The referent for Indigenous group is First Nations. Indigenous language was a factor score. CI=confidence interval.

Table 10 Residential school, parent-child separation, and language factor score on anxiety, depression, suicide, including interactions (weighted sample)

Predictor	Mood disorder			Anxiety disorder			Suicidal ideation (lifetime)		
	OR	*p*	95% CI	OR	*p*	95% CI	OR	*p*	95% CI
Residential school exposure	1.27	.205	[.878, 1.830]	1.14	.427	[.826,1.571]	1.40	.199	[.839, 2.324]
Parent-child separation	**1.70**	**.039**	**[1.027, 2.832]**	**1.67**	**.042**	**[1.018, 2.757]**	0.76	.402	[.410, 1.429]
Age	**1.30**	**<.001**	**[1.189, 1.423]**	**1.16**	**.001**	**[1.064, 1.256]**	0.98	.783	[.827, 1.154]
Sex	**2.47**	**<.001**	**[1.189, 1.423]**	**2.09**	**<.001**	**[1.578, 2.764]**	0.98	.918	[.651, 1.471]
Year cycle	**2.60**	**<.001**	**[1.88, 3.61]**	**2.72**	**<.001**	**[2.013, 3.677]**	**3.88**	**<.001**	**2.481, 6.066]**
Indigenous Language	.99	.922	[.751, 1.296]	0.90	.408	[.703, 1.154]	1.16	.366	[.839, 1,608]
Residential school x parent-child separation	1.05	.886	[.531, 2.080]	0.80	.506	[.423, 1.53]	2.16	.064	[.955, 4.892]
Language x residential school	1.02	.929	[.692, 1.497]	0.74	.120	[.505, 1.081]	0.88	.593	[.549, 1.408]
Language x parent-child separation	.95	.843	[.568, 1.586]	0.77	.377	[.431, 1.375]	0.86	.663	[.429, 1.714]
Language x residential school x parent-child separation	.806	.528	[.413, 1.573]	1.38	.377	[.673, 2.837]	1.03	.937	[.452, 2.363]

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). Indigenous Language was a factor score.

Table 11 Residential school, parent-child separation, and language factor score on smoking and drug use, including interactions (weighted sample)

Predictor	Smoking			Drug use (including cannabis)			Drug use (excluding cannabis)		
	OR	*p*	95% CI	OR	*p*	95% CI	OR	*p*	95% CI
Residential school exposure	**1.37**	**.024**	**[1.042, 1.812]**	**1.39**	**.032**	**[1.028, 1.879]**	**1.78**	**.014**	**[1.123, 2.833]**
Parent-child separation	**1.75**	**.013**	**[1.126, 2.730]**	1.39	.132	[.905, 2.132]	.94	.849	[.520, 1.712]
Age	**1.55**	**<.001**	**[1.434, 1.672]**	**1.35**	**<.001**	**[1.209, 1.504]**	1.05	.553	[.883, 1.260]
Sex	1.14	.278	[.897, 1.458]	.88	.309	[.682, 1.128]	1.17	.426	[.796, 1.71]
Year cycle	**.75**	**.048**	**[.569, .998]**	**.54**	**<.001**	**[.423, .698]**	**.55**	**.004**	**[.369, .826]**
Indigenous Language	**2.38**	**<.001**	**[1.968, 2.879]**	**1.33**	**.011**	**[1.067, 1.652]**	**1.29**	**.042**	**[1.009, 1.662]**
Residential school x parent-child separation	.85	.572	[.482, 1.497]	1.18	.569	[.660, 2.126]	1.90	.114	[.858, 4.207]
Language x residential school	**.68**	**.005**	**[.525, .889]**	.85	.339	[.610, 1.185]	.67	.077	[.433, 1.043]
Language x parent-child separation	.74	.137	[.495, 1.101]	.95	.822	[.581, 1.538]	.54	.164	[.225, 1.289]
Language x residential school x parent-child separation	1.42	.180	[.850, 2.373]	1.07	.832	[.569, 2.014]	2.25	.114	[.823, 6.147]

Bold indicates statistical significance. Residential school exposure (0 =no exposure, 1=parent and/or grandparent exposure), parent-child separation (0=no separation, 1=lives with 1 or both parent). Age was mean-centred. Sex (0=male, 1=female). Year cycle (0=2012 survey, 1=2017 survey). Indigenous Language was a factor score of language involvement.

Table 12 Language variables proportions (weighted sample)

Variable	None	A few words	With effort	Relatively well	Very well
Ability to speak traditional language	65.8%	25.1%	3.6%	2.4%	3.0%
Ability to understand traditional language	61.6%	23.8%	5.8%	4.1%	4.7%
	Never	< once per week	Once a week	A few times per week	Daily
Traditional language exposure within household	72.1%	10.6%	3.6%	2.9%	10.7%
Traditional language exposure outside household	56.5%	22.6%	6.5%	6.0%	8.5%
	Not important	Not very important	Somewhat important	Very important	
Importance of traditional language	18.6%	28.4%	32.6%	20.4%	

Table 13 Language factor loadings

Variable	Factor loadings	Uniqueness
Ability to speak traditional language	**.94**	.12
Ability to understand traditional language	**.96**	.07
Importance of traditional language	**.59**	.65
Exposure to traditional language within household	**.80**	.37
Exposure to traditional language outside household	**.75**	.44

Notes: Salient loadings (>.40) shown in bold.

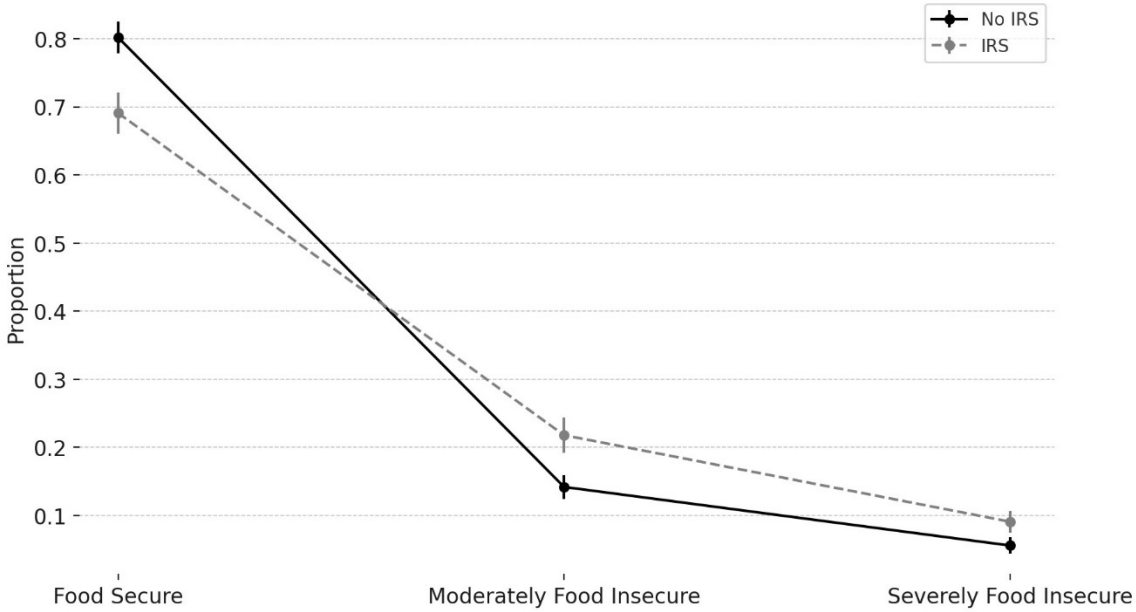

Figure 2 Food security status by Indian Residential School (IRS) exposure

Appendix E

Relevant policies, legislation, court cases

$23.4 billion for the Revised Final Settlement Agreement
$23 billion settlement between the Assembly of First Nations and the federal government

Bill C-92: https://www.parl.ca/DocumentViewer/en/42-1/bill/C-92/royal-assent

An Act respecting First Nations, Inuit and Métis children, youth and families,
United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)

https://www.parl.ca/DocumentViewer/en/42-1/bill/C-92/royal-assent

First Nations Child and Family Caring Society of Canada et al. v. Attorney General of Canada

United Nations Convention on the Rights of the Child International Convention on the Elimination of All Forms of Racial Discrimination.

Federal government of Canada's responses to the TRCC's Calls to Action on child welfare: https://www.rcaanc-cirnac.gc.ca/eng/1524494379788/1557513026413

Jordan's Principle (first adopted)
https://www.fncaringsociety.com/sites/default/files/2023-05/Jordan%27s%20Principle%20Information%20Sheet%202023%20EN.pdf

federal government protocol
Attorney General of Québec, et al. v. Attorney General of Canada, et al.

Whānau Ora: https://whanauora.nz/

The Indian Child Welfare Act Proceedings introduced legally binding regulations in 2016 to ensure better adherence to ICWA standards.
https://www.federalregister.gov/documents/2016/06/14/2016-13686/indian-child-welfare-act-proceedings

National Indian Child Welfare Association. (2021). The Indian Child Welfare Act: History and Impact. Retrieved from https://www.nicwa.org/about-icwa/