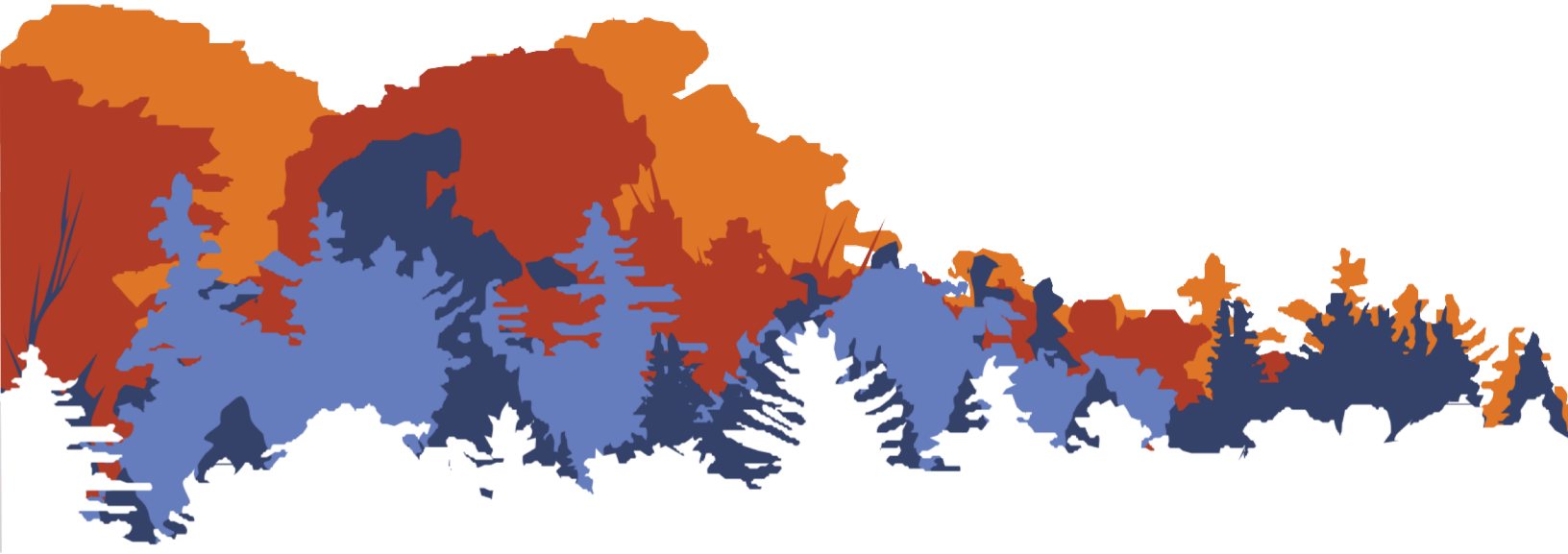

LEARNING ACROSS INDIGENOUS AND WESTERN KNOWLEDGE SYSTEMS AND INTERSECTIONALITY: RECONCILING SOCIAL SCIENCE RESEARCH APPROACHES

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IMPROVE LIFE.

Acknowledgements

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The co-authors work within universities in Nova Scotia, Ontario, Manitoba, Saskatchewan and British Columbia. They bring disciplinary perspectives from Political Science, Education, Social Work, Indigenous Studies, Cultural Studies, and Disability Studies. Some of us are members of Indigenous Nations within Turtle Island or the African continent, and some are descended from European settlers.

We recognize that our attempt to explore links between Indigenous and Western knowledges and science is potentially contentious, and also that we come from our own positions as researchers with particular disciplinary training and personal experiences. For example, we are conscious of the possibility that highlighting principles shared by frameworks that link Indigenous and Western knowledge, and intersectionality, could imply that we are overlooking or erasing critical differences between and within Indigenous and Western knowledges and science. We are also aware that some of our findings could be interpreted as implying that Indigenous and Western knowledge systems depend on each other. This is far from our intention. Instead, we offer these ideas, with humility and respect, as discussion stimuli, and as part of a broader conversation about what truth and reconciliation in social science research does or could look like. We invite readers to explore how these ideas might fit within their own positions and practices.

Finally, we acknowledge our presence and work on Indigenous territories. We respectfully recognize the effects of colonization on Indigenous peoples and all Canadians, and offer this report as part of our ongoing commitment to truth and reconciliation. Meegwetch and thank you.

Social Sciences and Humanities Research Council of Canada

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Canada

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1. Key messages

This report offers possibilities for talking between Indigenous and Western knowledges. Some of our reflections emerge from conceptual frameworks that aim to link Indigenous and Western approaches to knowledge creation. Although these frameworks are not generalizable, they are instructive. Some of our reflections come from considering feminist intersectional theory.[1] We point to seven principles, found in Indigenous and Western science, that could inform research policies and practices that are inclusive of multiple knowledges and intersectionality. The five key findings of this knowledge synthesis are:

A. Reconciliation within contemporary Canadian society requires investments in Nation/Inuit/Métis-specific knowledge systems. In many cases, reconciliation will require mutual learning from, between, and across Indigenous and Western knowledge systems, without privileging Western knowledge, or appropriating Indigenous knowledge. This type of learning can be encouraged and supported within universities, through education and training, and by grassroots and public organizations. It must respect and recognize the diversity of Indigenous approaches and avoid assuming there is a singular or pan-Indigenous approach, just as there is not a singular Western approach.

B. An abundance of scholarship has responded to the challenge of engaging both Indigenous and Western approaches to knowledge creation by creating models we describe as "linking frameworks". However, it is imperative for researchers and policy makers to leverage frameworks that reflect the specific context and conceptual landscape in which they work. This will enable more respectful and effective reconciliation efforts, grounded in space and time, and therefore much more relevant to the worldviews of all those involved.

C. Governments across Canada have committed to moving towards Nation-to-Nation relationships with Indigenous peoples, at the same time as they have elevated their commitments to undertaking intersectional gender-based analyses in making policy decisions. These two commitments significantly build on one another. Scholars can explore the results of putting these two fields into more regular conversation to further reveal how they can be of mutual benefit, and what their differences yield. Practitioners will also have insight to share about how these multiple approaches to knowledge contrast and complement one another**.**

D. Our results highlight seven principles at the bases of both intersectional analysis and the linking frameworks identified in this report: Relationality, Reciprocity, Reflexivity, Respect, Reverence, Responsivity, and Responsibility. These principles offer common ground for collective action. Solidarity building between Indigenous and intersectional advocacy groups may be advanced through these principles. What follows draws on existing ethical guidelines governing research and collaboration. We offer this synthesis as part of that broader conversation.

E. When undertaken in a way that does not merely ameliorate conditions of inequality, but redresses them, multi-epistemic scholarship that considers intersectionality changes not only how we work (our methods), and how we share our work (knowledge mobilization), but also how we exist as reflexive and relational beings. Publishers, funders, and educators can support a reflexive stance as part of common scholarly formats and graduate student training. They can also enable community-based collaborations which initiate cross-knowledge systems research. This may entail reframing who is eligible to receive and hold research funds.

2. Executive summary

2.1 Introduction

Pressing socioeconomic, political, and ecological challenges demand new approaches to creating and acting on research. Finding new approaches to knowledge creation requires turning to previously excluded understandings of the world, including Indigenous ways of knowing. Canada's growing acknowledgment of the persistence of colonization includes a realization that the attempted erasure of Indigenous peoples' knowledge and knowledge systems has resulted in missed opportunities for creativity and innovation in pursuit of research that advances equality and sustainability. Some knowledges have long been marginalized within Western scientific traditions as well. The knowledges of women, queer, disabled, and racialized knowledge holders are examples. One of the responses to this exclusion is the theoretical idea and practice of intersectionality, which contends that varying forms of oppression are interrelated, interactive, and co-constitutive. This knowledge synthesis report contributes to Canada's commitment to truth and reconciliation[2] by offering ideas for how to do research that is intentional about learning from Indigenous and Western ways of knowing, and about incorporating marginalized voices from within multiple knowledge systems.

2.2 Objectives

While there is growing awareness of the need to think differently about reconciling Indigenous and Western ways of knowing, there is a lack of information about how these knowledge systems can work together, and how to account for diversity within these knowledge systems. Addressing this issue first demanded an understanding of what constitutes "Indigenous" and "Western" ways of knowing. While this research is grounded in the belief that these knowledge systems are far from homogeneous, we nevertheless agreed on the need to explain some broad and general differences between the two. Then, our focus was on answering three questions:

A. What research frameworks – which we call linking frameworks – draw together Indigenous and Western approaches to knowledge creation?
B. How do linking frameworks and intersectionality contrast and complement one another?
C. What methodologies (principles and methods) bring together the linking frameworks and intersectionality?

With these questions in mind, our objectives with this report are to:

- Inform researchers and scholars about a variety of conceptual frameworks that attempt to link Indigenous and Western approaches to knowledge.
- Contribute to the development of guidelines for intersectional knowledge creation. This will help political, academic and community actors fulfill their obligations to both "truth and reconciliation" and "gender based analysis plus" policies and practices.

2.3 Approach

Our research team included Indigenous and Western researchers from across disciplines and across present-day Canada. We conducted a broad literature review of academic and community literature to locate theoretical and empirical research responding to the above research questions. We focused on literature in English, primarily from North America, but have also included a few sources from Australia, New Zealand, and South Africa, where historically and linguistically similar colonial experiences occurred

and persist. We also held conversations with Indigenous wisdom keepers and key informants as a way of respecting knowledge outside of academic literature, and to balance the dominance of Western thought in published articles.

2.4 Results

The results of our literature review and conversations with wisdom keepers and key informants led to our five key messages and their related implications.

A. As well as addressing many of the deep socioeconomic, political, and ecological challenges we face, reconciliation within contemporary Canadian society requires learning from and across, Indigenous and Western knowledge systems, without privileging Western knowledge or appropriating Indigenous knowledge. This is especially significant for non-Indigenous people, who are accustomed to working from a position that privileges Western approaches to knowledge creation. Many Indigenous thinkers already straddle these two worlds as a consequence of the power inequalities of colonization, and are therefore focused on revitalizing Indigenous approaches. As one knowledge informant suggested, this learning should occur "in families,"[3] which we understand to mean among people in relationship with one another, where people feel safe to learn. **This type of learning can be encouraged and supported within universities, through education and training, and by grassroots and public organizations. This learning must also respect and recognize the diversity of Indigenous approaches and avoid assuming there is a single or pan-Indigenous approach.**

B. Scholars have responded to the challenge of engaging both Indigenous and Western approaches to knowledge creation by creating models we describe as "linking frameworks". **However, it is imperative for researchers and policy makers to leverage frameworks that reflect the specific context and conceptual landscape in which they work. This will enable more respectful and effective reconciliation efforts**, grounded in space and time, and therefore much more relevant to the worldviews of all those involved.

C. Governments across Canada have committed to moving towards Nation-to-Nation relationships with Indigenous peoples, at the same time as they have elevated their commitments to undertaking intersectional gender-based analyses in policy development. These two commitments significantly build on one another. While the linking frameworks propose how different cultural perspectives can contribute to knowledge creation, intersectional analyses investigate the complex nature of inequality, to reveal shifting collective and individual privileges and oppressions that require recognition for inclusive and robust policy development. Though different (the former often focused on assets, the latter more often on deficits), these two ambitions are deeply complementary and imperative to one another. Yet little intersectionality scholarship strives to connect to Indigenous ways of knowing, and little attention has been paid to intersectionality in Indigenous scholarship. An exception is the development of the idea of *red intersectionality,* which we note in more detail in our findings. **Scholars can explore the results of putting linking frameworks and intersectionality into more regular conversation to elaborate on how they can be of mutual benefit and what their differences yield. Practitioners will also have insight to share about how these multiple approaches to knowledge creation contrast and complement one another.**

D. The results of our research highlight seven principles at the bases of both intersectional analyses and the linking frameworks: Relationality, Reciprocity, Reflexivity, Respect, Reverence, Responsivity, and Responsibility. These shared principles represent a common ground for collective action. **Solidarity building between Indigenous and intersectional advocacy groups may be advanced through these principles. Existing ethical guidelines governing research and collaboration could also be further developed to account for all seven principles.**

E. Doing intersectional research that learns across knowledge systems, challenges all aspects of the research process. When undertaken in a way that does not merely ameliorate conditions of inequality, but redresses them, multi-epistemic scholarship changes not only how we work (our methods), and how we talk about or share our work (knowledge mobilization), but also how we exist as reflexive and relational beings. **Publishers, funders, and educators can support a reflexive stance as part of common scholarly formats and graduate student training. They can also enable community-based collaborations which initiate cross-knowledge systems research. This may entail reframing who is eligible to receive and hold research funds.**

2.5 Conclusion

The Truth and Reconciliation Commission (TRC) calls on governments, funding agencies, universities and Canadians to undertake the ongoing work of truth and reconciliation through collaborative projects, education, research, and funding. This work must include Indigenous knowledge and methods, and should focus on redressing colonization – particularly the legacy of residential schools – in Canadian history. This report offers one approach to respond to the TRC's calls for action. We suggest that the onus is especially on non-Indigenous peoples to learn more about and respond, with humility, to Indigenous ways of knowing, and to linking frameworks that facilitate connections between Indigenous and Western ways of knowing. We also suggest that despite ongoing gaps in our knowledge, we can bring together linking frameworks and intersectionality through seven principles that will help us undertake research – as scholars, policy makers, and community organizers – in a good way[4].

[1] The authors of this report recognize that the term intersectionality is attributed to the critical feminist scholarship of African American women, and also traced further back to the work of Indigenous feminists (see Clark, 2016). We use the term feminist intersectionality in the introduction to flag the importance of always considering the ways in which gender structures people's experiences, without suggesting that other axes of power are unimportant. Throughout the report, we use the term "intersectionality" for brevity.

[2] Represented by the Truth and Reconciliation Commission of Canada.

[3] ?eh ?eh naa tuu kwiss/M. Atleo, personal communication, March 21, 2017

[4] Our use of the expression "in a good way" refers to the ideas and values that underpin Indigenous teachings of "the good life". In an article called, *Seeking Mino-pimatasiwin (the Good Life): An Aboriginal approach to social work practice,* Hart (2004) highlights the results of an extensive review of literature and the knowledge of Elders to describe the Good Life as including attention to wholeness, balance, relationships, harmony, growth, and healing, and as being informed by the key values of sharing and respect.

3. Report

3.1 Context

Canada's persistent policies and practices of colonization are becoming more publicly acknowledged, because of their dire impacts on Indigenous peoples and communities, and because the resulting systemic inequalities harm our collective wellbeing. Along with the egregious harms of colonization to Indigenous peoples, the attempted erasure of Indigenous peoples' knowledge and knowledge systems has resulted in missed opportunities for creativity and innovation in pursuit of knowledge creation. In response, Indigenous scholars, wisdom keepers, and allies have advanced a resurgence of Indigenous knowledge systems, and Indigenous and decolonizing theories and methodologies have (re-)emerged.

There is also a history of marginalizing some knowledges within Western knowledge systems. For example, feminist, queer, and critical race scholarship all emerged in response to a persistent failure to acknowledge the experiences of women, people with a broad range of gender and sexual identities, and racialized people. Another idea that has emerged is intersectionality, a feminist concept originating in the work of African American women, which seeks social justice by revealing and responding to the ways that people can be both oppressed and privileged when their identities or positions *intersect* with each other, and with social structures and systems of power. Intersectionality assumes that peoples' experiences are deeply affected by social and political systems that (usually the dominant or privileged group of) people have created.

While Indigenous and intersectional research methodologies commonly refer to community engaged and participatory approaches, which share a critique of positivist assumptions about truth, knowledge, and power, Indigenous research and intersectional research do not fit together seamlessly. The objective of our research is to synthesize what we know about frameworks that bring together Indigenous and Western knowledges and research approaches, and to examine principles and methods that are shared, or in tension, between these frameworks and intersectionality. The results of this work contribute knowledge about *how* to reconcile Indigenous and Western approaches to research,[5] and offer guidance on *how* to build a collective and collaborative social science research paradigm that benefits from both Indigenous and Western knowledges, and intersectionality.

3.2 Implications

Our five key messages, detailed above, are summarized as follows: (1) Reconciliation requires investments in Nation/Inuit/Métis-specific knowledge systems. In many cases, reconciliation will also require learning from and across Indigenous and Western knowledge systems without privileging Western knowledge, or appropriating Indigenous knowledge; (2) Scholars have responded to the challenge of employing both Indigenous and Western approaches to knowledge creation, by creating what we call "linking frameworks". It is imperative for researchers and policy makers to leverage frameworks that reflect the specific contexts and conceptual landscapes in which they work; (3) Government commitments to move towards Nation-to-Nation relationships with Indigenous peoples, and to undertake gender-based (intersectional) analyses in policy decisions significantly build on one another; (4) Seven principles can be found at the bases of both intersectional analysis and the Indigenous-Western knowledge linking frameworks: Relationality, Reciprocity, Reflexivity, Respect, Reverence, Responsivity, and Responsibility; and (5) Doing intersectional research that learns across knowledge systems, challenges all aspects of the research process. All five of our key messages have implications for a range of audiences including policy makers across all levels of government, scholars,

educators, research funders, community organizations, and Indigenous governments and organizations. Some key implications for research policy, scholars and educators, and community organizations follow:

Research policy (universities, governments, funders, publishers)

- Indigenous approaches to knowledge creation can and should be engaged in collaboration with Western and intersectional approaches.
- Reductive and superficial understandings of Indigenous knowledge systems, Western knowledge systems, and intersectional methodology are potentially harmful and should therefore be avoided.
- Many linking frameworks already exist and could be further understood and developed, to facilitate collaboration across knowledge systems, but only if this can be done in a way that does not perpetuate inequity or appropriation.
- Researchers should look for, or develop, linking frameworks or tools that reflect the specificity of their own context to maximize relevance and efficacy, without compromising cultural integrity.[6]
- Applying the seven principles identified in this report can motivate, guide, inform, and govern knowledge creation and knowledge mobilization that advances reconciliation.
- Tenure and promotion merit review should account for the time intensive work of employing the seven principles, which can both enhance the quality and reduce the quantity of academic publications.
- Knowledge sharing forums must be amenable to unconventional formats and normalize reflexivity in research texts.
- Funders may have to broaden funding eligibility requirements to include applicants outside academia.

Scholars & educators

- Education and training should encourage and support students' employment of multiple knowledge systems and intersectional analysis.
- Curricula should address, and scholarship should further investigate, the linking frameworks and seven principles, and the relevance of intersectionality to truth and reconciliation.

Community organizations

- Indigenous and intersectional advocates can build partnerships and develop solidarity to advance their agendas by viewing the seven principles as a basis of unity.
- Community based organizations can take a lead role in pursuing research, informed by the seven principles.

3.3 Approach

Methods overview

To gather and synthesize knowledge in this project, we undertook: (1) a literature review; and (2) conversations with Indigenous wisdom keepers and key informants across present-day Canada. Our initial research question focused explicitly on Two-Eyed Seeing as a popular framework for linking Indigenous and Western knowledge systems. As a result of the first stages of our literature review, this question expanded because we uncovered several linking frameworks that share the purpose of holding and bringing together Indigenous and Western knowledges. Our second research question shifted accordingly, to ask what principles and methods were shared between these linking frameworks, while also incorporating the idea of intersectionality, and particularly an emphasis on feminist

intersectionality, in keeping with the scholarly commitments of members of the research team. We identified the need to point out tensions between the principles guiding these linking frameworks and intersectionality, and so refined our search strategy to emphasize the following questions:

- What research frameworks – which we call linking frameworks – draw together Indigenous and Western approaches to knowledge creation?
- How do linking frameworks and intersectionality contrast and complement one another?
- What methodologies (principles and methods) effectively bring together the linking frameworks and intersectionality?

Literature review

We entered 13 combinations of keywords in six academic databases. We limited our results to articles published in English from 2005 to present, and focused on North America, while including some relevant scholarship from Africa, Australia and New Zealand. We focused on articles that responded to one or more of the above questions, and that were grounded in the social sciences. This was necessary to manage the volume of material uncovered given our time and resource restrictions, but it results in two key limitations. The first is that potentially useful work from other regions of the world is not included here. The second is that focusing on the social sciences preserves a disciplinary and human/non-human dichotomy that can be problematic. To counter this, we retained relevant natural science articles that we uncovered, and will consider their connection to the findings presented here in future research.

We reviewed resulting abstracts and saved all articles that described linking frameworks or intersectionality, or the use of methods in relation to these. After eliminating duplicates, and excluding irrelevant articles, we arrived at a total of 147 articles. We also searched for community literature that detailed research collaborations, or that reflected on our research questions. We identified websites of organizations such as professional and community associations, private and public agencies, research institutes, and community health councils. In total, we reviewed 37 documents from these sources. Appendix A includes more details about our research methods.

Conversations with Indigenous wisdom keepers and key informants

Because Indigenous knowledges have long been marginalized in Western academic literature, we also reached out to 71 Indigenous wisdom keepers and other key informants to discuss our research questions, and gather specific recommendations about additional literature to include. 24 people discussed this research with us formally. These conversations were recorded and/or synthesis notes were taken. Key informants referred us to 60 additional resources. Appendix B includes a list of conversation participants.

Analysis

We coded the included articles using the qualitative data analysis software NVivo. Our coding system was developed based on the research questions and search terms used in our literature search. The coding system was continually updated as new themes emerged. We focused on identifying concepts and theories that emphasized learning from multiple knowledge systems, and on related methodologies. The analysis was iterative in two ways: First, our conversations with Indigenous wisdom keepers and key informants guided our thinking and expanded our literature review. Second, we returned to the key informants and wisdom keepers via a webinar and individual follow-up conversations (see “knowledge mobilization” section for details) to expand, shift, and re-frame our analysis.

3.4 Results

What are Indigenous and Western ways of knowing, and how do they compare?

There is no single Indigenous or Western way of knowing. It is easy to fall into the traps of "homogenizing" and "othering" by approaching these vast ways of knowing in general terms. Yet it is important to offer some starting point for this report. In what follows, we avoid making definitive claims, while offering an opening for investigating and acknowledging broad differences between Indigenous and Western ways of knowing.

Indigenous worldviews are described in Indigenist, decolonizing, and/or reconciliatory research with several characteristics seen to be common across numerous Indigenous peoples, cultures, histories and contexts. These include: "(1) knowledge of unseen powers in the ecosystem; (2) knowledge of the interconnectedness of all things; (3) knowledge of the perception of reality based on linguistic structure or ways of communicating; (4) knowledge that personal relationships bond people, communities and ecosystems; (5) knowledge that traditions teach specialized knowledge related to 'morals' and 'ethics'; and (6) knowledge that extended kinship passes on social traditions and practices from one generation to the next."[7] These characteristics emphasize a metaphysical, holistic, oral/symbolic, relational, traditional, and intergenerational approach to knowledge.

These characteristics are not at odds with all of Western scholarship. However, Western science has been criticized for being anthropocentric, patriarchal, and reductive. It has been significantly influenced by the philosophical tradition of positivism, which rejects the metaphysical realm as a source of knowledge. This is especially true in natural science disciplines, but it is also common in the social sciences. Western researchers often treat knowledge as a thing, rather than as a process involving actions, experiences, and relationships.[8]

For our purposes, these descriptions raise several important distinctions: Much of Western scholarship is fragmented into disciplines, with an emphasis on mathematical and linguistic intelligences, while many Indigenous ways of knowing rely more heavily on other forms of intelligence, including interpersonal, kinesthetic, and spiritual intelligences.[9] As well, much of Western scholarship focuses on objective reliability and validity, whereas an important question in Indigenous knowledge is, "how am I fulfilling my role in this relationship?"[10] Another difference is that land is an object of study in a lot of Western scholarship, whereas within Indigenous knowledge systems, land is typically regarded as mother earth, who provides teachings that determine traditional values or ways of knowing.[11]

To add to these challenging differences, there are serious risks associated with aiming to *integrate* Indigenous and Western knowledges because integration implies that one will be incorporated into, or subsumed by, the other. A key issue with this, as several key informants and pieces of literature noted, is the vast power differential between the two. "[T]he very dilemma knowledge integration faces in the arena of Indigenous knowledge and science [is]: whose knowledge is 'new,' whose is 'existing,' and who decides?"[12] One wisdom keeper articulated that integration could also lead to generalizing and assimilating Indigenous knowledges because unequal power between Western and Indigenous knowledge systems remains unrecognized. She suggested that, to realize the potential of Two-Eyed Seeing and other linking frameworks, more conscious work must be done "in families" to cultivate peoples' capacities to navigate multiple worldviews, and to account for local specificity and diversity in Indigenous world views.[13] She also suggested, as noted below, that intersectionality offers a lens to help identify the layers of power at work between Indigenous and Western knowledge systems.

Despite the differences between them, and the risks of integration, several scholars and wisdom keepers argue that we can and should try to learn from both Indigenous and Western ways of knowing because their complementarity will allow us to gain new ways of thinking about and approaching existing problems[14], and because their contradictions create learning opportunities. In fact, some argue

that presenting different ways of knowing is a pedagogical imperative.[15] Further, because Indigenous and settler societies are both here to stay, identifying ways to hold and honour both worldviews is essential, especially "with a real appreciation on the part of the Europeans for the gulf which they need to travel within themselves in order to be ready, at last, to see and hear the subtle knowledge, wisdom, and awareness which is held and practiced by the peoples Indigenous to this land. This bridge-building is now being called for by the planet itself."[16] With a cautious approach that recognizes the pitfalls and power inequalities, these linking frameworks may have the potential to facilitate truth-telling, redress, reconciliation and the creation of new ways forward.

What research frameworks draw together Indigenous and Western approaches to knowledge creation?

Twenty-four research frameworks, identified in the literature we reviewed and in our conversations with key informants and wisdom keepers, offer ways of learning and drawing from multiple worldviews. We have organized these into two categories: Nineteen are grouped as models or frameworks that emphasize ways to connect knowledge systems. Table 3.1 offers a brief explanation of these frameworks. This basic overview of these linking frameworks is not intended to imply that they are easily applied or transferable across contexts. As noted above and below, the work of using these linking frameworks, together with intersectionality, is intensive and requires close examination of their origins. The other five frameworks are included in Appendix C for reference. They do not focus on linking Indigenous and Western ways of knowing per se, but do elaborate on particular Indigenous knowledges (e.g., Inuit qaujimautaqangit, Medicine wheel).

Table 3.1 Research frameworks that link Indigenous and Western knowledges

Framework	Central idea
4R-4D framework	This framework draws on Aboriginal education literature,[17] including the "4Rs",[18] to develop a 4R-4D framework for understanding how narrative can be used by Elders to navigate between worldviews and embrace change. The 4Rs refer to reverence, respect, responsibility and relationality—tangible practices and obligations that cross time and space. The 4Ds refer to cultural dynamics, the cyclical and interrelated nature of existence such as those found in time, nature, story, and ancestry. The 4Rs and 4Ds are found in Umeek narratives' figures of speech. When embodied and adapted by Elders, they enable a kind of "phenomenological orienteering," or dialectical movement between past and future, and between cultural domains, creating a third space of meaning. This third space can "facilitate teaching and learning in community"[19] as well as research.
Constellations model	The constellations model sees knowledge systems as being continually evolving and forever in flux, containing shared, similar or different elements among them. Instead of viewing knowledge systems as uniquely defined, this model proposes moving away from the notion that frameworks are "containers with boundaries, and particularly away from binaries…[and towards] conversations about how to bring together multiple knowledge" systems.[20]
Cultural interface	This theory prioritizes Indigenous interests without displacing other knowledge systems. It argues that the complex intersection between Indigenous and Western knowledges creates tensions that can promote change and new knowledge.[21] The theory of cultural interface prioritizes context, privileging local place-based knowledge, and sees "Indigenous knowledge as a sophisticated system rather than as a parochial limitation or obstacle."[22]

Ethical space	This concept is rooted in the opportunities for dialogue between societies that have disparate views, and is focused particularly on the ethical space between that of Indigenous and Canadian legal systems.[23] This "theatre for cross-cultural conversation in pursuit of ethically engaging diversity…[requires a focus on] language, distinct histories, knowledge traditions, values, interests, and social, economic and political realities, [and an understanding of] how these impact and influence an agreement to interact."[24]
Indigenous cultural responsiveness theory (ICRT)	This decolonizing theory was created by First Nations scholars to address Indigenous wellbeing by weaving together a variety of related concepts and frameworks including, among others, ethical space[25] and two-eyed seeing.[26] It was designed to be adapted by other Indigenous communities, organizations, and individuals. The theory "prioritizes Indigenous methodologies and ways of knowing alongside evidence-based Western practices to harmonize with localized Indigenous knowledges."[27]
Insurgent research	This methodology is built on the values of witnessing and relational responsibility; respect for, and validation of, Indigenous worldviews; and a commitment to establish research and outputs that are action-oriented, relevant and useful in Indigenous communities. It integrates knowledge systems by establishing dialogue with "both the academy and Indigenous peoples, [which forces the researcher to engage with] two distinct ways of knowing the world."[28]
Expansive learning	This pedagogy, coming from environmental studies and development work, uses a multi-voice approach to bridge the gap between different knowledge systems.[29] It aims to "create space for interaction and negotiations among a diverse group of stakeholders and actors…[to reveal] the connection between action and meaning among the relevant stakeholders in a given context or situation…[and to make] "the various actors aware of and conscious about their local heritage [and] environmental knowledge."[30] It sees conflict and contradictions among divergent knowledge systems as essential for learning.
Hybridity	Hybridity is a concept that employs principles from both intersectionality and queer studies, providing an alternative way to understand "social positions within complex and intersecting systems of power."[31] It complicates rigid sex and gender categories such as male, female, homosexual and heterosexual.
Indigenous métissage	This "decolonizing research sensibility,"[32] is "inspired by Plains Cree and Blackfoot philosophical insights that emphasize contextualized and place-based ecological interpretations of ethical relationality."[33] This approach uses interpretations of tangible artifacts to channel multiple understandings of place, culture, and identity. In this way, "Indigenous Métissage purposefully juxtaposes layered understandings and interpretations of places in Canada with the specific intent of holding differing interpretations in tension without the need to resolve or assimilate them. The goal is to resist colonial frontier logics and instead forward new understandings of the relationships connecting Aboriginals and Canadians."[34]
Möbius strip metaphor	The Möbius Strip is a rectangle with one end twisted 180 degrees to join the other end, thus forming an infinite loop, which turns back towards its starting place. The metaphor of the Möbius Strip encourages "reflection on how the seemingly two sides [or two ways of knowing] co-create each other…[and provides] a pathway for moving together"[35] through shared experiences and knowledge, while respecting and acknowledging differences.

Polycentric global epistemology	This theory is fundamentally interested in Indigenous self-determination. It encompasses ideas from scholars whose work is considered "post-Eurocentric, postcolonial, post-Enlightenment, global, multicultural, feminist, polycentric, pluricentric, transmodern, [and] emancipatory."[36] It seeks to balance the power inherent in knowledge systems by decentering truth, acknowledging that there are multiple ways of knowing, and privileging historically excluded voices.
Rhizome	This model "provides a space for thinking about research-creation practices happening on the periphery of Indigenous and Western paradigms."[37] New knowledge is co-created within an open, non-linear space and results in knowledge that is "more robust, more accountable, more usable; knowledge that 'serves locally' at a given time."[38]
Three sisters framework	The Three Sisters is a Haudenosaune creation story[39] using a metaphor to bring together multiple ways of knowing that might support and complement each other. It rejects the idea of a single, universal truth. "The Three Sisters [corn, beans, and squash] offer us a new metaphor for an emerging relationship between Indigenous knowledge and Western science…. I think of the corn as Traditional Ecological Knowledge, the physical and spiritual framework that can guide the curious bean of science, which twines like a double helix. The squash creates the ethical habitat for coexistence and mutual flourishing. I envision a time when the intellectual monoculture of science will be replaced with a polyculture of complementary knowledges. And so all may be fed."[40]
Transrational knowing	This methodology creates a bridge from dominant Western forms of knowledge "to appreciating and understanding important aspects of Indigenous ways of coming to know."[41] It recognizes methods that may include non-linguistic forms of communication such as "dreams, intuitions and interspecies communication… [as well as] agency in both material and non-material worlds."[42]
Etuapmunk, or Two-eyed seeing	Mi'kmaq Elder Albert Marshall has developed this metaphor for negotiating between two cultures.[43] It requires "learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing, and to use both these eyes together, for the benefit of all."[44] Common ground is pursued between the "different scientific knowledges"[45] of Indigenous and Western science within a co-learning, active and inclusive environment.
Guswentah, or Two-row wampum	This is a metaphor that emphasizes the value of space for each system to enhance the other.[46] The Two-Row Wampum was a friendship treaty between the Dutch and the Haudenosaunee and "the rows of beads on the belt represent Dutch vessels and Iroquois canoes, traveling side by side down 'the river of life'"[47] without interfering in each other's wellbeing.
Working the hyphen	This theory sees the hyphen "as a marker, which indicates a relationship between collaborating peoples as well as their respective relationship to difference…."[48] This relationship is formed when "the researcher (the Self) and the researched (the Other) are joined."[49]
Kaupapa Ma¯ori	Kaupapa Ma¯ori is a methodological framework that combines Western critical theory and Ma¯ori ways of knowing, which include "an inseparable relationship between the world of matter and spirit."[50] It is a form of resistance and agency.[51] The framework uses the principles of "whakapapa (relationships), mana (justice

	and equity), tika (research design) and manaakitanga (cultural and social responsibility)"[52] to organize ethical practices across the Ma¯ori community.[53]
Living on the ground	This methodology is rooted in both feminist and Indigenous knowledges. It requires learning through the senses and letting go of previous notions of learning through intellect, a move that requires use of the whole body "as a vehicle for my learning — my physical, intellectual and spiritual body. I learnt to dream and to feel and believe in the Tjukurrpa [Dreaming]. Living on the Ground with the women Elders enabled me to experience the women's world: not in place of them, but with them."[54]

How does intersectionality relate to these linking frameworks?

Here, we turn to ask about the relationship between these linking frameworks and intersectionality, a theory and practice that challenges reductive ways of framing difference. Intersectionality also asks us to reject simple binaries as ways of understanding people and society. As one of our key informants explained, "when I was away at school I focused on Hawaiian and Indigenous studies which created a binary between the Native and the settler. I recognize the importance of that analysis. In the local work [I am doing], I've had to think, act and work in ways that push me beyond that simple binary."[55] Considering connections between linking frameworks and intersectionality offers an opportunity to highlight how research might be undertaken that is grounded in, and across, knowledge systems – often framed dualistically – while also recognizing how social relations and structures produce differences within and between groups.

What is intersectionality?

Intersectionality is a critical theoretical idea and an approach to research that aims to redress inequality by revealing and responding to the oppressions and privileges that result when peoples' identities or positions *intersect* with each other, and with social structures. Intersectional theorists also examine how these interactions shape social and political institutions.[56] Intersectionality assumes that peoples' experiences are deeply affected by social and political systems. Intersectionality rejects the assumption that the same single source of difference (e.g., gender *or* race *or* class *or* sexual orientation) is always important or central to a person's experiences. Intersectional scholarship interrogates inequality, relationality, power, social context, complexity and social justice.[57]

Some of intersectionality's early applications include trying to explain the experiences of black women in cases of legal discrimination,[58] and how identities and social structures work together to construct the ideal notion of family.[59] Intersectional scholarship also focuses on the challenges of assuming that everyone with a shared identity (i.e., women, Indigenous person) has the same experience in the world. However, "some argue the origins of intersectionality go much further back in histories of black feminist scholarship, queer and postcolonial theory, Indigenous feminism, and other academic work addressing issues of race, class, gender and power…. Intersectionality is used in diverse fields, including public policy, public health, feminist studies, indigenous studies, sexuality studies, law, psychology, critical race theory, and sociology."[60]

What are tensions and agreements between intersectionality and Indigenous ways of knowing?

A key tension between intersectionality and Indigenous ways of knowing is that intersectionality is based "on a body/earth split discursively positioning women as female humans above other non-human living things."[61] On the other hand, Indigenous ways of knowing, as discussed above, often treat all human and non-human entities as interdependent. Consequently, some argue that the notions of interconnectedness and complexity implied by intersectionality are already present/foundational to

Indigenous ways of knowing.[62] In addition, intersectionality pushes us to avoid assuming what matters in an analysis while Indigenous ways of knowing push us to centre ideas that are core to Indigeneity.

Despite these tensions, intersectionality's focus on "interdependence, multi-dimensionality, and mutually constitutive relationships"[63] make it useful for assessing the equal application of Indigenous and Western knowledge systems to a particular research question or problem, and may also be useful when studying variations in the past and ongoing effects of colonialism.[64] Intersectionality is also helpful in Canada's political context as a liberal welfare state. By considering both individual and structural relationships, it "bridges part of the theoretical gap between critical theory, which often faces the dilemma of overemphasis on structural explanations, and liberalism's privileging of the atomized individual…. Structural and micro-level research pursued in isolation from each other lack significant utility in addressing intractable political problems like persistent poverty, lack of political empowerment, and educational inequality."[65] Finally, intersectionality and Indigenous ways of knowing share a dynamic understanding of the world, shaped by space and time, so both help us to think about how to conduct research and how to understand experiences as constantly evolving.[66]

What does intersectionality offer linking frameworks?

A knowledge holder we spoke with wondered "whether intersectionality might provide a path forward to expand from the Western-Indigenous duality embedded in the Two-Eyed Seeing and Ethical Space frameworks. The tricky piece is how to respect that Indigenous knowledge systems are nation/culture-specific. Pan-Indigenous approaches are problematic."[67] Our literature review also pointed to several plausible contributions of intersectionality to linking frameworks. One is its potential for facilitating "allyship" by helping to reveal common causes of exclusion, thereby creating connections across difference, and unique opportunities for building coalitions of resistance.[68]

As well, because intersectionality focuses in part on informing public policy that accounts for difference, it might be a useful tool for helping to resist the assimilation concern that is brought forward surrounding the creation and use of linking frameworks. In the words of one knowledge holder, a contribution of intersectionality might be to push back against the risk of Indigenous ways of knowing being "co-opted to generalize and assimilate Indigeneity…. To be true to the genuine idea of traditional ecological knowledge…is to account for local specificity and diversity in Indigenous worldviews. That work is hindered by people's post-traumatic stress disorder and investment in the myth of the nation state, which traditional ecological knowledge is being co-opted to enable."[69]

What do linking frameworks offer intersectionality?

One important contribution of these linking frameworks to intersectionality is to remind us that "it is not enough to include colonialism as one axis of oppression, …colonialism conditions the whole matrix of intersecting systems of power in colonized spaces, such as North America."[70] In other words, it is not possible to sufficiently take into account the effects of colonization without introducing Indigenous ways of knowing into the research process. An idea created by an Indigenous scholar to advance this point is "Red intersectionality", a framework that is activist and sovereignty-oriented, that makes space for many voices, and that

> *provides the tools to theorize not only the past but the current forces of colonialism…. [It] recognizes the importance of local and traditional tribal/nation teachings, and the intergenerational connection between the past and the present, while also recognizing the emergent diversity of Indigenous girlhood…and the construction of Indigenous girls through the Indian Act. A Red intersectional perspective of Indigenous girls and violence does not center the colonizer, nor replicate the erasure of Two-Spirit and trans peoples in*

our communities, but, instead…attends to the many intersecting factors…and a commitment to activism and Indigenous sovereignty…. Any social justice action or outcomes must be situated within a framework that holds onto tradition and intergenerational knowledge [and] modern Indigenous struggles.[71]

Expanding intersectional thinking is valuable for developing a broader understanding of diverse women, including Indigenous women with diverse identities.[72] Frameworks that bring together Indigenous and Western ways of knowing could helpfully contribute to this important expansion of intersectionality. These linking frameworks may also help to illuminate a more strengths-based approach to understanding peoples' experiences. As a knowledge holder shared with us, "it has often struck me during the times I've worked in Indigenous perspective, let's not come at this from a deficit perspective, let's not look at all the things that are wrong. I think when we come at this from asking what are the strengths, we can move forward in ways that lead for everyone."[73]

The final point we note regarding the contribution of linking frameworks to intersectionality relates to the work of decolonization. Understanding Indigenous cultural ideas helps with understanding individuals' experiences. For example, "Are two-spirits understood as only marginalized or are they also understood as leaders, role-models and gifted with Indigenous teachings?... Although Indigenous cultures had, and continue to have, their own understandings of gender that are distinct from the binary of men and women, colonialism has entailed the imposition of western gender norms through the *Indian Act*, residential schools and other colonial systems. How might intersectional frameworks account for these complex relationships to both colonial and Indigenous systems of gender?"[74]

What methodologies bring together intersectionality and the linking frameworks?

Research drawing together intersectionality and linking frameworks is governed by a common set of principles, and undertaken using a wide range of methods. This methodology (that is, principles and methods) involves thinking about research as a space between Indigenous and Western knowledge and relations, where new learning can take place.[75]

Relevant principles

We suggest that there are seven important summary principles that draw together the tenets of intersectionality with those of the linking frameworks. These principles were discussed repeatedly and in various forms throughout the academic literature and in our conversations with key informants and wisdom keepers, and they are acknowledged in a range of research protocols developed by/in collaboration with Indigenous communities, or in work that advances intersectional knowledge.

These seven principles are compiled from 27 original principles coded throughout the literature, which included love, self-determination, knowledge democracy, and other ideas. In the course of our analysis, we incorporated all of these ideas either into the principles listed below and elaborated in Appendix D, or into the frameworks or methods also described in this report.

The seven principles, summarized in Table 3.2, are: Reciprocity, Relationality, Reflexivity, Respect, Reverence, Responsivity, and Responsibility. Not all aspects of each principle align in the same way with the linking frameworks and with intersectionality. In some cases, there are tensions. One principle, Reverence, is not a common idea found in discussions about intersectionality. Relationality, while considered in intersectional thought, is often anthropocentric in Western scholarship. The principles are similar to those found in ethical guidelines and protocols for undertaking research with Indigenous people and Nations. We have listed some of these protocols in the "additional resources" section below.[76] However, our focus here is on how these principles connect to the linking frameworks and to intersectionality.

Table 3.2 Summary of guiding principles found in the linking frameworks and in intersectionality

Principle	Essential commitment
Relationality	***All of creation is interdependent and interconnected in complex and sometimes antagonistic ways.*** Relationships between Nations, people, and human and non-human entities, crystallize the interconnections inherent in the world. Building relationships is time-consuming but essential for creating solidarity. Relationality is core to intersectionality's way of thinking about how groups of people relate to one another and to social and political structures, but this relationality does not extend beyond human relations.
Reciprocity	***We must value and engage with ways of knowing other than our own on an equal basis of exchange.*** Reciprocity signals a commitment to giving all knowledge systems equal consideration, and is seen as a requirement for ensuring "mutual protection, benefit, and continuity." Within intersectionality, Reciprocity focuses more on giving equal consideration to marginalized peoples' experiences within the research process, but similarly makes a commitment to mutual benefit.
Reflexivity	***Researchers must continuously examine their positions within existing power relations.*** Being reflexive involves respecting difference and understanding one's own position in existing power structures. Reflexivity can happen individually, interpersonally, and collectively. Reflexivity is considered central to intersectionality's critique of power. It includes examining power relations at the micro and macro level, and also across space and time. In both linking frameworks and intersectionality, Reflexivity allows us to interrogate what we "know," how we know, and which questions are important to ask.
Respect	***Research designed and directed by collaborators helps to ensure that the research is respectful of difference.*** Respect is an essential principle for ensuring autonomy and self-determination. Respect is tightly connected to the principle of Relationality to ensure that relevant and useful research takes place. Respect implies that research be guided by communities, though in some instances, such as in Inuit communities, "ownership" is less favourable than "sharing," which requires flexibility in how Respect is operationalized. Also as with Relationality, Respect in linking frameworks includes attention to human and non-human entities. In intersectionality, Respect requires taking great care to avoid the exploitation of people who have been marginalized, and to avoid essentializing people. Respect in intersectionality also includes attending to the relationship between privilege and oppression and avoiding practices that perpetuate both.
Reverence	***Research should be informed by spiritual values and practices.*** Reverence is owed to the metaphysical plane as an important site of knowledge that is accessed through traditional ceremonial practices. Intersectional scholarship does not hold Reverence as a principle, but does make some reference to how oppression can destroy one's spirit. This suggests at least some acknowledgement of the metaphysical realm.
Responsivity	***Knowledge systems are fluid and responsive to change.*** The principle of Responsivity refers to the process of adaptation necessary for learning from across cultures and histories, a process which is ongoing in most cultures. In

	intersectional thought, this principle resonates with a focus on connecting dominant and subjugated knowledge systems.
Responsibility	***Research should further social justice and holistic wellbeing.*** Responsibility is the principle that calls for research to contribute to "recovery, healing, and development," and to consider the impact of research on the planet and on future generations. In intersectionality, the principle of Responsibility is tied to a commitment to social justice, and thus the need to think about resistance and resilience. Again here, an important distinction is that intersectional scholars do not necessarily extend their commitments to justice beyond the human world.

Related methods

Listing the seven principles above is much easier than undertaking research grounded in them. The principles can be practiced through a variety of methods. Table 3.3 summarizes methods that we uncovered in our literature review, and in conversations with wisdom keepers and key informants. The methods included below emerge from both Indigenous and Western knowledges and science, both across and beyond Turtle Island. The inclusion of methods from Indigenous peoples in the global south highlights the importance of Indigenous knowledge systems around the world. Each method is readily connected to one or more of the principles. However, methods themselves do not inherently help us adhere to the above principles. Instead of being inherent, **connecting to important principles must happen intentionally, by practicing the methods with good intent.**[77] Literature that speaks to Indigenous ways of knowing relates this to the need to remain true to the context in which data are collected, analyzed, and interpreted.[78] That is also seen as important in methodological discussions about intersectionality as well.[79]

Our literature review and conversations also pointed to the benefits or even the necessity of using a mixed-methods (i.e., mixing qualitative and/or quantitative methods) approach to triangulate findings. From Indigenous perspectives, mixing methods can contribute to the process of decolonization by challenging colonial categorizations. Mixing methods fosters multi-directional idea sharing, which can in turn lead to new data collection tools and new theoretical frameworks, and contributes to the work of bridging between knowledge systems,[80] particularly by privileging Indigenous knowledge[81] and/or intentionally re-balancing power.[82] In this sense, using a mixed-methods approach is instrumental to the application of the linking frameworks described above. From within the literature focused on intersectionality, mixing methods is described as a strategy for accommodating the complexity of intersectionality theory.[83]

The literature we reviewed points to a need for innovative methods that adhere to the above principles and/or contribute to broader goals such as self-determination and social justice. An example of a specific methodological innovation is the development of culturally relevant surveys – grounded in all seven principles – which may include references to stories, songs, taboos, myths and proverbs.[84] Core to intersectionality-oriented research is the importance of revealing often invisible experiences, and systems and structures of power, including important considerations about what constitutes data.[85] Finally, the literature offers several cautions and challenges related to applying methods in line with the seven principles. Central among them is failing to remain true to the complexity of intersecting and fluid identities,[86] and positioning oneself as "expert" in all facets of the research.[87]

Table 3.3. Methods that can support the seven principles

Method and key principles	Description and considerations
Storytelling	Jo-Ann Archibald's work on the pedagogical value of intergenerational oral storytelling is widely recognized. It "builds on the seven principles of respect, responsibility, reciprocity, reverence, holism, interrelatedness, and synergy that form a framework for understanding the characteristics of stories, appreciating the process of storytelling, establishing a receptive learning context, and engaging in holistic meaning-making."[88] Oral narratives are often image-based and reflect the complex and textured nature of Indigenous ways of knowing.[89]
Yarning	Yarning is considered by some to be a subtype of storytelling; one research team[90] describes it as an Australian Indigenous method that uses an informal and relaxed conversational process to share stories, develop knowledge and build accountable relationships to the community.[91] It prioritizes Indigenous ways of communicating, "in that it is culturally prescribed, cooperative, and respectful."[92]
Sharing circles and talking circles	Sharing circles and talking circles are group-based conversational approaches to gathering data. They share some characteristics with focus groups. The talking circle is a tribal method of group information sharing and discussion, with a focus on cooperation within the group. A talisman is often used to denote the speaker at any given time.[93] In a sharing circle, participants are similarly gathered together to discuss the research topic in a way that promotes "sharing all aspects of the individual—heart, mind, body, and spirit."[94]
Marae wānanga (w/ Whakawhiti korero)	Marae wānanga are meetings in traditional meeting houses wherein the researcher is positioned as a guest, and the format promotes cultural safety by, for instance, embedding ceremony in the data collection.[95] This type of research is often used with individuals who have experienced trauma. A method drawn from Maori daily life - Whakawhiti korero (i.e. the exchange of ideas and discussion) is used within a Marae wānanga session.[96]
Halaqah	Halaqah is a traditional Islamic pedagogy, which Ahmed has adapted as a narrative inquiry method of research. Ahmed claims that this method positions participants as co-constructors of knowledge, celebrates the "sacred, spiritual and transformative nature of ilm (knowledge) and values the beliefs, cultural aspirations and collective autonomy of Muslims."[97]
Arts-based methods	Arts-based research methods use elements of the creative arts in order to better understand the significance of an object of study within a particular culture. These methods are considered to be participatory because they "directly involve the participants of the research in a practical and real way."[98] Some arts-based methods include quilting, photo interviewing, photovoice, reflexive photography and Anishnaabe symbol-based reflection (an adaptation of photovoice). Within Hawaiian culture, quilting has been used historically as an (often private) expression of resistance to Western dominance and ways of knowing, and thus provides symbols of loyalty to Indigenous identity and community.[99] Photo interviewing (and associated techniques) is a widely used Western research method that originated in the mid to late 1970s.[100] It can include using participant-supplied photos or videos as data (reflexive photography), examining participants' responses to photos or video (photo interviewing), and encouraging

	participants to express their community through photos (photovoice).[101] Anishnaabe symbol-based reflection shares some characteristics with photovoice, but instead of photos, uses paintings, drawings, sculptures, crafts, songs, teachings, or stories.[102]
Critical ethnography and auto ethnography	In critical ethnography, research methods such as participant observation focus on language and acts within everyday life. Facts and truth are understood through their wide acceptance within a group or culture.[103] This requires collaboration throughout the research process. Auto ethnography draws on the researcher's own experience to understand a phenomenon.[104]
Hermeneutics	Hermeneutic inquiry is an interpretative research method that seeks to understand meaning within context.[105] A researcher engaged in hermeneutics "[interprets] a relationship between memory, time, place and the text" they are studying, and understands a text or oral story as dynamic, meaning that the "energies of the Earth" and of humans are ever-changing.[106]
Collective consensual data analytical procedure (CCDAP)	The CCDAP is a team based data analysis technique to identify overarching themes within findings. It involves a process of visually representing and collectively organizing data.[107] CCDAP seeks out multiple ways of knowing through collaboration and consensus, thus prioritizing principles of reciprocity, responsivity, and respect.
Inclusion of wisdom keepers (e.g., Elders)	Within Indigenous communities, Elders are considered wisdom keepers and learning from them is considered by many to be an essential method of research. A key informant offered the following insight into the importance of Elders' knowledge: "The thing that's helped the most… is the time I've spent with Elders, which hasn't been near enough… It does me more good than pretty much anything else… That embodied part is…really important and is also the most difficult part to explain but until you embody it you haven't actually taken it up…"[108]
Pagtatanung-tanong	*Pagtatanung-tanong* is a Filipino word that means *asking questions.* This interview method, is rooted in Indigenous Filipino culture, is adaptive to contextual norms, and is used in conjunction with other Indigenous research methods. Primarily, it addresses power imbalances between researchers and informants because both are and afforded equal status, decision making power, and time to ask questions of the other.[109]
Talanoa and Faafeletui	Talanoa and Faafaletui describe two research methods that "claim meaning and significance from a common Indigenous Pacific, particularly Polynesian, worldview [and that use metaphors] to describe a process of storying and gathering narratives".[110] Talanoa describes a process of coming together, of creating a collective discussion, and Faafaletui is the process of weaving together knowledges.

Application considerations

We also found examples of research efforts grounded in the above principles, and using one or more of the above methods. Our search revealed examples across social sciences, including in Indigenous studies, education, adult education, political science, social work, sociology, gender and cultural studies, anthropology, psychology, nursing, geography, ecology and sustainability studies, family sciences, and health policy. Across these fields, we uncovered research that raises and answers important questions about how to ground environmental policy decisions in Indigenous knowledge, how to teach about

citizenship and science, how to improve health practices with seniors and young people, and how to build bridges between communities and academia, to name but a few examples. Researchers explain their application of the above principles and methods in terms of how they *approach and undertake* their work, how they *describe* their work, and how they are *affected* by their work. In other words, doing research that learns across knowledge systems, and that incorporates the idea of intersectionality, involves not only how we work, but also how we talk about our work, and how we change because of our work.

When explaining their research *approach*, many researchers explicitly state the principles by which they are guided, and give examples of what these principles look like in practice. For example, researchers describe their efforts to build relationships with Elders and other Indigenous wisdom keepers, to acknowledge colonialism and its effects, and to design research in collaboration with, and for the benefit of, participant researchers.[111] As noted above, it is also common for researchers to use mixed methods as a way of recognizing diverse cultural practices, and as a way of creating opportunities for multiple and often silenced voices to be heard. Some of the research we reviewed also explains the researchers' decisions to use particular approaches and methods.

Reflexive voicing is an example of how authors *describe* their work. Reflexive voicing involves writing as both individual and collective authors, and showing "the development of [the authors'] voices in response to each other… the presence or absence of particular voices, [and] how politics and power differences shape the call and response of voice".[112] Finally, meaningfully engaging with these principles and methods involves being personally and professionally *affected* by our work as researchers. Sharing our stories with each other can be therapeutic,[113] and helps us learn about new ways of being and knowing in the world.

3.5 State of knowledge

Our literature review and conversations with wisdom keepers and key informants revealed important information about *how* researchers within and beyond academic institutions are attempting to link Indigenous and Western ways of knowing, and raised several critical questions.

1. **Diversity within Indigenous and non-Indigenous communities (e.g. age, gender and gender identity, sexual orientation, ability) is not reflected in discussions about linking Indigenous and Western ways of knowing.** This leads to at least two important considerations. The first is a need for more research focused specifically on connecting intersectionality to frameworks that link Indigenous and Western ways of knowing. Intersectionality could help us to understand how these frameworks have emerged, and to interrogate the power dynamics surrounding them.[114] The second, and a point raised in the literature we reviewed, is that the absence of diversity considerations leads to a lack of clarity about what constitutes 'local' knowledge, a concept often used synonymously with 'community knowledge' and/or 'Indigenous knowledge'. The question of *whose* local knowledge, and on *which* topics, is critically important[115] to the broader goal of reconciliation. Without understanding whose perspectives are included, we cannot move to redress systemic and historical inequalities; by generalizing, we erase the differences we intend to honour.
2. Widely accepted principles of Western research methods assume that methods are transferable and help us identify differences and similarities in findings. The importance of place within Indigenous ways of knowing points to a gap in our thinking about research methods, where it is important to ask, **"Do methods have a place? Or do places have methods?"** In other words, the assumption of the transferability of methods, including the emphases on methodological innovation discussed above, deserves further consideration.[116]

3. **How to reconcile the fragmentation ubiquitous in Western academic models (specifically, the artificial divide between natural and social sciences),** with much more holistic Indigenous knowledge systems, remains an important question. Several frameworks are attempting to encourage the breakdown between these distinctions, yet *how* to create, for example, institutions that reflect a truly collaborative effort between Indigenous and Western ways of knowing, does not appear in the literature we reviewed. This relates to another important knowledge gap of how best to bridge the divide between academic and community institutions and organizations.[117] Excellent examples of community-university research collaborations, often supported by Canada's Social Sciences and Humanities Research Council, nevertheless remain somewhat limited by the regulatory structures underpinning community-university divisions. **How to advance knowledge democracy as part of linking Indigenous and Western ways of knowing and intersectionality**, is thus an important outstanding question.
4. As noted in our above discussion about connecting methods to important underlying principles, there remains an important application gap involving **how to apply appropriate ethical protocols in research, and how to enact the above-described principles in a good way**. Areas that require more attention are wide ranging and include, for instance, how to respect confidentiality in small, connected Nations and communities, how to avoid negative impacts on communities,[118] and how to anticipate and respond to emergent ethical issues.[119] Community based research practices provide a starting point for those interested in how such principles can be operationalized or enacted.

3.6 Additional resources

The clear language summaries of this report will be available at http://www.criaw-icref.ca/ and https://www.worklifecanada.ca/ in the spring of 2018. More attention is being paid to undertaking research from within Indigenous, and across Indigenous and Western knowledge systems. A recent example is the *Engaged Scholar Journal*, which released a 2017 special issue about research with Indigenous communities, including examples of some of the methods described above, and discussions about important principles.[120] Several members of the research team involved in this report were also researchers in FemNorthNet, which inspired the questions guiding this knowledge synthesis report. FemNorthNet's work, including the subsequent and ongoing work of developing tools for monitoring community wellbeing with Indigenous and non-Indigenous women (the Community Vitality Index project) are examples of ongoing attempts to build bridges between Indigenous and Western ways of knowing. You can learn more about this work at: http://fnn.criaw-icref.ca/en/page/community-vitality-index. There are multiple ethical protocols for undertaking research with Indigenous peoples and Nations, including guidelines set out by Inuit Tapiriit Kanatami (https://itk.ca/negotiating-research-relationships-communities/), and the OCAP®Principles (http://fnigc.ca/ocap.html), which often include discussions of principles similar to those outlined above, and may therefore be of interest to those seeking to understand the principles in more detail. There are also tools available to assist with applying intersectionality in research and policy analysis.[121]

3.7 Knowledge mobilization

In addition to this report, the results of this research have been, or will be, disseminated through:

- a webinar to seed connections between people interested in practicing new ways of advancing collective goals for reconciliation and social justice, including Indigenous wisdom keepers and the key informants who assisted with developing our conceptual understanding, outlined above.

- bilingual, accessible, and downloadable factsheets focused on key elements of this report, to support researchers who are interested in developing or expanding their capacity to undertake research across Indigenous and Western knowledge systems. These factsheets will be useful in feminist, intersectional, and Indigenous research methods classes, for community organizations and government departments whose work includes research and reconciliation efforts, and for research funders, including SSHRC, that are continuously evolving to address pressing needs for social sciences and humanities research. The factsheets will be disseminated online, through social media, and in print. The involvement of several of this report's authors with the Canadian Research Institute for the Advancement of Women's (CRIAW's) extensive national network, the University of Guelph's Community Engaged Scholarship Institute and Centre for Families, Work, and Wellbeing, along with our identification of other target audiences (see Table 3.4), will help to ensure a broad reach. Our goal is to spur researchers (within academia, government, and civil society organizations) to expand their approaches, and contribute to bridging theoretical and methodological research traditions.
- at least one academic conference paper, which will subsequently be developed for peer-reviewed publication.

Table 3.4. Partial list of target audiences

Target category	Specific examples
Academic (including scholar and research networks)	Undergraduate and graduate methods instructors and researchers; Urban Aboriginal Knowledge Network; Community Based Research Canada; Canadian Institutes for Health Research; Community Engaged Scholarship Institute, University of Guelph; Wellesley Institute; Arctic Institute of Community-Based Research; TUARK Network on Gender Equality in the Arctic; IASSA International Arctic Social Sciences Association; ACUNS -- Association of Canadian Universities for Northern Studies; First Nations in BC Knowledge Network; OISE Deepening Knowledge Project
Government	Federal Ministers of Crown-Indigenous Relations and Northern Affairs and Indigenous Services (currently Indigenous and Northern Affairs Canada); Status of Women Canada; Provincial and Territorial Ministries (e.g., Research, Women, Indigenous Relations); Indigenous Governments
Indigenous and Community	Assembly of First Nations; Pauktuutit; Native Women's Association of Canada (NWAC); Inuit Tapiriit Kanatami (ITK); Canadian Women's Foundation; Congress of Aboriginal Peoples; Métis National Council (MNC); National Association of Native Friendship Centres; Reconciliation Canada; Conference Board of Canada; Federation of Canadian Municipalities; Canadian Labour Congress; Canadian Centre for Policy Alternatives; Kairos

3.8 Conclusions

The Truth and Reconciliation Commission (TRC) calls on governments, funding agencies, universities and Canadians to undertake a wide-ranging reconciliation process in an effort to acknowledge and redress the impacts of colonization, and particularly the legacy of residential schools in Canadian history. This report offers one approach to respond to the TRC's calls for action. We suggest that the onus is especially on non-Indigenous peoples to learn more about and respond, respectfully and with humility, to Indigenous ways of knowing and to linking frameworks that facilitate connections between

Indigenous and Western ways of knowing. Intersectionality's objective is social justice. It is an orientation to research that focuses on revealing and responding to oppression and privilege in peoples' lives, by considering the effects of interpersonal interactions, and of socioeconomic and political structures. Intersectionality complements the linking frameworks we have uncovered, often using similar principles and methods. Intersectionality can strengthen an analysis of the systemic power relations at work in peoples' lives, and help reveal allies who are working for reconciliation.

There remain a number of gaps in our understanding of how to reconcile linking frameworks and intersectionality. The research presented in this report offers broad guidelines, but more attention to addressing tensions between the two is needed. Our findings also reinforce questions about deeply held conventions in Western scholarship, including the divide between social and natural sciences, and the general assumption of the transferability of methods. Finally, our work connects to some of the other reports presented in this series by raising questions about the application of ethical protocols for conducting research with Indigenous Nations and communities in a good way. Despite these ongoing knowledge gaps, this report offers seven guiding principles that connect to linking frameworks and intersectionality, and that can be enacted through a host of research methods. These principles are commitments that can guide scholars, policy-makers, and others interested in the difficult work of reconciliation.

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[5] Iwama et al., 2009; Tuhiwai Smith, 2012

[6] It is imperative to highlight here that the Indigenous ideas which academic privilege has pulled into these frameworks emerged from very specific contexts that are not generalizable. As one key informant told us, "it destroys Indigenous cultural fabric to propagate these frameworks universally" (?eh ?eh naa tuu kwiss/M. Atleo, personal communication, November 30, 2017)

[7] Battiste & Henderson, 2000, in Hatcher, 2012, p. 348

[8] McGregor, 2012

[9] Bartlett, 2011

[10] Wilson, 2001, p. 177, in Nicholls, 2009 p. 120

[11] Ormiston, 2010, p. 53

[12] Bohensky & Maru, 2011

[13] ?eh ?eh naa tuu kwiss/M. Atleo, personal communication, March 21, 2017

[14] Tsuji & Ho, 2002, Kovach, 2009a, in Kapyrka & Dockstator, 2012

[15] J.A. Sharpe, personal communication, November 23, 2017

[16] Zimmerman, 2004, p. 18

[17] Specifically, the concepts of "metaphoric blending" (Fauconnier, 1997), "integrative complexity" (Turner & Fauconnier, 1999) and "skilled phenomenological orienteering" (Alverson, 1991)

[18] Archibald (2008); Kirkness & Barnhardt 1991

[19] Atleo, 2012, p. 3; Also see Atleo 2001

[20] Evering, 2012, p. 366

[21] Nakata, 2002, p. 285

[22] Yunkaporta, 2009, p. 53

[23] Ermine, 2007

[24] Ermine, 2007, p. 202

[25] Ermine, 2007

[26] Bartlett et al., 2012

[27] Sasakamoose et al., 2017, p. 2

[28] Gaudry, 2011; Gaudry, 2011, p. 128

[29] Carm, 2014

[30] Carm, 2014, p. 74

[31] Fotopoulou, 2012, p. 28

[32] Donald, 2012, p. 533

[33] Donald, 2012, p. 536

[34] Donald, 2012, p. 542
[35] Fornssler, personal communication, June 6, 2017
[36] Maffie, 2009, p. 60
[37] Fornssler et al., 2014, p. 190
[38] Meyer, 2010, p. 123
[39] Wabano Centre for Aboriginal Health, 2014
[40] Roots of Wisdom Project Team, 2016, p. 8
[41] Barrett, 2013, p. 180
[42] Barrett, 2013, p. 188-189
[43] McKeon, 2012, p. 136
[44] Bartlett et al., 2012, p. 335
[45] Hatcher et al., 2009, p. 147
[46] Johnson et al., 2016
[47] Johnson et al., 2016, p. 28
[48] Webster & John, 2010, p. 189
[49] Wagle & Cantaffa, 2008, p. 136
[50] Murton, 2012, p. 91
[51] Bishop, 1998; Tuhiwai Smith, 1999
[52] Came, 2013, p. 65
[53] Tuhiwai Smith, 2000, p. 230
[54] dé Ishtar, 2005, p. 363
[55] Peralto, personal communication, April 12, 2017
[56] Hancock, 2007
[57] Collins & Bilge, 2016
[58] Crenshaw, 1989
[59] Collins, 1998
[60] Institute for Intersectionality Research and Policy, 2012, p. 11
[61] Moreton-Robinson, 2013, p. 335
[62] Moreton-Robinson, 2013
[63] Bowleg, 2008, p. 317
[64] Bowleg & Bauer, 2016
[65] Hancock, 2007, p. 74
[66] Cho et al., 2013
[67] Lavoie, personal communication, March 10, 2017
[68] Hancock, 2007; Institute for Intersectionality Research and Policy, 2012
[69] ?eh ?eh naa tuu kwiss/M. Atleo, personal communication, March 21, 2017
[70] Institute for Intersectionality Research and Policy, 2012, p. 12
[71] Clark, 2016, p. 52
[72] Mehrotra, 2010
[73] Bartlett, personal communication, April 25, 2017
[74] Institute for Intersectionality Research and Policy, 2012, p. 8-9
[75] Webster & John, 2010, drawing on Grande, 2008 and Pratt, 2001
[76] Also see Archibald (2008) for a description of seven similar principles, which she applies to understanding Indigenous storywork. She credits her knowledge of these principles to Sto:lo and Coast Salish Elders.
[77] Beeman-Cadwallader et al., 2011
[78] Drawson, 2017
[79] Cuadraz & Uttal, 1999 in Bowleg, 2008
[80] Botha, 2011; Chilisa & Tsheko, 2014; Tuhiwai Smith, 2012
[81] Chilisa & Tsheko, 2014
[82] Drawson, 2017
[83] Else-Quest, 2016; Grace, 2014
[84] Chilisa & Tsheko, 2014
[85] Bowleg, 2008; Collins, 1998; Crenshaw, 1989; Cuadraz & Uttal, 1999 in Bowleg, 2008

[86] Bowleg, 2008
[87] Bermudez et al., 2016
[88] Archibald, 2008
[89] Dyll-Myklebust, 2014
[90] Geia et al., 2013
[91] Geia et al., 2013; Walker et al., 2014; Yunkaporta 2009; Aveling 2013
[92] Walker et al., 2014, p. 1216
[93] Haozous et al., 2010
[94] Lavellée, 2009
[95] Elder, 2013
[96] Elder & Kersten, 2015
[97] Ahmed, 2014
[98] Lavallée, 2009, p. 30
[99] Kaomea, 2016
[100] Castleden, Garvin, & Huu-ay-aht First Nation, 2008; Hurworth, 2003
[101] Hurworth, 2003, p. 3
[102] Lavallée, 2009
[103] Webster & John, 2010
[104] White, 2010; Yunkaporta, 2009
[105] Donald, 2012
[106] Kulnieks et al., 2010, pp. 16-17
[107] Bartlett et al., 2007
[108] Dr. Tricia Marck, personal communication May 26, 2017.
[109] Church & Katigbak, 2002; Pe-Pua, 1989
[110] Suaalii-Sauni & Fulu-Aiolupotea, 2014, p. 334
[111] Marsh et al., 2015; Simonds & Christopher, 2013
[112] Lockwood Harris, 2016, p. 121
[113] Stanton, 2014
[114] ?eh ?eh naa tuu kwiss/M. Atleo, personal communication, November 30, 2017
[115] Bohensky & Maru, 2011
[116] Further work on this subject should consider the significance of territory within Indigenous thought as articulated, for instance, by Glen Coultard's discussion of grounded normativity in *Red Skins White Masks* (2014).
[117] James & Gordon, 2008, in Zavala, 2013
[118] Tobias, 2015 in Riddell et al., 2017
[119] Moore, 2015 in Riddell et al., 2017; Stanton, 2014
[120] http://esj.usask.ca/index.php/esj/issue/view/4/showToc
[121] Morris & Bunjun, 2007; Simpson, 2009; Hankivsky, 2014

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4. Appendices

Appendix A: Methods

Our approach in this project involved: (1) a literature review; and (2) conversations with Indigenous wisdom keepers and key informants across present-day Canada. Our initial research questions focused explicitly on two-eyed seeing as a knowledge system linking framework. We proposed to investigate the current state of research on intersectionality and two-eyed seeing as it contributes to better approaching and understanding efforts to link Indigenous and Western knowledges and knowledge systems. Through this investigation, we were interested in uncovering which methodologies, theories and/or approaches exist that contribute to decolonizing the research process, particularly as it pertains to collaborative research between Indigenous and non-Indigenous populations.

As a result of the first stages of our literature review, these questions expanded because we uncovered several frameworks that shared the purpose of bringing together Indigenous and Western knowledges (referred to as "linking frameworks" in this report). Our second research question shifted accordingly, to ask what principles and methods were shared between these linking frameworks, while also incorporating the idea of intersectionality. We also identified the need to point out tensions between the principles guiding these linking frameworks and intersectionality. As a result, we refined our search strategy to emphasize the following questions:

- What research frameworks – which we call linking frameworks – draw together Indigenous and Western approaches to knowledge creation?
- How do linking frameworks and intersectionality contrast and complement one another?
- What methodologies (principles and methods) effectively bring together the linking frameworks and intersectionality?

Academic literature review. We searched with 13 combinations of keywords (search strings) in multiple databases. We repeated a Boolean operator search to identify English academic literature in each of the following six databases: Academic Search Premier; Gender Studies Index/Women Studies International; CINAHL Plus with Full Text; JSTOR; Google Scholar; and Web of Science. Specifically, each set of searches in each database used the following search terms:
"Two-eyed seeing" OR "Two eyed seeing"
"Multiple knowledge systems" OR "multiversity"
"Intersectional research method*"
"Intersectional*" AND "multiple knowledge" OR "knowledge systems"
"Postcolonial research method*" OR "Post-colonial research method*" OR "Anticolonial research method*" OR "Anti-colonial research method*"
"Indigenizing research method*"
"Transcultural research method*" OR "Intercultural research method*" OR "Cross cultural research method*" OR "Cross-cultural research method*"
"Ubuntu theology" OR "Ubuntu research method*"
"Decolonizing research method*"
"Indigenous resurgence"
"Indigenous feminism"
"Indigenous womanism"

For all keyword searches, the researcher conducting each search reviewed the resulting article abstracts and saved all articles which presented research relevant to the research questions under

consideration. We focused our search on Canada, but we retained studies from the United States (especially Hawaii), New Zealand, Australia, and South Africa due to these countries' shared colonial experiences and ongoing Indigenous struggles with navigating identity and power within colonial structures. In the case of a remaining large number (>100) of search results, which was common in databases such as Google Scholar, the researcher reviewed the first 10 pages of results or until the results were no longer relevant to the search question or duplicates of previous results began appearing consistently; whichever came first. The inclusion criteria for articles (based on the abstracts of results) was:

- articles that gave examples of research linking multiple knowledges/knowledge systems; and/or
- articles that offered theoretical explanations of linking multiple knowledges/knowledge systems; and/or
- articles that referenced inclusion of knowledge from specific identities/social locations.

Searches were tracked using a shared Excel spreadsheet and all articles that met the search criteria were downloaded in full-text and stored in a Dropbox folder. After all searches were completed, duplicates were removed from the folder. In total, 20 duplicates were removed. The remaining articles underwent three more exclusionary processes where articles were subsequently excluded based on the following criteria: article was published in 2004 or earlier; article offered an analysis of something using intersectionality but not explicitly about linking knowledge systems; article was not about methods or theory; article was too general; and article focused on natural science, not social science.

The resulting collection of 147 articles was then moved into NVivo, a qualitative data analysis program, for coding. An initial coding system was developed based on the research questions and search terms. This coding system was continually updated as new themes emerged from the collected articles. The literature was analyzed qualitatively for common themes, including:

- The use of intersectionality and theoretical approaches to linking Indigenous and Western knowledge systems;
- Best practices for linking different knowledge systems;
- Best practices for decolonizing research;
- Main guiding principles to follow in conducting collaborative research with Indigenous communities that respects Indigenous knowledge systems;
- Methodologies that align with the commitments of intersectionality and linking knowledge systems.

Community literature review: Using the same search criteria, we also conducted an online search for community literature to identify documents detailing research collaborations, or that reflected on our research questions. This uncovered the websites of organizations such as professional and community associations, private and public sector agencies, research institutes, and community health councils. We searched these sites for relevant publications such as reports, position papers, and guideline documents. We also followed relevant links between websites until such links were exhausted. Relevant documents were identified by title and/or table of contents and then analyzed according to the themes detailed above. We located and reviewed 37 documents. Many of these ended up being redundant to the academic literature review. The remaining documents were reviewed for new insight they could bring to our research questions.

Wisdom keepers and key informants: Because Indigenous knowledges have long been marginalized in Western academic literature, we also had conversations with 24 Indigenous wisdom keepers and other key informants to discuss our research questions, and gather specific recommendations about additional ideas and literature to include. The people with whom we spoke were not the focus of our research. Further, our conversations sought out publicly available information and as such were exempt from ethics review under Article 2.2 of the Tri-Council Policy on the Ethical Conduct of Research Involving Humans. Our specific goals were to: 1) attain references to existing academic and community literature that would help us to answer our research; and 2) attain knowledge relevant to our research questions that is established but not necessarily captured in the literature.

These conversations were held by members of the research team, who contacted wisdom keepers and key informants through their existing networks. Conversations were arranged to take place in a location preferred by the wisdom keeper or key informant. Conversations ranged in length from approximately 45 minutes to over 2 hours. Some conversations took place in person, while others were facilitated via virtual communication platforms (e.g., Skype, Zoom). The conversations were recorded and/or synthesis notes were taken. These recordings and notes were subsequently organized according to discussion questions to identify: i) references to relevant academic or community literature, ii) comparisons between Two-Eyed Seeing (our original focus) and Intersectionality, and iii) relevant methodologies that the wisdom keepers and key informants know about or have employed. These data were then incorporated into the analysis and included in the results presented above. Direct contributions from these conversations are indicated as personal communications.

Appendix B: Indigenous wisdom keepers and key informants

The following wisdom keepers and key informants contributed time and ideas to the development of this report.

Dr. Taiaiake Alfred, Indigenous Governance, University of Victoria
Dr. Kim Anderson, Department of Family Relations and Applied Nutrition, University of Guelph
?eh ?eh naa tuu kwiss, Ahousaht First Nation, Nuu-chah-nulth/Dr. Marlene Atleo, Faculty of Education, University of Manitoba
Gillian Austin, PhD Candidate in Indigenous Studies, Trent University
Dr. Cheryl Bartlett, Department of Biology, School of Science and Technology, Cape Breton University
Dr. Steve Crawford, Department of Integrative Biology, University of Guelph
Dr. Jeff Corntassel, Centre for Indigenous Research and Community Engagement, University of Victoria
Dr. Barbara Fornssler, Department of Sociology & School of Public Health, University of Saskatchewan
Dr. Fidji Gendron, Department of Biology, First Nations University of Canada
Dr. Josee Lavoie, Department of Community Health Sciences, University of Manitoba
Dr. Brittany Luby, Department of History, University of Guelph
Dr. Peter Kulchyski, Department of Native Studies, University of Manitoba
Dr. David MacDonald, Department of Political Science, University of Guelph
Dr. Tracia Marck, Dean, Faculty of Human and Social Development, University of Victoria
Mi'kmaw Elder, Albert Marshall, Eskasoni First Nation in Unama'ki
Dr. Tad McIlwraith, Department of Sociology and Anthropology, University of Guelph
Dr. Mandeep Mucina, School of Child and Youth Care, University of Victoria
No-eau Peralto, PhD Candidate in Political Science, Univeristy of Hawai'i
Tunchai Redvers, MSW Candidate, Wilfrid Laurier University; Co-Founder, WeMatterCampaign.org
Dr. Robin Roth, Department of Geography, University of Guelph
Dr. Shailesh Shukla, Indigenous Studies, University of Winnipeg
Dr. Niigaan Sinclair, Department of Native Studies, University of Manitoba
J. Arno Sharpe, PhD Candidate in Aboriginal Enterprise, University of Manitoba
Dr. Jeji Varghese, Department of Sociology and Anthropology, University of Guelph

Appendix C: Complementary knowledge frameworks

Of the 24 frameworks we reviewed, the following five frameworks are grounded explicitly in Indigenous ways of knowing as opposed to focusing on linking with Western knowledge.

Frameworks grounded primarily in Indigenous ways of knowing	
Haudenosaune research method (HRM)	HRM is described as a method and metaphor "to engage community in action research [and to] re-conceptualize mutuality and egalitarianism in this community-based and power-sharing research process…. [to create] a common vision and purpose… by drawing on the values and philosophy of the small Condolence ceremony as a model for engaging one particular culture-sharing community in action research in a manner that is culturally appropriate and sensitive, while respecting and under-standing the sacredness of this ritual."[1]
Anishinaabe mino-bimaadiziwin (the Good Life)	This research methodology is spiritual and incorporates "past, present, and future of Good and respectful approaches to life"[2] into the research process. Researchers committed to this methodology should "seek, do, learn, and live in a spiritcentered way, such that this concept encapsulates their entire research program."[3]
Inuit qaujimajatuqangit	This theory encompasses "all aspects of traditional Inuit culture including its values, world-view, language, social organization, knowledge, life skills, perceptions, and expectations. [IQ] is as much a way of life as it is sets of information."[4] IQ is based on eight core principles: Inuuqatigiitsiarniq: Respecting others, relationships and caring for people; Tunnganarniq: Fostering good spirits by being open, welcoming and inclusive; Pijitsirniq: Serving and providing for family and/or community; Aajiiqatigiinniq: Decision making through discussion and consensus; Pilimmaksarniq/Pijariuqsarniq: Development of skills through observation, mentoring, practice, and effort; Piliriqatigiinniq/Ikajuqtigiinniq: Working together for a common cause; Qanuqtuurniq: Being innovative and resourceful; Avatittinnik Kamatsiarniq: Respect and care for the land, animals and the environment, which "will help to ensure that essential traditional knowledge is valued, preserved and promoted. It is through this process that Western knowledge will be able to examine and integrate IQ to the benefit of all mankind."[5]
Medicine wheel	The Medicine Wheel "looks at ways of honoring each other, recognizing diverse ways of life, and respecting the young and old who contribute daily to our knowledge systems."[6] It offers a way to re-imagine academic and social spaces, is holistic (non-categorical) in nature, and therefore resists a positivist approach to ways of knowing.[7]
Ubuntuism	Ubuntu, from the Xhosa and Zulu languages is an ethical framework that prioritizes relational principles including empathy, patience, sympathy and forgiveness, and means "a union of allegiances and relationships."[8] It stresses "accountable responsibilities of researchers and respectful relationships between the researchers and the researched that take into account the…web of relationship with the living and the nonliving."[9]

Appendix D: Guiding principles – Shared, conflicting, and nuanced

The following table presents more details related to the seven principles outlined in the body of the report, in terms of how each applies to the linking frameworks and to intersectionality.

Linking frameworks	Intersectionality
***Reciprocity**: We must value and engage with ways of knowing other than our own on an equal basis of exchange.*	
All knowledge systems can make unique contributions to research and deserve equal consideration.[10] While knowledge systems are not entirely knowable in the absence of lived experience, they are broadly accessible to outsiders. There is an ethical obligation to pursue reciprocity or exchange across differing knowledge systems, to ensure co-existence in mutual protection, benefit, and continuity.[11]	Intersectional thought aligns with the concept of Reciprocity by advocating for the inclusion of marginalized peoples' perspectives in research and policy development. This mode of analysis aims to disrupt power imbalances by examining the implications of diverse knowledge systems on different groups of people.[12]
***Relationality:** All of creation is interdependent and interconnected in complex and sometimes antagonistic ways.*	
Researchers should pursue a multifaceted approach to any research subject, to position it within the context of a vast web of related factors and across multiple frames of analysis.[13] To capture this interconnection and address the associated relational obligations, researchers must build long-term, collaborative and reciprocal relationships of trust and understanding with research subjects, participants, collaborators, environments etc.[14] This relationship building is time consuming but necessary for respectful inquiry that acknowledges differences and is dialogic.[15] Relationality also means that there are opportunities for solidarity building across different worldviews, which fosters socio-political resistance and reconciliation.[16]	Intersectionality is anthroprocentric. However, it corresponds to the concept of relationality in so far as it conceives of subjectivity as a complex network of group associations and identities; past, present, and future; within which personal and collective power is negotiated.[17] Consequently, intersectional theorists "see all bodies as connected to one another and dependent on each other for survival".[18] Intersectional research also embraces a kind of relationality in its use of interdisciplinary fields of study to adequately account for a wide range of sociohistorical realities from diverse vantage points.[19] Furthermore, intersectionality considers the inter-relation of multiple levels of discourse and social structure, linking "macro (global and national-level institutions and policies), meso or intermediate (provincial and regional-level institutions and policies), and micro levels (community-level, grassroots institutions and policies as well as the individual or 'self')."[20]
***Reflexivity:** Researchers must continuously examine the significance of their positions within existing power relations.*	
Reflexivity is necessary to conduct research in a way that is "culturally safe", or respectful of difference, because it interrogates power imbalances.[21] Self-examination and critical reflection enables the researcher to examine and	Explicit in Intersectionality's critique of power is the mandate that researchers and policy makers must practice a reflexivity that acknowledges the importance of power at the micro level of the self and our relationships with others, as well as at the

take responsibility for their impact on research processes and participants, as well as the impact that research processes and participants have on the researcher.[22] The researcher must therefore identify their social, geo-historical position, and question their own assumptions and knowledge gaps.[23] Three layers of reflexivity – "self-reflexivity, inter-personal reflexivity and collective reflexivity" allow researchers to consider "interpersonal and collective dynamics during the research process, and any effects that the research may potentially have into the future…. [These] additional political and relational layers of reflexivity are essential for a researcher to critically evaluate empowerment and participation in a counter-colonial context".[24]	macro levels of society.[25] Reflexivity also requires attention to how our position in time and space shapes (and is shaped) by our perspectives and experiences. Consequently, we must practice self-location, analyzing how our worldview and access to power is contingent on our positions in time and space.[26]
Respect: *Research must be designed and directed by affected people and groups to ensure that it is respectful of difference.*	
Participant engagement and control of research is necessary to preserve/restore peoples' autonomy and self-determination, to honour differences, to upend power imbalances, and to capture the contextual complexity of the object under study. This commitment to relational respect also ensures the relevance, utility, validity, accessibility, and impact of research.[27] Consequently, some argue that community based or grassroots organizations must play a lead role in research.[28] However, "the framing of co-creation and data-sharing agreements as ownership and control is problematic when working with Inuit communities, which value the practice of sharing within the community".[29] Researchers should also engage community collaborators through all phases of research and incorporate multiple ways of knowing at every stage.[30] Ensuring that research is not imposed on others further entails demonstrating respect for intangible cultural property, empowerment of participants through capacity development and accessible knowledge sharing, and respect for animals and environments engaged in research processes.[31]	Intersectional researchers demonstrate respect for research participants by inviting them to discuss aspects of their experience and identity that they believe to be relevant to the research project. In this way, researchers can avoid asking questions that reduce, label, or segregate various dimensions of the individual, and instead empower self-determination. This is key to preventing researchers from exercising undo power over participants by diminishing or misrepresenting them. In Hillsburg's terms, two axioms of intersectionality are important to the principle of respect: "A Researcher Must Not Police the Parameters of Intersecting Identities…[and] Researchers Must Not Violate the Vulnerability of Others". She explains that, seen through an intersectional lens, "each subject is located in an interlocking network of oppressions and empowerments that render them both vulnerable [some more than others] and capable of exploiting the vulnerability of others".[32] Researchers are admonished to remember that the privilege of some is predicated on the oppression of others, and that they must in-turn steer clear of paternalistic research practices.

Reverence: *Research should be informed by spiritual values and practices.*	
The metaphysical plain, accessed through traditional ceremonial practices such as fasting, smudging, and prayer, is embraced by some decolonizing research methodologies as a legitimate source of knowledge that should play a lead role in research.[33]	Reverence for the metaphysical is not a principle that explicitly appears within much intersectional research. However, the influential concepts of "spirit-murder" and "spirit-affirmation" were introduced in 1991 to describe the impact of inequity on the human spirit. It could be argued that this metaphysical discourse is a motivating force behind intersectional thought.
Responsivity: *Knowledge systems are fluid and responsive to change.*	
Some of our key informants spoke about the fact that Indigenous ways of knowing are not static. The process of reconciliation between Indigenous and non-Indigenous people, histories, and cultures, was seen as part of a continuum of ongoing change and adaptation achieved by Indigenous peoples. As Sinclair explained, "The entire Anishnabek path of life story is all about reconciling change, reconciling new additions as you come along, and it's said that you have seven additions, or challenges, or paths on your main path. You can get stuck on those paths and some people do, and those paths are important, but you always have another path…. [The main] path is reconciling those [branch paths]."[34]	Intersectionality focuses on the fluidity of identity categories, recognizing that they correlate to shared but not universal experiences. One's relative position of power may also shift in varying contexts, for instance, from oppression to power, or from power *over* others to power *with* others. Consequently, while intersectional researchers are concerned with giving voice to subjugated knowledges, they are also careful not to represent them as static or unchanging.[35]
Responsibility: *Research should further social justice and holistic wellbeing.*	
The research process can provide opportunities for "recovery, healing, and development,"[36] or transformative social justice. To achieve this, researchers must be attentive to power imbalances, historical violence, and, inequality.[37] Research must also be concerned with its impact on "the social and physical environment, as well as future generations" and "the physical, emotional, social, cultural, and spiritual wellbeing of individual research participants, as well as the wellbeing of the broader community."[38]	Intersectionality values research as a social justice intervention. Researchers represents the perspectives of marginalized peoples, to address social, structural, and systemic inequities.[39] Consequently, resistance and resilience have become key concepts in intersectional analyses.[40] In contrast to Indigenous methodology, intersectional theorists do not typically see their responsibility extending to physical or natural environments unless research participants identify those as key components to their wellbeing.

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