

Understanding the Application and Use of Indigenous Research Methodologies in the Social Sciences by Indigenous and Non-Indigenous Scholars

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Abstract

This study explores how principles of Indigenous research methodologies informed research relationships with Indigenous communities, particularly through the dissemination phase of research. We conducted an Indigenous qualitative content analysis of 79 peer-reviewed articles published from January 1996 to June 2018, predominantly in the fields of social sciences. The findings show that most articles were written by Indigenous researchers or a research team composed of Indigenous and non-Indigenous researchers. Such collaborations most clearly articulated how they enacted the principles of Indigenous research. The findings further support ensuring research partnerships with Indigenous communities uphold Indigenous research principles to create sustained meaningful change.

Keywords: Indigenous research methodology; Ethical research; Research partnership; Indigenous ethics; Indigenous qualitative content analysis

Introduction

Research partnerships with Indigenous¹ communities are relationships with cultural expectations of responsibility, relevance, and respect for Indigenous knowledge, goals, and aspirations. Indigenous communities have been seeking access to and ownership, control, and possession of research in their communities ever since “re-

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searchers” came to their lands (Brant Castellano, 2004; Wilson, 2008). Foundational work emerged in the late forties regarding participatory action research (or community-based research) (e.g., Flicker, Savan, Kolenda, & Mildenerger, 2007; Jacobs, 2018; Taylor & Ochocka, 2017), particularly in the fields of health and geography and then expanding to other disciplines. In Indigenous participatory action research projects, Indigenous communities determined their research needs and asserted their rights to self-determination over research and programs that directly impacted them (e.g., Koster, Baccar, & Lemelin, 2012; Kwiatkowski, 2011; LaVeaux & Christopher, 2009). These relational projects began to shift, influencing Indigenous communities’ relationships with research and researchers. In this regard, Linda Smith (2012), Shawn Wilson (2003, 2008), and other Indigenous researchers have clearly articulated how Indigenous methodology (IM) is an act of empowerment for Indigenous communities, since it is clearly informed and shaped by Indigenous world views and cultural practices.

While Indigenous communities have always had research as part of their world view and understanding, within the academy, IMs are only relatively recent additions to coursework and to the research strategies of graduate students and faculty members. Thus, the purpose of the present study was to examine how the dissemination of research (e.g., peer-reviewed articles) articulates and employs the tenants of Indigenous research processes in research projects involving Indigenous peoples. Specifically, it examines how the research relationships between Indigenous communities and researchers are described by Indigenous and non-Indigenous scholars, and the ways research methodology does or does not align with Indigenous principles of research.

The co-authors of the present study are an Indigenous/settler researcher and a non-Indigenous researcher who are engaged in working with Indigenous communities in Canada and Australia. We have had many conversations about our roles and responsibilities, our differing expectations, and the importance of trust. With respect to the shared responsibility of working with Indigenous communities, we sought to better understand how others are now taking up this work using Indigenous research methods and processes. The tensions between Western-based research paradigms and practices and the harms done to Indigenous communities have been well documented elsewhere, along with articulations of Indigenous research paradigms and processes (e.g., Archibald, 2008; Kovach, 2010; Smith, 2012; Wilson, 2008). Consequently, this study is intentionally focused on articulating the common principles of IM.

Common principles of Indigenous methodologies

Indigenous peoples always have been engaged in research in relation to their environment, the physical, and the metaphysical (e.g., Kovach, 2010; Nakata, 2003; Smith, 2012). Manulani Aluli-Meyer (2006) contends that relationship “in an epistemological sense, is the notion of self through other ... relationships with people, relationships with relatives alive and past, relationships with an idea, or relationships with our environment” (pp. 194–195). Thus, Indigenous peoples have become transformative leaders within the research paradigm, guiding Western researchers through

the various nuances associated with Indigenous epistemological discourses and methodological practices (Geia, Hayes, & Usher, 2013).

Although not homogenous in their perspectives, the Indigenous scholars noted above, along with many others, have contributed to a broader Indigenous research paradigm that encompasses the common principles of and approaches to IM, which are also contextualized within geographical and cultural frameworks (e.g., Bomberry, 2013; Hart, 2010). For example, Maori scholars in New Zealand (Bishop, 1996, 2003; Smith, 2012) have described *Kaupapa Maori* as an approach to IM that is grounded in a Maori world view and cultural practices.

Recognizing the diversity of Indigeneity within IM is critical to moving forward with research within Indigenous communities. The research process must be informed by and grounded in the cultural framework and protocol of the Nation and of the researchers themselves. Building on the four Rs (respect, relevance, reciprocity, and responsibility) (Kirkness & Barnhardt, 1991), Indigenous research practices are based on *respect* for Indigenous ways of knowing and being (Nakata, 2003), *relevance* to the community/Nation, *reciprocity* in research processes, and *responsibility* in the relationships between researchers and the community (Pidgeon, 2018; Pidgeon & Hardy Cox, 2002). Additionally, IMs provide guiding principles on how one should be working with Indigenous peoples, which include identity, respect for Indigenous knowledge, relevance, responsibility, reciprocity, wholism, and ethics.

The first guiding principle identified in the present study is the concept of *identity* (as informed by relationships and land). For Indigenous peoples, relationality is foundational to IM, particularly the relationship to the physical and metaphysical as it informs, and is interconnected to, language, culture, and ways of knowing (e.g., Mika, 2016; Styres, 2017). The way a researcher is positioned within the world shapes both how they perceive the world and their interactions with others, which, in turn, influence research processes, protocols, and the research itself (e.g., Barnes, Gunn, Barnes, Muriwai, Wetherell, & McCreanor, 2017; Edosdi, 2008; Denzin, Lincoln, & Smith, 2008; Kovach, 2010; Smith, 2012). Inherent within Indigenous knowledge is an awareness that multiple ways of seeing and knowing the world exist that are specific to one's cultural context (Mika, 2015, 2016). Margaret Kovach (2005) has advocated for an approach to IM that encompasses the following principles:

- a) experience as a legitimate way of knowing;
- b) Indigenous methods, such as storytelling, as a legitimate way of sharing knowledge;
- c) receptivity and relationship between research and participants as a natural part of the research “methodology”; and
- d) collectivity as a way of knowing that assumes reciprocity to the community. (p. 28)

The second principle, *respect for Indigenous knowledge*, relates to the cultural ways of knowing and being that are informed by identity and relationships to the physical and metaphysical (e.g., Aluli-Meyer, 2006; Barnes et al., 2017; Hart, 2010). Researchers have recognized that the diversity of Indigenous peoples—and consequently Indigenous epistemology, ontology, and axiology—needs to be understood

in the context of land, language, and cultural teachings. In addition, multiple ways of knowing and seeing the world exist, and so any interpretation must be carried out within a cultural context. Elders and knowledge holders uphold cultural teachings and have a vital role to play in guiding research work that is both with and for their Indigenous communities. Shawn Wilson (2008) speaks of the role of ceremony within Indigenous research, arguing that cultural protocols and traditions are integral to respecting the relationship protocol during research.

Relevance is another core principle of Indigenous research processes (e.g., Archibald, 2008; Comino, Knight, Grace, Kemp, & Wright, 2016; Kwiatkowski, 2011; Rigney, 1999; Wilson, 2008). Considering the historical and contemporary understandings of Indigenous realities and relationships to research, *relevance* refers to how research is meaningful to Indigenous peoples and their communities. Some researchers have pointed to the role of Indigenous research as empowering the Indigenous community (e.g., Smith, 2012) and to the importance of research and its processes being led by the Indigenous community (e.g., Kovach, 2010). Relevant research not only has meaning but also intentionally builds research capacity and empowers communities' agency for self-determination. Within this understanding, the principle of relevance evokes a relational accountability that also includes community collectivism.

The principle of *responsibility* relates to researchers' responsibility to community and participants, the project itself, and to themselves as researchers (e.g., Barnes et al., 2017; Chilisa & Tsheko, 2014; Hart, 2010; Kwiatkowski, 2011; LaVeaux & Christopher, 2009; Wilson, 2008). Responsibility entails articulating the scope and duration of research partnerships, and accountability mechanisms. These protocols of roles and responsibilities occur across every phase of the research process (Moodie, 2010), and they are revisited and rearticulated throughout its duration. In addition, responsibility extends to the analysis and presentation of the research findings after the project is completed.

Indigenous scholars have argued that if social science has an inherent intention to work for the betterment of society, its researchers have a moral obligation to recognize and support the specific concerns of Indigenous peoples, rather than continuing to contribute to an ongoing exploitation of Indigenous communities and their resources (Smith, 2012). While some contemporary researchers may argue that such practices no longer reflect the current research environment, Smith (2014) reminds us that in researched Indigenous communities, researchers are perceived as a collective and "as being accountable for each other's work and for the work of their 'ancestors'" (p. 16). Responsibility connects to the principle of respect, since by enacting responsibility for their roles and responsibilities, research partners and community members demonstrate a mutual respect for their contributions to the project. Responsibility also evokes Indigenous governance and decision-making processes, which ultimately shows respect for tribal sovereignty and diversity and future generations.

The principle of *reciprocity* concerns the sharing of knowledge and respecting the knowledge holder's rights and title to their knowledge (e.g., Hart, 2010; Kovach, 2005; Kwiatkowski, 2011; Smith, 2012; Styres, 2017). The principle of reciprocity honours the sharing of knowledge through the cultural protocol of gifting (Wilson

& Restoule, 2010). Within Indigenous research, reciprocity is not bound only to the researcher-participant relationship, since it collectively begins with the group/community and expands to the diversity of its members.

The principle of *wholism* is intentionally spelled with a “w” to evoke an Indigenous understanding of being whole and the interconnectedness of all things, animate and inanimate (e.g., Aluli-Meyer, 2006; Mika, 2015; Smith, 2012; Styres, 2017; Wilson, 2008). For example, each individual is a whole being with an emotional, cultural, physical, and intellectual self, and each individual is connected to families, communities, and Nations through relationships of extended kinship. Moreover, Indigenous communities’ sense of collectivism is tied to their sense of being whole. Wholism also includes the relationships between the physical and metaphysical (Mika, 2016).

Indigenous ethics, the final principle, extend beyond research ethics guidelines (e.g., Aluli-Meyer, 2006; Kovach, 2010), since they consider the protocols and responsibilities one must adhere to both during and after the research work, with respect to relationships beyond the research project (e.g., relational ethics). Generations of deception, broken promises, and unethical research practices have caused many Indigenous communities to become more apprehensive and, at times, completely reluctant to participate in research (Kovach, 2010; Smith, 2012). Thus, many Indigenous communities are creating their own research frameworks and ethics processes to ensure their rights, knowledges, and communities are protected (e.g., ownership, control, access, and possession principles) (First Nations Information Governance Centre, 2020). Meredith Gibbs (2003) has argued that by not following Indigenous ethical research protocols, researchers compromise the integrity of their work: “without the full cooperation of any community, the researchers cannot be sure they have spoken to the right people, visited appropriate sites, or gained all the available information” (p. 676).

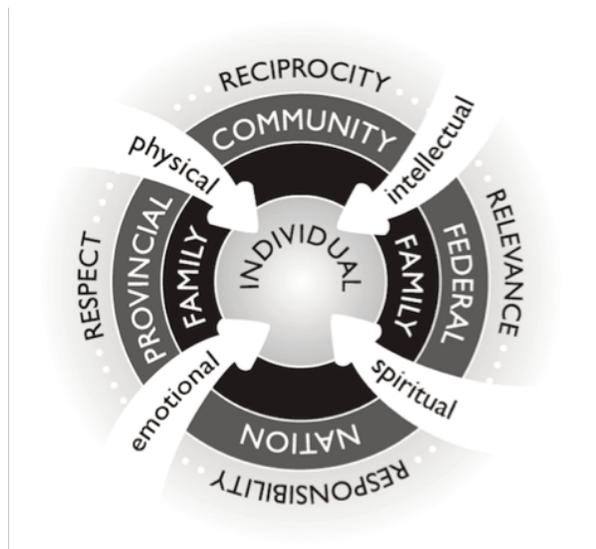
Understanding the complexity of Indigenous knowledge—what is public knowledge (what can be shared in research) and what is private (what should not be shared)—is critical to carrying out research in a relationally ethical way (e.g., cultural ethics). Indigenous ethics in some fields, such as health, have been guided by principles of ownership, control, access, and possession (e.g., rights and regulations) (First Nations Information Governance Centre, 2020). Guided by this perspective, the principles of IM emerged as an evaluative framework for examining how researchers working with Indigenous communities described their methodological processes and relationships to communities.

Theoretical framework

In this synthesis of the IM literature, Indigenous wholism emerged as a guiding principle, and it was, therefore, also used as a theoretical framework for this study. Theoretically, Indigenous wholism values the interconnections of the self to the animate and inanimate, as well as the metaphysical relationships within and between the physical, emotional, cultural, and intellectual realms (Mika, 2016). The Indigenous Wholistic Framework (Pidgeon, 2018; Pidgeon & Hardy Cox, 2002) (see Figure 1) is a visual representation of Indigenous wholism that illustrates the interrelationships of the individual to family, community/Nation, and lands/waters,

and to the four Rs of respect, relevance, relationship, and responsibility (Kirkness & Barnhardt, 1991).

Figure 1: Indigenous Wholistic Framework



This framework, in addition to the literature cited, informed the Indigenous qualitative content analysis (IQCA) used in this research.

Indigenous qualitative content analysis

Given the evolution of IM approaches over the last 30 years, the present study aimed to better understand how these methodologies have been used in research partnerships with Indigenous communities. The study intentionally focused on the social sciences and humanities, since these fields have a longer history of researching with Indigenous communities. It posed the following research questions: 1) How is research with Indigenous communities articulated in the social sciences scholarship (e.g., what research methodologies are used? What core principles of working with Indigenous peoples are relied on? What sources are drawn on)? 2) How is the relationship between researchers and Indigenous communities defined and discussed within the research? 3) What lessons can be learned from understanding research with Indigenous communities to help empower and decolonize Indigenous communities and further their self-determination? In posing these questions, the study set out to better understand how research with Indigenous communities is being carried out and articulated, and most importantly, how Indigenous communities are engaged and empowered by this work through authentic research relationships that honour the principles of IM.

Qualitative content analysis (QCA) is used to analyze documents and enhance the understanding of their data (Elo & Kyngäs, 2008) by determining certain trends and patterns within the data and their frequency and relationship to the overarching issue being analyzed (Cavanagh, 1997). The present study used IQCA, which integrates the wholistic interconnections and the four Rs (relevance, responsibility, reciprocity, and respect) as per the principles of IM (Kovach, 2010; Pidgeon, 2018; Pidgeon & Hardy Cox, 2002). Although this study's IQCA also used discrete categories and themes, this wholistic approach enabled important connections across the themes that resonated with Indigenous ways of knowing and understanding the data.

Following QCA's three main phases of preparation, organizing, and reporting (Elo & Kyngäs, 2008), IQCA also determined the parameters of the research and research questions (Elo & Kyngäs, 2008). First, the time period was set from January 1996 to June 2018. A temporal scope of approximately 30 years was long enough to provide insight into the evolution of Indigenous research approaches. Second, peer-reviewed publications that specifically worked with Indigenous communities were sought, and their research purpose, methodology/design, ethics, and implications were intentionally examined. Books, book reviews, commentaries, and philosophical or theoretical works were excluded. Third, the literature review was intentionally focused on the social sciences and humanities, and used social science databases such as EBSCO (e.g., Education Source, Academic Search Premier, PsycInfo) and Google Scholar. The key search terms were Indigenous (or Native American, First Nations, Aboriginal, Native Hawaiian, Maori, First Peoples, etc.) and Indigenous research methodology (or paradigm). Although a general search of "Indigenous* research methods" within the library database (connected to journal indexes and the catalogue) provided over 177,000 unique entries, once the search was refined to articles that specifically used Indigenous research methodology in the study design and were published between 1996–2018, written in English, and peer-reviewed, it resulted in 79 articles.

The third stage involved numerous readings of the data to break it down into smaller units of content, which were classified into categories that shared the same meaning (Cavanagh, 1997). Next, the content was validated through discussion and agreement to determine how the data should be labelled, and then each co-researcher independently coded the data (Elo & Kyngäs, 2008; Graneheim & Lundman, 2004). The principles of IM and the Indigenous Wholistic Framework (Figure 1) were relied on to label and codify the data, which provided a conceptual and empirical grounding for the IQCA. The IQCA coding was determined by the research questions involved, and, given the centrality of Indigenous inquiry, the analysis moved from specific to general (i.e., inductive) and then general to specific (i.e., deductive) (Elo & Kyngäs, 2008; Vaismoradi, Turunen, & Bondas, 2013).

The 79 articles were coded by three research assistants as well as the co-authors using the IQCA for the following: Who were the authors (Indigenous/non-Indigenous)? Where was the research carried out (e.g., country)? What research design/method was used (how was it named? How was it described? Who were the participants? What were the data collection methods?) What was the research analysis? What were the research limitations/delimitations? What were the ethical considerations? Although the overall study explored the research process itself and not its findings, the discussion section of each of the 79 articles was examined for methodologically related recommendations and other relevant notes. These articles were not identified by authorship, out of respect for the researchers' relationships within their research community. One research article cannot tell the complete story of researching with Indigenous communities. Each article is referred to by a number (manuscript 1-79) as a way to relate the findings to the analysis. The aim was to identify the core principles and trends among researchers working with Indigenous communities to better understand their processes of enacting research with Indigenous com-

munities. This study provides a foundational component on which to base future studies (e.g., interviewing researchers and Indigenous research partners about their research relationships).

Researching with Indigenous communities: Core tenants and trends

The research articles examined here were published between January 1994 to June 2018, in the following time periods: eight from 1994–1999; nine from 2000–2005; 32 from 2006–2010; 23 from 2011–2015, and seven from 2016–2018. The 79 publications were mostly from the fields of education, health, social work, and nursing, and represented the following countries: Canada ($N = 35$), United States ($N = 10$), New Zealand ($N = 10$), Australia ($N = 10$), Guatemala ($N = 3$), South Africa ($N = 3$), Thailand ($N = 3$), and five from other countries. Thirty-seven percent of the articles were written by Indigenous scholars, 30 percent were co-authored publications between Indigenous and non-Indigenous scholars, and 13 percent were sole-authored or co-authored by non-Indigenous scholars. Another 20 percent of authors did not disclose their identity. Some scholars choose not to self-identify, and since it was not possible to prescribe them as non-Indigenous or Indigenous, they were coded as *unknown*.

Identity, relationships, and land

Of the 79 articles, those written by Indigenous scholars—either as a single author or co-author—were more likely to acknowledge their cultural identity and their relationship with the lands on which their research was conducted. It was less common for non-Indigenous-only authors to situate themselves on the land, the exception being those who co-authored with Indigenous colleagues. In fact, in looking at the year of publications, the trend of self-identification with non-Indigenous authors or co-authors became more frequent in the later 2000s. An acknowledgement of where the research was carried out usually was included in the methods section, although in many of the non-Indigenous-authored articles, this acknowledgement was missing. Nevertheless, the growing influence of Indigenous research methods on academic fields of study may be helping to shift how researchers, particularly non-Indigenous researchers, situate themselves in their research by acknowledging their relationship to the territory where it was carried out.

Respect for Indigenous knowledge

Approximately 73 percent of researchers acknowledged respect for Indigenous knowledge. Although more researchers are beginning to use Indigenous knowledge as a framework to guide their research, relatively few have chosen to describe the specifics of how this knowledge was included within their study. While some researchers did not refer directly to Indigenous knowledge as part of their theoretical framework, their use of alternative and/or decolonizing methodologies helped to highlight the Indigenous knowledge(s) within their research community. For example, one group of authors (manuscript 9) discussed the application of a methodology called *photo history*, through which members of an Indigenous community captured their concerns about change in Northern Canada. In this process, researchers ensured that their participants would be responsible for the direction of the research

project while also engaging them in discussions related to ownership, repatriation, and ethics that were stimulated by the photographs.

Some researchers deferred directly to community *knowledge holders*. In this case, members of an Indigenous community were called on for guidance or direction with respect to working within the community. For example, a group of researchers (manuscript 23) invited Indigenous undergraduate students to act in an advisory capacity to ensure that research materials were culturally appropriate, and thus, these students were responsible for directing the focus of the project. Although past non-Native studies employed young people to interview their Elders to test whether existing aging stereotypes might affect intergenerational conversations, researchers working with these Indigenous undergraduate students learned that such conversations would be highly culturally inappropriate, as Native American youth would be presumed to have more knowledge or status than their Elders.

A smaller number of studies explicitly referenced specific IMs that were used to help guide the research process. Among one of the most common methods discussed was the use of *storytelling*. Storytelling or “yarning” (within an Australian context) has been increasingly used as a method within education and the social sciences as a way to privilege Indigenous perspectives and concerns. When investigating the specific factors that inhibited Indigenous peoples from accessing health services, researchers (manuscripts 9 and 16; one study carried out in Australia and the other in Canada) used narratives to present their findings in a way that aligned with the Indigenous world view. By incorporating storytelling as a method of data collection and by engaging the community directly in their research, the researchers were able to identify some specific areas where improvement could be made regarding health-care delivery in Indigenous communities.

The number of researchers who discussed how IMs were woven into their theoretical framework was fewer still. In these cases, Indigenous principles provided the underlying theoretical framework; they were the basis on which research decisions were made prior to even engaging with the community. For example, a researcher (manuscript 22) who identified within the cultural group, used a culturally specific methodological approach to ensure her research processes did not alienate or further attempt to colonize the Indigenous group she was collaborating with. The researcher discussed some of the key tenets of this methodology, which included the gathering of data through informal conversations rather than structured interviews, being open about research objectives, supporting the researched community through social contributions, and recognizing and acknowledging the value of the communities’ experiential knowledge. Due to her insider/outsider role, she already had some idea of how to interact and engage with the community. Similarly, a group of researchers (manuscript 25) grounded their study on what teaching practices might enhance or impede upon Maori and Pasifika students’ success with Kaupapa Maori and Pasifika Research methodologies, ensuring that Maori/Pasifika input was utilized through each step of the research process.

Relevance

Relevance coded across 72 of the 79 manuscripts reviewed for this study, which in-

entionally looked at how authors described the meaningfulness of their research project for their chosen Indigenous communities—from the research process to outcomes and dissemination. Relevance was expressed in multiple ways in these articles, such as when community participants were trained as part of the research team. Some researchers spoke about the intentional inclusion of IMs (e.g., storytelling) as being relevant and meaningful to the participants and honouring their ways of knowing. For example, one Indigenous researcher (manuscript 43) mentioned the importance of their research project in empowering Indigenous students to be inclusive of their ways of knowing and for providing “alternative” teaching methods that aligned with their cultural frameworks. Other researchers spoke about how their research in partnership with their chosen Indigenous community was intended to help produce broader systemic change and influence. For example, a Canadian Indigenous research team (manuscript 31) described their community-driven research process as embodying traditional Indigenous practices in contemporary times. This study directly noted the importance of the dissemination of its results, which led to a general improvement in the lives of the research partner communities. Other articles also pointed to the direct impact of the research in improving, decolonizing, and/or empowering Indigenous peoples and their communities.

Responsible relationships

An important element of an Indigenous research methodology is the relationship between the researcher, the research team, and the Indigenous community. The present study specifically examined the details of how researchers nurtured such relationships and demonstrated their sustainability (e.g., through multiple projects, designing future projects, or co-publishing/presenting with community members).

Seventy-seven percent of the articles surveyed in this study specifically discussed developing some form of partnership with the community of study. In some cases, this partnership development was carried out from the very beginning during preliminary meetings between the researcher and Indigenous community members. For example, in a study investigating the best practices for disseminating critical health information in Indigenous communities, researchers (manuscript 14) collaborated with Indigenous community health workers and key members from within the Indigenous community to ensure community guidance was available for all aspects of the research process by way of numerous community meetings. Similarly, in a study to better understand the environmental and health risks facing Indigenous communities in Canada, researchers (manuscript 21) advocated for responsible relationships by using community-based participatory research, and they also incorporated an Indigenous community advisory committee. In this case, researchers provided this committee with an outline of the research design, and the committee’s requests for modifications were considered and accepted through respectful cross-cultural dialogue. The researchers also noted that their method required relinquishing decision-making control and authority to ensure a trusting and respectful relationship with the Indigenous community. While some studies did not partner directly with Indigenous communities to establish an advisory council, a number of studies explicitly discussed their consultation process with key members of

Indigenous communities prior to the commencement of their research project to ensure the use of culturally appropriate methods.

Reciprocity

Smith (2014) states that “the onus of performing well is more on the researcher than on the researched” (p. 19). Although a researcher’s performance is ultimately determined by the community, responsible researchers who have embedded IMs in their research practice should be able to discuss the various ways their project—from conception to dissemination and beyond—has enriched the community.

Reciprocity was evident in 59 percent of the articles surveyed, and another 11 percent implied reciprocity in their research. For example, a number of articles discussed how their study findings had a direct influence on the Indigenous community through advocacy and policy changes. For example, in an Australian-based study, researchers (manuscript 23) developed a team approach in response to a lack of information on the health and service needs of an outer urban Aboriginal community. The research team specifically addressed the concept of reciprocity within their research by defining it as community guidance and by discussing how it impacted the broader needs of the community, such as enabling access to assessment and diagnosis services during the research project. The research findings from this study helped the Indigenous community develop proposals and funding applications for other initiatives (e.g., improving service supports for early childhood and breastfeeding support programs).

Reciprocity also was enacted through direct feedback from research participants and/or community members who discussed how they had benefited directly from their participation in the project. For example, the Elders who participated in a study in the United States on aging acknowledged that they had gained satisfaction from interacting and sharing their stories with young Native American students who were trained as researchers for the project (manuscript 2). These students also benefited from the experience through scholarly opportunities, as evidenced by increased school retention rates throughout the duration of the research project.

Several research studies (e.g., manuscripts 2, 9, 15, 21, 43, and 44) demonstrated reciprocity through the provision of further education, training, and/or workplace mentoring for Indigenous community members. For example, one Indigenous and non-Indigenous research team (manuscript 44) trained and paid community members as co-researchers and collaborators on a project that aimed to help create and evaluate an internet-based educational resource that would be used to increase health professionals’ understanding of Australian Aboriginal cultural knowledge specific to pregnancy and childbirth. Another form of reciprocity and respect was evident in the research collaborations that named Indigenous communities and/or participants as co-investigators and/or co-authors of the research (e.g., manuscript 51).

Some researchers used their skills to directly assist an Indigenous community with issues that extended beyond the focus (or timeframe) of the research. For example, a research team from New Zealand used Indigenous methods and action research to teach non-Indigenous educators how they could adapt these methodologies for use in their classroom practice and how these methodologies could benefit their Indigenous learners (manuscript 19).

With respect to those studies in which reciprocity was implied (e.g., manuscripts 5, 6, 7, 35, and 49), the authors typically noted the *potential* of findings to influence change. For example, in one study in Canada, participants' stories revealed a critical need for cultural knowledge exchange in Indigenous healthcare services to ensure equitable patient-caregiver relationships (manuscript 16). Although no indication exists that such offerings were directly established as a result of this particular study, a culmination of similar study findings show a potential to influence policy change, thus influencing the potential for positive change within Indigenous communities and the structures (e.g., healthcare, education, government) they rely on for services and supports.

Wholistic

Fewer studies (52%) specifically addressed the concept of *wholism* in their research. Of those that did, some discussed their research processes and choice of methodology (e.g., case study) as being inclusive and holistic (e.g., manuscripts 4 and 9). This was particularly evident in the articles that conducted health-related research (e.g., manuscripts 9 and 14). For example, wholism was evident in one article in which researchers co-investigated language revitalization with Native American youth in the United States by focusing on the interconnections of language revitalization, identities, peer-groups, school achievement, and the futures of their communities (manuscript 51).

Although other articles did not explicitly state how their work incorporated wholistic principles, seven implied this connection, since their research addressed one or more of the physical, emotional, cultural, and intellectual needs of Indigenous communities. These particular studies were collaborations of Indigenous researchers or mixed research teams (i.e., non-Indigenous and Indigenous) with Indigenous communities (e.g., manuscripts 26, 31, and 40).

Ethics

Given the history of research and the unethical practices used within Indigenous communities (Gower, 2012; Smith, 2012), it was critically important to examine how researchers spoke about their ethical responsibilities and practices. Fifty-eight percent of the 79 articles reviewed for this study underwent an ethical review process at their institution, and of those articles, 10 reported that they had also sought permission from a local Indigenous Nation and/or undergone an ethics review process by the Nation (e.g., manuscripts 12, 47, 56, 61, and 64). However, 37 percent of the articles failed to indicate whether they had ethics approval or had followed ethical guidelines and/or processes during their research. A small number of articles implied that they had followed ethical guidelines, but they were not explicit. Four articles (approximately five percent) did not require ethics approval because their research did not involve human participants.

Lessons learned: Moving forward

The Indigenous research process requires a triangulation of meaning that “asks us to extend through our objective/empirical knowing (body) into wider spaces of re-

lection offered through conscious subjectivity (mind) and, finally, through recognition and engagement with deeper realities (spirit)” (Aluli-Meyer, 2006, p. 265). This triangulation framework sets up an inquiry for a deeper understanding and learning about what it means to meaningfully undertake research with Indigenous peoples and their communities.

The IQCA process provided some valuable insights into how Indigenous and non-Indigenous scholars are taking up the principles of IMs in their research with Indigenous communities, and this body of scholarship also highlighted some of the ongoing tensions of this work within academic settings. For example, although researchers are more willing to take up IMs within their research studies, not much research is being done that specifically uses Indigenous epistemologies as its underlying framework. Some Indigenous scholars fear that disclosing too much information about Indigenous epistemologies and methodologies may result in their commodification and/or appropriation, whereas non-Indigenous scholars may feel hesitant to ground their research in epistemologies they do not fully understand. Indigenous and non-Indigenous scholars may share similar fears with respect to misinterpreting Indigenous knowledge and how it should be applied, and disrespecting community protocols when incorporating Indigenous theoretical frameworks into their research practice.

More emphasis is needed to ensure that the philosophies of prominent Indigenous scholars are incorporated in the same way that the grand masters of Western philosophies and social sciences are integrated throughout academic programs. Indigenous methodologies should be promoted alongside other methodologies commonly used and applied in the social sciences and humanities. Creating more opportunities for new scholars and researchers to be exposed to Indigenous perspectives will help to ensure future research with Indigenous communities is grounded within a framework consistent with the world views of the community being researched. These opportunities will also help to ensure that when Indigenous epistemologies and methodologies are employed, they are applied correctly and adhere to protocols. Inviting Indigenous scholars and community knowledge holders as curriculum advisors and to oversee program development may help to ensure that the integrity of Indigenous epistemologies and methodologies are passed on to new learners and are not co-opted by mainstream academia.

This analysis has shown that Indigenous and non-Indigenous scholars are carrying out more research in direct partnership with leaders from Indigenous communities. Many researchers involved in research projects with Indigenous communities that do not have a direct partnership have at least made some attempt toward consultation through community advisory groups. Successful cross-cultural collaborative research requires corresponding ethical research practices in which trusting relationships are paramount; the time needed to establish such relationships, however, is seldom acknowledged within the university context.

Research grants are often allocated under the provision of strict reporting and publication deadlines, and graduate students are required to meet strict completion due dates or face academic and/or financial consequences. Academic institutions, as they currently are operating, discourage researchers from working authentically with Indigenous communities. While many universities have adopted new review pro-

cesses to establish ethical research protocols with Indigenous communities (Brant Castellano, 2004), the university sector must be willing to reconsider its current infrastructure in order to sustain ethical research relationships in the long-term.

The principle of reciprocity was at times vague with respect to how Indigenous communities benefited from the research. Clear benefits are demonstrated through direct policy changes and stated community satisfaction, but many articles in this study tended to describe benefits in terms of advocating for respectful relationships and/or the use of particular methodologies. More clear evidence is needed regarding how the Indigenous community has benefited through, for example, specific statements from the community or specific outcomes.

Also, it is important to understand that the knowledge mobilization of the research results may indeed have started within the Indigenous community (e.g., reporting back, program development, policy change, curriculum) and that the “peer-reviewed” publication came later in the process. Keeping this in mind is important for researchers who want to support Indigenous sovereignty over their knowledge and any research products that benefit from it. Some tensions emerge for those researchers who are doing community-based research and also building their scholarship for tenure and promotion. The time it takes to build relationships, sustain a research agenda, and publish work—while being led by Indigenous ways of doing work—directly push against Western notions of scholarly productivity.

Limitations and delimitations

The limitations and delimitations of collective work were noted throughout this study. The first and foremost is the fact that one article does not offer a full account of the research process. Each article is a snapshot in time, which was noted in the analysis. Another limitation is the vast amount of literature now available globally in relevant databases, along with a nuanced understanding of the categorizations used within each of these databases. A parallel search in other countries may elicit additional articles that could be relevant for future research.

Some assumptions were made in this analysis that may also be limitations. If a project received national agency funding, for example, it was coded as having undergone an ethical review process, even if that was not clearly articulated in the article, since institutional requirements state that such funds cannot be accessed until the researcher has received formal ethical approvals. In Canada, for example, the three national funding agencies follow the Tri-Council Guidelines (Tri-Council Presidents and Chair of the Panel, 2015), which have a dedicated focus on research with Indigenous peoples that must be addressed in the ethical review process for Tri-Council-funded research. This research highlights the need for national funding agencies, and potentially, ethical review boards within institutions and at the Indigenous community level that can check in on the progress of the research and ensure that the relationship agreements are being honoured, both during and after the research is complete, and that Indigenous communities have a continued voice and representation across and beyond a research project.

A recommendation for future research would be to collaborate with content expert librarians to ensure search parameters are inclusive of all disciplines and databases.

While this study was limited to a 30-year period, important pioneering work was done in the seventies and eighties around participatory action research that developed meaningful and respectful research projects with Indigenous communities. Although such work was critical to the growth and articulation of contemporary IM processes, it remained beyond the scope of this study; it does, however, merit further exploration.

Future research

Future research on this topic could be expanded within the research use field. For example: What is the lasting legacy of the research relationship and the research project after the project has been completed? What other forms of knowledge mobilization could be found by broadening the scope of criteria? A future project could encompass a broad-based survey of the researchers who use IM in order to gain more insight into how they use the methodology and how it has evolved over time, including impacts on their research relationships and their work—both in their fields of study (e.g., the evolution of future projects and knowledge mobilization activities) and, most importantly, within their partner communities. This could help shed light on how research relationships, as reviewed in this article, directly influence sustained changes by and for Indigenous communities, and their long-term impacts on the aims and goals of Indigenous communities.

Note

1. *Indigenous* is used throughout this study to refer to First Peoples globally, rather than a homogenization of the unique cultural and world views of each Nation. Where appropriate, specific Nations (e.g., Maori, Métis, Mi'kmaq) are referenced to ensure respect for the sovereignty of each Indigenous Nation.

Websites

Academic Search Premier, <https://www.ebsco.com/products/research-databases/academic-search>
EBSCO, <https://www.ebsco.com/>
Education Source, <https://www.ebsco.com/products/research-databases/education-source>
Google Scholar, <https://scholar.google.com/>
PsycInfo, <https://www.ebsco.com/products/research-databases/apa-psycinfo>

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