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What We Learned from the Nokomisak/Grandmothers: Adapting the 4 Rs for Storytelling in Indigenous Health Research

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What We Learned from the Nokomisak/Grandmothers: Adapting the 4 Rs for Storytelling in Indigenous Health Research

Abstract

The Four R principles (4Rs) of respect, responsibility, relevance, and reciprocity were developed in the field of education by Kirkness and Barnhardt and have guided respectful approaches in research. Our purpose was to adapt the 4Rs for storytelling methods in Indigenous health research and identify associated exemplary research practices. Indigenous team members drew on their traditional Cree and Anishinaabemowin languages to formulate revised 4R definitions tailored to storytelling in health research and our location on Turtle Island, Treaty One territory. We used this adapted 4R framework to identify and analyze patterns of exemplary practices in studies (N=178) using storytelling methods. Our findings can guide respectful storytelling research to meaningfully incorporate Indigenous perspectives for the well-being and benefit of Indigenous communities.

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Keywords

Decolonizing health research, Indigenous health research, the 4 Rs, Storytelling and health

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What We Learned from the Nokomisak/Grandmothers: Adapting the 4 Rs for Storytelling in Indigenous Health Research

The “Four R’s” were originally put forth by two renowned Indigenous scholars, Kirkness and Barnhardt (1991), in their article “First Nations and Higher Education: The Four R’s - Respect, Relevance, Reciprocity, Responsibility.” Their original intent was to guide meaningful and respectful engagement with learners and address the underrepresentation of First Nations students in higher education. Since that time, the Four Rs (4Rs) have been widely taken up in health research, including in our project, despite little guidance surrounding how to apply them in this realm. The Nokomisak/Grandmothers (Elders), Mabel Horton and Sherry Copenace, who were guiding our participatory scoping review of storytelling as a research method, were attuned to this. They urged us to pause and deeply contemplate the implications of the 4Rs for our work which was situated within Indigenous health research and on Turtle Island, Treaty One territory, in what is now known as Manitoba, Canada. In this paper, we share our learnings from this process and how it transformed our resulting analysis and findings. We begin with the Nokomisak teachings on respect and the profound relevance of the 4Rs for shaping storytelling as a health research method:

When we speak in our languages, it is encompassing of our worldviews and values. The meaning of respect becomes much more profound - it is about having the highest regard for yourself and that being, that spirit in front of you. The other four Rs fall into place if respect is there, and our languages help us to understand the holistic meaning of responsibility, relevance, and reciprocity. If our healthcare providers and researchers follow these ways, it will change them, and they will see the person in front of them as a gift and honour the people they are working with. They don’t understand the spiritual part of the peoples of Turtle Island, but we see it differently; we see them as spirits that are here to teach us something about humanity through their stories. We treat them and their stories with kindness and the deepest respect as they are our teachers, even if they have been hurt and are struggling. In the Indigenous worldview, we revere people and the land, rocks, and water, as all have spirits. Within our mythology here on these lands, we understand that we are all star people and gifts from the Creator. (Nokomisak Mabel Horton and Kookoom Lillian Cook)

These teachings come from our participatory scoping review team conversations, in which we collaboratively mapped and critiqued how storytelling has been used in health research with a team of Indigenous peoples and settlers (Rieger, Horton, et al., 2023). We are grateful for these insights from Indigenous mentors, which guided our shared work. We set out on this journey because when storytelling is grounded in Indigenous epistemologies it can foster culturally respectful and responsive research and help us move forward from the injustices of the past (Rieger, Bennett, et al., 2021; Smith, 2012). Storytelling methods in health research encompass a diverse array of approaches such as storytelling interviews, sharing circles using storytelling, talking/sharing circles with art or photos, yarning circles, and digital storytelling. This engaging method can be employed at various stages of the research project. Storytelling can serve a culturally resonant and authentic engagement approach; a data collection method for eliciting rich, in-depth data; and an impactful means of sharing findings in a meaningful way with a range of people and advocating for change (Fontaine et al., 2019; Rieger, Horton,

et al., 2023). However, given the historical and ongoing realities of research being a colonial tool that delegitimizes Indigenous peoples' perspectives (Reimer-Kirkham et al., 2007), it was imperative to critically analyze the incorporation of storytelling methods within Indigenous health research. Our review on storytelling in health research is now published (Rieger, Horton, et al., 2023), and in this initial work we identified and critically examined how storytelling has been used as a method in Indigenous health research on Turtle Island (North America), Australia, and Aotearoa (New Zealand). In our review protocol (Rieger et al., 2020), we wrote that we would also draw the 4R principles (Archibald, 2008; Kirkness & Barnhardt, 1991) of respect, responsibility, relevance, and reciprocity, to note patterns of exemplary research practices in storytelling research to guide future work. These principles can help researchers to centre and embody ethical relationality and decolonize research practices (Kerr & Adamov Ferguson, 2020). The focus of this paper is on reporting our iterative 4R sub-analysis of the studies included in our participatory scoping review and demonstrating how this framework can act as a guide for future research using storytelling methods in Indigenous health research with teams of Indigenous and non-Indigenous peoples.

We believed it was crucial to do this work relationally (Benett, 2019; Kovach, 2010; Phillips-Beck et al., 2024; Ward et al., 2020; Wilson, 2008), with meaningful engagement with our collective of Elders, Indigenous patients, healthcare professionals, and healthcare administrators, and Indigenous and non-Indigenous researchers, who brought varying perspectives to the review procedures and interpretation of findings. A crucial part of our process were regular team gatherings over the duration of the project to discuss what we were finding, reflect on our review processes, and engage in teachings around stories. We engaged in discussion of the 4R concepts with our research team, but the definitions that had been developed for this project based on existing scholarly works did not resonate with our Indigenous team members. As such, we worked closely with Nokomisak Mabel Horton and Kookoom Lillian Cook, two of our team members who are fluent speakers of their traditional languages, to refine the 4R concept definitions and make them relevant to the Indigenous people on our team and situating them within the context of health research. We found it valuable to take a step back, discuss the 4Rs with Indigenous mentors who engage in storytelling in their communities, and consider the 4Rs from their points of view. In this 4R analysis component of our larger project, our purpose was to adapt the 4Rs for storytelling methods in Indigenous health research and identify associated exemplary research practices. We write this paper to share our process and findings of this sub-analysis. First, we provide a comprehensive overview of how the 4Rs have been used in academic literature; then we delineate the process we undertook to formulate revised definitions tailored to our team located on Turtle Island, Treaty One territory and health research; and finally, we identify associated research practices and concrete examples from our completed scoping review (Rieger, Horton, et al., 2023) to guide future storytelling research. We hope these examples will inspire future research teams to consider how they can uphold the 4Rs while engaging in storytelling research within their distinct contexts.

Background of the Four Rs

In their seminal work on the 4Rs, Kirkness and Barnhardt (1991) argued that the main reasons for the underrepresentation of First Nations students could be addressed through educators and educational institutions committing to *respect* First Nations students as a people; be *relevant* to their worldview and perspectives; practice *reciprocity* in relationships and teaching/learning; and support First Nations

students to have *responsibility* over their education. Although the 4Rs were initially designed as a framework to support and empower First Nations students in higher education, these principles have been widely used and adapted in research (Wright et al., 2019). Archibald (2008, 2019), an educational researcher, built upon and adapted the 4Rs to become ethical principles for collaborating in storytelling research with Indigenous peoples, and to help researchers become “story-ready.” Archibald and Parent (2019) replaced relevance with reverence to “signify deep respect and honor to stories and their use” (p. 5). Furthermore, in 2007, the Canadian Institutes of Health Research published revised ethical guidelines for research involving Indigenous people, which included the 4Rs (Yassi et al., 2013). The 4Rs have helped researchers to adhere to ethical conduct and enact decolonizing approaches (Archibald & Parent, 2019).

Literature Search Process and Data Sources

To inform our analysis reported in this paper, we carried out a focused literature review to understand how the 4Rs have been discussed in the literature since their development in 1991. We searched three databases (CINAHL, ERIC, Medline) and Google Scholar to find relevant literature, using the following keywords combined with Boolean operators: “4 Rs” OR (“4 Rs” AND Indigenous) OR (“respect” and “responsibility” and “reverence” and “reciprocity”). We included 16 articles with a substantial discussion of the 4R concepts and extracted and synthesized relevant data (e.g., year, country/discipline of first author, article type and purpose, and origin, definition of the 4Rs, application of the 4Rs, and critique of the 4R principles).

The discussion ($n = 9$) and research ($n = 7$) articles ranged in publication date from 2008 to 2022. The lead authors were from Canada ($n = 14$) and the United States ($n = 2$), and worked in a variety of disciplines including education (Archibald, 2008; Hobenshield, 2016; Kolenick, 2012; Parent, 2014; Stanton et al., 2020; Windchief, 2015), language and literacy (Davidson & Davidson, 2016; Galla & Goodwill, 2017), medicine (Blair, 2022), resource and environmental studies (Castleden et al., 2012), cultural and global studies (Evan et al., 2009), geography (Graeme, 2013), nursing (Wright, 2019), and public health (Yassi et al., 2013). The majority of articles referenced Kirkness and Barhardt’s (1991) work ($n = 6$); however, some articles referenced Archibald’s work (Archibald, 2008; Archibald & Parent, 2019) ($n = 4$), and a few articles referenced both ($n = 2$). One article added relationships as a fifth R to represent the transformation of relationships in the academic setting (Parent, 2014), while another reinterpreted the 4Rs to identify the four As of accommodation, acquiescence, affiliation, and acceptance (Hobenshield, 2016). Although most articles did not provide a definition or in-depth explanation of each of the 4R’s, the majority did incorporate examples of how they related the concepts to their work.

Defining the Four 4Rs

Twelve articles described the 4R of *respect* in some way, but none gave a clear definition. Authors described respecting cultural knowledge and ways of knowing, honoring the authority and expertise of Elders, and taking steps to establish trust (Archibald, 2008; Hobenshield, 2016; Wright, 2019). Respect involves listening more and speaking less to put the power in the hands of participants, while recognizing that it is up to Indigenous people and communities to decide what knowledge can be shared (Castleden et al., 2012; Graeme, 2013). Furthermore, respect requires the researcher to be reflexive about the way

they ask questions, and how they listen to, interpret, and share what is being said (Davidson & Davidson, 2016).

Ten of the articles touched upon the concept of *responsibility*, yet none provided a distinct and explicit definition. One author stated they had a responsibility to ensure that they accurately understood the stories shared with them and that participants had the final say on how their ideas were communicated (Davidson & Davidson, 2016). Another wrote that it was up to each participant to decide what they shared, and that as the listeners, researchers were responsible for the knowledge shared with them (Galla, 2017). According to Kolenick (2012), “the parting with knowledge and the sense of power and well-being experienced by others is central to the principle of responsibility” (p. 44).

Although none of the articles provided a clear definition of *reciprocity*, ten articles offered examples. For example, Blair et al. (2022) noted that participants were given a fruit basket, coffee mug, and muskeg tea blessed by an Elder as a thank-you gift, while Davidson and Davidson (2016) recognized the significant contribution of a participant by giving them co-authorship. Reciprocity was described by Castleden et al. (2012) as a “two-way street” in which both the researcher and the community learned from each other (p. 169). Lastly, Hobenshield (2016) explains that reciprocity starts when “the host extends the invitation, and the guest responds with a mixk’aax (gift), which will later be returned with interest at the event” (p. 34).

Seven articles contained information on the 4R of *relevance*, but none of them presented a concise definition. Relevance was described as ensuring research is appropriate to the needs and desires of Indigenous communities, allowing each participant to determine what needs to be understood in English, creating opportunities for storytelling sessions for well-being (Galla & Goodwill, 2017; Parent, 2014) and recognizing that research regulations must be “driven by Indigenous protocols that clearly state the purpose and goals” (Graeme, 2013, p. 516).

Only four articles described the 4R of *reverence*, and none of these articles offered a distinct definition. Some authors noted the importance of treating participants and their stories with reverence by using the level of respect that one would expect for ceremonial settings, enacting ethical principles they had been taught by their family, and honoring community values by discussing concerns with Elders (Davidson & Davidson, 2016; Stanton et al., 2020).

As is evident in this overview, the 4Rs originated within the sphere of higher education and subsequently were applied in various settings, including health research. Scholars assert that the 4Rs can embody Indigenous values (Archibald, 2008; Kirkness & Barnhardt, 2001); however, there was a notable gap in clear definitions of each concept. As well, our team members identified a need to understand these concepts within the specific lands and languages where our work unfolded, as well as their applicability for storytelling methods in health research.

Our Methods and Process with Our Relations

Our team’s iterative analysis of the 4Rs in storytelling research was informed by Kirkness and Barnhardt’s (1991) and Archibald and Parent’s (2019) conceptualizations of the 4R principles, conversations with

research team members, and the analysis of studies included in our participatory scoping review (N=178). Our participatory, scoping review of storytelling methods in Indigenous health research is described in another paper according to PRISMA guidelines (Rieger, Horton, et al., 2023). As previously mentioned, one of our initial review objectives involved a sub-analysis to evaluate our included studies through the lens of the 4Rs and identifying exemplary practices when using storytelling methods in health research to inform a framework to guide future research for teams of Indigenous peoples and settlers. Thus, developing a shared understanding of the meaning of the 4R principles was crucial. While scoping the literature was part of the work, foundational to our participatory scoping review (Arksey & O'Malley, 2005; Bassett, 2013) was gathering together to hear Indigenous perspectives of the role of stories in research and our review procedures/interpretation. We held relational gatherings with our diverse team at six key points in our project, and our work was guided by a Two-Eyed Seeing perspective, as put forth by Mi'kmaw Elders Murdena and Albert Marshall from Eskasoni First Nation (Hall et al., 2015; Martin, 2012; McFadden et al., 2023; Sinclair et al., 2021). From this view, drawing on and integrating Indigenous and Western ways of knowing is important for a more comprehensive understanding of various issues, challenges, and possibilities surrounding storytelling methods in research. These half or one-day relational gatherings involved Indigenous ceremony, teachings from the Elders about storytelling in Indigenous communities, talking circles about ST led by our Elders, sharing meals, and discussions about review processes and findings. Our conversations guided our review processes as we collaboratively refined objectives, developed the search strategy, created data extraction tools, analyzed data, and planned knowledge translation outputs. This approach supported shared governance, decolonizing practices, and the integration of Indigenous and Western perspectives, ensuring ethical research aligned with principles of Indigenous ownership, control, access, and possession (OCAP) (First Nations Information Governance Centre, 2024; Phillips-Beck et al., 2019).

At one of our relational gatherings, we had a conversation about the 4Rs and their conceptual definitions for analyzing our included articles. Our Indigenous colleagues found that the proposed definitions did not invoke resonance or insights according to their understanding of these principles. This welcome disruption required that we pause and unpack these concepts further, before proceeding with our analysis. Two of our team members, Nokomisak Mabel Horton and Kookoom Lillian Cook, offered to draw on their traditional languages to understand the 4R concepts in a richer way and anchor them within the cultural contexts and lands on which this work was conducted.

Nokomisak Mabel Horton drew on her Cree language and Kookoom Lillian Cook drew on her Anishinaabemowin language, both of which derive from the Algonquian language family. They shared the words in their languages related to respect, responsibility, relevance, and reciprocity, and translated their meanings into English. This conversation was recorded and transcribed and played a pivotal role in honing the definitions of the 4R principles for their incorporation into our project. The refined definitions were reviewed by Nokomisak Mabel Horton and Kookoom Lillian Cook, followed by a subsequent review by our larger research team. The 4R principles can mean different things to different people, and this process enabled us to develop a shared understanding of what they meant to our Indigenous team members who are located on Treaty One territory in what is now known as Manitoba, Canada.

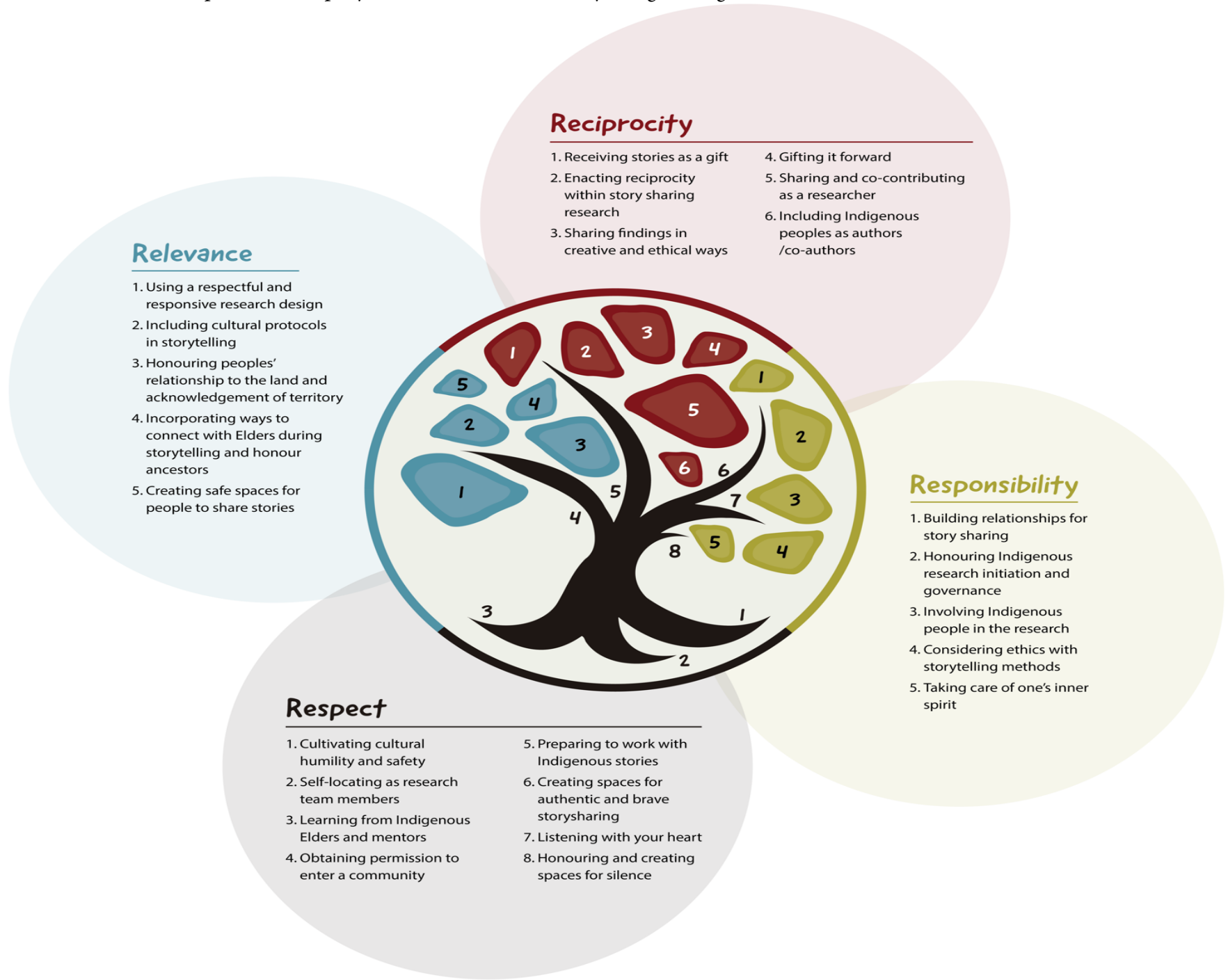
We used these refined definitions to identify exemplary research practices from studies included in our scoping review, that could support the 4R principles when employing storytelling methods. This process involved developing an initial list of practices described by Kirkness and Barnhardt (1991) and Archibald and colleagues (Archibald, 2008; Archibald & Parent, 2019) and discussing these practices with our diverse research team. Indigenous colleagues highlighted practices that seemed especially relevant to them for health research. We extracted data from our included studies into categories congruent with the 4R principles and these practices, aiming to capture examples which illustrate these practices when using storytelling in Indigenous health research. This analysis involved an iterative refinement of our list of exemplary research practices in which we revised our previously developed list and added practices that we found in the included articles.

It is important to note that the revised 4R definitions are specifically informed by the languages of our team members, and what we offer here is one interpretation that held meaning for this group of Indigenous peoples. We are aware that First Nations, Inuit, and Métis peoples are distinct groups and that the knowledge developed in this study cannot be generalized to all Indigenous peoples on Turtle Island (Canada and the US). However, although meaning may vary between different Indigenous peoples, our Elders advised us that they represent values found across Indigenous worldviews. Thus, we hope that our findings will add to the conversation of how to engage in storytelling methods meaningfully and respectfully in Indigenous health research, drawing on values that are common to Indigenous peoples, and inspire others to consider what the 4Rs could look like in their localities and spheres of influence.

The Revised Four R Principles and Exemplary Research Practices in Storytelling Research

Our collaboration and analysis resulted in revised definitions for the 4R principles—respect, responsibility, relevance, and reciprocity—along with corresponding set of exemplary research practices to support each of the principles which pertain specifically to the utilization of storytelling as a method in health research. The 4R principles and their corresponding research practices are depicted in Figure 1 as a tree with a trunk and three branches. Guided by Nokomisak Mabel Horton, we chose to use the shape of a tree as the trunk could represent respect, which is the foundation for the branches of relevance and responsibility, with the crown of the tree culminating in reciprocity. The trunk gives life to these branches, which in turn, provide shade, nourish, and sustain life for all their relations. The placement of the branches depicts how the 4Rs are distinct, but fluid and interconnected at the same time, with the trunk and branches joined together and flowing into each other. The leaves are composed of a mosaic of rocks to show how the practices need to be interrelated and carefully placed together to follow this framework, with the colours inspired by connections to the land. We will now define each 4R principle, followed by tables showcasing research practices and concrete examples from our included studies to illuminate how these principles can be enacted when research teams use storytelling methods in a good way.

Figure 1. The Four R Principles and Exemplary Research Practices for Storytelling in Indigenous Health Research



Respect: Kih ce yih tā tákwan (Cree) and Gitchi unane mut owiyuh (Anishinaabemowin):

Respect is a sacred teaching and involves viewing the person as a whole person and a spiritual being and gift from the Creator, who is here to teach us. This view results in holding in high regard and having great thoughts (inner thinking) towards the spiritual being in front of you. It guides us to be present to people with kindness, patience, and observation, and taking care not to scare or offend them. In storytelling research, this attitude encompasses respect for cultural knowledge, storytellers, and the beauty and power of Indigenous stories and listening to Indigenous stories with respect. As well, it involves respecting each other’s unique Indigenous knowledge and cultural protocols, and being open to learning from and with Indigenous peoples. People can show respect by starting with themselves and thinking about their own values, attitudes, experiences, and biases, which supports them in freely respecting others. Respect is the basis for responsibility, relevance, and reciprocity, and these aspects will fall into place if you understand and enact respect. See Table 1 for research practices and concrete examples associated with respect when using storytelling methods.

Table 1.

Respect: Research practices and examples from included studies

Respect: Research practices	Examples from our review of storytelling methods in Indigenous health research
<p>1) Cultivating cultural humility and safety Researchers (especially those who are non-Indigenous) practice self-reflection and reflexivity, as well as enter the work with cultural humility by allowing the community and participants to be experts on their knowledge and what they desire for the research.</p>	<p>“The guiding value at the commencement of the project was humility. The research team began by asking the Elders for their advice on how to proceed with the research... The research team was also transformed in this process” (LaBoucane-Benson et al., 2012, p. 4).</p> <p>During this process we had to continually ask ourselves what and how we would observe, and give consideration to truthfulness, and simultaneously remain “culturally sensitive (Seidman, 1991)” (Southcombe et al., 2015, p. 610).</p>
<p>2) Self-locating as research team members Researchers self-locate by describing where they came from, their relevant experiences, and their relationships with co-authors and the community.</p>	<p>Interviews “began with the interviewer providing a culturally appropriate introduction (e.g., by sharing her tribal and clan membership, where she grew up, and current residence and occupation)” as these are important cultural protocols of self-location (Reinschmidt et al., 2016, p. 67).</p> <p>“As non-Indigenous researchers, we are both outsiders to this community. The first author is a white Australian woman who lives in Melbourne on the country of the Woiwurrung and Boonwurrung of the Kulin people. She became involved with the work of CAN as part of her Masters research. The second author identifies as a black man from South Africa who has been a critical friend of the organization over many years taking on various roles including research, evaluation, and education about race, whiteness, and racism” (Quayle & Son, 2019, p. 49).</p>

Respect: Research practices	Examples from our review of storytelling methods in Indigenous health research
<p>3) Learning from Indigenous Elders and mentors With the intention of learning from Indigenous Elders and mentors, the researchers seek to understand what is important for the community in the research, local protocols and teachings, and the impact of colonial history on the people they are working with.</p>	<p>Each elder was given tobacco, and at times cloth or prayer ties. This situated the researcher as a student/learner and the Elders as the teacher. As the author wrote, the Elders "considered themselves to be my teachers and were satisfied when I could repeat back what they had said correctly" (Mehl-Madrona, 2009, p. 21).</p> <p>Narjic was employed as an Indigenous co-researcher and a mentor who provided Indigenous and culturally appropriate perspective/teaching to the non-Indigenous researchers throughout the process. She ensured that participants were properly informed, in their own languages during the sharing/confirming of their stories (and recruitment phase, signing consents). Narjic "often clarified aspects of the story and assisted with maintaining cultural sensitivity during the process" (Ireland et al., 2011, p. 636). She also suggested to use the "message stick" when talking with participants as a sign of respect (Ireland et al., 2011).</p>
<p>4) Obtaining permission to enter a community Researchers seek permission before entering an Indigenous community to conduct research and describe what that process involved, including who gave the permission.</p>	<p>The researchers provided a detailed explanation of how they enacted formal protections for Indigenous knowledge, and signed a document between the University of Maine and Penobscot Nation to support this protection (Daigle et al., 2019).</p> <p>"The research sites were selected with the guidance of an Indigenous representative and attempted to gain a cross-section of views from urban, regional and remote areas. Access to the sites was organized by the Indigenous representative, who was culturally aware and sensitive to the needs of the participants, and he accompanied the researchers and assisted in the interview and yarning circle procedures" (Henwood et al., 2017, p. 212).</p>
<p>5) Preparing to work with Indigenous stories Before working with Indigenous stories, researchers learn about Indigenous storytelling methods and how to approach storytelling, and what is needed to carry out this important work safely and respectfully.</p>	<p>"We recruited and trained seven Aboriginal and non-Aboriginal male and female story collectors in the use of "yarning" as a data collection tool. The training consisted of a 2-day workshop conducted by three members of the IRG. The IRG identified that the term "story teller" has a particular significance in Aboriginal culture; hence the term "story provider" was used. Story providers were recruited by the Indigenous Reference Group members and story collectors through their personal contacts or by snowball sampling" (Wain et al., 2016, p. 3).</p> <p>"Prior to interviewing, the first author who is an Indigenous researcher conducted a pilot study with two Native American elders. The purpose was twofold: First to test the appropriateness and the efficacy of the questions as guides for the interviews, and second, to become re-educated about culturally appropriate behavior and showing proper respect of elders" (Grandbois & Sanders, 2009, p. 571).</p>

Respect: Research practices	Examples from our review of storytelling methods in Indigenous health research
<p>6) Creating spaces for authentic and brave storysharing Inviting participants to share a story in their own way that they think is important to share, and to share their unique perspectives in a language of their choice.</p>	<p>Participants could tell their stories in the language of their choice. Some spoke no English, and some spoke a mix of English and "local languages" (Kidea et al., 2009, p. 150). Stories were transcribed and read back to participants (using an interpreter if needed) to ensure accuracy. Changes were made until participants were satisfied (Kidea et al, 2009).</p> <p>Allowed participants to tell their story in their own words and to emphasize issues that were important to them "rather than the interview having a predetermined focus" (Mbuzi et al., 2017, p. 5054). Allowed participants to share knowledge regarding their relationships, culture, spirituality, and identity (Mbuzi et al., 2017).</p>
<p>7) Listening with your heart Researchers listen carefully, respectfully, kindly, and deeply as the stories are shared and give the speaker their undivided attention. Deep listening with your ears, eyes, mouth, and gut.</p>	<p>Evidence of respectful listening included refraining from interrupting storytellers and listening with "three ears," meaning two ears and the heart (Galla & Goodwill, 2017, p. 70). The authors also state that they engaged in storytelling in "a good way by employing Indigenous practices of gift giving, generosity, listening with an open mind and full heart, and constant reflection" (Galla & Goodwill, 2017, p. 73).</p> <p>The researcher discussed receiving prior training in the "art of listening" from several of the elders (Mehl-Madrona, 2009, p. 22). This enabled the researcher to purely listen and avoid writing notes/recording throughout the meetings. This is an important practice when working/studying with the elders (Mehl-Madrona, 2009).</p>
<p>8) Honouring and creating spaces for silence The researchers are open to and respecting of silence as well as welcoming pauses as stories are shared.</p>	<p>During the yarn, "to explore these areas, the researcher used active listening techniques, respected long silences and infrequently prompted using open-ended questions" (Carlin et al., 2019, p. 4).</p> <p>Extended ST interviews (up to 4 hours) allowed for additional reflection and silence (noted as culturally valued). The authors acknowledge that they respected silence (Charbonneau-Dahlen et al., 2016).</p>

Responsibility: Nā kā te yī mowe win (Cree) and Jih apane nimin dadowin (Anishinaabemowin)

Responsibility encompasses doing the work that the Creator has given us in a good way—how we carry out the work that we have been called to do on this earth, and taking ownership and being accountable for the things that we do in research. The good conduct of storytelling research involves developing collaborative working relationships with Elders, participants/storytellers, families, and communities in a responsible manner. Taking the time to develop trusting relationships allows the team to receive guidance from Elders and communities about the direction and conduct of the research. It involves accepting responsibility in carrying out the roles of the researcher and for how the stories are gathered, held, interpreted, and shared in the conduct of the research. Engaging in relationships and the

“legitimation of Indigenous knowledge and skills” into the conduct of research (Kirkness & Barnhardt, 1991, p. 9) privileges Indigenous peoples’ perspectives and priorities. See Table 2 for research practices and concrete examples associated with responsibility when using storytelling methods.

Table 2.

Responsibility: Research practices and examples from included studies

Responsibility: Research practices	Example from our review of storytelling methods in Indigenous health research
<p>1) Building relationships for story sharing The research team intentionally takes the needed time to build relationships and develop trust with Indigenous Elders, mentors, and people involved in the research and engaging in relational activities (e.g., sharing food, spending time in the community, and doing what they like to do). Relational knowing is woven throughout the research.</p>	<p>During the study, the lead researcher lived and participated in the Cumberland community, "and observed the local context. He spent almost two months in the community to establish a trusting relationship with community members before conducting the face-to-face interviews. Many residents opened their home to him during his stay in the community, and he visited them a number of times, partaking in their harvesting and other socio-cultural activities" (Abu & Reed, 2018, p. 443).</p> <p>Significant effort by PI to build relationships with community members prior to research and during research, including participating in traditional Maori greeting/welcome, exchange of tribal songs, expression of sacred word, gift offering, sharing meals in community members' homes, visiting sacred lands, and sharing language/teachings/customs (Beltran & Begun, 2014).</p>
<p>2) Honouring Indigenous research initiation and governance The researchers ensure the initiation and governance of the research is respectful of and in line with the community’s desires. This responsibility includes clearly documenting who initiated and led the research.</p>	<p>The research project was initiated by a researcher who was also a member of the community. The researcher met with the Chief & Council three times to discuss the project in advance, and once with the health director and health staff. Ethical approval was received from the academic institution and from the First Nation community via a Band Council Resolution (Graham & Martin, 2016).</p> <p>Throughout the research process the researchers consulted with the NunatuKavut Community Council (NCC), who also advised on whether the research was appropriate and suitable for their community. “We sought support from the NCC for the proposed research and underwent their research review process” (Gabel et al., 2016, p. 81).</p>
<p>3) Involving Indigenous people in the research Researchers collaborating with or involving Indigenous people in all stages of the research, and in the hands-on implementation of culturally appropriate methods. e.g., design, data collection and analysis, validating findings, story sharing, and creative KT initiatives.</p>	<p>Indigenous stakeholders were invited to be team members and involved throughout entire project from inception to completion. Indigenous community members were hired to mentor other research team members, recruit participants, and collect data (Benoit et al., 2019).</p> <p>The researcher would share what he learned from the discussions with the elders, and the elders provided critique and review of what was presented, "as an Indigenous adoption of a grounded theory model" (Mehl-Madrona, 2009, p. 22). Together, the researcher and the Elders engaged in think tanks where discussions were held about what was learned, and to develop ideas that would guide the cross-cultural training program. The final ideas would have to be agreed on by everyone, overall calling this a "quality improvement in advance" process (Mehl-Madrona, 2009, p. 22).</p>

Responsibility: Research practices	Example from our review of storytelling methods in Indigenous health research
<p>4) Considering ethics with storytelling methods The researchers ensure participants know that they can share any part of their story that they wish, obtain consent to gather and share stories publicly, acknowledge those who told the stories in a way that is meaningful to them, and ensure participants are aware that they are free to share as much or as little of their story as they choose. This responsibility includes listening with your heart and responding to how the community wants the stories held, used, and shared.</p>	<p>“Consent to share stories was sought on multiple occasions” and “was an ongoing process (re-) negotiated at multiple points” (Flicker et al., 2019, p. 329). Consent was flexible and youth had the option of giving consent for the sharing of digital stories in some contexts but not others. No stories were shared publicly until six months after completion “to ensure youth had an opportunity to really reflect on the meaning and potential impact of sharing their story” (Flicker et al., 2019, p. 329).</p> <p>The author was clear to participants that “they had total control over every aspect of their stories. They chose every detail of their digital story” (Wiat, 2020, p. 57). The author has a “continual consent process” with participants, keeping them informed when presenting “their digital stories at academic conference or events” (Wiat, 2020, p. 59). Participants “chose every detail of their digital story, including writing their first-person narration, and picking out the personal photos and music that accompanied them” (Wiat, 2020, p. 57).</p>
<p>5) Taking care of one’s inner spirit The research team members, as well as participants, have a responsibility to find ways to take care of their inner spirit as they listen to and process stories.</p>	<p>In each yarning group, there was always an Aboriginal social and emotional well-being health worker (male) available and present if the participants needed support, before, during and after the groups. The Aboriginal health workers were also invited to observe and participate in the yarning groups (Canuto et al., 2019).</p> <p>“Longer sessions often involved unravelling experiences grief, loss and trauma, via therapeutic yarning. It was essential to allow this therapeutic yarning so that the research yarn could eventually continue” (Gibson et al., 2020, p. 195).</p>

Relevance: Kwa yask we yih ci kewin (Cree) and Jihmino ahno key tumun gaygo (Anishinaabemowin)

Relevance entails demonstrating congruence with Indigenous Peoples’ and communities’ perspectives, experiences, and culture, to do good work that is related to the needs of Indigenous people. Researchers collaboratively endeavor to make sure that the research path is appropriate so that it helps to advance the desires of communities. Research practices ensure that the work is meaningfully connected and appropriate to Indigenous Peoples’ worldviews, everyday lives, and lands. This includes showing the deepest respect, highest regard, and reverence towards animate and inanimate beings, Elders, and ancestors, who are all spiritual beings and viewing them as connected. Research practices include appropriate, local ceremonial and spiritual protocols to create a safe and good space for the integrated heart, mind, body, and spirit of participants, and to welcome authentic story sharing. See Table 3 for research practices and concrete examples associated with relevance when using storytelling methods.

Table 3.
Relevance: Research practices and examples from included studies

Relevance: Research practices	Example from our review of storytelling methods in Indigenous health research
<p>1) Using a respectful and responsive research design Researchers ensure the research design is informed by Indigenous ways of knowing and takes a decolonizing approach which incorporates Indigenous values and priorities, with a critical understanding of the troubling history of colonization.</p>	<p>"Given the importance of cultural connections and privileging Indigenous voices, yarning, as opposed to many other western approaches, was the preferred research method"(Gibson et al., 2020, p. 196).</p> <p>Analysis involved using mind, body, spirit, and past, present, future, as well as the medicine wheel. "Although the three sections, Body, Mind and Spirit were explained and coded singularly they would not be able to exist without each other from a holistic Algonquin and Ojibwe perspective" (Wabie, 2019, p. 62). "I have constructed a wheel, based on the Medicine Wheel, with three research questions and added the Algonquin and Ojibwe women's recommendations to the last quadrant" (Wabie, 2019, p. 63).</p>
<p>2) Including cultural protocols in storytelling Acknowledging and including cultural protocols of the specific Indigenous community in the research project, and seeking the guidance of Indigenous Elders and/or mentors to determine relevant protocols and how to integrate them. As storytelling is sacred to many people, reverence for storytelling often involves including cultural protocols with deep spiritual significance to the community in the research project design, such as sacred symbols, ceremonies, prayers, artwork, and songs.</p>	<p>"Using appropriate cultural protocols, the researchers approached Elders with respect, offered them tobacco and cloth, and asked them to share their wisdom with our team. At member-checking visits, each Elder was given a star-quilt-pattern pillow made by a community member; this was a traditionally and culturally appropriate method of recognizing that person's contribution" (Hampton et al., 2010, p. 8).</p> <p>"Each session began with prayers, smudging from an Elder participant. Aligning with traditional ways, the Elder participant was gifted with tobacco and received a small gift as an honorarium. The participants in the circle were warmly welcomed to share their stories and dream stories. During the sharing circles the participants rotated from the east to west in a clockwise fashion to allow equal opportunities to express themselves. Similar to a talking stick, the passing and holding of the quill box signaled each participant's turn to speak, allowing everyone to share his or her stories. By its very nature, the quill box brought forth discussions of traditional craft making and culturally associated stories of the past in relation to present health experiences" (Smith, 2012, p. 282).</p>
<p>3) Honouring peoples' relationship to the land and acknowledgement of territory This aspect involves the researchers' intentions and actions to honour Indigenous peoples' connection and relation to the land, animals, environment, and resources, as well as how storytelling connects people to the land. An important part of this is the acknowledgement of territory and the location of the stories.</p>	<p>"The interviews were initiated in a manner that was designed to create ease throughout the enactment of a grounding ceremony, which consisted of a living plant, representing Mother Earth, a bottle of water to provide nourishment to the soil, and a seashell in which sage was burned to represent fire, with the smoke from the fire representing air" (Charbenneau-Dahlen, 2016, p. 604).</p> <p>Gatherings were land based and held both indoor and outdoor. Cultural knowledge events focused on learning by doing events including (a) two Métis women, full moon ceremonies; (b) Métis women firebag teachings; (c) Métis sewing teachings; (d) Metis buffalo teachings; and (e) Métis tea teachings as shared by the third author (Flaminio et al., 2020).</p>
<p>4) Incorporating ways to connect with Elders during storytelling and honour ancestors Honouring how Elders and ancestors connect and teach through stories, as well as the interconnectedness with</p>	<p>Elders noted the benefit of sharing their stories as leaving a legacy for the students. Throughout the digital storytelling workshops, Elders shared the protocols for how to acknowledge where the stories come from when passed down, and the cultural importance of doing this (Martin et al., 2020).</p>

Relevance: Research practices	Example from our review of storytelling methods in Indigenous health research
other people's stories and between generations.	"The intergenerational stories that are passed on are not fairy tales or entertaining stories for children - they are lived values that form the basis for Indigenous governance and regeneration. Experiential knowledge and living histories ... comprise part of the core teachings that Indigenous families transmit to future generations" (Markus, 2012, p. 117).
<p>5) Creating safe spaces for people to share stories The creation of culturally safe environments for Indigenous storytelling, which includes elements such as the physical environment, a sense of trust, and Indigenous cultural objects.</p>	<p>Workshops held at an Indigenous-owned art gallery to provide a "culturally affirming and safe space for the women" and a neutral space not affiliated with health/welfare organizations (Andrews, 2020, p. 111).</p> <p>"Care was taken to create safe spaces for youth to share their perspectives" at the workshops by hosting in familiar locations and ensuring trained community health workers were in attendance to provide emotional/mental support (Latimer et al., 2018, p. 11). Snacks were also provided. Non-Indigenous researchers did not observe or participate in the workshops. (Latimer et al., 2018).</p>

Reciprocity: Iyinew we ceh towin (Cree) and Mayshk ohdoony nihgay (Anishinaabemowin)

Reciprocity involves receiving what you have been given from the Creator and other people with gratefulness and now taking your turn and responsibility to help alongside them. This encompasses strengthening the impact of storytelling in research through exchange and mutually beneficial outcomes for participants, communities, and researchers. Researchers receive stories as a gift and give back to the community and share with others (a two-way relationship). These approaches contribute to the sustainability of Indigenous knowledges and ensure that the research will do good for the community. See Table 4 for research practices and concrete examples associated with reciprocity when using storytelling methods.

Table 4.
Reciprocity: Research practices and examples from included studies

Reciprocity: Research practices	Example from our review of storytelling methods in Indigenous health research
<p>1) Receiving stories as a gift In both words and actions, this aspect of reciprocity involves researchers honouring, valuing, and receiving the stories as a gift.</p>	<p>"We approach this work and our handling of the stories shared with us as if they are our own, as both humble and honoured messengers of the profound insights offered by each workshop participant" (Beltran & Begun, 2014, p. 157).</p> <p>Acknowledgments from authors: "We are grateful for the generosity of the women participants in the study who shared their understandings and wisdom in ways that led to culturally relevant solutions to interrupt the cycle of homelessness and incarceration for women. Their journey has not been an easy one and we value the kindness they have shown in giving voice to their experience so that the road for their sisters, daughters, and granddaughters might be less hazardous" (Walsh et al., 2013, p. 377).</p>

Reciprocity: Research practices	Example from our review of storytelling methods in Indigenous health research
<p>2) Enacting reciprocity within story sharing research The researchers give to the community beyond sharing research findings, in a way that is meaningful and manageable to them.</p>	<p>Each youth received a \$1000 honorarium over 3 years, \$20 honorarium for each conference call, all travel and accommodation covered for both retreats, and a \$500 budget for screening costs in their communities (Monchalin et al., 2016).</p> <p>Each participant received a transcript and DVD copy of their story to share with family/friends (Wain et al., 2016).</p>
<p>3) Sharing findings in creative and ethical ways Sharing research findings in ways that are creative and ethical, but also meaningful and accessible to the community involved, to enable access and understanding.</p>	<p>A community quilt was created by women during the yarning sessions that represented their "perceptions of cancer and important messages about cancer prevention" (Meiklejohn et al., 2019, p. 5). A community calendar was also developed as a cancer resource (Meiklejohn et al., 2019).</p> <p>At the end of the summer, the digital stories were screened at a celebratory potluck, well attended by community members, Elders, interviewees, Alaska co-researchers and their families (Weinronk et al., 2018).</p>
<p>4) Gifting it forward Gifting it forward beyond the community involved in the research, as well as beyond the bounds of the research.</p>	<p>As a result of this study, a training program was developed. The knowledge developed by the Elders was applied within this program and used a guide when training mental health professionals wishing to work with Indigenous people, including traditional healers. The training program will include classes on mind and mental health using indigenous models, teaching cross-cultural dialogue, cultural healing and therapies (Mehl-Madrona, 2009).</p> <p>"Lastly, the youth-produced digital stories have been used to advocate for youth programs, material resources and cultural outreach. They have been shown at resilience conferences, been featured on Canadian television and used for advocacy at state and federal levels by representatives of AI/AN organizations" (Wexler, 2011, p. 257).</p>
<p>5) Sharing and co-contributing as a researcher Researchers contribute personally, such as sharing their personal stories with participants or communities.</p>	<p>The "balance of sharing continued throughout the yarning sessions, as both researchers and participants contributed to the yarn, sharing information and asking questions of each other" (Butten, 2020, p. 4).</p> <p>During each talk story session "facilitators disclosed relevant personal and professional information (for example, family background, work in Hawaiian communities, experiences with breast cancer)" (Ka'opua, 2010, p. 172).</p>
<p>6) Including Indigenous people as authors/co-authors Including Indigenous people and team members as lead or co-authors in the publications arising from the study, in a way that is respectful of their contributions to the research, such as sharing their traditional and experiential knowledges.</p>	<p>"Madonna Blue Horse Beard was a member of the Rosebud Lakota Sioux tribe. Without her leadership and guidance, this study would not have been possible" (Becker et al., 2006, p. 34). She was also one of the co-author's in this article (Becker et al., 2006).</p> <p>"Throughout the research, the research team also sought guidance on being culturally authentic and relevant from two Indigenous community advisors who held varying roles including athlete, coach, sport administrator, researcher, and youth mentor; one community advisor elected to be a co-author on this paper" (Johnson et al., 2020, p. 2).</p>

Discussion and Implications

Our collaborative analysis advances current understandings of the 4Rs, by situating them within Indigenous health research and grounding them on the lands on which our work was conducted. As well, we provide an index of respectful research practices and applied examples from our participatory scoping review (Rieger, Horton, et al., 2023) that can support the 4Rs when using storytelling methods with research teams comprised of Indigenous and non-Indigenous people. Through our team conversations, we learned that the 4R concepts mean different things to different people, and these distinctions are expressed in language which has profound effect on our understanding. As Robin Wall Kimmerer (2015) in her book, *Braiding Sweetgrass*, writes, Indigenous languages are infused with “grammar of animacy,” which leads us to perceive and attempt to communicate a living, rather than an inanimate, world. Further, we noted that the Cree and Anishinaabemowin words that team members drew on for the 4Rs, were imbued with a holistic view of life, encompassing the spiritual as well as the cognitive, emotional, and physical aspects of life. We embarked on this work to develop a shared understanding of the 4R concepts between our Indigenous and non-Indigenous team members for our analysis, and in this process, came to see in new ways. One of our Elders co-authors reminded us that even though these ideas may be new to some of us, this knowledge is ancient: *Academia acts as if they have just discovered something - it's as if the English words have just been discovered. That's [the 4Rs] what we've done all along. But people are learning, so I think it's really good that we can share this article.*

The 4R framework was developed by Indigenous scholars (Archibald, 2008; Kirkness & Barnhardt, 1991) in education and is one path to more ethical, relational, and respectful storytelling research with Indigenous communities. Elevating its application in health research is timely and much needed given calls to decolonize health research. Our critical review of storytelling in Indigenous health research (Rieger, Horton, et al., 2023) revealed that storytelling could privilege Indigenous perspectives and voices, but it could also reify colonized practices if not done in a good way. Given the historical and ongoing realities of health research being a colonial tool that delegitimizes Indigenous Peoples' perspectives (Eni et al., 2021; Kennedy et al., 2022), this is concerning. It is imperative to pay careful attention to how storytelling research is conducted (Fournier et al., 2023) to fulfill Canada's Truth and Reconciliation Commission Calls to Action (2015). Thus, it is crucial to lift Indigenous ethical principles in health research, such as the 4Rs, to centre Indigenous ways of knowing, being, and doing and prevent harm (Kerr, 2020). The 4R framework guides us to engage in storytelling research as learners and critically reflect on questions (Kerr, 2020) such as: How can we be *respectful* to participants and communities, and the stories they share? Are we working in good ways and being *responsible* in our storytelling approaches? Are we conducting *relevant* research with communities, that incorporates their ways of knowing, being, and doing, and addresses their priorities? How can we be *reciprocal* in our work with communities, through receiving stories as gifts and ensuring that our shared work is a meaningful contribution? As Nokomisak Mabel Horton taught us, respect is the foundation of the remaining three Rs, and responsibility shows us how to carry out our shared work. We believe that the 4R focus on responsibility and reciprocity and are especially helpful as a means of de-centering academic work from purely academic outcomes, as they focus the research team on working in good ways with community so that the research is relevant to communities, and on how to share these outcomes in meaningful, ethical, and manageable ways. There is an atrocious history of research with Indigenous Peoples that ignores

community priorities and produces findings that are irrelevant or even harmful for communities. Thus, these 4R teachings are imperative for teams of Indigenous and non-Indigenous people who aim to work together in good ways, and to decolonize health research so it is beneficial for Indigenous communities and advances health equity (Smith, 2012, Horrill et al., 2019).

There is a recent and resounding cry for the decolonization of health research (Eni et al., 2021) and the research practices we identified to support the 4Rs can ensure that storytelling approaches disrupt instead of becoming a tool of cultural assimilation (Smith, 2012). As one of our Indigenous co-authors shared,

Our Elder talks about storytelling as a way of sharing information in a traditional way, as well as teaching. But there is a different perspective when you talk about storytelling as a research method. It is a blending of a traditional method with Westernized ways to extract and analyze and synthesize data and so there's that dichotomy of purpose...we need to be respectful and honor the knowledge and teachings that storytelling holds and how do we do that in a good way that respects and honors the original intent?

Researchers need to reflect on their own philosophical assumptions and methodological approaches (Held, 2019), and the 4Rs can help them to disrupt problematic aspects of the Western worldview. Higgins and Kim (2019) write that to take decolonizing seriously, we need to be “hyper-vigilant of the ways in which neo-colonial logics and productions seep into decolonizing efforts” (p. 113). They write that for research teams of Indigenous and non-Indigenous peoples, this involves braiding together knowledges with Indigenous knowledge holders. The 4R conceptualizations we advanced for storytelling in health research can facilitate this “de/colonizing rebraiding” (Higgins, 2019, p. 14).

One issue that came up in our review (Rieger, Horton, et al., 2023) that deserves careful consideration and demonstrates the need for the 4R framework, is that in healthcare we conventionally focus on looking for answers, certainty, totality, evidence or what can be considered “the truth.” However, the concept of truth diverges between Indigenous and Western viewpoints (Chilisa, 2012a, 2012b), and as the Elders on our team taught us, *stories change over time and are interpreted differently by different people*. We argue that knowing through storytelling can provide a more robust and normative understanding of how to best proceed, make morally sound decisions, and live well together (Beaman, 2017; Ibhawoh et al., 2022). Storytelling research can challenge the problematic constructions about Indigenous peoples and advance human rights and reconciliation (Ibhawoh et al., 2022; Rieger, Horton, et al., 2023). However, knowledge claims must be kept contingent, contextual, and tentative (Higgins, 2019). The 4R framework and associated research practices can help us avoid what Ahenakew (2016) describes as grafting Indigenous knowledges (Indigenous storytelling) into non-Indigenous ways of knowing – “transplanting ways of knowing and being from a context where they emerge naturally to a context where they are artificially implanted” (p. 323). This process of grafting means that we are continuing to work from a Western paradigm (Held, 2019) and assimilation instead of decolonization (Ahenakew, 2016) and causing harm despite good intentions. The 4R principles and exemplary practices privilege Indigenous perspectives in storytelling research and locate the power within Indigenous communities (Chilisa, 2012a, 2012b; Held, 2019).

Partnerships are necessary for these decolonizing processes, and the 4R framework and associated practices can help research teams to create an ethical space (Ermine, 2007). According to Ermine (2007), an ethical space “is formed when two societies, with disparate worldviews, are poised to engage each other” (p. 193). It involves an active, energetic, process-oriented, safe space “of innovation and creativity in which Indigenous and non-Indigenous partners can come together to vision a better life now for future generations” (Ermine, 2007, p. 187). For example, our proposed research practices provide guidance for how to engage with Indigenous Peoples during all phases of storytelling research, to create a space for co-production (Graham, 2022). We argue that integrating the 4R practices into a research project can result in more authentic, holistic, and respectful dialogues that are inclusive of local Indigenous knowledge systems alongside dominant ways of knowing. Relational accountability becomes possible for negotiating processes and procedures and honouring Indigenous Peoples’ voices (Rieger, Horton, et al., 2023). This approach is particularly important in storytelling research, as one of our Indigenous co-authors shared:

When we present data in a way that is Western...we are talking about real people’s lives – care has to be taken with how we analyze the data and it needs to be grounded in the understanding of Indigenous knowledge and involve the people that own the knowledge and acknowledge where the stories come from.

A strength of our work is that it is grounded in relationships and on the land from which it emerged. But a question arises: can local Indigenous knowledges connect with Indigenous worldviews more broadly and inform research in other locations? One of our Elders shared how Indigenous languages encompass worldviews and values and that although *languages are different across Indigenous Peoples, the worldview would be similar*. Other scholars echo this teaching and assert that commonalities exist among various Indigenous communities in their understanding of an interconnected and a holistic worldview; relational ontology, epistemology, and accountability; and a commitment to decolonization (Dei, 2000; Henderson, 2000; Strang, 1997). “Indigenous knowledge” is the collective term representing “the many place-based knowledges accumulated across generations within myriad specific cultural contexts” (Jessen et al., 2021, p. 93) and include the local knowledge, values, and practices of Indigenous communities (Brondizio et al., 2021). Elders and Indigenous mentors on our team are living libraries of this knowledge and shared the meaning of the 4R concepts from their local, traditional languages. One Indigenous co-author provided insights into how we can apply this work in different settings:

I think that it is important to understand that traditional knowledge and storytelling is a journey, whatever we capture here is a portion of that. It is a call to action to each of us – what are you going to do in your journey and how are you going to move forward?

Our proposed research practices and applied examples are not an endpoint and we believe that this knowledge can be “locally based, regionally manifested, and globally relevant” (Brondizio et al., 2021, p. 498). Our proposed framework can inspire research teams to take and reground these ideas in their own locations to create new pathways for respectful storytelling research.

Conclusion

Storytelling has long been used by Indigenous communities to share knowledge. In health research, it can engage Indigenous peoples and privilege their perspectives if used in a culturally relevant, respectful, and relational way. The 4R framework was developed in education, and our team of Indigenous and non-Indigenous peoples located on Turtle Island, Treaty One territory adapted it for storytelling in health research. Our proposed research practices and applied examples arose from our critical, participatory scoping review and can provide guidance for future health research using storytelling methods. Collaborating with Indigenous Elders, patients, and healthcare professionals resulted in a particularly rich and nuanced understanding of the 4R principles that prioritized local Indigenous peoples' knowledges. The Elders on our team encouraged us to share our learnings and we hope this conversation inspires people to conduct research in a more ethical and relational way. We conclude with their wisdom, and encouragement to share about our team's learning about the 4Rs with others: "There's so many teachings in just one word... there's a whole belief system in that. These would be good teachings for healthcare providers and researchers to hear too, there's so much wisdom in here for how to be with other people."

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