




Participatory action research with Inuit societies: A scoping review

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Review Article

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Abstract

Participatory methods have become essential for research with Indigenous Arctic peoples. To understand how researchers use such methods, we conducted a scoping review of participatory action research (PAR)—a classic qualitative methodology—with Inuit communities. Although other systematic reviews exist on participatory methodologies in the Arctic, our scoping review is the only one focusing only on the Inuit.

We reviewed 11 empirical studies published between 2000 and 2019 in peer-reviewed journals. Most of them had been conducted with Canadian Inuit. Although the authors came from a variety of disciplines, the studies were mostly about the health and well-being of Inuit communities. The authors did not use the same definition of PAR, but their definitions did share some key components: Inuit participation, Inuit engagement and a goal of social change. There were also a variety of methodologies of research and forms of Inuit participation, although the photovoice method was frequent.

Scoping reviews are most often used in the natural sciences. This one was a challenge because we were using it in the social sciences and because it concerned PAR, an approach with different definitions and uses. A remaining question is how to assess such a method, either by peers or by other stakeholders.

Introduction

Participatory methods have become essential for research with Indigenous Arctic peoples. That kind of research is being encouraged by Indigenous organizations, ethics committees and funding agencies, and researchers themselves are eager to be more participatory and serve the communities they work with. This enthusiasm is causing some academics to reflect on participatory research, especially its principles and its applications. To that end, literature reviews can help reveal its actual scope and the factors that can help or hinder it.

Brunet, Hickey, and Humphries (2014) examined research articles published between 1965 and 2010 in the journal *Arctic* and in three other polar science journals to assess the changes in local participation and in the mode of knowledge production in Arctic research. They concluded that Arctic science is being transformed both by greater focus on environmental change and by greater involvement of local people. When Mosurska and Ford (2020) reviewed the literature of participatory and community-based research in Alaska, particularly on the concepts of community and participation, they concluded that not enough consideration was given to community heterogeneity. Davis, Ford, Quinn, IHACC Research Team, and Harper (2021) conducted a systematic scoping review to identify and evaluate how the participatory approach had been used to model climate-sensitive processes in the Arctic, and to what extent the data collection had been participatory. They found a higher level of participation in studies that favoured non-Western types of knowledge. All three literature reviews had different objectives and scopes. Some covered only the English-language literature (Brunet et al., 2014; Mosurska & Ford, 2020), while others covered studies published in other languages about the Circumpolar North (Davis et al., 2021). Some were country-specific (Mosurska & Ford, 2020), and others targeted more than one circumpolar country (Brunet et al., 2014; Davis et al., 2021). Each study used a different database and thus covered different disciplines, mainly environmental sciences, health sciences and social sciences. But none of them was only about Arctic Indigenous peoples or, more specifically, the Inuit—the main focus of our systematic review. Our initial intention was thus to learn how participatory action research is conducted in an Inuit-specific context.

In a systematic review, the aim is to identify, appraise, analyse and bring together all the scientific evidence on a specific topic (Hemingway & Brereton, 2009). To that end, the methodology has to be standardised, predefined, rigorous and transparent for easier assessment and replication (Tranfield, Denyer, & Smart, 2003). A scoping review has the aim of examining the state and extent of a research field or subfield (Munn et al., 2018, p. 143; Pham et al., 2014). Systematic, transparent and replicable methods are used to chart the primary research available on a topic (Arksey & O'Malley, 2005). Contrary to other systematic reviews, which focus on

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findings, scoping reviews tend to concentrate on the characteristics of the studies themselves. Which methodology is used most often? What are the characteristics of the study population? What definitions are used to define the key concepts? Are there gaps in the scientific evidence? Is there enough evidence to warrant a comprehensive systematic review (Tricco et al., 2016)?

Although we initially sought to document all forms of participatory research with Inuit communities, we soon realized that an inordinate amount of work would have been needed, and we instead focused on participatory action research (PAR)—a qualitative methodology used in many disciplines to study social, economic and cultural realities. PAR often covers a variety of participatory and action-oriented approaches, including participatory research, critical action research, classroom action research, action learning, action science, soft systems approach and industrial action research (McTaggart, 1991). Though not clearly defined and variable in the ways its principles are applied (MacDonald, 2012), PAR is identified by Reason & Bradbury (2008) as

A participatory process concerned with developing practical knowing in the pursuit of worthwhile human purposes. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities. (p. 3)

PAR is based on two main principles: participation and action. First, local people, communities and organizations participate in the different project stages (from research design to knowledge transfer) to ensure that the research reflects and serves their interests. Second, the main goal is social change: develop the participants' critical consciousness; improve their lives and transform societal structures and relationships (Maguire, 1987). PAR is more an orientation to inquiry than a strict methodology (Kendon, Pain, & Kesby, 2007). Since it is considered democratic, equitable and life enhancing, it is preferred for research with oppressed or marginalized groups (Koch, Selim, & Kralik, 2002).

Although the Arctic context has been conducive to development of PAR, we do not fully know how researchers have defined and applied it in the field of Inuit studies. To help fill that gap, we conducted a scoping review of PAR in Inuit studies published between 2000 and 2019. The aim was to identify and analyse their main characteristics, their definitions of PAR and their underlying methodologies to learn more about the applicability of PAR to Arctic science. We particularly analyzed the nature and forms of Inuit participation in the different research stages. Thus, we did not look into the theoretical concepts—other than those relating to the participatory approach; nor did we examine the knowledge produced by the research or the impact of the research projects.

Methods

This scoping review followed the five-stage framework of Arksey and O'Malley, an approach that emphasises transparency and replicability. The five stages are (1) identifying the research question; (2) identifying the relevant studies; (3) selecting the studies; (4) charting the data and (5) collating, summarising and reporting the results (Arksey & O'Malley, 2005).

Identifying the research question

Our initial research question was: Which conceptual and methodological approaches have researchers from various

disciplines used recently for participatory research in Inuit communities?

Our intention was to focus on the Inuit and not on other indigenous or circumpolar peoples. Therefore, we chose not to use country names in our search strategy but ethnonyms. This scoping review included all groups considered to be part of the Eskimo-Aleut language family: Inuit, Kalaallit, Inupiat, Yup'it, Alutit, Suqpiq, Aleut and Inuvialuit. These groups are scattered across Chukotka (Russia), Alaska (United States), the Canadian Arctic and Greenland. Significant Inuit communities are also found in large Canadian urban centres, such as Ottawa (Ontario), Montreal (Quebec) and Yellowknife (Northwest Territories). They are highly diverse in their geographic origins.

Identifying relevant studies

To be as exhaustive and inclusive as possible, we defined a wide range of keywords that closely related to the key concepts of the research question. The key concepts were (1) participatory research and (2) Inuit community. We then identified keywords and synonyms for each concept (see the search strategy in Appendix 1). Relevant keywords were also found in systematic reviews of participatory research (Bush et al., 2017, 2018; Cook, 2008; De Las Nueces, Hacker, DiGirolamo & Hicks, 2012; Ismail, Ibrahim, & Yaacob, 2019; Orłowski et al., 2015; Salimi et al., 2012; Wilson, Kenny, & Dickson-Swift, 2018).

With this exhaustive list of keywords, we developed a search strategy with two librarians at Université Laval. The first librarian was a specialist in the use of systematic reviews. The other was a specialist in anthropological studies. They helped validate technical aspects of the search strategy, such as the use of Boolean operators and truncations. They also pointed us to relevant bibliographic databases.

In April 2019, we searched 51 bibliographic databases, including Anthropology Plus, Arctic & Antarctic Regions and Web of Science (see Appendix 2).

The references were compiled in EndNote, a reference management software. Duplicates were identified and eliminated by means of an automated EndNote function. We were left with 2,228 references in our EndNote library.

Study selection

Preliminary screening

We initially intended to include any study that used any form of participatory approach in Inuit communities, with no date restriction. As we did not know the extent of the literature on this topic, we did a preliminary screening of our EndNote library to familiarise ourselves with this area of research and assess the corpus of 2,228 studies we had retrieved.

The preliminary screening was focused on studies that used any methodologies or approach that the author described as participatory. Two independent reviewers screened the first 845 of the 2,228 studies, using the title, the abstract and predefined selection criteria.

There were six selection criteria: (1) the study had to be empirical; (2) it had to be described as participatory; (3) the participants had to belong to an Inuit community; (4) the study had to be written in English or French; (5) it had to be published in a peer-reviewed scientific journal and (6) the publication date had to be between 2000 and 2019. These criteria were chosen to ensure that the research could be done with the resources at our disposal (English- and French-speaking reviewers only, time and funding

limitations). We limited ourselves to studies published from 2000 onward; before that year, relevant studies were fewer in number.

The preliminary screening turned up a far greater number of relevant studies than we had initially expected. In addition, many of the titles or abstracts provided us with ambiguous information for some of the key selection criteria, such as the study population and the research methodology. For instance, a participatory approach would be mentioned in the title or the abstract but not in the rest of the study. To conduct a suitable screening, we would have had to read the full text of numerous studies, and this was simply impossible with the resources at our disposal.

Final selection

The preliminary screening convinced us to refocus our review. For this, we followed the advice of Arksey and O'Malley (2005). Instead of doing a systematic review, which requires compliance with a strict protocol from beginning to end, we would conduct a scoping review—an approach that allows for more versatility (Arksey & O'Malley, 2005). Because our search strategy was initially wide and encompassed participatory research in general, we could easily focus on a specific type of participatory approach.

We thus refocused on studies that used participatory action research (PAR) in Inuit communities. We chose PAR for two reasons. First, it is one of the classic participatory approaches to study of cultural realities and identity (MacDonald, 2012). Second, the number of relevant studies seemed manageable with the resources available to us.

Of the 2,228 studies, 1,348 had been published in peer-reviewed journals between 2000 and 2019. Those studies would now go through the first official screening.

During the first screening phase, two independent reviewers applied the selection criteria to the title and the abstract of the retrieved studies. Their choices were compared at inter-coder validation meetings, where a third reviewer would help resolve uncertainties or disagreements. If the uncertainties or disagreements persisted, the study would be retained. After the first screening, we were left with 84 studies, which then went through a second screening.

The full texts of the 84 studies were retrieved for the second screening. Two independent reviewers read the full texts and applied the same selection criteria that had been applied during the first screening. Their choices were again compared at inter-coder validation meetings. A third reviewer again helped resolve uncertainties and disagreements. Then, reviewers systematically assess references in all the selected articles to find additional papers to include. After the second screening, we were left with 11 studies. These studies would now go through data extraction.

Charting the data

A predefined reading sheet was used to extract data from the full texts of the selected studies. It contained information categories (see Table 1) that had to be completed: goal of the study; definition of PAR; research methodology; population under study; etc. We also entered information on all the authors of each paper, specifically the country of their institutional affiliation and their research discipline.

Two independent reviewers used the reading sheet to assess the full texts. Their choices were compared at inter-coder validation meetings. A few uncertainties and disagreements required the assistance of a third reviewer. The results are presented in the form of a narrative data synthesis.

Table 1. Categories included in the reading sheet.

Country of all authors
Field of research of all authors
Methodology used to conduct the research
Characteristics of the population under study
Objectives of the study
Definition of PAR
Characteristics of the participants collaborating in the PAR process
Type of contribution of participants collaborating in the PAR process
Barriers and facilitators to the realisation of PAR among Inuit populations

Results

In total, 11 studies met the selection criteria and were retained for the scoping review, a normal number for this type of method. Of them, 10 were from the bibliographic database and 1 from other sources (see Fig. 1). The one study from another source was discovered when the full texts were being read. It was found in one of those texts, met all the criteria for inclusion and was thus included in our review.

It is important to remember that we selected our criteria and search terms with the goal of retaining only those papers that explicitly (i.e. with these words) identified their studies as “participatory action research.” Our goal was not to evaluate or identify which studies could be categorized as such, although having had the means to do so, we would have aimed at this objective. This means that we have necessary excluded from this scoping review several studies that applied participatory action research principles, without using this notion or using another related notion (participatory research, community-based participatory research, collaborative research among others).

Before discussing the main results (i.e. on the theoretical definitions and practical applications of PAR), we will first present the main characteristics of the authors and their studies, such as the author's country and discipline, the study population and the research goal.

Characteristics of authors and studies

Publication date

As shown in Table 2, the studies were all published between 2006 and 2017. Interest in using PAR with Inuit communities seems to have grown from the mid-2000s onward. The three studies from 2013 had the same two authors and dealt with the same research project. Thus, interest in PAR remained stable from 2006 to 2017: 0 to 2 studies per year. Since we focused our research on the years after 2000, our results do not provide a complete timeline of the emergence of PAR in the scientific literature concerning the Inuit.

Origins of researchers

There was a total of 40 authors, including certain groups or institutions (a nation, a council or a resource centre). In that total, Badry and Felske appear as co-authors of three of the eleven selected articles. Healey appears twice.

Although our search covered all regions of the Arctic, the authors came almost exclusively from Canada: nine studies were by people based in Canada and two by people based in the USA. Our

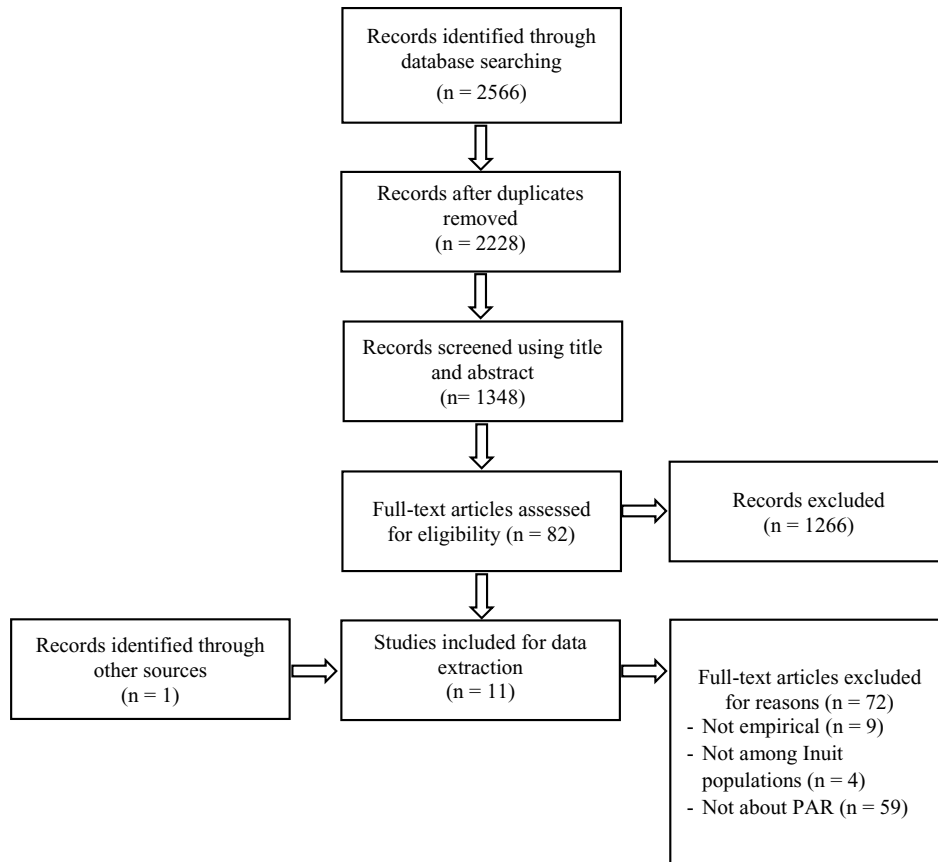


Figure 1. Flowchart of selection process.

search included the French-language literature, but all the studies we selected were in English. All the authors of any one study came from the same country. The oldest studies were by the Americans Allen and Wexler and were both published in 2006. The first Canadian study was published in 2009.

Table 3 shows the geographic distribution of the authors by location of institutional affiliation. The figure in parentheses is a count of first authors only (the authors who appeared first in the bibliographic references). First authors came from nine of the eleven states or provinces that the different authors came from. Among all the authors, those from Nunavut (25%) and Ontario (25%) were the most numerous, followed by those from Alaska (13%). The high number (38%) of authors from Inuit territories (Nunavut and Alaska), both Inuit and non-Inuit, reveals the importance of local contributors. No authors came from Russia, Greenland or Denmark. None came from any other country.

Communities under study

Nine of the eleven studies were done in Inuit territories. Eight took place in Canadian Inuit territories: one in Kangiqliniq (Rankin Inlet), Nunavut (Tulloch et al., 2017); two in Iqaluit, Nunavut (Healey et al., 2011; Lardeau, Healey, & Ford, 2011); one in different Nunavik communities (Garakani, 2014) and three in the Northwest Territories (Badry & Felske, 2013a, 2013b, 2013c). Two studies took place with Inupiat and Yup'it communities in Alaska: one in Northwest Alaska (Wexler, 2006) and the other “[...] in seven remote villages and a small urban regional center in Southwestern Alaska” (Allen et al., 2006, p. 49). Finally, two studies took place outside Inuit territories, in Ottawa, Ontario (Morris,

2016; Smylie et al., 2009). No study was done in either Chukotka or Greenland.

Discipline

We also collected data on the academic discipline of all the authors. As shown in Table 4, we identified a total of 12 disciplines, as well as two categories for authors who could not be assigned to a discipline: “local experts” (18%), either groups or individuals and “unknown” (10%). Most of the disciplines belong either to the health sciences or to the social sciences. Two disciplines belong to both: disability studies (Badry & Felske, 2013a, 2013b, 2013c) and Indigenous health studies (Smylie et al., 2009). In the table, we have separated the author data into two separate columns: first authors (column 3) and other authors, i.e. all but the first authors (column 4).

Most of the authors were doing research in the social sciences (45%). Nonetheless, the most frequent discipline, public health (13%), belongs to the health sciences. The second-most-frequent was psychology (10%), a social science. Discipline and field of research varied among the authors of each study. Four studies (36%) brought together authors from both the social sciences and the health sciences (Badry & Felske, 2013a, 2013b, 2013c; Lardeau et al., 2011). If a study had more than one author, there were always at least two disciplines among the authors, and sometimes three (Allen et al., 2006; Smylie et al., 2009). Several studies (18%) had local experts as co-authors, including Inuit. Under the term “local experts,” we included Métis and First Nations and individuals who lived on the territory where the research took place. No study had authors from the environmental sciences.

Table 2. Publication date of studies.

Date	Authors
2006	• Allen, Mohatt, Rasmus, Hazel, Thomas, and Lindley • Wexler
2009	• Smylie, Kaplan-Myrth, McShane, Metis Nation of Ontario-Ottawa Council, Pikwakanagan First Nation, and Tungasuvvingat Inuit Family Resource Centre
2011	• Healey, Magner, Ritter, Kamoarak, Aningmiuq, Issaluk, Mackenzie, Allardyce, Stockdale, and Moffit • Lardeau, Healey, and Ford
2013	• Badry and Felske a • Badry and Felske b • Badry and Felske c
2014	• Garakani
2016	• Morris
2017	• Tulloch, Kusugak, Chenier, Pilakapsi, Uluqsi, and Walton

Table 3. Authors by location of institutional affiliation.

Country	State/Province	Number of Authors	Total by Country
Canada	Alberta	6 (3)	32 (9)
	Prince Edward Island	1	
	Nunavut	10 (1)	
	Québec	3 (2)	
	Ontario	10 (2)	
	Manitoba	1 (1)	
	Northwest Territories	1	
United States	Alaska	4 (1)	7 (2)
	Massachusetts	1 (1)	
	Minnesota	1	
	Washington	1	

Research themes and goals

Articles focused on three main research themes: (1) health and well-being; (2) food security and (3) school education. As shown in Table 5, the first theme was predominant, accounting for eight of the eleven studies (73%). Table 5 also shows the general objective of each project, in relation to its research theme.

Defining and implementing participatory action research

All the studies of this scoping review were selected because their authors clearly mentioned use of PAR. The term “participatory action research” appeared most of the time (82%) in the abstract, sometimes (36%) in the keywords and once in the title (9%). In Lardeau et al. (2011), the term appeared only in the body of the text, although “participatory research” was in the abstract.

Nearly half of the studies (45%) neither defined the term nor cited any author who had. Allen et al. (2006) did cite such authors

but presented no definition. Six studies (55%) had many citations of this sort; in some cases, the same author was cited by more than one study. Kemmis and McTaggart (2000) was cited by Badry and Felske (2013b, p. 148) and by Morris (2016, p. 107). Salmon, Browne, and Pederson (2010) were cited by Badry and Felske (2013b, p. 148, 2013c, p. 8). Fisher and Ball (2002, 2003) was cited by Allen et al. (2006, p. 55) and Wexler (2006, p. 2940).

According to Morris (2016), “there are many definitions of PAR, a reflection of its use in a multiplicity of fields (sociology, anthropology, social psychology, philosophy, public health, women’s studies/feminist research and community-based research)” (p. 107). Nonetheless, all authors believed that PAR has two basic components: (1) a participatory component of bringing research participants into the research process and (2) an action component of seeking to make a specific change in the world.

Participation

The participatory approach was often defined in terms of engagement, co-research and empowerment. Engagement was especially key, being mentioned by all authors but Tulloch et al. (2017). PAR was often specifically presented as a means to engage research participants (Badry & Felske, 2013b, 2013c, p. 8; Smylie et al., 2009, p. 444; Wexler, 2006, p. 2940). Participants were even identified as co-researchers by Allen et al. (2006), Badry and Felske (2013a, 2013b), and Lardeau et al. (2011). As co-researchers, they were brought into all aspects and stages of research. “[PAR] is research in which ‘research participants’ (called ‘subjects’ in traditional research) decide the research objectives, research question, research methodology, [and] are involved in data collection and analysis” (Morris & Muzychka, 2002, p. 10). Healey et al. (2011, p. 91) stated that “research participants and collaborators ‘own’ the research process”.

In five (45%) cases, such engagement was presented as a way to empower the participants by helping them to increase power over their lives (Morris, 2016, p. 107) or by enabling them to use the results to “improve the quality of life in the community” (Healey et al., 2011, p. 91). For this reason, PAR was seen as particularly appropriate for work with marginalised people (Badry & Felske, 2013b, p. 148, 2013c).

When working “with Indigenous peoples, who have traditionally been objects of research while having little control over research topics, methods, analysis, or communication and use of the results” (Morris, 2016, p. 107), the authors clearly saw PAR as a tool to decolonise research. Smylie et al. (2009) cited the World Health Organisation (1986) to argue that participatory research, “in its ability to allow for ‘the revising of epistemologies and power structures in research,’ had the potential to address the themes of empowerment, community development, and action on the underlying determinants of health” (Smylie et al., 2009, p. 438). If the research engages the participants and uses a decolonised method, their knowledge and expertise can be incorporated more easily (Healey et al., 2011, p. 91).

All the studies without exception emphasised the participants’ voice in the production of knowledge. This point was formulated in various ways, be it their “voice” (Badry & Felske, 2013a, 2013b, 2013c; Garakani, 2014; Lardeau et al., 2011; Tulloch et al., 2017), their “perspectives” (Allen et al., 2006; Badry & Felske, 2013b; Healey et al., 2011; Lardeau et al., 2011), their “knowledge” (Smylie et al., 2009) or their “narratives” (Allen et al., 2006; Wexler, 2006). Morris (2016, p. 109) simply mentioned, as a research goal, that she had asked the participants for their advice. There were also

Table 4. Authors by field of research and discipline.

Field of Research	Research Discipline	First Authors	Number of Other Authors	Total
Health sciences	Public health	Healey (x2); Wexler	3	6
	Nursing	0	1	
Social sciences	Psychology	Allen	3	18
	Anthropology	Tulloch	2	
	Communication	0	1	
	Education	0	3	
	Geography	Lardeau	1	
	Indigenous studies	Morris	0	
	Public administration	Garakani	0	
Social work	Badry (x3)	0		
Social and health sciences	Disability studies	0	3	4
	Indigenous health studies	Smylie	0	
Not applicable	Local experts	0	7	12
	Unknown	0	5	
Total		11	29	40

differences in how the participants' voices were considered: "explored" (Healey et al. 2011); "identified" (Badry & Felske, 2013a, 2013c); "described" (Wexler, 2006); "understood" (Allen et al. 2006; Badry & Felske, 2013a, 2013b; Lardeau et al., 2011; Smylie et al., 2009), "included" (Garakani 2014, p. 238) or "enhanced" (Tulloch et al., 2017, p. 450).

Action

Morris (2016) cited MacDonald (2012) to express the idea "that PAR is a subset of action research, the goal of which is to make a specific change, and not just to produce research" (p. 107). She also quoted Brydon-Miller, Kral, Maguire, Noffke, and Sabhlok (2011), saying PAR has the aim of "using research to solve community problems" (Morris, 2016, p. 107). For Badry and Felske (2013b), interest in community life seemed to go hand in hand with a transformative aim: "Using PAR as an approach is concerned with research in the social life and within communities that is potentially transformative (Kemmis and McTaggart, 2000)" (p. 148). Finally, Healey et al. (2011) called for transformation both in community life and in research protocols (p. 91).

The goal of social change could take different forms: prevention, intervention, education and training. In several cases, the aim was not to transform reality but rather to provide training or create tools and methods that the participants, or the public in general, would eventually use to improve their situation.

As shown in Table 6, prevention was the goal of most research projects about health and wellbeing (88%). While five of them (45%) sought only to identify factors for prevention and key

Table 5. Research themes and goals, by study.

Author	General Objective of the Research Project	Research Theme
Allen et al.	To study protective factors in Alaska Native sobriety with the goal of designing a model and tools for preventative intervention	Health and well-being (8 studies)
Badry & Felske (x3)	To examine the complexity of preventing foetal alcohol spectrum disorder (FASD) from a women's health perspective in the Northwest Territories	
Healey et al.	To explore community views on the most important ways that climate change is affecting the health of northern peoples.	
Morris	To gather information on family violence and on use of social media, with a view to developing an outreach strategy to help prevent violence by using social media in Inuit communities.	
Smylie et al.	To explore how health information is created, disseminated and, ultimately, used by Indigenous community members.	
Wexler	To examine how Inupiat understand and talk about youth suicide in public settings, and how such acts are connected to a sense of culture loss.	
Lardeau et al.	To understand how community food program users in Iqaluit, Nunavut experienced food insecurity, as well as the determinants of food insecurity.	Food security (1 study)
Garakani	To study the influence of Inuit and non-Inuit teachers' perceptions and pedagogical practices on students' resilience and school perseverance.	School education (2 studies)
Tulloch et al.	To develop, deliver and assess an Indigenous language and literacy program.	

information on how to prevent, Morris (2016) and Allen et al. (2006) also included development of a prevention strategy. A food security project also had a prevention goal: identifying factors for personal food security in the hope they would be used for intervention or prevention.

Education was seen as another important way to engage in social transformation. Healey et al. (2011) decided to "combine a research project with an educational opportunity" (p. 90) at a research skills workshop. Their project resulted in a plan to promote social action on the health impacts of climate change. Overall, they saw it as contributing to social capacity building (Healey et al., 2011, p. 95).

Tulloch et al. (2017) developed, delivered and assessed a learning program, which they called "transformational learning". The research participants also participated in the learning program. They learned by participating.

Garakani (2014), who was interested in education, mentioned no clear goal of social change (pp. 250–251). Her project's

Table 6. Action goals by research themes and authors.

Action Goals	Research Themes	Authors
Prevention (8)	Health and well-being	Allen et al.
		Badry & Felske (x 3)
		Morris
		Smylie et al.
		Wexler
	Food security	Lardeau et al.
Education, building capacity (2)	Health and well-being	Healey et al.
	School education	Tulloch et al.
Innovating in research (1)		Garakani

transformative dimension seems to have been the research process itself. She sought to apply new methodologies and tools to research with Indigenous youth. For Smylie et al. (2009), the goal of social change seems to have been either indirect or projected into a time after the project (p. 443).

Methodologies

All the studies we reviewed mentioned PAR as their main methodology. PAR draws on critical theory and constructivism and may use a range of qualitative methods. Most of the studies (91%) presented projects that used qualitative methods, while one (Allen et al., 2006) used a mix of qualitative and quantitative methods. In other studies, the research was not explicitly described as qualitative, but this description can be inferred from the methods for data collection and analysis.

Participant characteristics

The research participants ranged in number from 6 (Healey et al., 2011) to 178 (Allen et al., 2006). Four projects had fewer than 20 (Badry & Felske, 2013b, 2013c; Healey et al., 2011; Lardeau et al., 2011), and four had more than 20 (Allen et al., 2006; Badry & Felske, 2013a; Tulloch et al., 2017; Wexler, 2006). Some authors did not specify the number of participants (Garakani, 2014; Morris, 2016; Smylie et al., 2009). There seems to be no link between the number of participants and the research theme or discipline. Participants were of all ages and genders.

The studies did not always clearly state who the Inuit participants were and what their affiliation was. However, we could identify some as representatives of Inuit organisations and others as Inuit individuals. Five projects had representatives from a local organisation, as well as individuals (Healey et al., 2011; Lardeau et al., 2011; Morris, 2016; Smylie et al., 2009; Tulloch et al., 2017). The studies used various terms to describe the roles of the Inuit organisations. In two projects, Inuit organisations were presented as project leaders (Healey et al., 2011; Tulloch et al., 2017). In Morris (2016) and Wexler (2006), they were called partners. Lardeau et al. (2011) and Smylie et al. (2009) spoke of collaboration. Participation was particularly strong when Inuit individuals were on the research team, as was the case with three projects (Allen et al., 2006; Smylie et al., 2009; Tulloch et al., 2017). In five projects, which used the photovoice method, Inuit were considered to be participants/researchers (Badry & Felske, 2013a, 2013b, 2013c; Healey et al., 2011, p. 91; Lardeau et al., 2011). In

Morris (2016) and Garakani (2014), student participants took part in the research design.

In projects with Inuit on the research team (Allen et al., 2006; Smylie et al., 2009; Tulloch et al., 2017), those team members took part in every research stage: (1) developing the protocol; (2) recruiting the participants; (3) gathering the data; (4) analysing the data and (5) writing up the paper. In projects with no Inuit on the research team, Inuit participated in two or more research stages. If we look at all the projects, data gathering was the only stage where Inuit were always present. The results of this analysis are presented in subcategories that range from initial creation of the study protocol to dissemination of the research results.

Developing the protocol

Seven of the eleven studies (64%) brought Inuit into development of the research protocol. This stage is generally used to determine the subject of research, the research question, the goals, the methodology (research process or design, including instruments) and the ethical guidelines. This stage engaged Inuit in different ways: as researchers (Tulloch et al., 2017), as a partner organisation (Healey et al., 2011; Lardeau et al., 2011; Morris, 2016), as advisory committee members (Morris, 2016), as community representatives (Smylie et al., 2009), as a consultant team (Allen et al., 2006), as a project coordination council (Allen et al., 2006) or as research participants (Garakani, 2014).

Inuit seem to have played the greatest role in Tulloch et al. (2017); they fully assumed the role of researchers and controlled the protocol. Next in line would be Morris (2016). Pauktuutit Inuit Women of Canada, the partner organisation, worked with the researchers on research design from the very beginning, even before the proposal was submitted for the grant application (Morris, 2016, pp. 108, 110). Then the “research design was completely transformed through further consultations with Inuit youth, organizations, and healers” (*Ibid.* p. 108) to bring it into line with Inuit traditional values (*Inuit Qaujimagajatuqangit*). In Healey et al. (2011), the community chose the topic and the goals and developed the ethical guidelines. In Allen et al. (2006), Alaska Native co-researchers, who lacked specialist research training, were involved in formulating the research questions and “provided input to the design, structure, and content of the interview procedures” (p. 46). In Smylie et al. (2009) and Lardeau et al. (2011), it is unclear how Inuit actually participated in the protocol development, but collaboration with the communities was mentioned at this stage. Finally, in Garakani (2014), student participants only helped determine the research tools (p. 239).

Recruiting the participants

In four of the eleven studies (36%), Inuit were actively involved in recruiting research participants, most of the time as research team members (Allen et al., 2006; Smylie et al., 2009; Tulloch et al., 2017), and in one case both as an organisation and as participants/researchers (Morris, 2016). In Lardeau et al. (2011), a local interpreter helped a non-Inuit research assistant recruit participants in the communities (p. 5).

Collecting the data

Inuit participated in data collection in all projects but Garakani's. Inuit were especially brought into two kinds of data collection: photovoice and focus group. The first kind was presented as specific to PAR and used in five studies (Badry & Felske, 2013a, 2013b, 2013c; Healey et al., 2011; Lardeau et al., 2011). According to the authors' definition, it clearly complied with PAR principles,

particularly by positioning participants as researchers (Healey et al., 2011, p. 91) or as co-researchers (Badry & Felske, 2013a; Lardeau et al., 2011, p. 4). Healey et al. (2011, p. 91) stressed its educational and participatory nature, while Lardeau et al. (2011, pp. 4–5) emphasised its capacity to give voice to marginalised people.

Three studies used focus groups (Morris, 2016; Smylie et al., 2009; Wexler, 2006). In Morris (2016), Inuit facilitated and led the focus group (p. 118). In Smylie et al. (2009), an Inuk co-facilitated the focus group together with a research team member (p. 4). In Wexler (2006), no Inuit led any of the focus groups, but an Indigenous colleague took notes during Regional Suicide Prevention Taskforce meetings (p. 2940).

In Garakani (2014), although participants were not presented as co-researchers, they did take part in activities to encourage community participation, such as writing a collective story and taking photos in the communities (pp. 45, 49). Other projects had more conventional methods to get Inuit to participate. Tulloch et al. (2017) used semi-structured interviews, closed questionnaires and participant observation. Allen et al. (2006) used life story interviews, individual interviews and extensive survey interviews. Smylie et al. (2009) employed focus groups and interviews with key informants (p. 438). They also used an online survey, but the reader is not told whether Inuit took part in data collection.

Data analysis

Inuit took part in data analysis in eight studies (73%). Here again, they clearly took part in those projects where they were on the research team (Allen et al., 2006; Smylie et al., 2009; Tulloch et al., 2017). Smylie et al. (2009) specified that non-Indigenous and Indigenous co-researchers mutually analysed the data, and “in the rare case that academic and community researcher interpretations differed, the community interpretation was adapted” (p. 5).

In the three projects (and five published papers) that used photovoice, participants/researchers did most of the photo analysis, in compliance with the photovoice method. In Lardeau et al. (2011), “because the participants identified the topics of the photos, analysed them in group discussion, and then categorized them in a process that required agreement by consensus, they were the instrumental analytical ‘tools’ for this study” (p. 6). In Healey et al. (2011), participants “were asked to describe the rationale behind their photographs and to share the stories, perspectives, and experiences represented in these images”, and they “created a model of the themes identified during the analysis to illustrate the relationships they felt were crucial to understanding their perspective” (p. 91) on the research subject. Badry and Felske (2013c) began analysis of their images and texts by showing them to their participants via PowerPoint presentations for “an initial process of coding and theming” (p. 9).

Inuit contributed more informally to analysis in two projects. Garakani (2014) wrote that “the collection and analysis of the data took place simultaneously [...]. At every stage, the data was analyzed and presented to the participants for their feedback” (p. 239). For his part, Wexler (2006) pointed out that his Inuit colleagues, though not recognised as co-researchers, had “ample opportunities to influence the direction” of [his] analyses” (p. 2940).

Writing up the study

Inuit took part in writing up only four of the studies (36%). Their names appear in the authors’ list either as a group (Allen et al., 2006; Smylie et al., 2009) or as individuals (Healey et al., 2011;

Tulloch et al., 2017). No information is provided about their role in the writing process. Were they actually co-authors or was their involvement more informal, such as reading and commenting on the text?

Knowledge transfer

In all the studies, Inuit participation was acknowledged for one type of knowledge transfer or another. In six studies (55%), Inuit took part at the end of the research. For Smylie et al. (2009), community engagement in knowledge transfer was a means to achieve PAR goals of empowerment and action; in fact, it was key to community-driven action (pp. 8–9). When Inuit were on the research team, such engagement went without saying (Allen et al., 2006; Smylie et al., 2009; Tulloch et al., 2017). In Tulloch et al. (2017), the Indigenous research team had “to pass on what they learned, including training instructors in other communities” (p. 456). In the projects with no Inuit researchers, the participants took part in knowledge transfer. Healey et al. (2011) explained that the “participants collectively decided how to share the results of the study with their communities, the research community, and the public general” (p. 91). In Garakani (2014), the student participants worked with the researcher “to create a one-minute video that was presented at the closing of an important community meeting” (pp. 248–249), as well as to other teachers and students.

Seven studies showed Inuit participation in knowledge transfer that was not simply dissemination of results but also sharing of data, information and knowledge at various points during the research. Wexler (2006) wrote that information and data were shared with community members repeatedly over the 2-year study to foster community based-action, in addition to regular “suicide prevention education and outreach in the 12 villages of the region” (p. 2940). Skills training is a way to empower community members through knowledge transfer on a recurrent basis, and such transfer can be done in various ways and at different research stages. Among the projects presented here, the research team provided training in digital camera use (Badry & Felske, 2013a, 2013b, 2013c; Lardeau et al., 2011), coding techniques (Allen et al., 2006, p. 46) or research skills in general (Healey et al., 2011, p. 95).

Summary of Inuit participation

Inuit participation in the various stages of research is summarised in Table 7. It was most widespread during knowledge transfer, since all projects had Inuit participation at that stage. It was second-most widespread during data collection (91%). Inuit participated the least in recruiting (45%) and in writing up the study (36%).

Helping and hindering factors

Only five studies (45%) provided information about factors that helped or hindered PAR (Allen et al., 2006; Morris, 2016; Smylie et al., 2009; Tulloch et al., 2017; Wexler, 2006).

Hindering factors

Morris (2016) named four factors that hindered the project. First, and foremost, there was a lack of funds to act on certain recommendations made by the Inuit participants, such as travelling to all Inuit regions for face-to-face interviews and translating materials into every dialect. Second, it proved impossible to organise the Inuit advisory committee as anticipated and convene committee meetings. Reasons included the disparate locations of the committee members and the limited time each

Table 7. Inuit participation in different research stages by study.

Authors	Role of Inuit	Protocol	Recruitment	Collection	Analysis	Writing	Know. transfer
Allen et al.	Researcher	X	X	X	X	X	X
Badry and Felske (x 3)	Participant researchers	–	–	X	X	–	X
Garakani	Participants	X	–	–	–	–	X
Healey et al.	Participant researchers	X	–	X	X	X	X
Lardeau et al.	Participant researchers/collaborators	X	X	X	X	–	X
Morris	Partners	X	X	X	?	–	X
Smylie et al.	Researchers/collaborators	X	X	X	X	X	X
Tulloch et al.	Researchers/owners	X	X	X	X	X	X
Wexler	Partners	–	–	X	–	–	X
TOTAL		7	5	10	8	4	11

member could give to the project because of other responsibilities. Consequently, “the research and project lead came to rely on direct face-to-face input from Inuit stakeholders” (Morris, 2016, p. 120). Third, it was a challenge to get youth participants to come to the focus group, especially because of significant constraints on the choice of date (scheduling conflicts with partners and grant deadline). Fourth, the use of a lengthy and law-oriented consent letter for the online survey, as required by the academic ethics board, discouraged “most people who visited the survey page [and] did not start the survey” (*Ibid.* p. 121).

Smylie et al. (2009, p. 9) wrote that use of PAR might jeopardise research credibility in the eyes of the scientific community. One reason was that Inuit co-researchers generally received only brief training in research methods. The research team thus had a twofold challenge: the research protocol had to meet scientific requirements, while respecting local practices and perspectives.

Helping factors

The authors had more to say about the factors that helped PAR. Allen et al. (2006) stressed the importance of sustained and significant involvement of Indigenous co-researchers. Co-researchers also facilitated data collection and were better at recruiting research participants (*Ibid.* p. 54). Tulloch et al. (2017, p. 441) pointed out that local ownership of the project, and its action components were key to project success. Smylie et al. (2009) wrote that “[f]requent consultation between community and academic researcher team members during data analysis supported the collaborative approach” (p. 9). Wexler (2006) observed that flexibility in the research process facilitated community involvement (p. 2940).

Finally, Morris (2016) listed 11 factors for success in participatory action research: (1) having a pre-existing relationship of trust between the researcher and the Inuit partner; (2) for team members who do not have pre-existing relationships, spending informal time with the partner in order to build a relationship; (3) having the organisation partner choose the research topic; (4) bringing Inuit youth (the participants) into development of the research protocol and into the advisory community; (5) getting experienced Inuit healers and elders involved in the research setting and the research instruments and (6) using media coverage to reach out to the community. Finally, there were factors for focus group success: (7) ensuring the visibility of Inuit in leadership roles; (8) creating a culturally safe space; (9) including cultural practices;

(10) establishing group rules and (11) making counsellors and elders available to provide support (pp. 116–119).

Discussion

About the results

This review shows how PAR has been used in Inuit studies since 2000. The most active PAR users have been Canadians, followed by Americans, a finding in line with the results of two scoping reviews of Arctic participatory research: Brunet et al. (2014) and Davies et al. (2021, p. 708). In Canada, Indigenous-defined and Indigenous-controlled research approaches have been stimulated since the 1970s by the politicization of Indigenous organizations and their responses to the colonial policies. Those organizations have initiated comprehensive land use and occupancy studies, with participatory methodologies being deemed most appropriate (Jackson 1993, pp. 49–51). Research ethics became a major concern in the early 2000s for Canadian funding bodies, which affirmed the need to recognize the unique worldview of Indigenous peoples, the need to bring them into all stages of research—from project development to analysis and dissemination of results—and the need to respect their customs and codes of practice (CIHR, NSERC, and SSHRC, 2010, Chapter 9). Indigenous organizations have themselves developed protocols for scientific research with a view to empowering their communities (Inuit Tapiriit Kanatami, 2018; Nunatsiavut Government, 2010; Nunavut Research Institute and Inuit Tapiriit Kanatami, 2002, 2007; Owljoot, 2008). In universities and research institutes, ethics committees have ensured compliance by students and researchers (IASSA, 1998; Institut nordique du Québec, 2017). This tendency grew stronger during the 2007–2008 International Polar Year, “which entailed a surge of internationally coordinated, interdisciplinary research activities with a clear mandate to engage Arctic communities via collaboration, education and training outreach” (Grimwood 2015, p. 200). Participatory approaches, and more specifically PAR, have thus become highly popular.

We did not have time to go further with our review. It would have been interesting to compare different countries to examine how the national context may affect the way research is done. For us in Canada, it is surprising to learn that researchers from other countries seem less interested in PAR. Admittedly, we excluded the Danish-language literature, which has many Greenland-related studies, and the Russian-language literature, which has Yupiit-

related studies. On the other hand, many Danish, Greenlandic and Russian researchers write in English, and we did include the French-language literature, which seems to show less interest in PAR. Researchers who come from other countries but conduct their research in Canada may be less affected by the sort of national policies and ethical standards that have arisen in Canada (Petit & Visart de Bocarmé, 2008).

Our results show that the researchers resided mainly in the same country as that of their research participants. Canadians conducted research in northern Canada and Americans in Alaska. The geographic proximity between researchers and participants might explain why PAR is preferred. On the other hand, the quality of Inuit participation seems to have been no different in those cases where the researcher and the participants came from the same country. Furthermore, it is striking that the authors of such studies did not collaborate internationally. Collaboration was more developed nationally, i.e. among researchers from different provinces, institutions and disciplines.

Interdisciplinarity seems to have been common in PAR studies. This is unsurprising if we remember that PAR causes researchers to think outside the box and engage in co-construction. Like other participatory approaches, it can circulate across disciplines and be re-appropriated by different specialists. Our scoping review shows, however, that PAR with Inuit was mostly in the health sciences. This, too, is unsurprising if we consider that health science researchers have for more than three decades led the development of participatory research and, more specifically, community-based participatory research (CBPR) (Brunet *et al.*, 2014, p. 9; Jones, Cunsolo, & Harper 2018; Viswanathan *et al.*, 2004; Wallerstein & Duran, 2010; Wilson *et al.*, 2018). Methodological innovations in health research have probably affected Inuit research, notably the emergence of PAR studies in the 2000s. Although PAR was seldom mentioned in health journals during the 1980s and earlier, it became common during the 1990s in underdeveloped countries. It then became clearly relevant to Indigenous communities and gained much in popularity during the 2000s (Baum, MacDougall, & Smith, 2006). None of the studies we identified in our scoping review were in the physical or environmental sciences. This does not necessarily mean that no Arctic researchers from those sciences ever used participatory methodologies during that period. Perhaps some did, but such methods were not their first choice, and they were not eager to report their use of them. Or maybe they used other participatory methods than PAR that were then not captured by this scoping review.

Despite its success in Arctic studies, PAR does not seem to be clearly defined by the researchers who use it, since only half the studies in our sample tried to define it. This lack of clarity is not specific to the field of Inuit studies. In other fields, the definition has varied from one researcher to another (MacDonald, 2012). Our sample did show consensus on two main principles—participation and action. Project participation and project action were seen as means to empower the participants and decolonise science. Their voice had to be given a place in the project. In this review, we particularly analysed project participation and found that Inuit took part both as organisation representatives and as individuals. As representatives, they acted as leaders or partners of the studies. As individuals, they acted as co-researchers, advisory committee members and consultants, for instance.

Inuit participation was high at the protocol development stage (82%) and the knowledge transfer stage (100%), i.e. the start and the end of the research. Because both stages are crucial to connecting the study to community needs and realities, Inuit

participation at those two points in time can help transform society and empower the community. Knowledge transfer was not strictly at the end of the research and called “dissemination of results,” as is usually the case. It often occurred at many research stages, included data sharing, and took very different forms, ranging from one Inuk going on the radio to talk about the project to many Inuit attending a training session. Conversely, Inuit participation seemed to be lowest at the stage of writing up the research. As noted by Cargo and Mercer: “Experience suggests that in some situations, non-academic partners have limited time, expertise, or interest to contribute to some technical and labour-intensive components of the research process, but they want to shape the research question, review and approve the research protocol and participate in the interpretation and uptakes of results” (Cargo & Mercer, 2008, p. 333). The limited time of community partners was also noted by Carter, Dawson, Simonee, Tagalik and Ljubicic (2019, p. 391).

Inuit participation was high at the data collection stage (91%). Although the researchers explored a wide range of qualitative tools, photovoice seemed to be the most preferred one for data collection (Wang, Yi, Tao, & Carovano, 1998). Choosing one method or another did not, however, necessarily increase Inuit participation. This finding is in line with what other authors have noted about photovoice. Catalani and Minkler (2010) observed that “the manifestations of partnership and of photovoice methodologies vary broadly across the participatory spectrum” (p. 447). If we look at Inuit participation at each stage (Table 6), we see that the five studies using photovoice were not the ones with the highest Inuit participation. Interestingly, in those cases where Inuit took part in all stages, the researchers used more typical collection methods: individual interviews, observation and focus group. Those cases also had an important point in common—they had Inuit on the research team. When Inuit see their own people on the research team, they seem to participate more, and their participation is certainly better.

Overall, participation and action were fostered in nonstandardized ways that varied considerably from one project to another. Each context had its political, social and cultural specificities, each topic its own challenges and each research team member his or her own ways, skills and perspectives. That diversity also reflects the very flexible nature of PAR and the importance of adapting methodologies to the reality and interests of partners and communities (Morris, 2016, p. 107; Wexler, 2006, p. 2940). In addition to flexibility, PAR also provides reciprocity—through relationship building between researchers on the one hand and participants and communities on the other (Macaulay *et al.*, 1999; Morris, 2016, pp. 108, 111).

It was sometimes difficult for us to grasp the actual degree of Inuit participation, and thus almost impossible to compare and assess PAR. Other authors have also noted substantial discrepancies in the ways participatory research has been reported and conducted with Indigenous peoples (Cargo & Mercer, 2008; Dadish, Moore & Eapen, 2019; Mosurska & Ford 2020). Such disparity may compromise the development of theory and induce some researchers to label their work inappropriately as participatory research (Dadich, Moore & Eapen, 2019, p. 10) or use Inuit participants as token co-researchers (Mosurska, & Ford 2020). As Mosurska and Ford (2020) suggest, “reporting the research process with greater transparency demonstrates that participation is not tokenistic and further allows for the complexity of both community and participation to be considered” (p. 359).

About the methodology

Our scoping review has several limitations. First, participatory research in Inuit communities is a much larger field of study than we expected. Focusing specifically on PAR in Inuit studies offers us only a glimpse into what has been done in Arctic participatory research. PAR shares the same principles with community-based research, community-based participatory research and other forms of participatory or action research. Much expertise has been accumulated in participatory research with other Arctic Indigenous peoples (Brunet et al. 2014; Davis et al. 2021; Mosurska & Ford 2020; Ryan & Robinson 1990). The Arctic Institute of North America (AINA) and the Arctic Institute of Community-Based Research (AICBR) have developed many research projects with Arctic Indigenous peoples, and some of them deal specifically with the Inuit. Interestingly, in 1990, Ryan and Robinson already noticed that the PAR literature offered little about the rich experience of the Canadian North. They attributed this gap to “both a lack of community need to publicize participatory research results in academic journals and the general unwillingness of academic editors to value the applied results of this research. Consequently, the project reports and evaluations have tended to remain in the grey literature held in Indian band offices, community language and cultural centres, and economic development officers filing cabinets” (Ryan & Robinson 1990, p. 59).

Second, and related to the first limitation, many papers were unclear about the nature of the study, the study population and the methodology. That limitation forced us to limit the initial scope of our review and truncate some search operations. No search was performed in the grey literature. Nor were any manual searches done in the bibliographies of the selected studies or in the volumes of relevant journals. Apart from the anthropologists on our research team, no specialists were asked for additional studies that could meet the selection criteria. If we had performed such additional searches or queries, we might have found more studies that met the selection criteria. Nonetheless, as suggested by Arksey and O'Malley (2005), if the search is broad and uses numerous concepts related to the research questions, it will most likely retrieve the vast majority of the relevant studies.

Third, we included only empirical studies. No theoretical papers or essays were retained. Such inclusion criteria may be legitimate in the natural sciences, but the social sciences more often have theoretical papers and publications that do not focus on a specific empirical research project and yet may be relevant for discussion of methodological approaches. We may have thus excluded some relevant articles, such as Czyzewski and Tester (2014) and Kral (2014).

Scoping reviews most often concern the health sciences. Ours was a challenge because it also concerned the social sciences. In particular, we were interested in PAR, an approach that has different definitions and uses. Furthermore, our scoping review was experimental, being the first time that our research group had ever conducted such a review. We knew, however, that this approach had been often used to collect and analyze data in other disciplines, such as medicine. Although we encountered no difficulties with studies from the health sciences, we found that those from the social sciences had their share of problems. For example, while the abstracts and main texts of medical studies generally follow a structured template, most of the studies identified in our scoping review did not. Sometimes, it was impossible to find out the kind of methodology and the characteristics of the study population. This lack of information

greatly increased the time we spent on each stage of the scoping review, from initial screening to data extraction. Nonetheless, we used a broad search strategy and broad selection criteria. Although we revised our initial goal at the beginning of the review, we applied a systematic, transparent, and replicable methodology throughout every stage to the production of the final results.

Conclusion

The objective of this scoping review was first to identify the studies published between 2000 and 2019 on the use of participatory action research (PAR) in Inuit communities and second to analyze their methodological approach and Inuit participation in the research process. Our focus on PAR and on Inuit makes this scoping review different from previous reviews of participatory research in the Arctic (Brunet et al., 2014; Davis et al., 2021; Jones et al., 2018; Mosurska & Ford, 2020). We find that PAR has been used mainly by English Canadian researchers in the Canadian Arctic on health-related issues. Those researchers adhered to the basic principles of participation and action with a view to empowerment of local communities and decolonization. They tried different methodological tools and found various ways to bring Inuit into their research.

Our results are consistent with those of previous reviews of participatory action research in the Arctic. We conclude that the researchers adhered explicitly to the core principles of participation and action, while using PAR in a wide range of projects with various degrees of participant involvement. The diversity of uses, together with substantial discrepancies in the ways those uses were reported, made it very difficult for us to assess PAR across the different studies. This finding leads us to observe, with Brunet, Hickey and Humphries, that the participatory research paradigm shift has been very modest in the Arctic, occurring largely after the mid-1980s and being far from complete in 2010 (Brunet et al., 2014, p. 11).

Our scoping review reveals that PAR in the Arctic has been developed mainly in Canada, through close collaboration that typically brings together a Canadian researcher, his or her team, and one or more co-researchers from the Arctic. The absence of international collaboration on the research teams supports the belief that geographic proximity helps develop collaborative relationships in research. But PAR is also deeply connected to the broader context of Arctic participatory research, i.e., the development, at different times in different countries, of new research policies and procedures that better reflect the needs of Arctic Indigenous peoples.

Although the studies we consulted say little about their impact on the participants' lives, the research process itself seems more transformative than the research findings. In terms of knowledge production, the value of PAR remains to be examined and debated. This problem goes beyond the task of doing a literature review and has been noted by other researchers and organizations whenever they have tried to assess PAR or, more broadly, participatory approaches in general. How can one assess a methodology that has never been standardized? The question needs to be answered, all the more so because participatory approaches are based on relationship building—a key factor for entry into Indigenous cultures. Allen et al. (2006) already raised this issue more than fifteen years ago and argued for the need to document how these methods, as well as the research itself and its outcomes, are “perceived, experienced, and impact communities” (pp. 56–57).

Indeed, the research process still too often lacks an assessment of how the study will impact the Inuit community in question, yet such an assessment could inform us about the real capability of participatory methodologies to empower Inuit. This research stage should be more actively included in project design and financially supported by funding agencies.

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Appendix 1.

Search strategy.

Inuit	esquim* OR eskim* OR inuit* OR inuk* OR kalaallit* OR kalaaleq* OR inupiat* OR inupiaq* OR yupik* OR yup'ik* OR yupiit* OR greenlander* OR Alutiit* OR alutiit* OR sugpiaq* OR aleut* OR inuvialuit* OR alutiik*
Participatory Research	participative OR participatory OR "co operative" OR "co operation" OR "co operations" OR "co operational" OR "co operationals" OR "co operate" OR "co operates" OR "co operated" OR cooperat* OR co-operat* OR collaborat* OR "co design" OR "co designs" OR "co designed" OR "co designing" OR co-design* OR codesign* OR design* OR "co production" OR "co productions" OR "co producing" OR "co produce" OR "co produces" OR "co produced" OR coproduc* OR co-product* OR "co creation" OR "co creations" OR "co create" OR "co creates" OR "co created" OR co-creat* OR cocreat* OR "co concept" OR "co conception" OR "co conceptions" OR "co concepting" OR "co conceived" OR co-concept* OR coconcept*

Appendix 2.

List of bibliographic databases

- 1) Academic Search Premier
- 2) AgeLine
- 3) Alternative Press Index
- 4) America: History & Life
- 5) Anthropology Plus
- 6) Arctic & Antarctic Regions
- 7) Art Full Text (H.W. Wilson)
- 8) Art Index Retrospective (H.W. Wilson)
- 9) ATLA Religion Database with ATLASerials
- 10) Avery Index to Architectural Periodicals
- 11) Bibliography of Asian Studies
- 12) Bibliography of Native North Americans
- 13) Business Book Summaries
- 14) Business Source Premier
- 15) Canadian Literary Centre
- 16) CINAHL Plus with Full Text
- 17) Child Development & Adolescent Studies
- 18) CINAHL
- 19) Communication & Mass Media Complete
- 20) Communication Abstracts
- 21) Computers & Applied Sciences Complete
- 22) Criminal Justice Abstracts with Full Text
- 23) eBook Collection (EBSCOhost)
- 24) Education Source
- 25) Entrepreneurial Studies Source
- 26) Ergonomics Abstracts
- 27) ERIC
- 28) Family & Society Studies Worldwide
- 29) Film & Television Literature Index with Full Text
- 30) Historical Abstracts
- 31) Hospitality & Tourism Complete
- 32) Human Resources Abstracts
- 33) Index to Printed Music
- 34) Left Index
- 35) Legal Source
- 36) Library Literature & Information Science Full Text (H.W. Wilson)
- 37) Library, Information Science & Technology Abstracts
- 38) MEDLINE
- 39) Music Index
- 40) New Testament Abstracts
- 41) Old Testament Abstracts
- 42) Psychology and Behavioral Sciences Collection
- 43) Regional Business News
- 44) Religion and Philosophy Collection
- 45) RILM Abstracts of Music Literature (1967 to Present only)
- 46) Social Sciences Full Text (H.W. Wilson)
- 47) SPORTDiscus with Full Text
- 48) Urban Studies Abstracts
- 49) Vente et Gestion
- 50) Web of Science
- 51) Women's Studies International