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Combining action research and grounded theory in health research: A structured narrative review



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ABSTRACT

Action research and grounded theory are popular methodologies in qualitative health research. The aim of this structured narrative review was to develop a contemporary understanding of combining action research and grounded theory. We searched Web of Science Core Collection and Google Scholar for empirical peer-reviewed articles that used both methodologies in a health- or healthcare-focused study. We identified 28 studies published from 2004 to 2022 that combined various types of action research and interpretations of grounded theory in innovative ways. Our results highlighted that combining the two methodologies is feasible and growing in use. Benefits identified by the study authors were opportunity to work with participants, methodological compatibility, enhancement of action, theoretical understanding, and perceived legitimacy of research processes and outputs. Key challenges were compromising on both methodologies, and conceptual and practical limitations. Our findings also highlighted that important synergies and tensions exist between the two methodologies, but tensions are not insurmountable. We suggest a combined action research and grounded theory approach underpinned by pragmatism as a methodologically congruent path forwards. In an academic environment which increasingly implores health researchers to translate new-found knowledge to timely real-world change, innovative approaches to research methodologies and design are required.

1. Introduction

Drawing on more than one qualitative methodology in a health research study has the potential to harness unique strengths and mitigate limitations of each approach. Implications must be carefully considered, however, to ensure methodological congruence (i.e., alignment of purpose, questions and methods) and philosophical alignment (Creswell, 2013). Action research and grounded theory are two established methodologies that have historically been combined and advocated by a small but committed group of scholars (Dick, 2007; Simmons & Gregory, 2003).

A strong logic for a combining action research and grounded theory exists due to methodological overlap and the potential for elements of each to make a valuable contribution to the other (Azulai, 2021; Dick, 2007). Action researchers and grounded theorists have much to learn from each other, yet the approaches are also complementary in that what is explicit in one methodology (e.g., theory development in grounded theory) is lacking in the other (e.g., generation of theory from knowledge and experience in action research) (Dick, 2007). However, consensus on how to combine these methodologies whilst remaining methodologically congruent remains fragmented.

In this article we aim to contribute contemporary insights as a practical starting point for health researchers considering this combination of methodologies. We highlight approaches to combining action research and grounded theory, identify examples of application in empirical health research, offer additional perspectives on key areas of methodological and philosophical synergy/tension, and consider future directions.

1.1. Background

The average 17-year gap between research findings and the incorporation of evidence-based practices to routine general practice in health provides a compelling impetus for health researchers to explore innovative research designs (Bauer et al., 2015). Action research and grounded theory are popular methodologies in qualitative health

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research. Both are concerned with exploration of a process or processes. Action research is an opportunity to generate new understandings through action, and grounded theory offers an iterative framework to ground theory development in experience.

The process of action research remains firmly anchored in its earliest description "… a spiral of steps each of which is composed of a circle of planning, action, and fact-finding about the result of the action" (Lewin, 1946, p. 38) (Fig. 1). Action research aims for practical solutions to pressing concerns and draws on a pragmatic approach to research (Bradbury, 2015). The term action research is often used synonymously with participatory action research (Reason & Bradbury, 2006), reflecting the view of Bradbury (2015) that action research is inherently democratic and participatory. Dick (2007) suggests that action researchers' focus on change means that it is *usually* participatory. Another variation of action research is social action research, which has a strong emphasis on participants' involvement and empowerment (Fleming & Ward, 2004). Community-based participatory research is a similar yet distinct approach, with this terminology commonly employed in the United States of America (Khanlou & Peter, 2005). Community-based participatory research, whilst similarly focused on increasing and integrating knowledge for positive change like action research (Israel et al., 2012), is unique. Distinctively, community-based participatory research starts from a community-defined issue, researchers commit to local capacity--building throughout the process, and collaboration between academic and community partners in all aspects of the research process is requisite (Israel et al., 2012; Wallerstein & Duran, 2006). Participatory action research may be framed as community-based, which is often termed community based participatory action research, and is considered here as a variation of action research.

Grounded theory is an established methodology which "seeks to construct theory about issues of importance in peoples' lives" (Mills et al., 2006, p. 2), where issues emerge from participant stories rather than investigators' preconceived ideas (Birks & Mills, 2015; Charmaz, 2014). Broadly speaking, theory is a set of related concepts, or ideas, arranged in a way that explains something of interest (Birks et al., 2019). The process of data collection and analysis in grounded theory is iterative and cyclic (Fig. 1). The aim of grounded theory is to develop substantive, middle range theory, defined as the formulation and interrelationship of concepts related to a specific area of practice (Glaser & Strauss, 1965). Since its inception, various interpretations of grounded theory have become widely recognised and applied. For example, Mills et al. (2006) identify these using the terms traditional (Glaser, 1978), evolved (Strauss & Corbin, 1990, 1998) and constructivist (Charmaz, 2006). In this review, these three interpretations grounded theory are of interest.

Key characteristics of action research and grounded theory are outlined in Table 1, drawing from the work of Bradbury (2015) and Creswell (2013).

In their the seminal work on this topic, Dick (2007) highlights that action research and grounded theory, two methodologies not commonly considered similar, share important parallels and differences. Parallels include the development of theory grounded in knowledge, and the ability for research questions, data collection, and data analysis to be applied in a flexible and responsive way. Key differences identified are that whereas action research is more explicit about theory informing action, grounded theory is more explicit about the process of building theory from evidence. Building on this, Dick (2007) advocates distinct points about combining these approaches, such as the value of a structured approach to building theory in action research and participant involvement in interpreting the data they provide in grounded theory. Indeed, both action researchers and grounded theorists would benefit from learning and utilising aspects of the other methodology.

Distilling and situating the key characteristics of each methodology (see Table 1) highlights ideas necessitating further exploration, such as similarity in types of evidence that can be used but apparent difference in aim/focus. There are also other important issues to consider, for example alignment of philosophical underpinnings. A recent conceptual article by Azulai (2021) discusses the benefits and challenges of combining action research and grounded theory in social research, and explores which forms of action research may be compatible with different iterations of grounded theory. They conclude that more participatory forms of action research (e.g., participatory action research) may have greater crossover with recent iterations of grounded theory (i.e., constructivist, evolved). Conversely, less participatory forms of action research (e.g., action learning) may fit better with traditional grounded theory (Azulai, 2021). Another conceptual article discusses the topic of combining different versions of grounded theory with action research (Žydžiūnaitė, 2016), but we are unable to comment further as the article is only available in Lithuanian language.

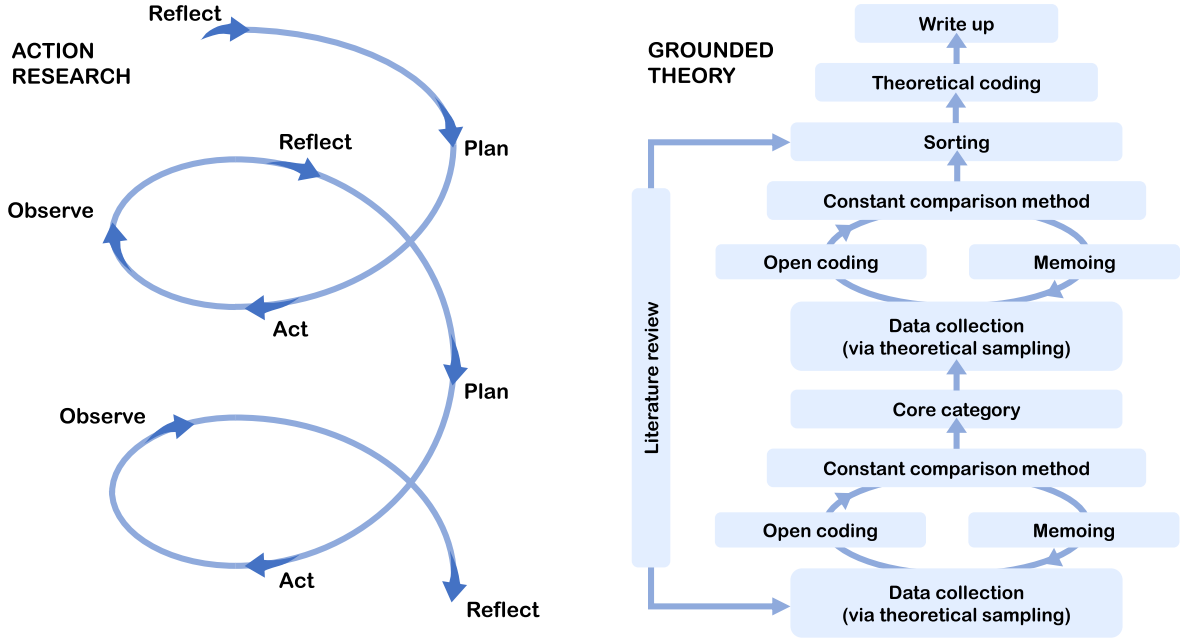


Fig. 1. Visual representation of the cyclical nature of action research and grounded theory
Action research and grounded theory images adapted from originals by Johnson (2020) and Hoda et al. (2010), respectively.

Table 1
Key characteristics of action research and grounded theory methodologies.

	Action Research	Grounded Theory
Disciplinary background	Drawing from organizational psychology	Drawing from sociology
Aim/focus	Generating change through action	Developing theory grounded in data
Evidence	Qualitative and quantitative	Primarily qualitative, potential to include quantitative
Research problem	Focus develops throughout the research	Gap identified in understanding of a specific phenomenon, process, action or interaction; focus may also develop during research
Starting point	Researcher and/or participant interest in understanding and making change around a localised issue	Broad question begins investigation into a social process or phenomena
Process	Cyclic; repeated spirals consisting of data collection, reflection and action	Cyclic and iterative; repeated spirals consisting of data collection, analysis and theoretical sampling to identify participants and/or data best placed to inform theory development
Data collection methods	Numerous – wide range of methods and tools can be utilised	Numerous – qualitative interviews most common; also focus groups, observation; analysis of quantitative data, and visual/textual sources
Data analysis methods	Concurrent and/or sequential with data collection, depending on data collection methods and research design	Concurrent with data collection using an inductive data coding process (which differs depending on iteration of grounded theory)
Outcome	Learning from experience used to inform desired change; dissemination of results integrated into research process and sometimes shared in academic literature	Substantive (middle range) theory generated from data to explain a phenomenon, process, action or interaction; dissemination of results usually in academic literature

Table constructed from Bradbury (2015) and Creswell (2013).

Here we have conducted a structured narrative review (Paré et al., 2015) aiming to develop a contemporary understanding of combining action research and grounded theory methodologies in health research. We believe that the review results and discussion will extend on recent conceptual work by Azulai (2021), and further benefit health researchers considering a combination of action research and grounded theory methodologies.

2. Methods

The overarching purpose of narrative reviews is to summarize previous knowledge; they allow a broad scope of questions, usually use a selective search strategy, can include conceptual and empirical sources of information, do not conduct quality appraisal, and use a narrative summary to synthesize findings (Paré et al., 2015). Structured narrative reviews maintain a broad base of research and, while providing less information about the quality of studies than systematic review types, they are useful for mapping current findings, identifying appropriate techniques or methods, and discovering areas for future research (Marriott et al., 2013). Paré et al. (2015) argue that high quality narrative reviews should ensure rigour by clearly documenting the structured approach that is used, and demonstrate relevance by addressing the stated aim. Additional markers of quality proposed by Ferrari (2015) are focusing on a well-defined topic, using clear inclusion and exclusion criteria to ensure selection of relevant articles, and concentrating on a specific set of included studies. Ferrari (2015) provides a flow diagram for reporting literature search results in structured narrative reviews.

We searched two databases for relevant sources of information in March 2022: Web of Science Core Collection (title and abstract) and Google Scholar (title). The following search terms were used: "action research", "participatory action research", "social action research", "community based participatory action research" and "grounded theory". We show an example search strategy in Fig. 2. We applied type (article only) and language (English only) filters to searches, with no time restriction. Our inclusion criteria were: peer-reviewed empirical research, and application of action research and grounded theory methodology, or methods, in a single study focused on health or healthcare. The exclusion criteria were: not available in English language, not able to be confirmed as peer-reviewed (e.g., book chapters, conference proceedings, doctoral theses), articles which focused on health professional education, and articles which described a grounded theory study on the topic of a completed action research study (or vice versa). We screened the titles and abstracts of all records using the inclusion and exclusion criteria described above. Potentially eligible full text articles were then sourced and assessed for eligibility. In line with the review aim, where multiple articles reported on the same study we selected the article with the most reflection regarding application of methodology and methods. For example, Pullen Sansfaçon et al. (2021) offered reflections on a completed action research and grounded theory study, and this was selected in preference to an earlier article which only reflected on phase 1 of the study (Pullen Sansfaçon et al., 2018). A review-specific data extraction form was developed and used to extract relevant information from eligible articles (i.e., study aim, number of participants, philosophical paradigm of study, type of action research and grounded theory used, elements of action research and grounded theory approaches used, and author reflections on combined methodologies). In keeping with the broader and more inclusive structured narrative review approach, quality assessment of articles was not conducted. Using data extracted from eligible articles, review results are presented in narrative summary format under main conceptual areas related to the review aim. Firstly, we identify and discuss empirical examples of combining action research and grounded theory in health research. Secondly, we describe areas of synergy and tension between the two methodologies, drawing on both empirical examples and the broader literature base. TW independently conducted literature searching, selection of relevant articles, data extraction and generation of the narrative summary.

3. Results and discussion

In total, 183 records were identified for title and abstract screening. Following assessment of eligibility, a total of 28 full text articles were included in this review (Fig. 3). A summary of included articles is provided in Table 2. Years of publication for included articles spanned from 2004 to 2022, and number of participants involved in primary data collection for included studies ranged from 10 to 160.

3.1. Empirical examples of combining action research and grounded theory

Of the 28 included studies, only a handful explicitly stated the philosophical paradigm which they used to underpin their research. Chamberlain et al. (2021) worked from constructivist/interpretivist and indigenist paradigms, and Ennals et al. (2021) from a critical emancipatory paradigm. Batt-Rawden (2010) used a "pragmatic synthesis" of multiple methodologies, which indicated a pragmatic paradigm. Some studies drew on additional methodological approaches, to complement a combination of action research and grounded theory, such as decolonizing (Kendall et al., 2020; Redman-MacLaren et al., 2017; Yashadhana et al., 2020) and ethnography (Batt-Rawden, 2010).

The most common approaches to combining action research and grounded theory that we observed were an action research project incorporating grounded theory methods of analysis, a grounded theory study nested within a larger action research project, or grounded theory used as the reflective component of an action research project (see Table 2). Some studies drew on action research methodology as a means

Type	Search query	Database
Search	["action research" OR "participatory action research" OR "social action research" OR "community based participatory action research" (Title) and "grounded theory" (Title)] OR ["action research" OR "participatory action research" OR "social action research" OR "community based participatory action research" (Abstract) and "grounded theory" (Abstract)]	Web of Science Core Collection

Fig. 2. Example search strategy for one electronic database.

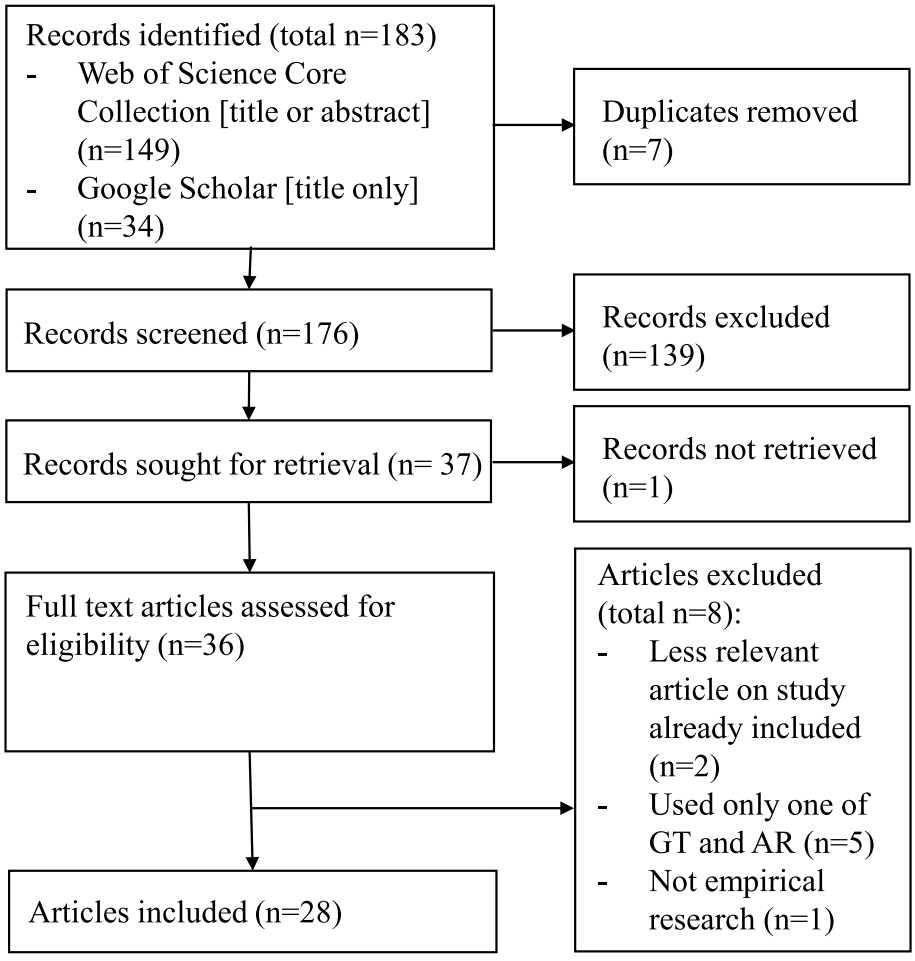


Fig. 3. Flow diagram showing search results for the structured narrative review, adapted from Ferrari (2015).

of inspiring systematic reflection on action undertaken as part of usual practices or intervention programmes, for example Batt-Rawden (2010) on participant song choices related to wellbeing and Tan (2020) on participation in an arts-health programme. Some studies used grounded theory followed by action research, for example, Teram et al. (2005) who developed a grounded theory with survivors of child sexual abuse as the foundation for a participatory action research component. Conversely, grounded theory followed action research in a study by Lordos et al. (2021), who worked closely with local stakeholders to understand healing initiatives already being applied and then used grounded theory to inform a scalable framework.

A majority of studies used participatory action research (n = 18/28).

Table 2
Summary of included articles that applied a combined action research (AR) and grounded theory (GT) approach in health research.

	Study aim & no. participants	AR type[a]	AR contribution	GT type	GT contribution	Benefits of combination	Challenges of combination
Affleck et al. (2018)	Explore the psycho-social experience of Sri Lankan Tamil refugee men in Canada (n = 33)	PAR	Coalition of local stakeholders as advisory committee; local advisory board	*Glaser and Strauss (1967)*; Glaser (1978)	Inductive collection & analysis of interview data; thematic framework to working hypothesis; shared with advisory committee & at conferences; authors & advisory committee decided on theory		
Andrews et al. (2009)	Explore experiences of parents of children with congenital limb differences (CLD) with health care providers & suggest further research (n = 50)	PAR	Adults & parents of children with CLD provided feedback on proposed survey questions	*Glase (1978, 1998); Strauss (1987); Strauss and Corbin (1990)* <!–M1: lease see the author instruction –Change to "Strauss ...–. Note that as per 5 APA reference style –and– is used in direct citation of reference. Kindly check and advice whether we can ignore the author corrections regarding this to proceed further.–>; *Charmaz (2006)*	Constant comparative method of analysis of qualitative survey data		
Barkham and Ersser (2017)	Examine feasibility and impact of group intervention by Community Matrons for people with multiple long-terms conditions (n = 29)	PAR	Three action research cycles; fortnightly participant support groups	*Glaser and Strauss (1967)*	GT analysis applied to data; memoing, open coding; constant comparative method	Participant groups facilitated "playback" to audit data collection	
Batt-Rawden (2010)	Elicit, through music, life stories and stories of being well and being ill (n = 22)	PAR	Help participants convert non-reflective operationsinto conscious activities	*Charmaz (1999, 2000, 2003)*	An approach allowing "flexibility and ability to let themes emerge from participants"	AR & GT both grounded in participants' subjective experiences; GT provides tool for understanding world of subjects through action & process	
Bjurling-Sjöberg et al. (2018)	Explain the implementation process of a clinical pathway (n = 71)	AR	Project to implement clinical pathway initiated by intensive care unit; 4 emergent cycles/phases	*Strauss and Corbin (1998)*	Theoretical sampling; constant comparative analysis of questionnaires, focus groups, individual interviews, logbooks/ field notes & health records	AR to empower clinical staff, GT to provide rigour to analysis & enhance understanding from action; participants' enhanced own knowledge for local context & more general knowledge was produced	Methodologies focused on process so patient outcomes not evaluated; balancing active participation & neutrality
Bruce et al. (2018)	Identify strategiesfor young adults who are deafblind (n = 13)	AR	"collective case study design"; noted no clear cycles	Glaser and Strauss (1967)	Analysis using constant comparison; open coding & axial coding		Identifying clear AR cycles in practice setting
Chamberlain et al. (2021)	Understand support needs for Aboriginal & Torres Strait Islander parents	CBPAR	AR cycles (plan, act, observe, reflect); reporting on cycle 2/ 4 of larger AR project	Constructivist GT	Thematic coding of interview data; draft findings discussed with parents to refine	Constructivist GT & Indigenist approaches in CBPAR project compatible as	

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Table 2 (*continued*)

	Study aim & no. participants	AR type[a]	AR contribution	GT type	GT contribution	Benefits of combination	Challenges of combination
	experiencing complex trauma (n = 17)					both work "with" participants	
Dalmas and Azzopardi (2019)	Study the organizational dynamics that either enable or inhibit the changes needed by a hospital (n = 25)	AR	AR diary compiling documentation from a quality improvement team	Constructivist GT	Theoretical sampling; literature search at later stage to challenge or corroborate study findings; coding & constant comparison applied to AR documentation & interview data	AR allowed researcher to also "live with", document & analyse the action & reflection of a professional group	
deLara, 2019	Investigate aftermath of childhood bullying for young adults (n = 72)	PAR	Rather than observing researcher joined as learner in the enquiry	*Corbin and Strauss (2014)*	Open coding, axial coding & selective coding of interview data; constant comparative strategy; member checking aggregated data with each participant; theoretical saturation		
Désalliers et al. (2017)	Experience of women living with obstetric fistula in Burkina Faso (n = 39)	PAR	Interactive component of interviews asked women for their suggestions; medical follow-up was conducted with postoperative interviews		"Dialogic method that encouragedfree expression"		
Ehrlich et al., 2012	Understand difference between usual chronic condition care & the work of chronic condition care coordination (n = 16)	AR	One component of larger AR study	Glaser and Strauss (1967)	4-step thematic analysis "based on grounded theory techniques"		
Ennals et al. (2021)	Explore what matters to young people livingin a voluntary residential program (n = 35)	PAR	Residents & staff as co-researchers; steering group (residents, staff, researchers) oversaw all stages; commitment to practical utility	*Charmaz (2014)*	Initial thematic analysis drew on grounded theory analysis; codes agreed by researchers & categories generated with steering group	PAR enhanced design & analysis, inspired development of practical framework	
Godfrey et al. (2013)	Development of a novel delirium prevention system of care for acute hospital wards (n = not provided)	PAR	Involved stakeholders (multi-disciplinary staff teams, patient & carer representatives, voluntary service managers & volunteers); iterative process	*Corbin and Strauss (2008)*	GT strategies (e.g., open & focused coding and memos, constant comparison and search for negative cases, to develop categories) for analysis of workshop proceedings, interviews & observational notes	Taking a theory based approach to factors that shape practice provides empirical support to inform change; address little researched area in a complex setting	
Harrison and Brandling (2009)	Improve care of older people withmental health needs in older people's unit of a general hospital (n = not provided)	Interpretivist AR	Co-participants (ward staff) had active role in identifying problems, solutions & strategies; cyclical process covering different elements of data collection	Strauss and Corbin (1998)	Simultaneous data collection & analysis; open, axial & selective coding of data from focus groups, interviews & observations of care; theoretical sampling	AR as overarching methodology provided scope for use of other methodologies & methods (i.e., GT), wanted solutions to be informed by deep understanding of	Sample was small (limited to AR study context) thus theoretical saturation unable to be reached; changes to practice identified not all able to be

(*continued on next page*)

Table 2 (*continued*)

	Study aim & no. participants	AR type[a]	AR contribution	GT type	GT contribution	Benefits of combination	Challenges of combination
						social processes, both systematic but inductive & dynamic nature; theoretical description provided base for further research	implemented in life of project
Hartney et al. (2022)	Define leadership practices that should be used during & after the pandemic to re-imagine & rebuild the health & social care system (n = 18)	AR	Disciplined process of reflection on practice; phase 1/3 of larger AR study	Glaser and Strauss (1967)	Open coding (shared with working group), axial coding of interview data		
Helgeson et al. (2016)	Explore if clinician awareness of quantum physics principles could facilitate open communication between patients & providers (n = 12)	AR	"Conducted in the spirit of action research" (i.e., conceptualized with a holistic view of human health, used a mixed method design); interactive World Café style focus group	*Charmaz (in* Hesse-Biber and Leavy (2008)	Open coding applied to focus group data	Both emergent methods that allow insights to form in early stages & inform later stages	
Joffres et al. (2004)	Describe the facilitators & challenges to a multisectoral initiative for heart health (n = 21 organizations)	PAR	Systematic collection & analysis of data to inform change; partner organizations involved in decisions about research activities; development of a framework for action	*Strauss and Corbin (1990; 1994; 1998)*	Open, axial, & selective coding of interview data; constant comparison; "data saturation"; feedback on results from partner organizations		
Kangovi et al. (2014)	Design a post-hospital transition intervention with high-risk hospitalized patients	PAR	Intervention design elements tightly mapped to participant data (themes) & iteratively validated by participants	Charmaz (2000)	Coding structure including major ideas from data; constant comparison		
Kendall et al. (2020)	Elucidate incarcerated Aboriginal women's experiences of prison healthcare, equity of access & pathways for improvement (n = 43)	"Community collaborative" PAR	Iterative multi-methods approach positioning Aboriginal people as experts; consultation with Aboriginal communities prior to study; project advisory committee (PAG) involved from planning to dissemination	*Charmaz (2014)*	"Inductive semi-grounded-theory approach"; 4-stage process to generate themes (coding frame, coded all transcripts, workshopped codes with PAG, finalised themes)		
Klein et al. (2014)	Investigate how peer educators (PEs) facilitate learning about quality use of medicines among older Australians (n = 27 meetings)	PAR	Multi-site case study design; PEs as co-researchers	Glaser & Strauss (1967); *Strauss and Corbin (1998)*	Coding & analysis of audio recordings, researchjournal & meeting minute data without focusing on pre-existing theory; constant comparison		Doing justice to an "outsider" perspective during data analysis & model development within PAR
Lordos et al. (2021)	1) Review evidence on multisystemic healing initiatives already applied in Rwanda; 2) propose a scalable multisystemic framework for societal healing (n = 31)	PAR	All research activities design to pursue practical solutions using an "action agenda"; numerous consultations with local stakeholders	*Corbin and Strauss (2008)*	Open coding of data from interviews, focus groups & field notes; theoretical sampling to collect additional data		
		PAR		Transformational GT			

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Table 2 (*continued*)

	Study aim & no. participants	AR type[a]	AR contribution	GT type	GT contribution	Benefits of combination	Challenges of combination
Redman-MacLaren et al. (2017)	Explore how women understand, experience & manage the outcomes of male circumcision & penile modification practices (n = 64 + n = 1,380 [existing data])		Participants as co-researchers who determined study focus, content & representation of findings; recommendations from co-researchers acted on during & following the study period		Theoretical sampling of existing qualitative data which informed codes & categories (through memoring & theoretical sampling); constant comparison method with focus groups & individuals on existing data; constant comparison, memoing & initial, intermediate & advanced coding of storyboards, focus group transcripts & handwritten notes; developing transformational GT presented to participants	Grounded theory developed with co-researchers means they understand the phenomenon & how to plan action for change	
Pullen Sansfaçon et al., (2021)	Examine how experiences of oppression and mechanisms of resistance are interlinked & influence life outcomes for trans & non-binary youth (n = 54)	CBPAR	Research design & recruitment in collaboration with community partner organizations; trans & non-binary research assistants involved in data collection & verification of findings with community partners	Strauss and Corbin (1990); *Charmaz (2017)*	Two sensitizing concepts; simultaneous data collection & analysis; open coding; refinement of research question with community partners; axial coding; selective coding & theorization		Combination required adaptation of both methodological approaches; despite effort to be fully inductive project was influenced by prior knowledge & theories used as sensitizing concepts
Tan (2020)	Explore the elements at play in a visual art-health programme in a nursing home (n = 10)	AR	Case study of arts-health programme; systematic enquiry & practice	*Charmaz (2006)*	Grounded theory approach to obtain general themes from interviews & focus group data		
Teram et al. (2005)	Explore experiences of female survivors of childhood sexual abuse with physical therapy & develop a handbook on sensitive practice for clinicians (n = 27 + additional participants not provided)	PAR	Developed a grounded theory with survivors to mediate power dynamic with clinicians; survivor & clinician groups met to transform grounded theory to suggestions/ guidelines; draft handbook developed & revised with feedback from earlier & additional external participants	Traditional GT	Constant comparative method; simultaneous data collection & analysis of interview data; categories labelled & shared with participants with invitation to respond	GT designed for participants to express themselves without constraints of practical relevance; the articulated theory countered expertise of clinicians & centered survivors' experience; AR phases generated dialogue; engagement of external stakeholders to achieve "external credibility"	Ideologically survivors & clinicians would have designed questions & study together but power difference seen as too fundamental to erase; acceptability by academic qualitative research community versus clinicians
Waterworth et al. (2016)	Explore Indigenous participants' perspectives of the factors that affect the health behaviour (n = 120)	PAR	Collaboration & consultation with communities involved in study; participants as co-researchers; advisory committee in each community	Constructivist GT	Thematic analysis using grounded theory approach without need to develop a core category of focus group data; inductive coding & analysis; constant comparison;	Complement each other; participants actively involved which provides conceptual diversity during inductive analysis	

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Table 2 (*continued*)

	Study aim & no. participants	AR type[a]	AR contribution	GT type	GT contribution	Benefits of combination	Challenges of combination
					interpretations compared with field notes as triangulation; researcher theoretical sensitivity; advisory committees discussed themes		
Yashadhana et al. (2020)	Identify factors influencing access to eye care & eye health outcomes for remote Indigenous Australians living with diabetes (n = 160)	PAR	Study conducted in conjunction with community-based researchers (CBR) & Aboriginal community controlled health services (ACCHS); 4 phases (community consultation, interviews, focus groups, reporting back)	Glaser and Strauss (2009)	Inductive coding of data from interviews & focus group data; themes used as base for in-depth interviews with CBRs		
Yoshihama et al., 2021	Examine social factors & processes that affect women's well-being in & after disasters (n = 60)	PAR	Longitudinal PAR project; collaborating non-government organisation in each site;	*Glaser & Strauss (1967); Charmaz (2014)*	Grounded theory analysis of photovoice data (photographs & narratives); additional analysis of data based on 2 codes using constant comparison & seeking additional information; member checking at participant meetings		

[a] PAR refers to participatory action research; CBPAR refers to community-based participatory action research.

The next most common variation cited was action research (n = 8/28), and lastly community-based participatory action research (n = 2/28). Only a few studies explicitly stated the interpretation of grounded theory they had drawn on. Traditional grounded theory was explicitly used in one study (Teram et al., 2005) and constructivist grounded theory in three studies (Chamberlain et al., 2021; Dalmas & Azzopardi, 2019; Waterworth et al., 2016). One study used an integrated methodology termed "transformational grounded theory" (Redman-MacLaren et al., 2017), which the authors had published on previously (Redman-MacLaren & Mills, 2015). Where studies did not explicitly state the interpretation of grounded theory they drew on, we included the key scholars of different interpretations that were cited by study authors (Table 2). We presented this information as a proxy indication of which interpretation of grounded theory each study may have been inspired by. Engagement with grounded theory literature from key scholars ranged from none, seen in one study by Désalliers et al. (2017), to citing the work of Glaser, Strauss, Strauss and Corbin, and Charmaz in another study by Andrews et al. (2009). A majority of articles cited one or two scholars associated with a particular interpretation of grounded theory which inferred their potential alignment, for example traditional as per Glaser (Hartney et al., 2022), evolved as per Corbin and Strauss (Godfrey et al., 2013), and constructivist as per Charmaz (Batt-Rawden, 2010). Evaluating the quality of application of different types of action research and interpretations of grounded theory was beyond the scope of this structured narrative review, but closer examination of what study authors claim as action research and grounded theory is pertinent.

The elements of action research and grounded theory that were drawn on by studies was diverse (Table 2). A small number of studies provided a rationale for use of each methodology, described the extent to which each were reflected in their study, and offered justification for a combined approach, for example Batt-Rawden (2010) and Waterworth et al. (2016). We noted that some studies appeared to use one of the two methodologies in an ideological, or inspirational, way with limited description of how it was enacted. For example, deLara (2019) described their participatory action research component as researchers joining learners in the process of inquiry, and Désalliers et al. (2017) referred to grounded theory as encouraging free expression as a dialogic method. Inconsistent application of terminology, namely "methodology" (i.e., underlying approach to enquiry) versus "methods" (i.e., specific tool or practice), warrants future consideration by researchers. In particular, a number of studies referred to having applied "grounded theory methodology" where "grounded theory methods" may have been more accurate. We noted that some studies employed criteria to evaluate the quality of their own methodological application. Examples included "choice points for good participatory action research" addressed by Teram et al. (2005) and "analytical triangulation" of themes as conducted by Waterworth et al. (2016), which future studies may also wish to consider.

Strong examples of an integrated approach to combining the two methodologies were provided by Redman-MacLaren et al. (2017) and Pullen Sansfaçon et al. (2021). Redman-MacLaren et al. (2017) drew on "transformational grounded theory", an approach which integrates participatory action research strategies and decolonizing methodologies, and actively includes participants as co-researchers. Pullen Sansfaçon et al. (2021) combined community-based participatory action research and grounded theory methodologies (citing Corbin and Strauss), and explicitly drew on two sensitizing concepts (citing Charmaz). Elements of action research and grounded theory were well-conceived and consistently

applied throughout these two studies. A vision for meaningful participation was evident from the outset of both studies, and a clear theory grounded in the data was created through the processes. Authors of both studies included detailed description of their data collection and analysis processes, and offered reflections on their experiences of using a combined approach. Integration is one of the most challenging aspects of doing mixed methods research well, and we believe researchers may be inspired by these examples.

Some study authors offered their perceptions on the benefits and challenges of using both action research and grounded theory (Table 2). More benefits than challenges were identified, but we acknowledge this may be influenced by authors providing less detail on limitations to not undermine credibility of their research. First we discuss the perceived benefits, followed by the challenges.

Chamberlain et al. (2021) saw the incorporation of constructivist grounded theory in a community-based participatory action research project as a meaningful way of working "with" participants, and Barkham and Ersser (2017) noted that participant groups facilitated "playback" of results to audit data collection. Dalmas and Azzopardi (2019) felt that their action research component allowed them to "live with" the actions and reflections of a professional group central to the study. Action research and grounded theory were seen to complement each other (Waterworth et al., 2016), due to both being emergent methods with reflection as an integral component (Helgeson et al., 2016) and grounded in participants' subjective experiences (Batt-Rawden, 2010). Action as an study outcome was enhanced through a theory-based approach, as it provided empirical support to inform change (Godfrey et al., 2013), inspired development of a practical framework (Ennals et al., 2021), and developed a grounded theory with participants that increased their understanding of planning action for change (Redman-MacLaren et al., 2017). Theoretical understanding of participants' own context and a contribution to broader knowledge was achieved through a combined approach (Bjurling-Sjöberg et al., 2018), and deep understanding of social processes informed both solutions and future research (Harrison & Brandling, 2009). The initial development of a grounded theory also allowed participants to express themselves without being constrained by practical relevance (Teram et al., 2005). In regards to legitimacy, the action research component of one study engaged stakeholders to achieve the "external credibility" of a handbook produced during the research process (Teram et al., 2005). Similarly, the grounded theory component of an action research study increased perceived legitimacy of the clinical pathway being developed in a hospital unit, due to involvement of external researchers (Bjurling-Sjöberg et al., 2018). We have summarised the key benefits of a combined approach identified by authors as: working alongside, compatibility, enhancing action, theoretical understanding, and legitimacy.

Several authors described the challenge of having to compromise between action research and grounded theory methodologies, and thus needing to make concessions within both. Klein et al. (2014) noted the difficulty of doing justice to an "outsider" perspective during grounded theory data analysis in participatory action research. Similarly, Bjurling-Sjöberg et al. (2018) talked to the challenge of balancing active participation and neutrality for researchers. Pullen Sansfaçon et al. (2021) reflected that their integrated approach required adaptation of both methodologies and, despite their best effort to be fully inductive, the study was influenced by prior knowledge and sensitizing concepts. We noted this as an interesting reflection and perhaps the result of drawing on multiple interpretations of grounded theory; as mentioned earlier they cited Strauss and Corbin, and Charmaz, inferring potential use of both evolved and constructivist interpretations of grounded theory. Teram et al. (2005) highlighted that, ideologically, their participants (survivors of child sexual abuse and physical therapist clinicians) would have designed the research questions and study together, but the power difference was viewed as too fundamental to erase. They rationalised their combined approach by explicitly prioritising the empowerment of survivors in the process and the acceptability of the outcome by clinicians, over adherence to ideological standards of the academic qualitative research community (Teram et al., 2005).

Unique conceptual and practical limitations of combining action research and grounded theory were highlighted by study authors. These were: application of two methodologies which focused on process thus patient outcomes from the intervention were not evaluated (Bjurling-Sjöberg et al., 2018); difficulty in identifying clear action research cycles in a practice setting (Bruce et al., 2018); participant availability in the limited action research study context meant theoretical saturation could not be reached for the grounded theory component (Harrison & Brandling, 2009); and inability to implement all suggested changes within the life of the project (Harrison & Brandling, 2009). We have summarised the key challenges of a combined approach identified by authors as: compromising both methodologies, and conceptual and practical limitations.

An observation we made across studies was the frequent use of action research and grounded theory with traditionally marginalised or underrepresented groups, such as incarcerated Aboriginal women (Kendall et al., 2020), trans and non-binary youth (Pullen Sansfaçon et al., 2021), and women living with obstetric fistula (Désalliers et al., 2017). Several studies used a combined approach with Aboriginal and Torres Strait Islander people in Australia (Chamberlain et al., 2021; Kendall et al., 2020; Waterworth et al., 2016; Yashadhana et al., 2020). Our observation may indicate that a combined approach was seen as suitable for working with these particular groups, or possibly that a combined approach was viewed as useful in mediating power imbalances and inequities. Here we highlight two examples where the study authors directly reflected on power or equity in the context of a combined methodological approach. Teram et al. (2005) aimed to generate a grounded theory with survivors of child sexual abuse to empower them and centre their experiences in later stages of the study. The approach used by Kangovi et al. (2014) was specifically designed to account for "high-risk" hospitalized patients of low socio-economic status being less likely to participate in mainstream initiatives, like patient advisory committees.

We flag the following studies as particularly relevant reading for researchers considering, or designing, a combined action research and grounded theory approach: Pullen Sansfaçon et al. (2021), Bjurling-Sjöberg et al. (2018), Harrison and Brandling (2009) and Teram et al. (2005). These examples have been selected as authors described the research design in detail and offered reflections on their experience of applying a combined and/or well-integrated approach. Additional reflections are provided by Harrison and Brandling (2010) in an insightful paper linked to their aforementioned study.

3.2. Considerations for combining action research and grounded theory

There are important considerations when combining any qualitative research approaches, from merging philosophical underpinnings through to study design and integrating findings. Congruence of research methods, analysis, presentation and dissemination is paramount. Accordingly, identifying synergies and tensions between action research and grounded theory is crucial to executing a robust study. In Sections 3.2.1 and 3.2.2, we draw on broader conceptual literature and offer relevant examples from included studies (Table 2) to discuss various synergies and tensions. Table 3 provides a summary of the key areas discussed below. We acknowledge that some synergies/tensions identified may be relevant to qualitative methodologies generally, but are intentionally highlighted to signpost the most pertinent points of intersection between action research and grounded theory.

3.2.1. Areas of synergy

Grounded theory and action research are both inherently flexible, creative and contingent approaches to research. Creswell (2013) provides a useful definition of "emergent", or flexible, methods as having the potential for all phases of the process to change or shift through data

Table 3
Summary of synergies and tensions between action research and grounded theory.

Areas of synergy	Areas of tension
1. Flexible approaches to research	1. Divergent aims/focus
2. Cyclical processes where each step informs the next	2. Centrality of theory
3. Can utilise varied types of data	3. Engagement with existing literature/theory (varies with grounded theory interpretation)
4. Flexibility in philosophical paradigm	4. Level of flexibility in data analysis methods
	5. Nature of research participant involvement in generation of knowledge (varies with grounded theory interpretation)

collection. Flexibility allows for new characteristics to arise and inform future research directions. Theoretical sampling in grounded theory facilitates the iterative exploration of nascent ideas with new participants or sources of data. A fundamental aspect of action research is a high level of flexibility, covering all phases from study initiation through to dissemination. Nothing in action research is prescribed, except that methods be underpinned by key values of participation and democracy, towards positive change (Bradbury, 2015). The primary rationale reported by one study for using action research was the scope for use of other methodologies and methods, in their case grounded theory to structure and shape potential theoretical insights (Harrison & Brandling, 2009). Both methodologies were seen as systematic, and similarly inductive and dynamic in nature (Harrison & Brandling, 2009). Helgeson et al. (2016) flagged action research and grounded theory as emergent methods that allowed insights to form in early stages of the study, which then informed later stages.

In a practical sense, grounded theory and action research are both cyclical processes, as shown in Fig. 1. Data collection and analysis in grounded theory are undertaken in cycles where each is informed by the other (Charmaz, 2008); action research is characterised by explicit cycles of data collection, reflection and action (Baum et al., 2006). Cyclical research designs sit in contrast to more traditional research designs (e.g., quantitative research) which are generally conducted chronologically with pre-defined hypotheses. In both action research and grounded theory, incorporation of participant responses into future cycles allows for gaps, inconsistencies and/or inaccuracies in data to be addressed iteratively. The study by Barkham and Ersser (2017) offered a clear example of embracing the cyclical nature of both methodologies; over three action research cycles the data collection points were also used to present developing findings back to participants, which then informed subsequent data collection using theoretical sampling. The diagram generated by Pullen Sansfaçon et al. (2021) showing their study process demonstrated an integrated approach mapped as repeated cycles.

Grounded theory and action research have the potential to embrace varied types of data (Hesse-Biber & Leavy, 2008) and mixed methods research approaches (Johnson et al., 2007). For example, Redman-MacLaren et al. (2017) used a retrospective data set from an earlier study to confirm and develop some initial analytical codes for exploring HIV risk in Papua New Guinea. The use of varied types of data in grounded theory is an area that would benefit from further empirical exploration. The flexible nature of action research means different types of data can be incorporated together in the data collection phase of the cycle and may be developed as the research progresses (Baum, 2016; Bradbury, 2015). Incorporation of varied types of data is commonplace in action research (Reason & Bradbury, 2006) and increasing in grounded theory (Birks et al., 2019). An example of using numerous types of evidence in a combined approach is provided by Bjurling-Sjöberg et al. (2018), whose data collection over a five year period included questionnaires, repeated focus groups, individual interviews, logbooks/field notes and health records. Yoshihama (2021) drew on participatory photovoice data, namely photographs and accompanying narratives, which they analysed using grounded theory methods.

Flexibility and creativity in philosophical paradigm is not limited to action research and grounded theory, but this feature is a salient synergy of the two methodologies. Understanding and engaging with philosophical assumptions is a prerequisite of any qualitative research endeavour. Such assumptions translate to interpretive frameworks or paradigms (e.g., constructivism, pragmatism), which are used to position the researcher and the research (Creswell, 2013). A feature of qualitative research methodologies is the flexible employment of interpretive frameworks (Creswell, 2013), but some frameworks are perceived to fit better than others for particular methodologies. Here lies the opportunity to explicitly combine action research and grounded theory under a consistent philosophical umbrella, a crucial building block of methodological congruence. Azulai (2021) touches on this idea by suggesting that some combinations of variants of action research and grounded theory may be more suited. For studies in our review that were explicit about the interpretation of grounded theory they used, we observed the following combinations: traditional grounded theory with participatory action research (Teram et al., 2005); constructivist grounded theory with action research (Dalmas & Azzopardi, 2019), participatory action research (Waterworth et al., 2016), and community-based participatory action research (Chamberlain et al., 2021); and "transformational grounded theory" encompassing participatory action research. This eclectic mix of combined approaches did not necessarily align with the pattern of compatibility proposed by Azulai (2021), which positions participatory action research with more recent interpretations of grounded theory and action research with more a more traditional interpretation of grounded theory. It does, however, support their call for further exploration regarding the most suitable combinations of action research and grounded theory variants (Azuli 2021). The aforementioned flexibility and creativity in philosophical paradigm foregrounds a discussion of how action research and grounded theory could co-exist within various philosophical paradigms. Only two studies in our review explicitly stated alignment with an underpinning philosophical paradigm, namely constructivist/interpretivist and indigenist (Chamberlain et al., 2021), and critical emancipatory (Ennals et al., 2021). One study referred to a "pragmatic synthesis" of methodologies (Batt-Rawden, 2010). In Section 3.3 we explore how the roots of pragmatism found in action research and grounded theory offer promise.

3.2.2. *Areas of tension*

A key area of tension lies in the fundamental divergence in the aims of action research and grounded theory. Action research strives for social change of individuals (e.g., community members, academic researchers), collectives (e.g., communities, institutions) and their environments (e.g., physical, social, policy) through action, ultimately aiming for transformation (McTaggart, 1997). Conversely, grounded theory works to explicate social action and change through theory construction or explanation related to social process, action or interaction (Creswell, 2013). This dissonance is central to Bob Dick's seminal argument that action researchers and grounded theorists have much to learn from each other. What is explicit in action research is left implicit in grounded theory, and vice versa. Action research could be enhanced by a more structured approach to theory development where grounded theory would benefit from leveraging engagement with research participants to generate relevant action (Dick, 2007). Researchers should consider their phenomena of interest and research question against the primary aim of each methodology to explore fit. Bjurling-Sjöberg et al. (2018) aptly described balancing active participation and researcher neutrality as a "delicate mission", where they attempted to concurrently facilitate progress (action research component) and produce valid findings (grounded theory component) to implement a clinical pathway in a hospital setting. In Section 3.1 we have described another relevant example, where a combined approach did not implement all suggested actions or reach theoretical saturation (Harrison & Brandling, 2009).

Theory is of interest in both methodologies, but to a varying degree.

Theory is inherently and explicitly the key component of grounded theory; for research to be described as grounded theory it must develop a theory grounded in the data. It has been acknowledged that this does not always occur and thus risks being merely "grounded description" (Birks et al., 2019). We observed that, among studies included in this review, a grounded theory was not evident in all studies that stated they had used grounded theory methodology. Some action researchers advocate that theory has always been a central component of action research (Dick et al., 2009) and advancing general knowledge is an important aspect of action research (Chevalier & Buckles, 2019). Development of theory reflects one means to advancing knowledge and adding to transferability of findings, and grounded theory methods can be used in action research to achieve this end. It is pertinent to note that advancing knowledge does not require substantive theory development and can be realised in diverse ways. For example, Haynes et al. (2019) conducted a single methodology participatory action research project alongside a remote Aboriginal community in Australia to address a health issue. In addition to local action, project findings were shared with a national organisation and learnings reflected in new national guidelines.

Use of existing theory also differs significantly between the two methodologies. Action research always involves the preconceived ideas of researchers and participants, which may be labelled as assumptions, ideas, frameworks or theories (Dick et al., 2009), regardless of whether these are explicitly articulated or examined. There is no set expectation for how or when theory should be utilised in the process. In action research, theories related the issue at hand (content) and the research process (methodology) are drawn on iteratively throughout the process (Dick et al., 2009). Use of extant theory in grounded theory varies between types. Traditional grounded theory (Glaser, 1978) proposes that existing theory should be set aside to focus on the data, and therefore a literature review should happen after data analysis. Later interpretations acknowledge that what an investigator already knows about the field of study cannot be unknown when they embark on a grounded theory study (Strauss & Corbin, 1990, 1998). Therefore later grounded theorists advocate for acknowledgement of and engagement with received knowledge in the research process (Mills et al., 2006). Regardless of type, an analysis informed by theoretical sensitivity (not bias) is a goal of grounded theory (Birks et al., 2019). Grounded theory is likely to only draw on theory related to the issue of interest, not methodological theory as in action research, due to the set structure of grounded theory methods. Only a few included studies directly addressed the issue of engagement with existing literature or theory. Useful examples are provided by Pullen Sansfaçon et al. (2021) and Waterworth et al. (2016), who refer to use of sensitizing theoretical concepts to frame data collection and analysis, and touch on the incorporation of knowledge from literature and from data, respectively. Interestingly, despite aligning with a constructivist iteration of grounded theory, Dalmas and Azzopardi (2019) conducted a literature search following development of the theoretical framework to corroborate or challenge their findings. This course of action would be more aligned with a traditional iteration of grounded theory. In the participatory component of their study, Lordos et al. (2021) reviewed scholarly and grey literature and then shared these insights with community stakeholders, from whom data was collected and analysed using grounded theory methods. This example highlighted the potential for both researchers and participants in a combined approach to be influenced by existing literature.

Action research and grounded theory data analyses are flexible in different ways. The analytic process in grounded theory is structured regardless of the type of grounded theory or data; one of the defining aspects of a grounded theory is adherence to recognised tenets of grounded theory analysis (Birks et al., 2019). However, the structure does encourage researchers to follow leads in the data during the process, for example seek new participants or incorporate additional sources of data. Action research is characterised by dynamic research design, data collection and subsequent analysis (Bradbury, 2015). Data collection methods are often developed iteratively throughout the process as new learning and questions arise, and may encompass both traditional research methods and action-oriented tools. In contrast, there are no prescribed methods of analysis in action research, rather the analysis process complements iterative data collection.

Both methodologies sometimes employ the term "co-creation" in the generation of new knowledge, but practically the nature and level of participation differs. Reason and Bradbury (2006) assert that action research is inherently participatory and "a pragmatic co-creation of knowing with, not on or about, people" (Bradbury, 2015, p. 1). In practice, action research exists on a continuum from researcher-led, to shared ownership, to participant-led. The level of participant involvement may also differ between phases within an action research project. Ideally, new understanding from experience is generated with and reflected on alongside participants to inform future action cycles, which have the potential to be increasingly participant-led. Where participants are engaged as co-researchers they may be involved in final write up or dissemination of the action research findings. In grounded theory, data are sought from informants and taken away by the researcher, then may be brought back to subsequent participants to aide substantive theory development. The researcher undertakes the final write up in a grounded theory study. Distinct from earlier iterations, constructivist grounded theory argues that researcher and participant are actively co-creating understanding together around an issue of shared interest (Birks et al., 2019; Charmaz, 2008; Mills et al., 2006). This statement is more reflective of a constructivist stance than a specific change in grounded theory methods and requires consideration about which interpretation of grounded theory to pair with types of action research. Indeed, constructivist grounded theory may be the most suited to pairing with action research due to collaborative mindset, positioning of participants as co-creators of knowledge, and engagement with extant literature/theory described in this section. Drawing on examples of combined approaches, the opportunity for researchers to work alongside participants was identified as a key benefit in several included studies (Barkham & Ersser, 2017; Chamberlain et al., 2021; Dalmas & Azzopardi, 2019). Additionally, we noted multiple studies that explicitly used a combined approach to facilitate the generation of shared insights, for example centring the voices of young people in research design and data analysis (Ennals et al., 2021), and the mutual development of understanding between researchers and participants (Waterworth et al., 2016).

3.3. *Pragmatism as a shared philosophical paradigm*

When combining qualitative research methodologies, methodological congruence and philosophical alignment are important considerations (Creswell, 2013). Successful application and methodological synergies reviewed in the above sections highlight that combining action research and grounded theory is feasible, but also contingent on addressing inherent tensions. The challenge is to embrace these as productive tensions, whilst navigating a methodologically and philosophically sound course. Commitment to philosophical alignment, a fundamental building block of methodological congruence, may well provide the missing key for combining action research and grounded theory (Azulai, 2021). A few studies reviewed in this paper offered an explicit philosophical basis for their methodology, but the majority did not. Of those that did, constructivist/interpretivist, indigenist, critical emancipatory and pragmatic paradigms were apparent.

We propose that pragmatism offers great potential as an underpinning philosophical paradigm for action research and grounded theory, although commentary on this alignment to date is scant. Our primary rationale is that both action research and grounded theory arise from pragmatism (Bradbury, 2008; Charmaz, 2017), and therefore can be situated congruently within a pragmatic paradigm. Given the preoccupation of pragmatism with identifying real-world problems, we agree that action research and pragmatism are a natural fit. Indeed, the goal of both is inquiry that generates practical solutions. Bryant (2009) advocates that a pragmatist stance on grounded theory has the potential to rise

above debate around iterations of grounded theory and re-focus dialogue on the extent to which conceptual insights and theoretical innovations are useful. For pragmatists, knowledge is understood as provisional and judged in terms of how useful it is, statements and theories are of a particular time rather than being a final truth, and processes of enquiry connect beliefs and experiences (Bryant, 2009; Morgan, 2014). The included study by Teram et al. (2005) spoke strongly to the idea of pushing boundaries in qualitative health research, and advocated for pragmatism over ideology. Their study combined participatory action research and traditional grounded theory, a unique combination among studies in this review, with a vision to empower one sub-group of participants (survivors of child sexual abuse) and facilitate change with another sub-group of participants (physical therapist clinicians) through the process. They expanded on this by suggesting that a strict ideological stance may not be the most beneficial to groups who participatory action research aims to empower, or to those whom researchers must work closely with to enact change.

3.4. Commentary on use of a structured narrative review approach

We reflect that a structured narrative review approach proved well-suited to achieving the purpose of this review, which was to develop a contemporary understanding of applying action research and grounded theory in health research. The level of detail we provided in Section 2 (Methods) would likely be sufficient for this review process to be replicated by others, indicating transparency and reproducibility of review methods. For this particular review topic, the opportunity to advance methodological discussion whilst integrating empirical examples from a range of relevant articles was a particular advantage of conducting a structured narrative review. As suggested by Marriott et al. (2013), we affirm from our experience that this review type was useful for identifying and mapping current applications of research methodologies/methods, and discovering areas for future exploration.

4. Conclusions

The aim of this work was to provide a practical starting point, drawing on empirical examples and broader conceptual discussion, for health researchers considering a combination of action research and grounded theory. Our structured narrative review focuses on the combination of action research and grounded theory in health research, and extends on recent conceptual discussion by Azulai (2021) who concluded that such a combination warrants further scrutiny. The earliest empirical example we identified was in 2004, and since this time many innovative ways of combining action research and grounded theory have been explored, drawing on various types of action research and interpretations of grounded theory. The empirical examples we identified highlight that combining action research and grounded theory is both feasible and growing in use. Key benefits identified by authors were the opportunity to work alongside participants, methodological compatibility, enhancement of action, theoretical understanding, and perceived legitimacy of process and outputs. Key challenges were having to compromise both methodologies, and conceptual and practical limitations. We propose further exploration of a combined approach with pragmatism as the underpinning philosophy, to enhance methodological synergies and mediate tensions. In an academic environment which increasingly implores health researchers to translate new-found knowledge to timely real-world change, a combination of action research and grounded theory offers a promising means to achieve this. To the academic community, these findings generate a call for renewed dialogue to answer the question: given the synergies that exist and the pragmatic possibility of combining action research and grounded theory approaches, is there a place for a hybrid, stand-alone methodology in the future?

Ethical statement

Hereby, I [Tiffany Williams] consciously assure that for the manuscript "Combining Action Research and Grounded Theory in health research – reflecting back and looking forwards: a systematized review" the following is fulfilled:

1) This material is the authors' own original work, which has not been previously published elsewhere.
2) The paper is not currently being considered for publication elsewhere.
3) The paper reflects the authors' own research and analysis in a truthful and complete manner.
4) The paper properly credits the meaningful contributions of co-authors and co-researchers.
5) The results are appropriately placed in the context of prior and existing research.
6) All sources used are properly disclosed (correct citation).
7) All authors have been personally and actively involved in substantial work leading to the paper.

Authorship

Tiffany Williams: Conceptualization, Methodology, Investigation, Writing – Original Draft, Writing - Review & Editing. Janine Wiles: Conceptualization, Writing - Review & Editing. Melody Smith: Conceptualization, Writing - Review & Editing. Kim Ward: Conceptualization, Writing - Review & Editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

deLara, E. W. (2019). Consequences of childhood Bullying on mental health and relationships for young adults. *Journal of Child and Family Studies, 28*(9), 2379–2389. https://doi.org/10.1007/s10826-018-1197-y

Affleck, W., Thamotharampillai, U., Jeyakumar, J., & Whitley, R. (2018). If one does not fulfil his duties, He must not Be a man": Masculinity, mental health and resilience amongst Sri Lankan Tamil refugee men in Canada. *Culture Medicine and Psychiatry, 42*(4), 840–861. https://doi.org/10.1007/s11013-018-9592-9

Andrews, E. E., Williams, J. L., VandeCreek, L., & Allen, J. B. (2009). Experiences of parents of children with congenital limb differences with health care providers: A qualitative study. *Rehabilitation Psychology, 54*(2), 217–221. https://doi.org/10.1037/a0015651

Azulai, A. (2021). Are grounded theory and action research compatible? Considerations for methodological triangulation. *Canadian Journal of Action Research, 21*(2), 2–24. https://doi.org/10.33524/cjar.v21i2.485

Barkham, A. M., & Ersser, S. J. (2017). Supporting self-management by Community Matrons through a group intervention; an action research study. *Health and Social Care in the Community, 25*(4), 1337–1346. https://doi.org/10.1111/hsc.12434

Batt-Rawden, K. B. (2010). The benefits of self-selected music on health and well-being. *The Arts in Psychotherapy, 37*(4), 301–310. https://doi.org/10.1016/j.aip.2010.05.005

Bauer, M. S., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. M. (2015). An introduction to implementation science for the non-specialist. *BMC Psychol, 3*, 32. https://doi.org/10.1186/s40359-015-0089-9

Baum, F. E. (2016). Power and glory: Applying participatory action research in public health. *Gaceta Sanitaria, 30*(6), 405–407. https://doi.org/10.1016/j.gaceta.2016.05.014

Baum, F., MacDougall, C., & Smith, D. (2006). Participatory action research. *Journal of Epidemiology & Community Health, 60*(10), 854–857. https://doi.org/10.1136/jech.2004.028662

Birks, M., Hoare, K., & Mills, J. (2019). Grounded theory: The FAQs. *International Journal of Qualitative Methods, 18*. https://doi.org/10.1177/1609406919882535

Birks, M., & Mills, J. (2015). *Grounded theory: A practical guide*. Sage.

Bjurling-Sjöberg, P., Wadensten, B., Poder, U., Jansson, I., & Nordgren, L. (2018). Struggling for a feasible tool - the process of implementing a clinical pathway in intensive care: A grounded theory study. *BMC Health Services Research, 18*(1), 831. https://doi.org/10.1186/s12913-018-3629-1

Bradbury, H. (2008). Quality and "actionability": What action researchers offer from the tradition of pragmatism. In A. B. Shani, S. A. Mohrman, W. A. Pasmore, B. Stymne, & N. Adler (Eds.), *Handbook of collaborative management research* (pp. 583–600). Sage Publications.

Bradbury, H. (2015). Introduction: How to situate and define action research. In H. Bradbury (Ed.), *The SAGE handbook of action research* (3rd ed.). Sage Publications.

Bruce, S. M., Bashinski, S. M., Covelli, A. J., Bernstein, V., Zatta, M. C., & Briggs, S. (2018). Positive Behavior supports for individuals who are deafblind with CHARGE syndrome. *Journal of Visual Impairment & Blindness, 112*(5), 497–560.

Bryant, A. (2009). Grounded theory and pragmatism: The curious case of anselm Strauss. *Forum Qualitative Sozialforschung/ Forum for Qualitative Social Research, 10*(3).

Chamberlain, C., Clark, Y., Hokke, S., Hampton, A., Atkinson, C., & Andrews, S. (2021). Healing the past by nurturing the future: Aboriginal parents' views of what helps support recovery from complex trauma indigenous health and well-being: Targeted primary health care across the life course. *Primary Health Care Research & Development, 22*. https://doi.org/10.1017/s1463423621000463. Article e47.

Charmaz, K. (1999). Stories of suffering: Subjective tales and research narratives. *Qualitative Health Research, 9*(3), 362–382.

Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. Denzin, & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 509–535). Sage Publications.

Charmaz, K. (2003). Grounded theory. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods*. Sage Publications.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage Publications.

Charmaz, K. (2008). Grounded theory as an emergent method. In S. N. Hesse-Biber, & P. Leavy (Eds.), *Handbook of emergent methods* (pp. 155–172). Guilford Publications.

Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Sage.

Charmaz, K. (2017). Special invited paper: Continuities, contradictions, and critical inquiry in grounded theory. *International Journal of Qualitative Methods, 16*(1), 1–8. https://doi.org/10.1177/1609406917719350

Chevalier, J., & Buckles, D. (2019). *Participatory action research: Theory and methods for engaged inquiry*. Routledge.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd). Sage Publications.

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th). Sage Publications.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.

Dalmas, M., & Azzopardi, J. G. (2019). Learning from experience in a national healthcare system: Organizational dynamics that enable or inhibit change processes. *International Journal for Quality in Health Care, 31*(6), 426–432. https://doi.org/10.1093/intqhc/mzy204

Désalliers, J., Pare, M. E., Kouraogo, S., & Corcos, J. (2017). Impact of surgery on quality of life of women with obstetrical fistula: A qualitative study in Burkina Faso. *Int Urogynecol J, 28*(7), 1091–1100. https://doi.org/10.1007/s00192-016-3235-x

Dick, B. (2007). What can grounded theorists and action researchers learn from each other? In A. Bryant, & K. Charmaz (Eds.), *The SAGE handbook of grounded theory*. SAGE Publications. https://doi.org/10.4135/9781848607941.

Dick, B., Stringer, E., & Huxham, C. (2009). Theory in action research. *Action Research, 7*(1), 5–12. https://doi.org/10.1177/1476750308099594

Ehrlich, C., Kendall, E., & Muenchberger, H. (2012). Spanning boundaries and creating strong patient relationships to coordinate care are strategies used by experienced chronic condition care coordinators. *Contemporary Nurse, 42*(1), 67–75. https://doi.org/10.5172/conu.2012.42.1.67

Ennals, P., Lessing, K., Spies, R., Egan, R., Hemus, P., Droppert, K., Tidhar, M., Wood, T., van Dijk, C., Bride, R., Asche, A., Bendall, S., & Simmons, M. (2021). Co-producing to understand what matters to young people living in youth residential rehabilitation services. *Early Intervention in Psychiatry*, 1–10. https://doi.org/10.1111/eip. 13222

Ferrari, R. (2015). Writing narrative style literature reviews. *Medical Writing, 24*(4), 230–235. https://doi.org/10.1179/2047480615z.000000000329

Fleming, J., & Ward, D. (2004). Methodology and practical application of the social action research model. In F. Maggs-Rapport (Ed.), *New qualitative methodologies in health and social care research* (1 ed., pp. 162–178). Routledge.

Glaser, B. G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Sociology Press.

Glaser, B. G. (1998). *Doing Grounded Theory: Issues and Discussions*. Sociology Press.

Glaser, B. G., & Strauss, A. L. (1965). Discovery of substantive theory: A basic strategy underlying qualitative research. *American Behavioral Scientist, 8*(6), 5–12. https://doi.org/10.1177/000276426500800602

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research*. Chicago: Aldine Pub. Co.

Glaser, B. G., & Strauss, A. (2009). *The discovery of grounded theory: Strategies for qualitative research*. Routledge.

Godfrey, M., Smith, J., Green, J., Cheater, F., Inouye, S. K., & Young, J. B. (2013). Developing and implementing an integrated delirium prevention system of care: A theory driven, participatory research study. *BMC Health Services Research, 13*(1), 1–15.

Harrison, A., & Brandling, J. (2009). Improving mental health care for older people within a general hospital in the UK. *Nursing and Health Sciences, 11*(3), 293–300. https://doi.org/10.1111/j.1442-2018.2009.00462.x

Harrison, A., & Brandling, J. (2010). Using action research to address the mental health needs of older people: A reflection and discussion of real-world problems. *Educational Action Research, 18*(2), 255–272. https://doi.org/10.1080/09650791003741772

Hartney, E., Melis, E., Taylor, D., Dickson, G., Tholl, B., Grimes, K., Chan, M. K., Van Aerde, J., & Horsley, T. (2022). Leading through the first wave of COVID: A Canadian action research study. *Leadership in Health Services, 35*(1), 30–45. https://doi.org/10.1108/lhs-05-2021-0042

Haynes, E., Marawili, M., Marika, B. M., Mitchell, A. G., Phillips, J., Bessarab, D., Walker, R., Cook, J., & Ralph, A. P. (2019). Community-based participatory action research on rheumatic heart disease in an Australian Aboriginal homeland: Evaluation of the 'On track watch' project. *Evaluation and Program Planning, 74*, 38–53. https://doi.org/10.1016/j.evalprogplan.2019.02.010

Helgeson, H. L., Peyerl, C. K., & Solheim-Witt, M. (2016). Quantum physics principles and communication in the acute healthcare setting: A pilot study. *J. Sci. Heal., 12*(6), 408–415. https://doi.org/10.1016/j.explore.2016.08.007

Hesse-Biber, S. N., & Leavy, P. (Eds.). (2008). *Handbook of emergent methods*. Guilford Publications.

Hoda, R., Noble, J., & Marshall, S. (2010). *Using grounded theory to study the human aspects of software engineering Human Aspects of Software Engineering*. Reno: Nevada.

Israel, B. A., Eng, E., Schulz, A. J., & Parker, E. A. (2012). *Methods for community-based participatory research for health* (2nd ed.). Incorporated: John Wiley & Sons.

Joffres, C., Heath, S., Farquharson, J., Barkhouse, K., Latter, C., & MacLean, D. R. (2004). Facilitators and challenges to organizational capacity building in heart health promotion. *Qualitative Health Research, 14*(1), 39–60. https://doi.org/10.1177/1049732303259802

Johnson, E. S. (2020). Action research. In *Oxford research encyclopedia of education*. Oxford University Press.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research, 1*(2), 112–133.

Kangovi, S., Grande, D., Carter, T., Barg, F. K., Rogers, M., Glanz, K., Shannon, R., & Long, J. A. (2014). The use of participatory action research to design a patient-centered community health worker care transitions intervention. *Healthc (Amst), 2*(2), 136–144. https://doi.org/10.1016/j.hjdsi.2014.02.001

Kendall, S., Lighton, S., Sherwood, J., Baldry, E., & Sullivan, E. A. (2020). Incarcerated Aboriginal women's experiences of accessing healthcare and the limitations of the 'equal treatment' principle. *International Journal for Equity in Health, 19*(1). https://doi.org/10.1186/s12939-020-1155-3. Article 48.

Khanlou, N., & Peter, E. (2005). Participatory action research: Considerations for ethical review. *Social Science & Medicine, 60*(10), 2333–2340. https://doi.org/10.1016/j.socscimed.2004.10.004

Klein, L. A., Ritchie, J. E., Nathan, S., & Wutzke, S. (2014). An explanatory model of peer education within a complex medicines information exchange setting. *Social Science & Medicine, 111*, 101–109. https://doi.org/10.1016/j.socscimed.2014.04.009

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 34–46.

Lordos, A., Ioannou, M., Rutembesa, E., Christoforou, S., Anastasiou, E., & Björgvinsson, T. (2021). Societal healing in Rwanda: Toward a multisystemic framework for mental health, social cohesion, and sustainable livelihoods among survivors and perpetrators of the genocide against the tutsi. *BMC International Health and Human Rights, 23*(1).

Marriott, C., Hamilton-Giachritsis, C., & Harrop, C. (2013). Factors promoting resilience following childhood sexual abuse: A structured, narrative review of the literature. *Child Abuse Review, 23*(1), 17–34. https://doi.org/10.1002/car.2258

McTaggart, R. (Ed.). (1997). *Participatory action research: International contexts and consequences*. State University of New York Press.

Mills, J., Bonner, A., & Francis, K. (2006). The development of constructivist grounded theory. *International Journal of Qualitative Methods, 5*(1). https://doi.org/10.1177/160940690600500103

Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry, 20*(8), 1045–1053. https://doi.org/10.1177/1077800413513733

Paré, G., Trudel, M.-C., Jaana, M., & Kitsiou, S. (2015). Synthesizing information systems knowledge: A typology of literature reviews. *Information Manager, 52*(2), 183–199. https://doi.org/10.1016/j.im.2014.08.008

Pullen Sansfaçon, A. P., Gelly, M. A., & Manning, K. E. (2021). Affirmation and safety: An intersectional analysis of trans and nonbinary youths in quebec. *Social Work, 45*(3), 207–219. https://doi.org/10.1093/swr/svab009

Pullen Sansfaçon, A. P., Hebert, W., Lee, E. O. J., Faddoul, M., Tourki, D., & Bellot, C. (2018). Digging beneath the surface: Results from stage one of a qualitative analysis of factors influencing the well-being of trans youth in Quebec. *International Journal of Transgenderism, 19*(2), 184–202. https://doi.org/10.1080/15532739.2018.1446066

Reason, P., & Bradbury, H. (Eds.). (2006). *Handbook of action research: Concise* (Paperback Edition). Sage Publications.

Redman-MacLaren, M., & Mills, J. (2015). Transformational grounded theory: Theory, voice, and action. *International Journal of Qualitative Methods, 14*(3). https://doi.org/10.1177/160940691501400301

Redman-MacLaren, M., Mills, J., Tommbe, R., MacLaren, D., Speare, R., & McBride, W. J. H. (2017). Implications of male circumcision for women in Papua

New Guinea: A transformational grounded theory study. *BMC Women's Health, 17*(1), 53. https://doi.org/10.1186/s12905-017-0406-y

Simmons, O. E., & Gregory, T. A. (2003). Grounded action: Achieving optimal and sustainable change. *Forum Qualitative Sozialforschung/ Forum for Qualitative Social Research, 4*(3).

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications.

Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In N. Denzin, & Y. Lincoln (Eds.), *Handbook of qualitative research*. Sage Publications.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Sage Publications.

Strauss, A. (1987). *Qualitative analysis for social scientists*. Cambridge University Press.

Tan, M. K. B. (2020). Towards a caring practice: Reflections on the processes and components of arts-health practice. *Arts & Health, 12*(1), 80–97. https://doi.org/10.1080/17533015.2018.1494452

Teram, E., Schachter, C. L., & Stalker, C. A. (2005). The case for integrating grounded theory and participatory action research: Empowering clients to inform professional practice. *Qualitative Health Research, 15*(8), 1129–1140. https://doi.org/10.1177/1049732305275882

Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promotion Practice, 7*(3), 321–323.

Waterworth, P., Dimmock, J., Pescud, M., Braham, R., & Rosenberg, M. (2016). Factors affecting indigenous west Australians' health Behavior: Indigenous perspectives. *Qualitative Health Research, 26*(1), 55–68. https://doi.org/10.1177/1049732315580301

Yashadhana, A., Fields, T., Blitner, G., Stanley, R., & Zwi, A. B. (2020). Trust, culture and communication: Determinants of eye health and care among indigenous people with diabetes in Australia. *BMJ Global Health, 5*(1). https://doi.org/10.1136/bmjgh-2019-001999. Article e001999.

Yoshihama, M. (2021). Visualizing drivers of gender health disparities: Ongoing participatory action research following the 2011 disaster in Japan. *Social Science & Medicine, 283*. https://doi.org/10.1016/j.socscimed.2021.114133. Article 114133.

Žydžiūnaitė, V. (2016). Methodological considerations for possibilities to integrate the grounded theory and action research. *Pedagogika, 122*(2), 141–161. https://doi.org/10.15823/p.2016.26