

Blending Human-Centred Design and Community-Based Participatory Action Research Approaches: Designing Community Sport and Recreation Provisions for Equity-Owed Communities

Jackie Oncescu, Jules Maitland and Molly Balcom Raleigh

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Article abstract

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BLENDING HUMAN-CENTRED DESIGN AND COMMUNITY-BASED PARTICIPATORY ACTION RESEARCH APPROACHES: DESIGNING COMMUNITY SPORT AND RECREATION PROVISIONS FOR EQUITY-OWED COMMUNITIES

Jackie Oncescu

University of New Brunswick

Jules Maitland

All in Research & Innovation Inc.

Molly Balcom Raleigh

All in Research & Innovation Inc.

ABSTRACT

Addressing the social and economic disparities equity-owed low-income residents experience that prevent participation in community sport and recreation is complex. Community-based participatory action research (CBPAR) has been utilized to facilitate the participation of equity-owed communities in sport and recreation initiatives. However, in this paper, we discuss how CBPAR and human-centred design (HCD) help engage communities in discourse and action to support innovative social change in the context of sport and recreation for equity-owed low-income communities. This paper compares processes, core principles, and outcomes of CBPAR and HCD. It highlights how they can collectively drive discourse and action to foster innovative social change in sport and recreation for equity-owed communities. The proposed integration, called CBPAR+HCD, is suggested to initiate solutions that address the multifaceted challenges through a social justice lens, placing community-driven social innovation at the forefront. This paper highlights the benefits of combining CBPAR+HCD and acknowledges the inherent challenges in implementing this dual approach. Furthermore, it offers recommendations to support the combined approach, emphasizing the importance of this integrated methodology in promoting social change and addressing inequities within community sport and recreation initiatives.

KEY WORDS: Community sport and recreation; Poverty; Social justice

INTRODUCTION

This paper discusses how human-centred design (HCD) and community-based participatory action research (CBPAR) approaches help engage communities in discourse and action to support social change in sport and recreation for equity-owed communities. As highlighted by Chen et al. (2020), “human-centred design and community-based participatory research are two people-centred approaches to address real-world problems” (p. 37). Historically, academics have utilized CBPAR in partnership with the community, and HCD has been utilized in the public and private sectors (Chen et al., 2020). Despite the expanding application of CBPAR and HCD across diverse research disciplines and sectors, their use and discussion within community sport and recreation settings remain limited. This paper seeks to compare processes, core principles, and outcomes of CBPAR and HCD and to shed light on how they can be combined and integrated into community sport and recreation contexts to address inequities for equity-owed communities, particularly those experiencing poverty.

The paper is divided into four sections. In the first, we discuss community sport and recreation in the context of poverty to provide context to the issue’s complexity. In the second, we describe CBPAR and HCD approaches, including historical foundations, core principles, processes, and outcomes. In the third, we discuss why CBPAR and HCD are complementary and give examples of engaging with equity-owed communities and addressing inequities in community sport and recreation. In the fourth, we provide challenges and recommendations for utilizing this combined approach.

POVERTY & COMMUNITY SPORT & RECREATION

Poverty is the result of overlapping and mutually reinforcing sources of disadvantage such as race, age, gender, education, ability, occupation, and health status (Frisby et al., 2007). Socioeconomic disadvantage cuts across several populations in Canada; such groups include Indigenous people, immigrants, refugees, members of ethnocultural, Black and other racialized populations, LGBTQS2 people, people living with disabilities, single-parent households, people experiencing homelessness, children and youth in care, and people living in institutions and remote areas (Employment and Social Development Canada, 2021). Collectively, we will refer to these diverse groups as equity-owed¹. These groups face significant collective challenges participating in community life, including accessing employment, housing, and essential services. Equity-owed groups also experience racism, discrimination, and exposure to violence at disproportionate levels (Employment and Social Development Canada, 2021), which directly affect their experiences in their communities and their overall health and well-being.

The experience of poverty varies among equity-owed groups as individuals within these groups are diverse and multifaceted; they contend with intersecting axes of oppression associated with ethnicity, race, income, religion, disabilities, gender, sexual orientation, and age. Most will experience financial, material, and social deprivation that affects how they experience (not) belonging to their communities. Research has shown that poverty creates

¹ We emphasize “owed” as these groups are owed equity by the social structures that have created their oppression.

barriers to social activity participation in communities, limits the creation and maintenance of social support networks, and diminishes a sense of belonging, leading to social isolation (Stewart et al., 2009).

While community sport and recreation experiences are often considered sites where inclusion, belonging, and community can be cultivated, research has shown that sport and recreation have longstanding systemic inequities that prevent participation for equity-owed groups (Collins & Kay, 2014; Spaaji et al., 2023). A prevailing example of these inequities pertains to the barriers of cost, equipment, transportation, and available childcare options (Forsyth & Heine, 2008; Holt et al., 2011; Spaaij et al., 2023; Trussell & Mair, 2010; van Leeuwen et al., 2023). Additionally, research shows uneven distribution of recreation and sports facilities and infrastructure across communities, particularly disadvantaged lower-income neighbourhoods (Holt et al., 2011; Moore et al., 2008). This inequity extends to the quality of recreation centres in lower-income areas, where amenities and overall conditions are markedly inferior (McKenzie et al., 2013).

Furthermore, limited access to technology, reduced online media skills, and complicated registration procedures further curtail access to sport and recreation opportunities (Trussell & Mair, 2010); this gap in technical resources is intensified when equity-owed groups encounter challenges in accessing, comprehending, and providing the necessary information for registration (van Leeuwen et al., 2022). This struggle is compounded by inadequate communication and information on financial subsidies for sport and recreation (McCarville, 2008; Oncescu & Neufeld, 2020; Taylor & Frisby, 2010). This not only forces equity-owed groups to ask for help, generating feelings of shame (van Leeuwen et al., 2023), but can also result in instances of rejection and disrespect, producing distrust and fear of being excluded (van Leeuwen et al., 2022). Additionally, the research underscores the stigma, racism, and discrimination equity-owed groups face in community recreation and sports environments. These experiences create an unwelcoming atmosphere that perpetuates exclusion (Oncescu & Loewen, 2020; Schinke et al., 2010; Trussell & Mair, 2010). In sum, the many factors foster an environment where equity-owed communities feel marginalized and unwelcome and can reinforce their exclusion from the broader community.

These forms of cultural, organizational, and institutional exclusion represent just a portion of what is reported in the literature and are inherently multifaceted and intersect across various levels of influence, including intrapersonal, interpersonal, organizational, institutional, community, and policy levels. This complexity impacts addressing exclusion to community sport and recreation for equity-owed communities and require(s) solutions that challenge the current practices of the society that generated them. Furthermore, it calls for more innovative, open, collaborative, iterative, and participatory design approaches (Brinkman et al., 2023, p. 2).

Creating meaningful social action, however, necessitates a departure from top-down approaches in which individuals in positions of power make program and policy decisions for those who are oppressed, marginalized, and excluded. Traditional approaches have often operated on the assumption that professionals “know how to include ‘others’ without

meaningful consultation with those who may differ significantly from themselves” (Frisby & Ponic, 2013, p. 393). These top-down approaches inadvertently perpetuate exclusion as they fail to create space for equity-owed communities to express how they wish to be included or in what specific sport and recreation opportunities they want to engage (Donnell & Coakley, 2002). Consequently, provisions targeted to create access and inclusion for equity-owed communities often remain underutilized, complicate participation, or even pose harm (Oncescu, 2022, p. 173).

Considering these challenges, researchers in the field of sport and recreation have advocated for the adoption of CBPAR to facilitate the participation of equity-owed communities in sport and recreation initiatives (Frisby & Ponic, 2013; Hayhurst et al., 2015; Spaaij et al., 2018). CBPAR challenges the conventional approach to program and policy development, whereby staff, management, and policymakers often engage in discussions and decision-making among themselves to develop and deliver programs that are convenient for them (Frisby & Ponic, 2013). Instead, CBPAR advocates for direct engagement with excluded groups, allowing them to identify their challenges and propose solutions that require attention. As Shookner (2002) suggested, these discussions should revolve around how existing provisions intersect with individuals’ social and economic circumstances to produce unintended and often adverse consequences.

Complex problems seldom have a one-size-fits-all solution, and community sport and recreation organizations face a pressing challenge: to foster social change to combat the entrenched inequities hindering the participation of equity-owed communities. Consequently, the strategies employed by both practitioners and researchers in addressing these inequities could greatly benefit from a social justice approach that places community-driven social change, CBPAR, at its core.

COMMUNITY-BASED PARTICIPATORY ACTION RESEARCH

CBPAR is an alternative research paradigm that originated from action research (AR), participatory action research (PAR), and the work of feminist theorists (Darroch & Giles, 2014). This paper will use the term CBPAR to encompass AR and PAR within its broader framework. These methodologies emerged in response to criticisms of conventional positivist research, which often failed to include the knowledge and perspectives of equity-owed individuals for the betterment of their communities (Wallerstein & Duran, 2003). Initially introduced by Kurt Lewin, action research was conceived as a methodology wherein communities identify their issues, plan, act, and evaluate the results (Darroch & Giles, 2014, p. 23). Building upon this foundation, Paulo Freire introduced a participatory element, focusing on cultivating critical consciousness regarding oppressive systems, leading to collective action and social change (Rich & Misener, 2020). PAR further refined these principles, centring on conducting research with, rather than on, equity-owed communities. This approach encourages shared ownership of the research process and is inherently community-directed, aiming to drive positive action and change for community members (Kemmis & McTaggart, 2000). Feminist theorists then responded to traditional research approaches that were often gender-blind and failed to capture the reality of women’s lives (Ponic et al., 2010). They challenged the Western, white, and patriarchal nature of traditional

research and called for more methodological approaches aligned with feminist theoretical perspectives (Darroch & Giles, 2014). Such perspectives aim to disrupt patriarchal ways of understanding the world, promoting opportunities for more balanced power distribution and knowledge-building, particularly in illuminating oppressive systems essential for actionable change within communities.

According to Viswanathan et al. (2004), CBPAR is defined as

a collaborative research approach that is designed to ensure and establish structures for participation by communities affected by the issue being studied, representatives of organizations, and researchers in all aspects of the research process to improve health and well-being through taking action, including social change. (p. 22)

CBPAR is collaborative and integrates education and social action to bring about systemic change within communities (Minkler & Wallerstein, 2003; Wallerstein & Duran, 2006). One of CBPAR's central tenets is its emphasis on building relationships between partners with the overarching goal of transforming communities (Wallerstein & Duran, 2006). CBPAR is underpinned by three fundamental components: research, education, and action (Frisby et al., 1997; Hall, 1992). In CBPAR, research is viewed as a collaborative process aimed at generating new knowledge instead of adhering to rigid methodologies or methods. Education involves the mutual exchange of knowledge, enhancing learning and skill-building among all participants. This growth occurs when researchers and community members partner to gain a deep understanding of people's lived experiences and explore potential avenues for transformation. The ultimate desired outcome is social change, requiring action to shift power structures and empower individuals with greater control over accessing resources and beneficial services. A notable distinction between CBPAR and conventional methodologies lies in "who defines research problems and who generates, analyzes, represents, owns, and acts on the information sought" (Cornwall & Jewkes, 1995, p. 1668). These considerations influence every stage of the CBPAR process, from defining problems and understanding the community to establishing key relationships, engaging the community, collecting and analyzing information, and formulating and implementing plans for change (Frisby et al., 1997).

CBPAR has been applied to many contexts related to social justice in sports and recreation. For instance, McHugh et al. (2015) utilized CBPAR to develop, implement, and evaluate a sport-based after-school program for students in low-income urban neighbourhoods. The goal was to understand how communities can improve sports opportunities for Aboriginal youth. Another example comes from McGarry et al. (2023), who utilized Youth-Based Participatory Action Research (YPAR) to conduct anti-racism research within sport-based youth development programs. Employing critical race theory and anti-racism methodologies, researchers collaboratively engaged with youth in school-based programs to generate individual and collective knowledge to address injustices within their school communities. Smith et al. (2020) applied CBPAR to examine the connections between sport and social development among racialized newcomer youth. The project aimed to better

understand the role of sport and physical activity in the social lives and development of young people aged 15-24. Researchers have also drawn upon Feminist Participatory Action Research (FPAR) approaches. Hayhurst et al. (2015) employed post-colonial FPAR to explore the experiences of young urban Aboriginal women participating in sport, gender, and development programs designed to enhance their lives. Additionally, Frisby et al. (2005) collaborated with women living with low incomes in an FPAR project to improve the accessibility of physical activity services for women and their families facing economic challenges.

These cases represent selection of instances in which CBPAR has been employed in the community sport and recreation literature, and they all share a common thread: the application of CBPAR within the realm of community sport, recreation, or physical activity organizations and programs, with a specific focus on equity-owed communities. The overarching aim of CBPAR in these contexts has been to instigate change for the benefit of equity-owed groups that are often marginalized and excluded from “mainstream” community sport and recreation due to persistent barriers linked to colonization, systemic racism, and discrimination. As aptly noted by Rich and Misener (2020), “PAR appears to be emerging as an effective approach to research whereby sport and recreation researchers can engage in partnerships with communities to effect change” (p. 276).

HUMAN-CENTRED DESIGN

One promising approach for instigating changes in the context of complex problems is Human-Centred Design (HCD). HCD is an approach that enables multiple stakeholders to uncover innovative and viable solutions to intricate issues through an iterative process of prototyping and testing new ideas (Brown & Wyatt, 2010). HCD was originally rooted in ergonomics, computer science, and artificial intelligence (Giacomin, 2014). Since then, HCD has been fused in applications not only in business for developing new products and services but also in the non-profit and public sectors (Nandan et al., 2020).

HCD represents a process that fosters innovative solutions that prioritize the needs and values of those most affected by the issue (Vechakul et al., 2015). Rather than a linear sequence of steps, this process is generally conceived as a series of overlapping spaces (Brown & Wyatt, 2010) or loops of iterative activity building a larger design journey, such as in the Design Council’s expanded Double Diamond model (Design Council, n.d.). HCD processes encompass three primary phases: inspiring, or understanding a challenge as experienced by the problem space stakeholders, imagining and iterating potential solutions, and implementation. As described by Browne and Wyatt (2010), these spaces encompass “...inspiration as the problem or opportunity that motivates the search for solutions; ideation as the process of generating, developing, and testing ideas; and implementation as the path that leads from the project stage into people’s lives” (p. 33). What sets HCD apart is its iterative nature, meaning these three spaces are revisited throughout the project. Thus, recognizing them as dynamic spaces rather than rigid linear steps is crucial when engaging in design work.

The inspiration space typically serves as the initial phase in HCD, often where the design team observes and listens to uncover people's beliefs, values, behaviours, and needs. Activities within this space may involve framing, researching, and synthesizing the team's comprehension of the problem into a generative reframe of the challenge. The primary objective here is to develop a profound understanding of the identified problem from the perspective of key stakeholders. In the process, the team aims to cultivate empathy and gain insight into the barriers faced by these stakeholders (Chen et al., 2020).

The ideation space is where designers collaborate with diverse groups of participants to generate a broad set of ideas for potential approaches to achieving their objectives (Roberts et al., 2016). Within this space, understanding the problem acquired during the inspiration phase is translated into potential solutions that will subsequently be rapidly prototyped and tested (Brown & Wyatt, 2010).

The implementation space represents the phase during which the most promising ideas generated in the inspiration space transition into concrete action plans (Brown & Wyatt, 2010). A central activity during this phase is prototyping, which involves "turning ideas into actual products and services that are then tested, iterated, and refined" (Brown & Wyatt, 2010, p. 35). This phase is characterized by a rapid and iterative prototyping and testing process, where multiple ideas are put into action, often on a small scale and in a trial manner (Robert et al., 2016). This approach allows the team to gain a deeper understanding and uncover new insights about the problem and potential solutions. Prototyping provides the space to observe evidence of unforeseen or unintended consequences, which, in turn, contributes to a richer understanding of both the problem and potential solutions (Robert et al., 2016). This deeper insight can significantly enhance the prospects of future success, particularly when transitioning from piloting to scaling up the innovation.

HCD has gained considerable traction in developing innovative solutions to address various social issues. For instance, global design company IDEO has harnessed the power of HCD to create client-centred solutions across diverse domains, including waste management, emergency disaster response, literacy promotion, and healthcare (as cited in Sinha, 2020). In another notable example, the design firm 'In With Forward' applied HCD principles to tackle the issue of social isolation among adults living with cognitive disabilities (Tulloch & Schulman, 2020). Furthermore, HCD has made inroads into healthcare and public health domains, where it has been instrumental in designing and implementing programs to address the social determinants of health (Vechakul et al., 2015).

While HCD has been gaining traction across various disciplines, its presence in the community recreation and sports literature remains noticeably absent. However, HCD principles have gradually entered the realms of sport management and sport for development literature. For instance, Pierce et al. (2019) proposed that sports management instructors could greatly benefit from integrating design thinking as a pedagogical tool in their classrooms due to the growing need for innovation in the sports industry. In the context of sport for development, Schulenkorf (2017) highlighted the scarcity of design thinking in the studies related to sport management and/or sport for development. Schulenkorf urged

sport for development practitioners and scholars to prepare for a more creative future by embracing design thinking principles, specifically to include creative and experimental approaches into the design of sport for development projects. Responding to Schulenkorf's (2017) call for design thinking, Joachim et al. (2020) conducted a scoping review to explore the alignment between sport for development research and practices and design thinking principles. Furthermore, they applied a design thinking activity as a case study intervention within a commercial sports organization to identify how it could encourage innovative sport management practices. The subsequent study by Joachim et al. (2021) delved into the enabling of design thinking mindsets and principles within sports organizations more broadly. Additionally, Marra et al. (2018) harnessed design thinking as a strategic planning tool to expand and develop community-based programming.

While discussions surrounding design thinking are predominantly taking place within sport management and sport for development literature, there is a noticeable gap in the utilization of HCD in addressing issues of inequity in community sport and recreation participation for equity-owed groups; this paper intends to fill this gap.

CBPAR+HCD

The worldviews of CBPAR and HCD offer valuable approaches for addressing complex community challenges (Chen et al., 2020). While integrating CBPAR and HCD is still relatively new, researchers in the health field have begun to embrace and combine the approaches. For instance, Kia-Keating et al. (2017) applied CBPAR+HCD to facilitate community dialogues on the primary mechanisms and social determinants contributing to health disparities, particularly related to violence among Latino/a youth. This research found CBPAR+HCD approach created an innovative way of generating new ideas where participants (i.e. Latino/a families, service providers, students, and researchers) equitably and efficiently cultivated knowledge about the social determinants of health disparities in the community to support their needs. In another example, Duran et al. (2016) utilized CBPAR+HCD methodologies to design a pictorial encounter decision aid tailored for women of low socioeconomic status who had been diagnosed with early-stage breast cancer. The research highlighted the CBPAR+HCD approach improved usability and accessibility for low socioeconomic women diagnosed with early-stage breast cancer. These instances highlight the potential of CBPAR+HCD to address complex health-related issues. However, within the community sport and recreation literature, there are limited examples of applying CBPAR+HCD approaches.

To summarize the similarities and differences between CBPAR+HCD research, Chen et al. (2020) and Oh (2018) developed comparison tables. Table 1 below illustrates an adaptation and combination of their work. We will draw on these similarities and differences in the following section, where we discuss the utility of CBPAR+HCD when addressing inequities in community sport and recreation for equity-owed communities.

Table 1
Similarities and differences between CBPAR+HCD research

Dimension	Human Centred Design	Both	Community-Based PAR
Values	Empathy, creativity, delight	Co-creation	Relationship-building, shifting power dynamics
Philosophy	Focuses on the people for whom the intervention is intended and the people and system the intervention will touch. The goal is to solve underlying problem, not a symptom.	People with lived experience are at the centre.	The orientation is towards social justice and is directed at changing power structures by giving people more control over the resources and services designed to benefit them.
Purpose	Generating action and scalable solutions	Solution and action-oriented.	Generating research for future action and localized, contextual solutions.
Context	Essential to the design of the intervention. Recognizes the role of context as the system in which the intervention will have to interact and operate.	Context is central.	Essential for identifying need for the change, as identified by community stakeholders. Context informs and acknowledges the culture, history, orientation, and power of the community.
Resident, Community, and Stakeholder Engagement	The client/user experience is a key data point and can drive the research but may stop short of engaging community members as collaborative decision-makers in the process of development. A client-driven design team works to have clients participate in developing assumptions and inform and rapidly iterate on hypotheses and prototypes.	Engaged users/partners in all stages and benefits intended stakeholders.	Community members are viewed as collaborators (co-designers and co-producers) from start to finish of the research project, recognizing them as experts given their culture, history, and lived experiences. Community-driven with a partnership with researchers. Any changes must be approved by the community stakeholders.
Process	Short timeline, rapid iteration cycles with low fidelity prototypes, focus on individual extreme	Systemic, flexible, generalizable, iterative, requires training to execute, clients/ partners	Long timeline, focus on communities, interdisciplinary team

	users, and transdisciplinary team.	sustain efforts at project conclusion.	
Data Collection	Emphasis on iterative data collection using mixed methods approaches throughout multiple phases of the process.	Mixed methods.	Methods can be mixed and often informed and approved by a community advisory board or representatives.
Outcomes	Product/service/program, sole ownership of the product/service/program.	Bi-directional knowledge exchange.	Research/knowledge, co-ownership of research/knowledge, and capacity building.

CBPAR+HCD IN THE CONTEXT OF ADDRESSING INEQUITIES IN COMMUNITY SPORT AND RECREATION

Ensuring equitable access and participation in sport and recreation for equity-owed groups is a social justice issue. However, the concept of social justice itself is complex and multifaceted, often eluding precise definitions and carrying various interpretations (Jones, 2016). Social justice is intricately intertwined within a spectrum of related principles; including diversity, equal rights, individual liberty, social responsibility, and the allocation of resources (Olson et al., 2013, p. 24). At its essence, social justice addresses inequalities in all forms, encompassing disparities across various aspects of life (Barry, 2005, p. 10). One common thread is recognizing that social justice necessitates critical reflection and proactive measures (Jones & Walton, 2018). Social justice underscores the deliberate redistribution of resources, with the explicit goal of benefiting those who are most disadvantaged (Jackson, 2005).

Translating social justice into concrete sport and recreation practice is challenging because equity-owed groups still need to be equitably framed in policy discourse and practice, and equity-owed communities go unsupported and disempowered, preventing full participation in meaningful activities. However, CBPAR+HCD offer valuable avenues for generating a deeper understanding of how inequities are experienced by communities and developing concrete social actions. CBPAR and HCD centre on people with lived experience and share a common commitment to challenge systemic interactions to drive change. HCD engages in research involving individuals who will ultimately utilize the product, service, or program. This research informs the design process, ensuring that the solution aligns with the needs and preferences of the end-users (Jones et al., 2016). HCD places significant emphasis on collaboration among various stakeholders, particularly the beneficiary population (Roberts et al., 2016). Similarly, CBPAR treats participants as experts, valuing their unique lived experiences related to the research topic (Jacobson et al., 2005). CBPAR places the community’s needs at the forefront and encourages equitable involvement from researchers and participants throughout the research process. The aim is to leverage research findings to drive changes desired by the participants, whether in the form of policy reforms, program enhancements, or service improvements, ultimately influencing social change.

While HCD and CBPAR differ in their primary focus regarding social change, they strongly emphasize valuing the human experience and engendering a dialectic learning process. In both approaches, designers and researchers actively learn from users and stakeholders, promoting human dignity and creating a space for the experiences of equity-owed communities who face oppression to be understood. This alignment with social justice goals is a key strength (Jones et al., 2018).

Although HCD has been strongly criticized as a colonial practice in its potential to be extractive and transactional (Udoewa & Gress, 2023), CBPAR draws attention to issues of power and control, positioning participatory action methodologies as integral components of activist research. Activist research, as a morally and politically engaged form of inquiry, seeks to address inequality by empowering equity-owed communities, shedding light on existing inequities, and advocating for social changes that lead to more equitable resource distribution (Spaaij et al., 2018).

By intentionally viewing HCD with a social justice lens, we can complement the social change values and outcomes intrinsic to CBPAR methodologies. This approach can result in the co-creation of more inclusive access provisions that cater to the sport and recreation needs of individuals at the margins rather than forcing them into mainstream services, and it empowers equity-owed communities to navigate their choices based on their preferences and priorities (Frias & Dattilo, 2020).

A key distinction between HCD and CBPAR lies in their empathy-building approaches (Chen et al., 2020). While CBPAR strongly emphasizes relationship building, trust with community partners, identifying priorities together, and centring information gathering on the community's needs, HCD deliberately incorporates activities designed to cultivate empathy (Chen et al., 2020). HCD encourages immersion in the community to deepen empathy, offering a framework for orienting diverse project teams around problems as they exist within and are experienced by individuals and communities (Robert et al., 2016). Although some data collection methods, such as observations, interviews, and photo and video journals, overlap between HCD and CBPAR, HCD incorporates creative techniques specifically aimed at empathetically conveying users' experiences to other stakeholders involved in the design process. These techniques include methods like the 'five whys,' embracing analogies, journey mapping, the 'what-how-why' method, creating personas, and engaging with extreme users (Dam & Siang, 2021; Talgorn & Ullerup, 2023). By intentionally fostering empathy as such, HCD enhances the understanding of users' perspectives and needs, which can be invaluable in the design of user-centric solutions.

Unlike traditional focus groups and surveys that do not often yield the important insights required to comprehend people's genuine needs (Brown & Wyatt, 2010), empathy-building techniques enable designers and researchers to gain a deeper understanding of both the emotional states and the structural inequities experienced by individuals. This understanding is particularly crucial in the context of CBPAR, where the quality of the relationship between participants and researchers is paramount for mutual learning and respect. However, not allocating sufficient time to relationship building can jeopardise trust

and respect. Spaaji et al. (2017) aptly warned that “time is a shallow quantifier, as relationships do not always depend on two groups being in the same time and space” (p. 30). Empathy-building is an intentional method for extending the time researchers engage with equity-owed communities, enabling them to delve into the local contexts and opportunities in which these residents are involved. Such efforts are essential for cultivating mutually beneficial and trusting relationships (Spaaji et al., 2017). In essence, empathy-building can create authentic connections between participants and researchers, enhancing comprehension of equity-owed individuals’ intricate social conditions and experiences. This deeper understanding, in turn, can fuel innovative efforts to challenge poverty, discrimination, and inequity (Sinha, 2020).

In the realm of empathy-building, designers employ various tools to gain insights into the experiences and needs of individuals. One such tool is the design probe (Roberts et al., 2016). Design probes encompass a range of activities, including capturing pictures, recording videos or audio, drawing, interacting with artifacts, or responding to prompts related to one’s environment and experiences. Users engage in self-documentation, actively participating in the design process by chronicling their experiences, thoughts, and ideas (Mattelmäki, 2007). In community sport and recreation, design probes can provide valuable insights into the behaviours and needs of equity-owed communities concerning local parks and trails. For instance, residents could use stickers on printed maps to highlight accessible/inaccessible features, which can be further discussed to deepen user needs associated with local parks and trails.

Another empathy tool, the journey map, aids designers in dissecting the critical moments involved in completing a task (Chen et al., 2023). In the context of community sport and recreation, fee assistance programs have often faced criticism for being confusing, stigmatizing, and detrimental (Fortune & Oncescu, 2022). Journey maps can be employed to understand the steps involved in navigating fee assistance programs or registration forms and pinpointing pain points that act as barriers to completing the task. This approach assists providers in comprehending residents’ needs and identifying potential interventions to mitigate frustration, harm, and confusion. When providers encounter these journey maps, it increases empathy toward residents’ experiences. This enhanced understanding not only refines problem definitions but also unlocks possibilities for more effective, sustainable solutions that align with the needs of those affected (Sinha, 2020).

Integrating CBPAR and HCD processes can also help develop more creative and innovative social action to address communities’ priorities. For instance, researchers can leverage data from empathy-building activities and other data collection methods to identify recurring themes linked to underlying systemic issues. While HCD typically emphasizes using data to generate actionable insights for problem-solving, CBPAR prioritizes the creation of research findings that yield localized and contextual insights in collaboration with the community and stakeholders. For example, in the context of the journey map discussed above, researchers could analyze the data to uncover systemic issues within the fee assistance application process. This research illuminates these issues and facilitates mutual understanding among users and stakeholders regarding the social, political, economic, and cultural challenges

equity-owed communities encounter when seeking financial support. In part, empathy-building activities as a form of data collection and site for analysis deepen an understanding of the problem(s), which helps define and guide the inspiration space and future social action.

HCD has a particular focus on generating creative and innovative solutions to community or human problems, often referred to as 'ideation' (Kia-Keating et al., 2017; Brown & Wyatt, 2010). Unlike CBPAR, HCD processes employ a toolkit of methods tailored to inspire creative solutions during the initial phase. While numerous ideation techniques are available to support this process, these techniques are not only valuable in generating ideas but are instrumental in deciding on the appropriate course of action within CBPAR. Deciding on the appropriate action(s) is important because participants become the beneficiaries of the research (Frisby et al., 1997). CBPAR researchers have recognized that determining the course of action(s) can be complex, especially given the varying perspectives on what constitutes action among participants. This complexity is further compounded when ideation involves all key stakeholders, such as sport and recreation providers, equity-owed communities, and researchers. In these scenarios, co-created solutions emerge from divergent thinking, where diverse teams challenge assumptions and stimulate new ways of thinking (Brown & Wyatt, 2010; Vechakul et al., 2015). Divergent thinking is a pivotal aspect of the HCD process, encouraging the exploration of innovative avenues.

Without embracing new ways of thinking, organizations often find themselves trapped in the status quo as they tend to favour the obvious, resulting in inflexibility and reluctance to innovate (Brown & Wyatt, 2010). This challenge becomes especially pertinent for community sport and recreation organizations operating within the framework of neoliberal ideologies. According to Oncescu & Fortune (2020),

Neoliberalism's focus on individual responsibility results in the development of leisure access provisions that focus on changing the individual's financial circumstances rather than the collective factors that have caused their exclusion; such limited thinking results in the development of policies such as FAPs [Fee Assistance Programs]. (p.15)

Therefore, the ideation process serves as fertile ground for the emergence of solutions and opportunities, which can move practitioners away from focusing on individuals' limited financial capacity and into alternative unexpected directions. While ideation thrives on cultivating ambiguity, it is a key element that increases the potential for social innovation (Vechakul et al., 2015).

When redesigning financial assistance policies, ideation adopts a crucial role by enabling the co-creation of solutions that prioritize the lived experience of equity-owed groups, which considers the broader systemic inequities they experience when accessing sport and recreation funding programs. Additionally, ideation techniques can potentially strengthen co-created solutions, actively promoting diversity and inclusion. Sport and recreation providers, through such techniques, can gain a deeper understanding of these inequities and

exclusionary practices (Spaaji et al., 2017). This emphasis on co-creation and ideation is pivotal in driving community-level changes necessary for establishing equitable sport and recreation opportunities. Echoing the sentiments of Spaaji et al. (2017), we firmly believe that co-created and implemented strategies have the power to foster critical awareness and drive social change. These strategies challenge existing power dynamics, perpetuating conventional and status quo approaches and injecting alternative and innovative tactics into community-level initiatives.

Following ideation is prototyping, which is unique to HCD. Prototyping is a process described by Brown and Wyatt (2010) as “turning ideas into actual products and services that are then tested, iterated, and refined” (p. 35). The essence of prototyping lies in the belief that it’s often more advantageous to encounter failures early in the design process to pave the way for quicker success, particularly when applied within the real context of use (Brown & Wyatt, 2010). Prototyping introduces a valuable dimension into the design project by allowing the exploration of ideas without needing full-fledged participation, typically required by pilot projects. Instead, it facilitates the creation of mini or small-scale tests during implementation to gain fresh insights and a deeper understanding of the problem and potential solution(s). In design projects, it is common practice to examine multiple solutions before selecting the most promising one for further refinement (Robert et al., 2016). This approach aims to unearth unforeseen implementation challenges or unintended consequences, ultimately increasing the likelihood of long-term success (Brown & Wyatt, 2010).

Prototyping in HCD comes in various forms, such as simple sketches, storyboards illustrating proposed solutions, or even role-playing and acting out service offerings (Dam & Siang, 2020). For instance, Vechakul et al. (2015) employed interactive poster boards to test and refine novel community programs that build supportive environments, including access to healthy food and safe, appealing parks. The team created four prototypes on poster boards and presented them in different community settings, soliciting feedback from residents. This feedback sought to uncover what residents liked, as well as their suggested changes and their new ideas. Vechakul et al. (2015) found prototyping invaluable because it allowed design teams to “learn from fast simple tests and integrate lessons learned to develop a more robust solution” (p. 2558). Providing the space for prototyping is crucial, particularly in the context of CBPAR projects, where tension may surround the choice of appropriate actions. Tests and experiments conducted during prototyping serve as vehicles for gaining a deeper understanding of the problem’s intricacies and exploring potential solutions; for instance, role-playing a sport or recreation service, like the FAP application process. This exercise allows equity-owed communities and providers to simulate the flow of proposed solutions, offering a deeper understanding of the problem and potential solutions.

CHALLENGES APPLYING CBPAR+HCD APPROACHES

While this paper sheds light on the valuable role of CBPAR+HCD in addressing inequities within community sport and recreation settings for equity-owed groups, we acknowledge the persistent challenges that can complicate implementing such approaches. First, it is important to recognize that working closely with local communities requires substantial effort and commitment. The capacity required to engage in CBPAR+HCD approaches can be

extensive, and equity-owed communities, who often contend with the burdens of inequitable social systems, may struggle to meet their basic needs. This can lead to significant stress and barriers that hinder their active participation (Bennett, 2004).

Consequently, the structure and form of traditional project structures may prevent consistent involvement of equity-owed members, posing challenges in building the necessary relationships for the successful execution of CPAR+HCD projects. Building trust is a crucial component of this process, which involves striking a delicate balance between generating genuine community interest in the project and avoiding raising false hopes. It is vital for researchers to openly acknowledge the project's limitations to maintain trust with the community. However, for co-design to move beyond what can sometimes be considered performative engagement, power must be shared across members of the co-design team (McKercher, 2020). Furthermore, it is important to understand that equity-owed communities are diverse, with a multitude of intersecting axes of oppression, including income, gender, age, race, ethnicity, religion, sexual orientation, ability, and health (Bennett, 2004). When facilitating CBPAR+HCD approaches, researchers must remain mindful of these complex and evolving dynamics within the community's desire for change. Competing and contested versions of change can coexist, and these intricacies must be navigated with sensitivity, respect, and understanding.

Second, among the critiques most useful to note in relation to CBPAR is HCD falls short in its un-critical application of the concept of empathy, which inherently centres the designer and client's understanding of the challenge and problematically exacerbates power differentials between those experiencing the challenge first-hand and those empowered to "solve" it. Extractive and transactional colonial practices of HCD pulls information on a challenge from community and transforms it into a new project or service, essentially extracting social capital of lived experience and transforming it into financial or other kinds of capital owned by those with enough resources to commission the design process (Udoewa & Gress, 2023). Importantly, Darroch & Giles (2014) highlight that "Western academic discourses are embedded in the context of colonialism and oppression" (p. 26), which affects how CBPAR is conducted. Therefore, when engaging in CBPAR+HCD methods, it is important to attempt to decolonize the design process and direct the potential of CBPAR+HCD toward equitable processes and outcomes.

In *Decolonizing Design* (2023), Elizabeth (Dori) Tunstall calls for practitioners to *Put Indigenous First*, starting by understanding our own positionality regarding Indigenous sovereignty over the land, learning the colonial histories of the places in which you work, cultivating authentic relationships with Indigenous People in order to repair harm done when mistakes are inevitably made, and designing objects (or in this context, sports and recreation systems and provisions) "that can transmit liberatory joy to the body and community" (p. 37). She then goes on to offer four additional areas of focus: addressing racial bias, addressing tech bias, meaningful hiring practices to enact systemic change, and prioritising resources to advance decolonisation.

Decolonizing CBPAR+HCD means centring non-Western worldviews and holding alternative knowledge. It can be achieved by being critically reflexive and enabling reciprocity within relationships. This requires that the design process of CBPAR+HCD locate the power in relationships amongst those with a stake in addressing the challenge and expose unequal power dynamics. This could include revealing and discussing oppressive external contexts and reflecting on unconscious bias, privilege, and positions of power. Such strategies bring critical awareness of structural and relational power dynamics that can interfere with equitable design outcomes fundamental to CBPAR.

Design Justice is one framework that can be used to help practitioners analyse the benefits and burdens of existing and potential design decisions:

Design justice focuses explicitly on the ways that design reproduces and/or challenges the matrix of domination (white supremacy, heteropatriarchy, capitalism, ableism, settler colonialism, and other forms of structural inequality). Design justice is also a growing community of practice that aims to ensure a more equitable distribution of design's benefits and burdens; meaningful participation in design decisions; and recognition of community-based, Indigenous, and diasporic design traditions, knowledge, and practices (Costanza-Chock, 2020, p. 23).

Such strategies bring critical awareness of structural and relational power dynamics that can interfere with equitable design outcomes fundamental to CBPAR.

Decolonizing CBPAR+HCD also requires researchers and designers to broaden their epistemological perspectives by incorporating theoretical explanations and methodological approaches that acknowledge and respect diverse ways of knowing (Thambinathan & Kinsella, 2021). This involves embracing alternative perspectives by hiring or engaging cultural insiders or brokers and honouring participants' cultural protocols. For example, instead of adhering strictly to academic research protocols, a decolonized CBPAR+HCD approach would adopt an Indigenous research paradigm (Wilson, 2008) and/or prioritize the guidelines for engagement set by cultural communities. This shift necessitates moving away from individual integrity towards a focus on collective responsibility, emphasizing respectful and genuine relationships (Thambinathan & Kinsella, 2021).

Third, it is essential to consider the limited capacity of community sport and recreation providers to engage effectively in CBPAR+HCD initiatives. Many non-profit community sport and recreation organizations rely heavily on volunteer leadership and the volunteer sector. This places substantial pressure and stress on a small group of individual volunteers (Sharpe, 2006). In the public sector, researchers have identified numerous barriers to innovation. According to Mulgan & Albury (2003), some barriers include a culture of risk aversion, high delivery pressures and administrative burdens, short-term budgets and planning horizons, and a lack of incentives for innovation or the adoption of innovative practices. These factors collectively pose challenges for non-profit and public sector sport

and recreation organizations seeking to participate actively in CBPAR+HCD approaches, ultimately deterring the development and sustainability of innovative solutions.

Another hurdle lies in the readiness of researchers to fully embrace CBPAR+HCD methodologies. Darroch & Giles (2014) shed light on the intricate nature of CBPAR, emphasizing how its demanding process can be hindered by limitations in time, finances, and resources. These challenges are often exacerbated by the bureaucratic structures within academic institutions, which tend to prioritize traditional scientific methods over collaborative community engagement, as noted by Cornish et al. (2023). Manoeuvring within these constraints not only tests researchers' resilience but also underscores the importance of cultivating meaningful relationships within communities, which serve as the cornerstone of successful CBPAR initiatives. Furthermore, it is crucial to acknowledge the steep learning curve for researchers new to HCD methodologies. Transitioning into this approach demands a significant investment of time, resources, and energy. Expecting CBPAR practitioners to seamlessly integrate and execute HCD methods adds another layer of complexity to an already demanding process.

Finally, government funding often favours projects with pre-determined outcomes and pilot programs, which can hinder the potential for social innovation. HCD, as highlighted by Brinkman et al. (2023), places creativity at its core rather than rigid rationality. In HCD, the path to a solution does not follow a strict logical sequence of steps or guarantee results. Multiple solutions can coexist, and any proposed solutions require validation (Brinkman et al., 2023). Similarly, CBPAR requires flexibility to adapt to communities' needs. This inherent open-ended, non-linear, exploratory, and experimental nature of CBPAR+HCD can create tension when applying for government grants, which are set and often demand detailed project descriptions, including specific objectives, step-by-step project activities, expected project outcomes, and an evaluation plan for measuring these objectives. While we believe that one of the strengths of HCD lies in its tolerance for uncertainty, its capacity for risk-taking, flexibility, and receptiveness to new ideas (Brinkman et al., 2023), these fundamental characteristics may not always align with the expectations and requirements set forth by government grant applications.

MOVING TOWARDS CBPAR+HCD APPROACHES

Incorporating HCD curriculum and training into community sport and recreation degree programs holds great promise, especially given the inequities within community sport and recreation. HCD training has the potential to serve as a catalyst for innovative social change, particularly if taught in alignment with practices of decolonisation, relational design, and design justice. One of the key advantages of integrating HCD into sport and recreation programs lies in its departure from traditional problem-solving approaches, which often lean on induction and deduction, both of which are heavily influenced by predefined results (Joachim et al., 2021). In contrast, HCD introduces a process that encourages participants to engage in integrative thinking, enabling them to be analytical while considering all facets of a problem (Joachim et al., 2021). By incorporating HCD as a problem-solving tool that can be integrated into community sport and recreation practice and research, educational institutions enhance students' capacity to foster empathy, optimism for social change, and a

spirit of collaborative experimentalism that fuels innovation (Brown, 2008). Moreover, HCD equips students with the skills and mindset necessary for social action, a critical demand within the realm of CBPAR.

Given the inherently collaborative nature of CBPAR+HCD, it is worth considering that university faculties and departments, such as those in sport and recreation, kinesiology, business, public health, education, social work, and other relevant fields, explore partnerships aimed at developing and delivering HCD courses and resources. The creation of interdisciplinary HCD resources would reinforce the interdisciplinary essence of CBPAR, as Chen et al. (2020) stated and provide valuable support to emerging sport and recreation practitioners and researchers. Such resources would equip them with the skills and experiences necessary to work effectively across sector lines. This collaborative approach to curriculum development and resource sharing aligns with the ethos of CBPAR+HCD, emphasizing collective efforts and diverse perspectives to address complex issues in community sport and recreation settings.

CONCLUSION

The CBPAR+HCD approach—characterized by its willingness to embrace discomfort, take calculated risks, and remain open to new ideas—can be highly rewarding yet challenging. Tackling complex issues within this framework demands a collective mindset that stretches individuals' imaginations to incorporate the diverse contributions of all stakeholders while ensuring equitable access to participate in the research process. Central to effectively addressing complex issues is the need for a holistic and deeply contextualized understanding of the problems. This understanding places the development of solutions as a secondary concern, emphasizing the importance of commencing with curiosity rather than preconceived knowledge.

Addressing the deep-seated inequities within community sport and recreation systems is a complex social challenge. To achieve any meaningful success, the solutions we design and implement, whether programs, policies, or services, must be capable of addressing this inherent complexity. The worldviews of both CBPAR and HCD provide us with robust approaches to navigating the complexity and driving social change. We see CBPAR+HCD working towards transforming "... the structures of the institutions we are part of we make those institutions serve the needs of everyone, and we stop oppressive dynamics from being reproduced" (Kaufman, 2003, p. 297). While this vision is ambitious, it serves as a necessary framework for redesigning sports and recreation toward a more equitable future. Without such a framework, we risk perpetuating the existing inequities that impede the participation of equity-owed communities in sport and recreation. To disrupt the status quo, communities need citizen-driven design approaches co-created by diverse voices with the power and resources to enact the change they desire and are owed. These approaches must address complexity and challenge power dynamics through creative strategies. We need a space for equitable co-design where possibilities and hope coexist alongside the necessary resources to empower action. ■

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BIOGRAPHICAL NOTE:

Jackie Oncescu is an Associate Professor in the Faculty of Kinesiology at UNB. She is a passionate social justice researcher and advocate blending theory with creative community development approaches to help community practice redesign and reimagine sport and recreation provisions that embrace equity-owed groups.

Jules Maitland is an experienced researcher, designer, and strategic thinker. She connects the dots between people, problems, and possibilities to co-create new ways of reimagining and taking concrete steps towards better futures together.

Molly Balcom Raleigh is a creative thinker and strategic maker who weaves expertise in design, participatory art, and organisational development into a socially-engaged service design practice based in rigorous empathy.
