

EDUCATION AND TRAINING

Methodological reflections of a student and community-based partnership on operationalizing CBPR model: Recommendations for building, securing, and sustaining partnerships

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ACKNOWLEDGEMENTS:

We would like to acknowledge the Share the Warmth organization, team, and the community workers for their collaboration. Additionally, we would like to acknowledge the families that were involved in the program. We also would like to acknowledge the McGill Department of Family Medicine for their support.

ABBREVIATIONS

STW, FMGSS PR, CBPR.

Submitted March 7 2020, revised August 1 2021, accepted December 6 2021.

ABSTRACT:

Background: Community-based participatory research (CBPR) is an approach that values community expertise and ownership in creating knowledge. This approach's success is challenged by inherent cultural imbalances, making it difficult to sustain partnerships and build from what has been learned from a project as it develops. As student researchers and community members, we reflected on the challenges in CBPR and give guidance to future novice researchers pursuing CBPR.

Objectives: From the application of an initial CBPR model as a framework to our partnership, we propose empirical avenues to continuously adapt the CBPR approach.

Methods: A CBPR partnership between McGill's Family Medicine Graduate Student Society and Share the Warmth, a community-based organization aiming to fight poverty and hunger, was formed to collaboratively assess a music program offered in a socioeconomically disadvantaged community. The partnership process was based on a model that we conceptualized in three phases of our framework: building, securing, and sustaining. We reflect on the facilitators and challenges of this project and propose solutions to overcome identified barriers within the context of our partnership.

Results: We highlight the importance of integrating student partners in the community, reevaluating formal research agreements, and coordinating the transition of new partners in this adaptive CBPR model. We argue that this systematic and reflexive process has made the model especially useful as a framework for student and community partnerships.

Conclusion: We propose adaptive components to the CBPR model. Our recommendations could help other partnerships cultivate CBPR to be more applicable in community health research.

KEYWORDS: Community health partnerships, Child Development, Health disparities, Program Evaluation, Music Education

Introduction

Community-based participatory research (CBPR), often described as "the emphasis on the participation and influence of nonacademic researchers in the process of creating knowledge",¹ has the potential to impact community health more directly than traditional research.² An overarching goal of CBPR is to conduct research with the community rather than on the community.³ This approach to health research involves building and maintaining relationships between the community and university researchers to address health disparities and "has the ability for true collaboration and partnership".⁴ Further, all partners must have the opportunity to be equally involved in CBPR.¹

The benefits of CBPR are well known. It enhances the validity, quality, relevance, and usefulness of research data by ensuring that the research topic reflects a significant concern of the local community and brings together different expertise.^{5,6} Despite these known advantages, CPBR has challenges, such as increased time commitment and effort,^{4,7} deconstructing power differences between researchers and community members,⁸ shared ownership and dissemination of data,³ and ensuring the design continues to suit the partnership.⁹

CBPR should evolve to address the changing environment in which it is conducted and the knowledge that it produces, to "continue to evolve as further community-based research is conducted and evaluated" (p. 177).¹ Thus, we reflect on an existing partnership in Montreal, Quebec, between student researchers and community members, to adopt and adapt a CBPR model in order to address these challenges within CBPR partnerships.

Our reflections originate from an ongoing partnership that began in 2017, which was developed originally to evaluate the impact of a youth music program led by a community-based organization, Share the Warmth (STW), on cognitive and quality of life outcomes. Music programs have shown to benefit children's wellbeing and cognitive abilities.¹⁰⁻¹² STW offers their music program in a socioeconomically underprivileged neighborhood in Montreal, Quebec, where it would otherwise be inaccessible.¹³

One of STW's priorities is demonstrating the impact of their program in this neighborhood to support continued participation, improve credibility, and secure funding to continue the program's longevity. The Family Medicine Graduate Student Society (FMGSS) approached STW initially to establish a relationship with a local community organization, with a

non-research based intention. Community members from STW then initiated the research priority for the project. This prompted FMGSS to create a participatory research working group (FMGSS PR) and co-develop a research proposal with STW using a CBPR approach. Thus, STW and FMGSS PR followed through with a CBPR collaboration to address research questions that the community group identified. FMGSS is an elected student society within the Department of Family Medicine at McGill University. Our society comprises international, multidisciplinary, Master's, and Doctoral students, all studying the discipline of primary care research. The project created with STW was a sequential embedded mixed methods design, beginning with an exploratory qualitative component, the results of which informed the selection of methodological instruments for a subsequent main quantitative phase, followed by a qualitative explanatory phase¹⁴. This project was designed to last four years.

This paper aims to draw from the unique experiences of community workers and our own student body's CBPR project during the partnership, as an example case to adapt an existing CBPR model and provide a resource for other similar partnerships. From this partnership we were presented with an opportunity to build on the existing CBPR approach and subsequently, adapt a model of CBPR to provide guidance to future student and community partnerships. Aligned with the values of CBPR of self-reflection¹⁵, we aim to reflect on our CBPR partnership's considerations, key facilitators, and challenges since our partnership started three years ago and their impact on the ongoing project's trajectory.

Methods:

Conceptual Logic Model: A Starting Point

The Wallerstein et al.¹⁶ conceptual logic model was designed to address three major gaps in the CBPR literature: how to improve the external validity of evidence-based interventions in several settings, specifically how to implement these into communities with health disparities, and the understanding and application of the CBPR approach itself. According to a literature review, survey, and advisory committee, this model proposed relationships between four dimensions (context, group dynamics, interventions, outcomes) of CBPR partnerships. The authors propose a model where the four dimensions interact to influence the partnerships, including the overall results and effectiveness of partnerships. According to Wallerstein et al.¹⁶, their model "sought to find the common-ground characteristics of effective research partnerships

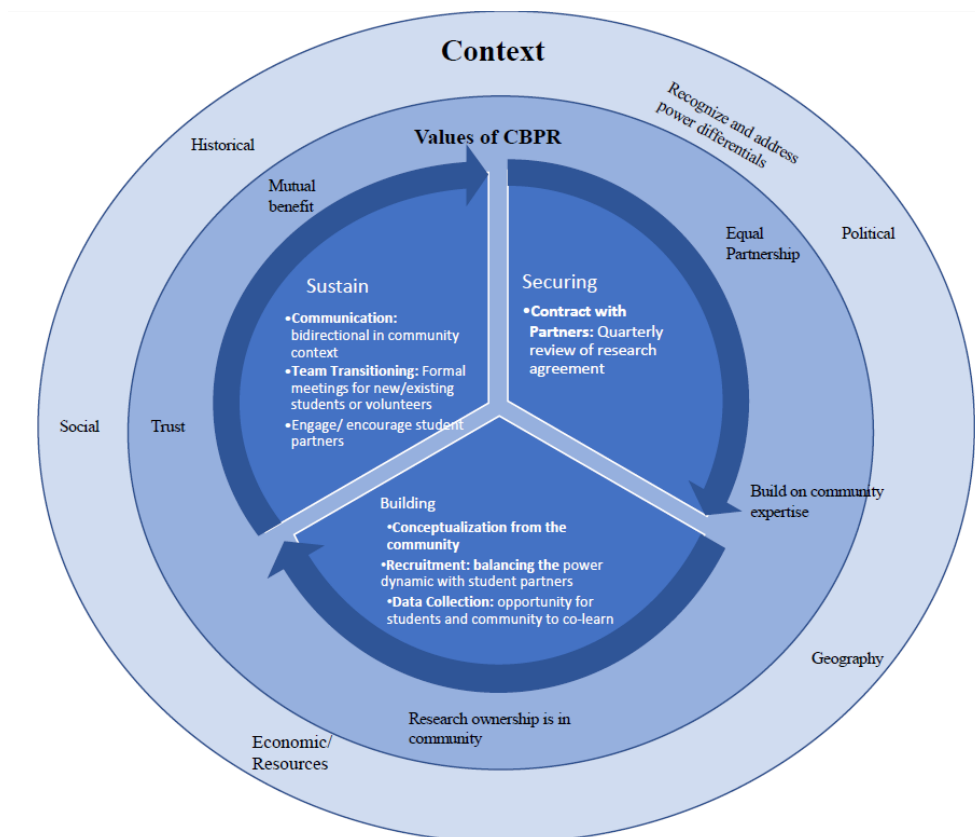
that allow them to produce system and capacity change outcomes and improve well-being and health status within communities". As a broadly applicable model of CBPR partnership, our collaboration was informed by the conceptual logic model and used as a framework for our partnership in line with CBPR, serving as a roadmap to conduct the overall project. Throughout this article, we elaborate on this model, according to our own experiences as student researchers and community workers, and discussions on how the application of the model as a framework was applied to the partnership we conducted.

Adoption and Adaptation of a CBPR Model

We departed from the Wallerstein's et al.¹⁷ model (i.e., the conceptual logic model) for CBPR to build our partnership. Throughout the project, changes and adaptations were made to operationalize the approach, resulting in a 3-phase partnership model and hence framework that could be used in future projects to evaluate and guide future researchers' practices. Group discussions (both students and community workers separately and together), corresponding meetings notes, and memos informed this model and its framework's development. The meetings were explicit to address the state of the partnership. The model and framework is derived from the need to ensure the partnership's sustainability and develop other projects together. We iteratively assessed the challenges and facilitators contributing to each phase with the McGill University Family Medicine Student Society (FMGSS) members and Share the Warmth (STW) partners collaboratively. Together, we propose solutions for overcoming the barriers. Examples of such barriers include power differentials, establishing and maintaining roles in the partnership and partnership member turnover. They were used to adapt the model to improve and add to its application, in which future partnerships can apply to their community research and partnerships.

The objective of this article is to provide learners, mainly students and community organizations, with a deeper understanding of CBPR partnerships, by building upon the Wallerstein et al.¹⁶ model and in particular the elements of groups and dynamics, to produce an adapted version for future use in our partnership as well for other student researchers. The three phases: building, securing, and sustaining the partnership, which are influenced by the concepts from the original model (i.e., context, values of CBPR, see our adapted framework in Figure 1)

were further developed by reflecting on our partnership's trajectory and themes of the challenges and facilitators. They are defined in the following sections.



Phase 1: Building the partnership

Conceptualization of the project

The community-driven conceptualization was a significant facilitator for the project overall, primarily because "the goals of community-academic partnerships should evolve from the community's own definition".¹⁸ In the early conceptualization stages of the partnership, FMGSS PR students and STW members agreed that the research project's development and execution would be based on equal and bidirectional communication. This meant that neither partners were the sole initiators or responders of communication – both partners were free to initiate dialogue within the project. We operationalized this by, for example, ensuring that at least one member of each group was involved in meetings involving the project. As a result, STW and FMGSS PR co-constructed the common objective for the project.

Reflections of a student and community partnership

During this conceptualization process, aligning all partners' expectations and the proposed research design's feasibility was challenging. As an unfunded project, resources were limited, and our methods needed to be creative to address both partners' goals and priorities (see Table 1 for examples). We accomplished this by brainstorming via email exchange and meetings and reaching out to different contacts. For example, we contacted a commercial company that develops cognitive assessment and training tools that we could use to engage the children in the research. Collaboratively designing the methods to be practical and adequate for the project's objectives was the cornerstone of embedding the principles of CBPR and our adapted model (Figure 1).

Recruitment

To enhance recruitment, trust needed to be established between the music program coordinator and the parents, along with trust between the parents, the music program coordinator, and the student researchers of FMGSS PR.^{18,19} The complexity of building trust in the partnership was alleviated because power relationships between FMGSS PR and STW were more balanced than traditional CBPR collaborations between senior researchers and the community.^{6,8} This was because the two organizations share similar volunteer-based governance, balancing the hierarchy and inherent authority. The student researchers of the FMGSS PR and the music directors and teachers of STW volunteer their time outside their primary obligations to conduct this project. All of the volunteers (student researchers of FMGSS PR and STW) had full time/part-time jobs, course loads, and different projects on the side. Thus, mutual trust developed between the two groups created based on having to rely on one another to complete the work. Respect for each other's work was therefore created as each group understood the other's workload.

Still, we faced challenges when establishing our project and. For example, the targeted sample size was not achieved in the timeline initially expected. When the music program coordinator initially approached parents, skepticism regarding the research project's nature was a barrier to recruitment. We recognize that there is still a power differential that stems from the university affiliation of FMGSS PR and the position and privileges associated⁸, and the challenges of recruiting children, and consequently, their parents of lower socioeconomic status.¹⁹ At the time, they may have been unsure of who would be conducting the data collection

and what it would be used for, which have been issues in other CBPR research for populations with health disparities^{4,20}. STW suggested addressing this problem by integrating FMGSS PR student researchers in recruiting both the parents and the children by presenting the project to potential participants, which helped increase recruitment numbers. This integration continued throughout the project as the students began attending music concerts for STW, and the project was presented to the McGill Department of Family Medicine conferences. This integration of the community and FMGSS PR as one team presented the project as a collaborative effort, and it gained more legitimacy and trust within the broader community (Table 1).

Using data collection as an opportunity for co-learning

Data collection has been both facilitated and challenged by the volunteer nature of the FMGSS PR, who, as graduate students, have the opportunity to work with the STW community experts to learn about CBPR in the field. STW community experts can also learn methods for program evaluation and gain hands-on experience in primary data collection. By working together, FMGSS PR student researchers and STW community experts co-learn the logistics of project organization, data collection and analysis, and writing academic manuscripts. These mutual learning opportunities within the partnership have demonstrated that an essential part of CBPR is embracing organizational learning. Still, the volunteer nature presents challenges in data collection due to the consistent turnover of volunteers and the speed at which data collection and analysis occur (see Table 1 for contextual examples). We hope to address this challenge by maintaining a shared understanding of the project's assessment progress and expectations of timelines when volunteers sign up. This is demonstrated in the conceptual logic model¹⁷ and can also improve trust-building.⁴ This could be achieved in several ways, including organizing bi-yearly presentations of the progress of data collection and analysis by the FMGSS PR and using an online project management program to hold all partners accountable and informed on the progress of the assessment.

Phase 2: Securing the partnership

Contract with partners

To "build a strong and equitable partnership" based on a shared understanding of the project, community member involvement must be clearly defined and supported.²¹ For this

reason, a research agreement was co-created and signed by all partners to ensure genuine collaboration between each group. The agreement included each partner's commitments, how the information would be collected and stored, communication about project progress, and the agreed benefits. This agreement ensures that STW and FMGSS PR are transparent about their goals of the partnership, which is key to successful CBPR collaboration.⁴ Since the goals of the project were jointly developed and expectations were clearly outlined at the start of the partnership, the contract was drafted with all partners together by following these expectations and roles. Once the contract was drafted, all the partners agreed to it via email. Creating the research agreement was an important facilitator between all partners involved in this CBPR partnership.

The transparency of the degree of each partner's involvement has facilitated our partnership and project. The creation of the agreement allowed us to ensure meaningful engagement and foster co-creation of all aspects of the project, helping "build ownership and foster empowerment".⁶ For example, one of FMGSS PR's commitments included training STW staff in research techniques and data collection on-site. By outlining and openly expressing all partners' expectations and benefits, this created the space to commit to full collaboration in the project (Table 1). As junior student researchers in the process of learning research methods, it was an excellent way for us to contribute and apply what we learned and teach others about research. As young volunteers and students in each partner group, our input or voice barely gets heard during our schooling or work. Thus, establishing equity and equality in our research agreement encouraged students and volunteers to finally find their voice and speak it.

Research partnerships and roles are dynamic and should be clarified throughout the project^{22,18}, which the Wallerstein model underscores as important to relational dynamics.¹⁷ Further, Israel et al.¹ suggest that a cyclical and iterative process is a crucial principle of CBPR. Thus, the research agreement should be continuously revised to ensure that each partner understands their commitment to the partnership, resolves any conflicts that may arise, and sees if everyone in the partnership understands the goals for the next couple of months. Currently, the student researchers of the FMGSS PR meet with community partners in our spare time. To continue refining the partnership's goals and commitments, we will aim to partake in round tables that already occur in the community, a forum where the issues and needs close to the

community are discussed. This participation in existing community forums will clarify each partner's goals and demonstrate their value in the collaboration.

Phase 3: Sustaining the partnership

Communication

Communication is a foundational component of CBPR for building trust between the student researchers and community members.⁸ Our team learned how a CBPR partnership can synergistically strengthen all partners' skills when they are invested in learning from one another.²³ For our partnership, we fostered concise communication by encouraging partners to share their ideas, needs and expectations and by understanding the communication norms of the community. For example, we provide actionable requests or questions so that it is clear what is needed, and this provides more clarity on how to accomplish our shared goals. This was enabled after understanding the norms of communication of the community and adapting our discussions to these norms. Thus, once we learned to communicate concisely and effectively within the context of the community, there was a sense of confidence in the program's importance and value. For example, this communication provided the music directors and instructors of STW with more purpose in their everyday routine in the music program. Being part of the project gave them the sense that their work in STW through the music program was valuable.

However, communication gaps were present between both STW and FMGSS PR and within groups. For example, when a partner was assigned new tasks and administrative duties, there was sometimes a misunderstanding of that position's expectations. Thus, we realized that it was pivotal to reiterate the goals of the partnership and the responsibilities of each individual involved, especially with incoming volunteers. Continuing this will help to ensure that we are all effectively communicating to engage the children and parents in the project actively and ultimately to achieve its vision.

Coordination of Team Transitions

Despite the importance of coordination in conducting research, this element was absent from the conceptual logic model proposed by Wallerstein et al.¹⁶ We experienced the importance of this element as a student-community driven project. The project is on a volunteer basis for

both partners and requires substantial time outside of regular schedules to coordinate our team. Thus, we incorporate elements of coordination more intentionally into our adaption of the model.

While both STW and FMGSS PR participation is invaluable, given the project is not funded and is strictly on a volunteer basis, the consistent turnover in both organizations can create challenges with regards to coordinating and transferring all relevant information (Table 1, Phase 3). Thorough coordination between outgoing and incoming volunteers is needed to ensure proper study organization and foster cross-communication and familiarity between the FMGSS PR and STW. Therefore, we realized the importance of recurrent meetings with incoming members to clarify their roles and responsibilities through a document or report stating what has been completed in the past and the upcoming plans.

Recommendations

The reflections on our CBPR have led to adapting the conceptual logic model¹⁷ into a model and a framework that, focused more on the specific and cyclic operation of a CBPR partnership (Figure 1). While Wallerstein's model focuses on dynamics, interventions, outcomes, and context, our model focuses on the elements of building and sustaining the partnerships itself (group dynamics and contexts). Thus, we see our model as distinctly focusing on these aspects of Wallerstein's model. Furthermore, it is uniquely influenced by the participating partners – students and/or volunteers without established infrastructure for the project. This allows our model to act as a framework that can guide other student and community initiatives, who can learn from our experiences.

Student participation in CBPR has been recognized as valuable.²⁴ The unique context of our primarily student research partners aims our adapted model at an innovative type of partnership – community and student-based initiatives that can help alleviate some existing challenges of CBPR. Firstly, trust has been traditionally challenging between the community and researchers.⁸ In our partnership, we believe that being student researchers lessened this power dynamic (while recognizing that it did not eliminate it) and is an overarching and recurring facilitator in each phase of our partnership. In the first phase, improving trust by being present in the community facilitated the recruitment of children and parents. The research agreement in the second phase highlighted the importance of trust when establishing the roles and responsibilities of all members and empowering students' researchers and volunteers from STW to have a voice.

Communication also facilitated trust-building in sustaining the partnership.

All the phases mentioned above and in Table 1 led us to see the importance of empowering and engaging students to be the research partners in a CBPR approach.^{25,26} However, to our knowledge, there is sparse literature on student-organized CBPR. The similar field of community-based service-learning approach, where students work in the community as a part of their curriculum^{25,26}, has seen a growth in popularity in health sciences. Community service-learning aims and, in some studies, has been shown to benefit both students and communities²⁷, but has not consistently been fully realized reciprocal partnerships²⁸. Although our partnership does not fit exactly in the community service-based learning paradigm, the students that volunteer in this project reaped similar benefits from partnering. Additionally, our partnership was designed for the benefit of the community, which was to understand the impact of the music program and to support these programs. We recognize some challenges, such as not having official or affiliated faculty members, without funding, and not having connections or resources at our disposal. However, our adapted model adds to the existing literature on student based partnerships and contributes to educating students and community organizations to address such challenges in building partnerships to be pragmatic and sustainable.

Our particular project began as a small-scale partnership between a student body and a community-based organization in 2017. Our partners have been dedicated to the project, and as a result, the project has grown substantially and continues to this day. We believe that our partnership's student-based, unfunded nature has had a unique impact on our partnership's sustained growth, as it has allowed for new partners to be introduced to each cohort. As a result, each year, we can increase the reach of the project and deepen the relationship between the FMGSS and STW. As well, other projects have been initiated by STW with students of FMGSS PR, which include a COVID-19 Needs Assessment beginning in 2020. Thus, while engaging a student body in CBPR has had its challenges, we sustained our partnership for our primary project and future projects with the use of our adapted model framework. It has also demonstrated the underutilized asset graduate students experience and contribute to a meaningful CBPR project.

Conclusion

CBPR is an influential approach for involving community partners^{29,30} and implementing effective programs to address health disparities in the community.³¹ The FMGSS PR-STW partnership, established to evaluate STW's music program in a socioeconomically disadvantaged community, taught us valuable lessons about overseeing a CBPR project and allowed us to contribute uniquely to the approach and inform future partnerships between student's and community organizations.

From our experiences, CBPR can provide an environment where all partners can learn from one another about health research, add validation to a community program, and improve the program recruitment and outcomes.

As our partnership moves forward, we have continued to build upon how we initially operationalized the CBPR conceptual logic model¹⁷ to overcome the barriers we faced that we could not address. These solutions included revisiting and assessing the roles and responsibilities of partners and engaging student and volunteer partners. Moreover, our model was adapted within the context of a student volunteer project, which could help support student-initiated CBPR projects that face difficulties in practice.³² We believe our reflections and recommendations could help other partnerships build on and cultivate the CBPR approach to be more productive and attainable in health research.

Institutional Review Board: This study has been approved by McGill University Institutional Review Board (A02-B06-17B) granted in January 2017 and renewed each year since, most recently in February 2021.

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Table 1 Contextual applications and examples of our adaption of a CBPR Framework

<i>Phase</i>	<i>Application or Adaptation of Framework</i>	<i>Example of barriers and facilitators that led to adaptation</i>
Phase 1		
<i>Conceptualization</i>	Co-creating feasible goals and approaches	<ul style="list-style-type: none"> - STW proposed several different ideas to measure the cognitive function of the children in the program that were not feasible due to cost and resource restrictions. Student researchers of FMGSS PR and the community members of STW discussed and jointly agreed upon a feasible method, not burdensome for either partner, and would encourage the recruitment of children to the project.
<i>Recruitment</i>	Building trust with community as an unfunded, student led project	<ul style="list-style-type: none"> - STW's suggested to include involving FMGSS PR student researchers in the recruitment - encouraging FMGSS PR student researchers to attend community events held by STW, gives confidence in partnership
<i>Data Collection Process</i>	Co-learning and expectations of data collection and analysis	<ul style="list-style-type: none"> - Expectations for fast turnaround time for collecting and analyzing data and disseminating results
Phase 2		
<i>Contract with Partners</i>	Creation and follow up of research agreement to make sure it meets the partnership needs	<ul style="list-style-type: none"> - Outlining and openly expressing what expectations and benefits of all partners. - FMGSS PR to teach STW partners how to collect data and some analysis to continue evaluation and share ownership of the project conduct (equity)
Phase 3		
<i>Communication</i>	Bidirectional initiative to communicate between all partners to improves challenges in main contact person	<ul style="list-style-type: none"> - Frequent emails between STW staff members and FMGSS PR and supportive in-person communication - Include STW and students in writing manuscripts, and students are invited to community events/recitals
<i>Team Transitioning</i>	Continue formal meeting between new and old students/volunteers and introduction to the research and agreements	<ul style="list-style-type: none"> - Gaps in the transferring of roles and responsibilities after students or STW partners depart - Meeting with the new and existing partners to discuss the project and gain an understanding of each other's roles and responsibilities - Create the position of FMGSS VP Community Service to continue the partnership in the future