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## Lessons learned in implementing youth and parent participatory action research in a school-based intervention

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#### Abstract

**Background:** Participatory action research (PAR) empowers youth and parent stakeholders to address school connectedness and school environment inequities to improve educational social determinants of health.

**Objectives:** To identify lessons learned when implementing school-based youth and parent PAR (YPAR and PPAR) targeting health and academic outcomes for Indigenous students and students of color.

**Methods:** We collected data from five community-academic research team members who coordinated YPAR and PPAR implementation across five middle and high schools and used thematic analysis with deductive and inductive coding to identify contributors to successful PAR implementation.

**Results:** Experiential learning strengthened youth and parent researcher skills and maintained their engagement, community-building supported the PAR process, PAR required support from facilitators with diverse skill sets, and individuals in bridging roles positioned researchers for success within institutions.

Conflict of Interest

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The authors have no conflicts of interest to disclose.

**Conclusions:** PAR holds promise for application in other settings to address institutional change and social determinants of health.

#### Keywords

Participatory action research; community health partnerships; social determinants of health; education; program evaluation

#### Background

Educational experiences, particularly the degree of school connectedness and quality of school environments, predict adolescent health outcomes and represent important social determinants of health (SDOH).<sup>1–3</sup> Higher levels of student-school connectedness are associated with decreased levels of substance use,<sup>2,4,5</sup> increased participation in health promotion activities,<sup>5</sup> and fewer depressive symptoms.<sup>6,7</sup> Furthermore, interventions targeting the school environment to increase student-school connectedness have demonstrated reductions in health risk behaviors,<sup>8,9</sup> depression and anxiety,<sup>10</sup> and externalizing behaviors such as bullying,<sup>11</sup> underscoring how an adolescent's school experiences can influence their health. However, for students who identify as Black, Indigenous, and People of Color (BIPOC), including those from immigrant communities, inequities in student perceptions of their school experiences in terms of school safety, disciplinary system fairness, and positive student-teacher relationships<sup>12,13</sup> can disrupt their school connectedness.

Participatory action research (PAR) approaches engage stakeholder voices to improve school environments and positively impact adolescent academic and health outcomes.<sup>14</sup> PAR empowers stakeholders to draw from experiential knowledge and to employ principles of self-reflective inquiry and activism in research to promote social change.<sup>15,16</sup> Youth and parent researchers have employed PAR across educational, health care and community settings.<sup>17,18</sup> Middle and high school researchers have used youth participatory action research (YPAR) to address public health issues ranging from suicide prevention<sup>19</sup> to promoting health decision making,<sup>19,20</sup> while adult researchers have used PAR to improve access to services for individuals with unmet mental health<sup>18,21</sup> and learning disability needs.<sup>22</sup> Within schools, YPAR and parent participatory action research (PPAR) have spurred civic action to address inequities in student school experiences<sup>23–25</sup> and increase parental engagement.<sup>25,26</sup> Youth researchers gain interpersonal and leadership skills,<sup>16</sup> sociopolitical and psychological awareness,<sup>27</sup> and a strengthened sense of community with through PAR.<sup>28</sup> Benefits for parent researchers include increased social support<sup>29</sup> and community engagement.<sup>15</sup> PAR approaches to research also strengthen the validity and effectiveness of research outcomes by engaging stakeholders, who often represent historically marginalized groups,<sup>28</sup> throughout the research process.<sup>16,27</sup>

While PAR approaches are increasingly common in school settings, few studies have evaluated PAR implementation processes within intervention trials that address school environments and connectedness as SDOH.<sup>20,30</sup> Furthermore, reports of parental involvement in PPAR projects that stand to benefit their adolescent children are rare.<sup>15,25,29</sup>

This study identifies lessons learned when implementing school-based YPAR and PPAR interventions targeting educational SDOH and institutional change for BIPOC students.

#### Methods

#### Partnership

Project TRUST (Training for Resiliency in Urban Students and Teachers), hereafter referred to as "TRUST," is a community-academic partnership developed in 2010 that uses community-based participatory research (CBPR) to address educational SDOH for BIPOC students. Led by academic and community Co-Principal Investigators (Co-PIs), the core TRUST research team includes partners from a Midwestern United States university, a community organization, and one urban school district who bring a range of expertise (Table 1). The community partner, Somali, Latino, and Hmong Partnership for Health and Wellness (SoLaHmo), is a community health center-based research program comprised of CBPR-trained community researchers who use asset-based approaches to enhance the health and wellbeing of marginalized communities. This project developed out of a longstanding TRUST CBPR partnership that began by focusing on Somali, Latino, and Hmong youth and evolved due to input from school leaders and other stakeholders to include Black and Indigenous students.

#### Setting and Intervention

TRUST uses YPAR and PPAR within a multi-component, school-based intervention to identify and develop youth-oriented school environment, policy, and practice changes designed to promote school connectedness, an educational SDOH. In the following sections, the term "researcher" refers to parent and/or youth researchers and "facilitator" refers to the TRUST team members who facilitated the trainings. In 2016, the team recruited YPAR and PPAR researchers from student equity leadership groups and via school recommendation at each of the five participating schools (four middle and one high school). Enrolled schools are comprised of 80% Students of Color, including 29% Asian, 18% Latino, 26% African/African American, and 2% Indigenous. Two students and two parents were selected from each school to form five school-based YPAR and five school-based PPAR teams. Eight youth researchers were in seventh or eighth grade and two were in eleventh grade. Researchers represented the diversity present within the school district in terms of their gender, racial/ethnic, and immigrant identities. The community Co-PI and school partner employed by the school district facilitated weekly two-hour after-school training sessions over eight months with the YPAR teams. PPAR teams participated in one three-hour retreat and bimonthly two-hour Saturday morning group sessions over seven months facilitated by SoLaHmo members and the Co-PIs. Trainings for the youth and parents - adapted from existing resources  $^{31,32}$  – included overviews of PAR and researcher roles, research methods, and dissemination (Table 2; see also tools and handouts in online appendices). PAR researchers worked in school-based teams to design and conduct a research project and then developed action steps to improve their school environments. All researchers received quarterly stipends.

#### Study Design

This study examines lessons learned when implementing YPAR and PPAR participatory components in five schools during the project's first year. This is the first report in a series of TRUST longitudinal implementation research activities during this five-year trial. The university's Institutional Review Board (IRB) approved this study protocol. Because student and parent projects were deemed to be intervention/program development, they were not subject to individual IRB review; however, all PAR researchers received training on research ethics. One team member (A.W.) joined TRUST specifically to conduct an implementation evaluation and served in a consultative role. Impact logs, a data collection technique described by Hawe et al 2004,<sup>33</sup> prompted TRUST facilitators to record details about meeting objectives, outcomes, challenges, successes, and overall reflections from implementation activities and the overall project. A.W. conducted semi-structured face-toface and phone interviews with facilitators using a standardized set of questions and probes to expand on the impact logs and meeting notes to obtain additional details related to implementation activities. Interviews ranged from weekly with one of the project Co-PIs to monthly for other team members and included a 60-minute interview with the school partner after the first year.

Data analysis took place in three stages using Dedoose to organize data sources and to facilitate group review of coded excerpts.<sup>34</sup> First, A.W. reviewed and line-by-line coded all data using thematic analysis<sup>35</sup> that employed deductive coding derived from contributors to successful implementation drawn from the implementation science literature.<sup>36</sup> In addition, inductively derived codes described details not already represented in the coding scheme. Data sources were grouped by collection date for analysis; interviews were analyzed in conjunction with meeting notes and impact logs from the same time period to provide further context. Next, the academic and community TRUST team members reviewed the codebook and participated in an inter-rater reliability excerpt sorting exercise guided by the work of Armstrong et al.<sup>37</sup> Each team member matched a selection of quotes to previously defined codes, then the group came together to discuss discrepancies in coding and reached consensus via discussion. Finally, a subset of team members (M.A., S.P., and A.W.) developed a thematic framework to illustrate key lessons learned, selected representative excerpts that illustrated the details and complexities of implementation, and attained consensus from the larger group.

#### Results

We identified four lessons learned regarding implementing PAR targeting educational SDOH in schools (Table 3). These lessons center to varying degrees on three principles of successful participatory research highlighted in our analysis: maintaining flexibility, acknowledging and accommodating context, and cultivating PAR researcher engagement. Here we describe the four lessons and discuss how these overarching principles related to each lesson where relevant.

## Lesson #1: Experiential learning opportunities strengthened PAR researcher skills and maintained high levels of engagement

Designing and conducting action research projects represented new skills for most PAR researchers. Therefore, developing the ability and confidence to design and implement action research projects required clear directions to walk researchers through the process and regular opportunities to put their skills into practice in supportive settings. Facilitators developed flexible research processes and resources that accommodated the needs of each researcher and supported their autonomy in navigating decisions at each project stage as they applied their new skills. For example, worksheets guided researcher-driven selection of questions, methodologies, and action-oriented recommendations (Table 2). Providing adaptable lessons and tools facilitated independent work between sessions and allowed teams to progress at different speeds. Teams who advanced more rapidly had opportunities to model their work and to teach their colleagues, another valuable form of PAR experiential learning.

Throughout the process, facilitators provided researchers with time during PAR sessions to apply new skills to solidify their knowledge and bolster their confidence. Researchers benefited from a range of practice opportunities including presenting to their peers during sessions. Presenting findings at TRUST meetings provided a more formal opportunity and a forum for feedback that prepared researchers to disseminate their work more widely. Opportunities for authentic leadership and advocacy in presenting their research findings and recommendations to school decision-makers helped to maintain youth and parent researchers' high level of commitment to and engagement with their research.

#### Lesson #2: Building a sense of community supported the PAR process

Researchers' burgeoning sense of community in their TRUST groups promoted engagement within teams that supported them in moving their research projects forward and strengthened their self-confidence in disseminating their work. Though both youth and parent researchers benefited from these supportive peer communities, youth appeared to derive the greatest benefit. Facilitators cultivated a sense of community in two key ways. First, they provided regular opportunities for researchers to explore how their individual identities or their identities as a member of the larger school community (i.e., their context) shaped their research topics, a process that strengthened engagement and their sense of solidarity with other researchers. For example, youth researchers examined the multidimensional aspects of their identities including their race, ethnicity, faith, gender identity, and sexual orientation over several sessions early in the PAR process. Second, regular community building activities, particularly for youth researchers, fostered group cohesion and a strong sense of camaraderie that supported them as they applied new skills.

#### Lesson #3: PAR required consistent support from facilitators with diverse skill sets

While researchers designed and implemented the research projects, facilitators played an essential role in supporting and guiding their work. TRUST facilitators brought methodologic knowledge and practical experience conducting research that helped youth and parent researchers establish and manage expectations and troubleshoot challenges with the research process.

Beyond general research expertise, however, facilitators needed significant grounding in participatory research approaches and an orientation to community-driven application of research knowledge to support researchers effectively. This expertise prepared facilitators to tailor support to individual researcher needs and context (e.g., learning and communication styles, previous research experiences). In doing so, facilitators promoted researcher-driven ideas and strategies that empowered them to bring their expertise as community members to the research process, enhancing their ownership over their projects and their level of engagement. Whereas working with youth researchers required adaptations to meet a diverse range of academic, language, and developmental needs, facilitating parent researchers demanded time-oriented flexibility to accommodate the competing demands on parents' time and varying levels of connections within schools. PPAR facilitators frequently met with parents outside of their bimonthly scheduled sessions and attended school meetings with parents who felt less connected to their children's schools. Facilitators also needed to manage tensions that arose when supporting researchers in articulating specific, actionable recommendations to schools. TRUST facilitators navigated how to position action recommendations favorably within school priorities while allowing researchers to drive the approach.

Differentiating researcher needs and developing individualized support plans required significant facilitator time and resources throughout the research process. TRUST benefited from a team of facilitators with interdisciplinary backgrounds (i.e., educational, public health, and clinical) and diverse skill sets who collaborated to enrich researcher learning opportunities and to make the best use of their time with researchers as described previously.<sup>38</sup> One YPAR facilitator had extensive experience in developing youth presentation skills while another was adept at helping youth navigate their identities and in designing lesson plans. Dividing work to maximize facilitator skills in this way supported individual researcher needs and helped with time management.

#### Lesson #4: Individuals in bridging roles helped to position PAR researchers for success within institutions

Individuals in bridging roles, referred to here as "bridging individuals," brought institutional knowledge, networks, and influence that enabled them to promote PAR in schools and support researchers in navigating school-specific contexts and potential research barriers (e.g., available resources, staff turnover, and values and culture). In TRUST, both internal school district partners and outside research team members with school expertise and connections (who were also PAR facilitators) served in bridging roles.

Bridging individuals' perspectives helped researchers appreciate how their research aligned with school leadership expectations, resources, and plans, increasing the acceptability and sustainability of the action research process and recommendations. They also facilitated network building for researchers to provide avenues to achieve all stages of the research process. In contrast to youth researchers, whose daily presence in schools helped to forge connections, this networking role proved essential for parent researchers without strong prior connections within their children's schools and helped to cultivate their engagement. TRUST team members with school connections served a crucial bridging role in facilitating

dialogue between parent researchers and school decision-makers around key decisions in PAR such as research activity feasibility and disseminating their research findings. This role required ample time flexibility to meet with researchers and school leaders during and after the regular school day, sometimes with short notice.

Given the participatory and action-oriented nature of PAR projects that aimed to promote institutional-level changes, TRUST bridging individuals often helped researchers navigate resistance to their ideas. For example, not all school administrators agreed that researchers' proposed action recommendations– especially those related to bullying and youth experiences of racial and ethnic exclusion – were feasible approaches to improving school environments for BIPOC students. Bridging individuals advocated for researcher agendas that challenged the status quo while helping researchers frame their conversations to facilitate productive exchanges. Furthermore, those individuals working within intervention schools provided institutional continuity for PAR projects, educating stakeholders and promoting PAR work amid school leadership or staff turnover. TRUST's bridging individuals most effectively advocated for PAR in schools when they possessed a strong commitment that aligned with PAR goals, strongly believed in the PAR agenda, and felt free within their professional roles to address controversial issues and to challenge the status quo.

#### Discussion

Our results suggest four lessons learned regarding YPAR and PPAR implementation in schools to promote and sustain institutional change for BIPOC students that illuminate three principles underpinning successful participatory research: flexibility, acknowledgment of and accommodation for context, and cultivating researcher engagement. First, experiential learning opportunities maintain researcher engagement while strengthening their skills. In TRUST, facilitators utilized experiential learning activities imbedded within an action research framework built on applied learning pedagogy<sup>39</sup> to create opportunities for researchers (adapted to their developmental and experience levels)<sup>16,40</sup> to translate new skills in real-time within a mentored environment and to strengthen researcher confidence and engagement.<sup>19,41</sup> Second, community building strengthens the PAR process by expanding social networks,<sup>40</sup> increasing sense of belonging<sup>16</sup> and collective efficacy,<sup>42</sup> and increasing buy-in to participatory processes.<sup>20,40</sup>. While our findings focused on the youth benefits of community building for PAR, community building also benefits parent researchers by enhancing consensus building and communication skills<sup>29</sup> and increasing social support networks<sup>29</sup> that strengthen parental capacity to advocate for change<sup>15,25</sup> and boost engagement from underrepresented groups.<sup>25,26</sup> Our third lesson highlights the important, yet demanding role that facilitators play in balancing the tension between providing helpful scaffolding and direction for researchers and being overly directive, a commonly cited challenge<sup>27,43</sup> that can decrease researcher sense of ownership or expertise in their work and fuel their disengagement.<sup>43–45</sup> The diverse backgrounds and identities of TRUST facilitators likely mitigated potential power dynamics<sup>27,44,45</sup> and enhanced their ability to build connections with researchers,<sup>40</sup> while their participatory orientations and willingness to adapt PAR processes to meet researcher and school needs promoted engagement and ultimately strengthened the fit of researcher action

recommendations.<sup>27,41,46</sup> Finally, our implementation team's perspectives emphasize how the bridging role supports researchers in developing feasible research projects<sup>43</sup> to promote uptake and sustainability while simultaneously amplifying researcher voices within hierarchical institutions that may not be prepared to act on recommendations that challenge institutional norms and culture <sup>27,43,47</sup> or leadership assumptions about youth contributions.<sup>43</sup> TRUST facilitators' knowledge and networks within schools uniquely facilitated PAR implementation from the outside, freeing them from the internal politics that frequently constrain teacher and school staff advocacy for institutional change.<sup>44,47</sup> For TRUST researchers, the majority of whom self-identified as BIPOC, these lessons underscore the important roles that a supportive community and adaptive facilitation styles rooted in experiential learning play in implementing PAR to effect institutional change.

We must also note several limitations. This project describes one team's experiences implementing PAR in an urban school district and may not be widely generalizable. All informants for this study worked on the PAR implementation teams, which may have limited the range of responses and introduced a source of bias. Seeking out additional stakeholder perspectives earlier in the implementation process would have provided a more holistic view of PAR implementation.

Promoting stakeholder-driven solutions is essential to effectively address SDOH and create positive institutional change in schools. Our findings provide guidance for others who are implementing PAR within research trials. This study highlights the importance of integrating experiential learning opportunities and community-building activities with PAR processes and the influential roles of the facilitator and the bridging roles in supporting PAR processes and strengthening implementation in schools. Alongside these lessons, our work underscores the value of maintaining a flexible PAR implementation approach oriented to the implementation site and PAR researcher contexts. Flexibility and attention to contextual factors enhance the likelihood for both short-term success and sustainability of PAR initiatives within institutions and are relevant lessons for all participatory or community-engaged research. Further systematic examination of contextual factors that influence participatory intervention implementation will guide adaptations to strengthen uptake of similar interventions seeking to support institutional change. Additionally, future work should explore approaches to support parent participation in PAR for parents coming from historically marginalized communities to ensure representation of these voices. When implemented with attention to these lessons and an adaptive, contextually relevant approach, PAR provides a mechanism for empowering diverse stakeholders to identify issues and design innovative and relevant solutions that promote equitable institutional changes to improve the health of their communities.

#### Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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#### Table 1.

#### Project TRUST core research team member roles and backgrounds

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 $^a$ Somali, Latino, and Hmong Partnership for Health and Wellness: Project TRUST's community partner

#### Table 2.

Project TRUST youth and parent participatory action research (PAR) training roadmap  $^{a}$ 

Training topic	Related exercises	Tools or worksheets <sup>b</sup>
Overview of TRUST and PAR	Introduction to PAR	
Role of student/parent in school- based PAR	Imagining our dream community	
Defining issues and assets	Identifying issues and assets	PPAR generating ideas worksheet YPAR issues and assets worksheet $^{C}$
		worksheet
Ethics and informed consent	Developing consent forms	
Research methods overview	Research as a tool for change Finalizing research plan: topic, anticipated methods, and early dissemination strategies	PPAR research methods overview handout PAR priority setting for research worksheet $^{C}$ PAR research question development worksheet
Data collection	Developing data collection tools	YPAR interview and focus group question development worksheet $^{c}$ Focus group facilitation guide $^{d}$
Recruitment	Developing recruitment plan	
Data analysis and interpretation	Conducting qualitative or quantitative analyses in teams Summarizing key findings with representative data	
Action recommendations	Developing 3–5 action recommendations per team from research findings	
Dissemination	Preparing presentations with findings and action recommendations Identifying dates and times to meet with school leadership teams	
Reflection on next steps	Reflecting on PAR experiences Planning roles in promoting or evaluating implementation of action recommendations	

 $a_{\rm This}$  represents a general roadmap of TRUST training topics and related materials. Facilitators tailored the order of the curriculum and the depth with which they covered the material to meet the different levels of experience and diverse set of skills among PAR researchers

 $^{b}$ Available in the online appendices listed by title

<sup>C</sup>Adapted from the YPAR Hub (http://yparhub.berkeley.edu/) [superscript to full citation in reference list]

 $^{d}$  Developed by SoLaHmo researchers

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# Table 3.

Lessons	Select Quotes
Experiential learning opportunities strengthen PAR researcher skills and maintain high levels of engagement	"Parents aren't really clear on what the goals are at this point. They are still clarifying their thoughts around the research question and how to pose this[I feel that] the parents need practice on the skills that they are learning so they can begin to put them into play." (YPAR/PPAR Facilitator #1) "Students in the YPAR group are at different stagesIf at least one group is ready to present their findings, then this can be a teaching day using this group's work as a teaching model." (YPAR/PPAR Facilitator #1) "Youth researchers] practiced with each other by selling a silly item to the group[which] they were able to translate to their own research presentations." (YPAR Facilitator #2) "[Students] have been going through a process of repeating their projects, but everything wasn't formalized in their brains. They shared what their research topic was and what kind of questions they were thinking about asking. The study team shared some feedback with the studentsand it was the first time they were able to practice this role." (YPAR/PPAR Facilitator #1)
Community building supports the PAR process	"Students were able to build a community between themselves, which was great to see. Each week, it was clear that students there felt this support and flourished from it" (YPAR Facilitator #2). "The two academically challenged students have had a hard time putting their stuff together. When they went up to present, they had it half put-together, but one young man started crying in front of the groupThe following week, a young woman in the group raised the point that she helped the students afterwards and recognized the struggle, that she fielt the pain, but she raised the issue to the group so they could be supportive. That no one should make fun of him and we're all in this together." (YPAR/PPAR Facilitator #1)
PAR requires consistent support from facilitators with diverse skill sets	"Objective wasfor [the parent teams] to begin to develop their research questionsWe were flexible with the meeting time in order to ensure participants could attend; we prepared handouts ahead of time. Parents came prepared to take the next steps in their tailored processesEach team is in a different place, so we have to balance out realistic progress with training timeline." (PPAR Facilitator #3) "My interaction with [one team of] parents was very helpful as they brainstormed about research questions. I don think they are able to jump to the place where they can formulate a research question and priority areas to thinking about how they ask questions that will get the response that will be most helpful in making recommendations." (PPAR Facilitator #2) "For the students, it's helping them to articulate what are some complicated issues while not over imposing one's own views or ideas I am nervous about providing too much oversight or help with this process to no trillence how the results are interpreted. Fids on the whole are struggling with the words to express their interpretations of the data so it is challenging not to feed them language and ideas." (YPAR Pacilitator #1) "Sometimes, getting details on what TRUST was doing was hard because [The other YPAR facilitator] tends to be more of a big picture guy. [I am] a plannet, a doer. I like to have a concrete task and get it done. So focusing on lesson plans and research projects were where my strengths lined up." (YPAR Facilitator #2)
Individuals in bridging roles helped to position PAR researchers for success within institutions	"The research process does not always align with school timelines or school administrator availability. In these instances, the [people in the] bridging role helped with figuring out how to keep the process moving forward or how to build in flexibility." (PPAR Facilitator #3) ("School-based parter shared a great perspective about bringing schools fully on board in terms of TRUST activities. She said, "It's about knowing who the payers are and what they are interested in "That gets them excited." She knows that inside schools and so has been able to connect students to the teachers or administrators who are interested in their topics." (PPAR Facilitator #2) "First words out of one of the [Parent researcher's] mouth was bullying. This sent out a trigger. The principal started immediately focusing on the bullying piece in his response, mentioning another group who is already working on the bullying issue in the school. I felt that the parents really aren't prepared with how to deliver their messages." (PPAR Facilitator #2) "Researchers are raising issues that are very sensitive – especially for culturally specific schools. Exclusion is coming up in the research question, and this is a race issue. Same with bullying" (YPAR/PPAR Facilitator #1) "Researchers are raising issues that are very sensitive – especially for culturally specific schools. Exclusion is coming up in the research question, and this is a race issue. Same with bullying" (YPAR/PPAR Facilitator #1) "Researchers are raising issues that are very sensitive - especially for culturally specific schools. Exclusion is coming up in the research question, and this is a race issue. Same with bullying" (YPAR/PPAR Facilitator #1) "Parent Researcher's presearcher) add the parents who he interviewed were using The Paricipal. Facilitator #1] "Parent Researcher] is also very good at presenting the material, with more parents who the interviewed were using the material, with more parents seconder 1] is also very good at presenting thermory and hat "(YPAR