Exploring intergroup conflict and community-based participatory research partnerships over time

Shir Lerman Ginzburg[1],*(iD), Noelle C. Dimitri[2](iD), Cristina Araujo Brinkerhoff[3](iD), Sophia Angali England[4], Samiya Haque[3] and Linda Sprague Martinez[3](iD)

[1]Department of Public Health, Massachusetts College of Pharmacy and Health Sciences, Boston, USA
[2]School of Social Work, Simmons University, Boston, USA
[3]School of Social Work, Boston University, Boston, USA
[4]College of Arts and Sciences, Boston University, Boston, USA
*Correspondence: shir.ginzburg@mcphs.edu

How to cite

Peer review

Copyright

Open access

Abstract

Community-based participatory research (CBPR) is a growing practice by which academics and community partners conduct collaborative health-based research. While CBPR fosters productive partnerships, there is increasing research on interpersonal group dynamics and the ways that intersecting factors, such as gender and ethnicity, affect the social interactions within CBPR. This paper explores the tensions inherent in large interdisciplinary community-based participatory research partnerships, through the examination of a long-standing community–academic partnership focused on advancing public health. Nine qualitative interviews were conducted between November 2019 and January 2020 with steering committee members from a long-standing collaborative partnership that conducts research to inform public health action. While the collaborative process was generally positive, we also uncovered less pleasant aspects of CBPR projects that are infrequently discussed in the literature, such as role confusion and power dynamics. Leadership style was seen as the driving force shaping

how other team concerns were perceived. Not having structures in place to facilitate relationship development, or clear documentation of procedures, rules and norms, led to team complications. Team members suggested that a renewed focus on organisational structure would contribute to role clarity and organisation. The results highlight the complexity of working on interdisciplinary mixed community–academic teams, specifically the ways in which interdisciplinary, collaborative research can be a complicated, meandering process, often without clear-cut answers to sometimes simple questions.

Key messages

- Power imbalances between leaders and other team members, particularly with respect to gender and academic or community-stakeholder positionality, affect team cohesiveness and inter-member team dynamics.

- Communication is not always transparent or equitable, leading to confusion about ongoing projects, team objectives and goals, and the effectiveness of current decision-making processes.

- Unplanned team growth without built-in structures that orient new members to group norms and processes can negatively affect group functioning, even when there is a shared goal and/or vision for change.

Leadership, structure and partnerships: exploring intergroup conflict and community-based participatory research partnerships

Addressing complex community health issues calls for interdisciplinary and inter-institutional collaboration incorporating the knowledge and experience of experts from various knowledge systems, including academic institutions, community organisations and government agencies (Adams et al., 2014; Schulz et al., 2003). Such partnerships encourage team member co-learning and the development of a holistic system of knowledge and skill sets that can then be used to tackle a wide range of complex issues (Leavy, 2011). However, while partnership approaches are idealised, group dynamics between team members can pose challenges to successful research and practice (Bennett and Gadlin, 2012). Theories of group dynamics have identified multiple and interacting factors that underlie the complexities of social interactions. Tuckman (1965: 396) introduced a developmental model of group process captured in four stages: 'forming, storming, norming, and performing'. Group members move between these stages as they establish norms and leadership, negotiate interpersonal conflicts, and establish trust and cohesion.

More recently, research on group dynamics has focused on the intersecting factors within and between groups both creating and diffusing tensions, such as gender, age and ethnicity, and occupational, social and socio-economic status (Israel et al., 1998; Muhammed et al., 2015). Cooke and Kothari (2001) encourage the thoughtful inspection of what they term 'the new tyranny' of participation, particularly whether group facilitators override pre-existing, legitimate decision-making processes, and whether group dynamics lead to decisions that reinforce the interests of those already in power. Research on community–academic partnerships indicates that power and position can impede the partnership development process (Burgh and Yorshansky, 2011; Muhammed et al., 2015). This is commonly referenced as a power imbalance between academic and community stakeholders, whereby academic stakeholders have more access to financial resources and authority (Rowley and Moldoveanu, 2003), and more control in generating knowledge and deciding its validity (Bivens et al., 2015). Furthermore, the question of which knowledge is more highly valued – traditional, disciplinary, peer-reviewed and university-based, or applied, hybrid,

network-embedded and increasingly collected outside the ivory tower – tends to affect the balance of power in multi-experiential partnerships (Hart et al., 2013). While community partners tend to positively value the knowledge and experience of academic partners in community-based research settings, the reverse has not been shown to be true, to the detriment of the vast experience and knowledge that community partners contribute to these collaborations (El Ansari et al., 2002; Sadd et al., 2014).

These relationships can be further complicated when academic researchers are partnering with racial or socio-economically marginalised communities (Burgh and Yorshansky, 2011; Muhammed et al., 2015). While the extant literature does point to complications that can occur when researchers fail to consider existing power dynamics within communities (Bennett and Gadlin, 2012; Burgh and Yorshansky, 2011; Muhammed et al., 2015), fewer studies have examined within-group tensions among academic–community partnerships. Examining the gaps in the literature on intragroup tensions draws attention both to the continuous hard work needed to create cohesive community partnerships, and to the areas where groups might anticipate facing problems as they develop.

This paper explores the tensions inherent in large interdisciplinary community-based participatory research (CBPR) partnerships, through the examination of a long-standing community–academic partnership focused on advancing public health. The partnership conducts ongoing process evaluation and, over the last few years, increasing concerns related to team dynamics have emerged. We draw on data from partner interviews to critically explore group dynamics. A brief background on the partnership context is provided, followed by the methods. The findings are then presented and discussed in the context of the literature.

About the partnership

The partnership was established 15 years ago, and it has since been conducting interdisciplinary research to inform public health action in two distinct communities that share common health threats. The core team spans three academic institutions and four community agencies, and consists of agency and institutional leaders with decision-making responsibilities. Team members have a long-standing history of dedication and commitment to, and passion for, community research that connects them as a group working for a united cause. In the early years, the partnership structure included a steering committee to guide decision making, and multiple task-oriented subcommittees. Over time, as the group's funding base has grown, the structure has shifted to a more specific project-based focus, where meetings are grant-based. As such, there is no overarching meeting that ties all of the partners together; instead, the work is siloed, although many researchers and partners work across projects. This paper concentrates on a core team of the partnership focused on research and action. The work of this team is driven by a steering community and a community subcommittee focused on the translation of research into action in the two communities.

The team includes an academically based co-principal investigator (co-PI), who oversees the budget for the grant funding the project and leads the research, and a co-PI who is based at a community organisation, who coordinates community partner engagement as well as public health action planning. There are multiple additional community and academic investigators who represent various social and behavioural science, public health and engineering backgrounds. The partnership has full participation of community partners in all aspects of the research process, including leading the study, developing proposals, collecting and analysing data, and disseminating findings.

We focus on the partnership, anonymised for the purposes of this paper, due to its comprehensive approach to interdisciplinary, collaborative science, not only between different academic disciplines, but also with community organisations that are situated within the project areas and cater to the study populations. Meetings are held on a weekly basis with stakeholders from all community agencies and academic institutions. All team members are encouraged to participate in team meetings, ask questions and lead subprojects. It is of note that the partnership has experienced tremendous change over the last few years, given the expansion of their work and changes in member institutional affiliation.

Methodology

The Boston University Charles River Campus Institutional Review Board approved this study's evaluation protocol. We invited members of the project steering committee via email to participate in interviews as part of an ongoing process evaluation, and ultimately conducted nine qualitative interviews with steering committee members between November 2019 and January 2020. Interviews were scheduled for a time and place convenient to the participant, and were conducted using a semi-structured interview guide. Whenever in-person interviews were not possible, we used Boston University's secure Zoom platform. The average duration of interviews was ninety minutes. The first author transcribed the in-person interviews verbatim, and the interviews performed via Zoom were transcribed by the Zoom software; we cleaned, de-identified, and verified all transcripts for accuracy. We then applied the grounded theory framework (Charmaz, 2014) to this research in order to identify themes that arose naturally in the interviews, rather than assigning hypotheses about the data that might or might not actually exist in the data. This process also allowed us to be reflexive about how we could interact with our community partners, particularly on sensitive topics, and to brainstorm ways in which we might improve our community-based collaborations. We shared the preliminary evaluation data analyses with the project steering committee team, who discussed the analyses and decided to hold a partnership workshop that focused on the principles of CBPR and team dynamics. Follow-up interviews were analysed, and preliminary themes were presented to the co-PIs and the steering committee. The evaluation investigator and the postdoctoral fellow, along with a team of graduate and undergraduate students, conducted further analysis for the purposes of this article. The manuscript was shared with community partners and investigators to elicit additional interpretation and context.

The interviews were coded by the authors using NVivo (QSR International, Melbourne, Australia), a qualitative data management software package. A combined inductive and deductive approach to thematic analysis was used to explore the interviews (Braun and Clark, 2006). A codebook was developed based on deductive theoretical nodes on dimensions explored during interviews, and inductively generated nodes created by the authors following analysis of two sample interviews. We initially coded the data independently, and then discussed agreement about the findings in a series of weekly meetings. In the first phase of the analysis, we read each transcript several times to immerse ourselves in the data and to search for meaningful patterns (Braun and Clark, 2006). The NVivo files were merged and checked for intercoder agreement, and the results were discussed in weekly group meetings. We made reports and created narrative summaries from each code, and shared reports with the group who synthesised the data (Charmaz, 2014). Further, we shared a summary of the themes with the participants to elicit their feedback.

Team dynamics emerged as an internal and external factor influencing the success of the research study being evaluated, as well as the well-being of academics and community partners.

Due to the sensitive nature of the data collected, we anonymised all interviews by removing participant IDs and references to specific institutions or locations.

Findings

A total of 7 (out of 10) team members from the project's steering committee took part in the interviews. Stakeholders are all members of the project's steering committee, and include community and academic partners. Four themes emerged in the data related to team dynamics: communication, operations, decision making and participation.

Communication

A number of challenges related to communication emerged. These challenges were associated with navigating the complex partnership structure, which involves members of the team working across

multiple funded projects requiring coordination. Additionally, the dynamic nature of the partnership, which has evolved significantly over time, has been demanding. Finally, there were challenges related to differences in communication styles.

The partnership has not been static. It has evolved over time to involve multiple universities and partner organisations. Partners described the difficulty that occurs when there are not formal structures in place to orient new team members. As indicated in the quotations below, some felt that the co-PIs were unaware of these challenges, when in fact they were also struggling with how to do a better job of integrating new team members:

> … I think because there are so many different pieces and different people involved, … different people rotate in, it might be helpful, like when there are phone calls, it might be helpful for people to reintroduce themselves regularly, and … identify what their role is in the project, because I have to say that there are people whose names I've been hearing for years and I'm still a little fuzzy what they do … [one of] the PI is really clear where [people] fit, so I think he kind of assumes we all know, but I think that probably some of us are more confused than they realise.

> It's interesting, I think it's been … it's been challenging, i.e. the group has changed a lot, I mean, a lot of new people are in it that weren't in the original team, they're coming on board … I personally feel like I didn't fully understand the challenges that they were facing in terms of participating in it, and didn't do the best job that I could have done in terms of supporting their gaining knowledge and feeling comfortable. I mean, I think we all could have done a better job, I personally feel like I could have.

Over time, the partnership moved from identifying a public health issue and creating a knowledge base, to testing interventions and engaging in public health action around the issue. This shift contributed to the growth of the team over time. As illustrated in the quotations above, this growth has had implications for team functioning. Similarly, the many new projects have contributed to coordination challenges, which may also have impeded communication and contributed to role confusion. Partners described that not having organisational structures in place to manage changes and emergent activities contributed to this dynamic. Moreover, there was not a clear sense of who was responsible for certain activities:

> We don't have a running list of what projects are, [what] everyone's working on within the broader umbrella, right? If we had … documentation of all the deliverables that are being produced, what's in the concept stage, what's a more mature stage, just maybe a more structured thing like that, so that people know where we need to input.

> We've got two types of projects: the formal NIH [National Institutes of Health] or formal agency-funded projects, and then the less formal, more community-facing, more free-thinking projects. The original [partnership] was a lot more crisply organised in the sense that there were steering committee meetings that included everybody, and there were specific subcommittee meetings … uh, since then, the, um, that degree of organisation has dispersed. I'm not aware of a lot of the meetings that are held in this project. I don't get notice of meetings being held. That would have not happened on the first project, whether you were a participant in those meetings or not. You knew of all the meetings that were going on. You don't know now. Different people, different groups, getting emails about meetings, and other groups don't within the same project.

> … I have noticed there's no organised communication strategy for our group, and that in this current world of social media and internet, that puts us at a disadvantage … I'll give you an example, when the report came out, we proposed a roll-out of how we might pitch this to different news sources or posted online, and I'm pretty sure none of that happened, it's

because, in my opinion, it's because there's no clear communication strategy within the group. Who would lead that? Is it a PI's research assistant? Is it someone at one of the community organisations? It's not clear who that person is …

The sheer number of projects happening simultaneously, and the lack of communication and coordination between subgroups working on different projects, proved difficult, even in the age of web-based communication platforms, such as Zoom. This has contributed to a growing frustration among team members. Team members described having good relationships with the people they were working with on specific projects, but less so with team members whose projects did not overlap. It is of note that this dynamic became further complicated when one of the co-PIs changed institutions. The move added an extra geographic distance, underlining a tension between the leadership's understanding of team member roles in contrast to team members' understanding of their own and others' duties. Moreover, the move led to revisions in the budget, and although the new institution took on overhead costs, budget cuts contributed to strained team dynamics:

> … I think with the [co-PI's] move to another institution, you know, there's been some thinking about who does what, especially about the organisational structure, if you will. And I think making the organisational structure a little clearer, having an organisation chart that says, 'this team member does this', you know, 'that team member does this'. Not in any two-page job description way, but just something so that anybody coming in and looking at it can understand how it's structured. Like, he's part of this grant, she's part of that grant, just some sort of sense of the overall structure would be good. Even though some people have been there forever and they know it. I think they forget that other people don't know …

There was a sense that a focus on organisational structure would contribute to role clarity and organisation; people would know who was doing what. Participants also felt that engaging the broader team in the development of the agenda might help with role clarity. This was an idea that emerged in a team retreat designed in response to partner interviews to help build community and reorient the team to the CBPR principles:

> I think the co-PIs do a really good job, as a PI focusing on CBPR, he and I [community PI] usually talk to each other at the beginning of the week about setting an agenda for the meetings, and one of the things I really have thought about a lot and really crystallised a lot when we had our retreat was that we need to engage more with the participants in the steering committee about setting an agenda, because we spend a lot of time on detailed stuff that probably could be handled more in email, and less time on process around helping people to understand roles and how we do things, and letting people have the time to raise it because our meetings are short, so I think that's been [an] issue that I've become increasingly more aware [of] … I don't know that I have the best answers for how to address it, although I'm trying to work more with the PI on these issues.

In contrast to CBPR approaches emphasising collaboration, one team member described the co-PI to be 'agenda-driven' to an extent that interfered with the organic course of meetings:

> I think I'm more laid back usually, I'm little more process-oriented than the PI, although I think he does a good job of that. I think he is more agenda-driven, you know, and we've had to become more agenda-driven because we have less time for meetings, um, but I think that one of the things we both need to do more is realise that sometimes we have a discussion about something, and we need to take it out of the meeting and have a separate conference call because it's either taking up too much time or it's taking us away from the focus of what we're trying to do at the meeting.

Generally, there seemed to be a consensus that offline modes of communication needed to be adopted by those in leadership positions in the team. Leaders were expected to set the agendas, and to set meetings back on course when they veered off topic.

Communication dynamics and poor technology also emerged as challenges. It was noted that there are multiple communication styles on the team, and that telephone meetings were not helpful. Before the COVID-19 pandemic, the meetings were held by phone. Although there was a live meeting location, there was difficulty coordinating schedules and needs, which resulted in some people calling in to the meetings from other locations, rather than joining the meetings in person. Communicating with team members indirectly (rather than face-to-face) was a particular challenge for the group:

> Some people are more vocal than others. I would say that there's some hesitancy among some of the less vocal people to raise their concerns, but, um, you know, I really want to hear from people who feel that way, because I don't know if they feel intimidated or dominated, and I feel it's a challenge when we have meetings on the phone, that it's sometimes really hard … I remember once I was on the phone for a meeting, and I was going out of my mind because I couldn't get out of mute and I wanted to say something, and, you know, it was just really frustrating!

In general, there was a lack of organisational structure, which led to confusion over role clarity and job descriptions, as well as a desire for transparency regarding ongoing projects. Even if team members were not directly involved with a specific project, they reported wishing that others would share some details of their own projects with the entire team, so that everyone could be aware of ongoing projects and offer feedback. Meetings were often busy, and there were a lot of things on the agenda, and not having a central location where drafts were stored and updates were provided left team members unaware of what others were working on. Team members felt detached from projects, and were less likely to pay attention to what was going on with other team members, which also contributed to a lack of team cohesiveness.

Operations

Team meetings were not seen as productive, with a majority of the agenda points capable of being resolved through email communication. Participants felt the meetings could be kept short, with a focus on letting individuals raise concerns about specific items. Leadership was also presented as a complementary balance of different qualities that, when combined, created a stronger leadership team:

> Um, I think it's, um, it's sort of historically grown. I mean that, you know, that people like the PI. The PI is certainly a hands-on active leader. My impression is another team member is the key to things, but it's more laid back, he's not somebody who talks a lot at meetings, but I suspect he steers some of the direction. Everybody brings – people have their areas. And the leadership is kind of a balance of the different lead people fulfilling their roles.

Participants noted the lack of overall team coordination and organisational structure. Tensions arose, as participants experienced the project differently due to the lack of communication, and so had different expectations from the leaders with regard to coordination and overall group structure. Differences in leadership style also centred on individual, rather than collective, styles of leadership. For example, a preference for individual control as an academic researcher conflicts with the sharing of power and decision making reflected more in community settings. There is also a tension in the group surrounding who has the authority to lead certain projects:

> I would say that my feelings around my interpretation of reactions when I go forth and represent [the partnership] in other spaces, and the group's immediate backlash against that, also indicates that the power dynamics there are that we are not the experts, and therefore we should not speak of certain topics without the people who are the experts. Which is very

interesting, given that one of the goals is raising awareness and getting more groups aware and able to talk about this, that sort of tension of, like, you should be able to talk about this but not too much without us, and it's meant well, it's not something that we at all resent, we also really do respect the depth of knowledge, and their ability to translate that knowledge to different audiences is really quite impressive, but it speaks to the dynamics of this academic researcher and community groups.

Team members expressed dissatisfaction with the lack of autonomy to perform their duties without detailed oversight from leadership. There were also tensions in how leaders were expected to balance the scientific and non-scientific halves of the team, particularly around ownership of the knowledge that is being collected with the community partners' support.

Team members spoke about the important role that women bring to the team with a history of male leadership. The increased female leadership provided important balance for the group, and shifted both the structure and the dynamics of the team:

> So, those subcommittee meetings, I mean, I think co-PI played an important role. So, those subcommittee meetings at times grew … So, you're talking about inclusive to including a lot of people, so those are 10 or 12 people at those meetings, and very engaging and interesting conversations, energetic conversations, and I think co-PI and [partner name] are the keys to that. She's a co-PI and she's been doing this for years. I think [partner name] was a little bit of a surprise to me, when I realised how much she was contributing to that dynamic.

In terms of the meeting structure and agenda, creating an agenda in advance helped meetings run more smoothly, and helped team members stay focused on collective concerns and decisions, and avoid 'getting into the weeds' and focusing too much on individual or less pressing concerns for the whole group. This increased structure also allowed for more inclusive, process-oriented discussion among various team members, who each had unique expertise and experiences to contribute.

Decision making

Team leaders were seen as the hub of the group, the people who were the centres of both project coordination and the final vote in decision making, especially as team members did not always communicate with other members when they were not collaborating on a project:

> I guess that, um, everybody's focused on their piece … I think some team members, probably somebody like the co-PI, she probably tries to work to communicate with everybody, but I think most people only focus on their piece and whoever they have to talk to, to do their piece, and then everything is focused on the chairs of those projects or the PIs, or the chairs of the committees and whatever you need to get things done, so we're not communicating with us, with them a lot, with each other a lot.

There was a sense of fragmentation, as each team member focused on specific duties, without any awareness of other members' projects or cross-project communication. Leaders were seen as the sole hubs of knowledge-keeping, who did not share this knowledge with other team members. As the hubs of communication and decision making, leaders had the final say in how projects would move forward, even though they encouraged everyone else to have a say and to participate in the decision-making process:

> It really, it usually works. If we talk about the power structures, it's clear that the PI is the centre, the nucleus of this group, so in some ways, other decisions are being made democratically, like he is sort of the leader of this group in a way, so that seems to work, so where the PI identifies issues and steps in, it helps, I would say that he can be a bit quick to force the vote, the voting method of solving conflict, which I don't know if that's always the most effective means of actually … not the best or most effective means.

Despite the PI's emphasis on voting as an equitable form of participation, other team members opined that it was not always the most effective means of participation or decision making. Given that meetings were short and often went off-topic, forcing a vote sometimes led to lengthy discussions that could have been held offline, especially if the votes were on topics that were not initially part of the main agenda. Team members also mentioned disagreements over miscommunications caused by oversimplification, as well as disagreements being voiced too late in the process. Tensions between academic and non-academic team members occurred less frequently:

> Um, sometimes [people] get really into the weeds about technical issues and kinda divert a conversation … I kind of try to keep us more focused on what we're trying to accomplish at the meeting, but it's tricky because sometimes people have sort of lengthy commentaries about things, but they're useful and they give you a flavour of some of the issues we're dealing with.

Participants described tension between partners during meetings, and that disagreements handled in the steering committee meetings and other large-group meetings were not always efficiently managed:

> I think the PI doesn't handle conflicts very well, I suppose. I think maybe I don't, on the flipside, either. … 'I'm the senior …, I'm the PI, I can make those decisions as well'. I don't think so …

Team members felt that some disagreements required more time to address and should be further discussed offline, outside the meeting. However, discussions were often shelved and not discussed again, particularly if they did not relate to specific action items, but rather to conflicting personalities, which could be concerning if unresolved:

> Um … [sighs] sometimes, if it needs to be a longer discussion, that's what the conflict is about, it will be tabled for further discussion, either at a separate meeting that's more specific to it, or at a later meeting giving it more time on the agenda. If it's interpersonal conflict, I haven't seen much of that, if it's happening, I'm not privy to it, I know that, um … there are personalities in the group and sometimes that can rub people the wrong way, um … and I don't see that as being actively managed as much as just acknowledged and … I do see the PI trying to mitigate sometimes, if it's … a person who is, … being particularly insistent or perhaps saying things that would upset someone, he does sometimes try to butt in and sort of, like defer …

Ultimately, disagreements within the team were not being actively managed or addressed. While some frictions were handled during meetings, particularly if they related to specific agenda items, many problems were deferred until an undetermined 'later' time and were not resolved. Moreover, when disagreements were handled offline, there was not a sense of the outcome within the broader steering committee.

Participation

Participation in meetings and projects was seen as a challenge, particularly when meetings were not held in person, and members might not feel comfortable speaking up when they did not know how others would react:

> I think particularly for some people, if you're on the phone and you can't get anyone's attention, and you don't know how people will react because you're not there, it makes it more difficult.

While most decisions were made in meetings, some team members, particularly community partners, thought that they were not the only way to get people involved. Flexibility with scheduling and interests was an important quality:

> Um, I mean, I think that it's … set up deliberately to include the community participation, you know, representation from the community and all of the key discussions, which I think is important. And I think it's also, you know, given the number of meetings, realistic about how … how it can, how can you incorporate … you know, it's not like you can have, like, lots of residents coming to every meeting. But I think sometimes there … well, I guess, I … I think there probably could be ways to think about the community's participation differently and maybe [sighs] more flexibly … I don't know. I think that as an organiser, you have to think about different ways that you get that involvement and decision making.

Meetings tended to be structured very similarly from week to week, with a pre-set agenda and little opportunity for hands-on activities or flexible agenda-setting. Given the diverse backgrounds of team members, some team members felt that it would be beneficial to have more options for meeting participation, in order to engage more participants:

> Hmm … those meetings can sometimes be very, can see the trees but not the forest, and I think it would be helpful to have more meetings [workshops focused on team building and partnership development] like we did at the Boston University offices more frequently, which are these larger – I think it would be helpful to have a meeting about strategy, for example. And being clear about who the next steps lie with and how that fits our overall strategy, I don't think that I feel that I know that, I know that relates to the projects I'm on, but I don't know how it fits in with the larger universe of things that [the partnership] is in … yeah, so I think that more of that focus on the big picture would benefit the group a lot. Yeah.

Participation in meetings depended partly on the active engagement of team members with the topics being discussed, as well as overall clarity about the bigger picture of what the meetings and projects were trying to achieve. Meetings sometimes tended to focus on smaller tensions and the minutiae of agenda items, which was off-putting for team members who wanted to focus on the main goals of the meeting, and not get bogged down in unnecessary details. In particular, it was difficult for members to participate when there was less clear organisational structure, making it hard to know where to fit in and which projects to join:

> Because it's kind of a big group, it's grown over time with different grants, and different relationships, different schools and so forth. It's a little hard to – there's no real structure to fit into. Um, it's a good place for people who like to figure out for themselves what's going on …

The lack of cohesive team structure made it difficult for team members, even those who were more well-established, to know where they fit in and which projects to join – especially when, as discussed earlier, communication around various projects was not consistently clear. This disjointed process highlights the need for an organisational chart that helps members know where they fit in and what their responsibilities are, which both cuts down on unnecessary time spent in meetings, and helps new team members transition more smoothly into meeting participation. As it currently stands, while team members have a shared interest in the partnership's overall goals, they do not have a shared action plan that draws their loose affiliation into a cohesive team:

> Yeah. Um. I guess more often than not, it does feel like a place of shared interest, but not necessarily a place of shared action, so I think that that's a dynamic I often – but people have really good relationships and they have shared interests in the topic, but whether or not we're all pointed in the same direction, um, and supportive of … what's … the potential and the possibility of what's in that versus the expectation doesn't always feel present, sometimes it feels like a loose conglomeration as opposed to, like, a full working unit.

The group lacked a shared sense of action around how to actively enact the group's goals, which was connected to a lack of organisational structure, a lack of transparency about ongoing projects, and a lack

of consistently clear communication. Furthermore, it was difficult for team members to encourage more participation when some people's participation was not always welcomed:

> I think everybody can eventually figure out how to talk around the PI. And he's just got to constantly interrupt, but that's fine. You just keep talking over it. You know, it may be that when I really started joining working with [the partnership], it was completely alien to me. I've never observed something like that. Where someone was so interrupting the other person. So, it took me a while, I had to go and talk to other people and like 'oh, is this normal?' Like, 'I'm getting interrupted? This is how it's done?', and they're like, 'You just got to find your pause, and you just jump and you start talking.' I mean, I tried. I think I'm succeeding at it. … it's not my style, usually I raise my hand when I have to say something, and I think that is getting more recognition.

At the beginning, people were interrupted more often, which contributed to the lack of participation from certain team members. Specifically, since interruptions tended to come from the team's leadership, participation from less vocal members was at risk of being stifled even further due to concerns over lack of bidirectional and equitable communication. However, the study's PI offered a different perspective:

> So, in terms of inclusion, I would just say, you know, I think [the partnership] has been pretty transparent. There's very little that is withheld from the study team members, the community members are all co-investigators, they all have access to budgetary information, to reports, they're invited to any meetings that are relevant to them, and they're welcome to attend the ones that are not relevant to them if they choose to, everyone is welcome to speak at the meetings. I think it's been run in a fairly open and transparent process. So, I would be interested if anyone thinks that the reason they haven't participated more is because they feel excluded.

There appears to be a disconnection between the leadership's emphasis on transparency and open participation for all team members, and what team members actually perceived as barriers to participating. Ultimately, a lack of cohesive and full team participation in meetings and projects is due to miscommunication about the amount of clarity for group organisational structure, team member involvement in ongoing projects, and disjunction between leadership self-perception of transparency and team members' comfort levels with their reception into the group.

Discussion

In general, our results are consistent with the team science and CBPR literature about the importance of collaborative work and the challenges associated with partnership processes (Bennett and Gadlin, 2012; Israel et al., 1998). While the collaborative process was generally positive, we also uncovered some of the less pleasant aspects of CBPR projects that are infrequently discussed in the literature, such as role confusion, communication challenges and power dynamics (Bivens et al., 2015; Muhammed et al., 2015; Tuckman, 1965). Leadership style was seen as the driving force shaping how other team concerns were perceived. Team leaders were seen as the hub of the group, the centres of both project coordination and the final vote in decision making, especially as team members did not always communicate with other members when they were not collaborating on a project. Team members suggested that a renewed focus on organisational structure would contribute to role clarity and organisation, particularly as many team members were unsure of who was working on which project and what everyone's job duties were. Furthermore, team members reported wanting shorter yet more impactful team meetings, with meeting time spent on meaningful and productive topics related to the overall scope and aims of the group, with the rest of the agenda discussed using email. The desire for stronger interpersonal connection is significant, given that team members had reported not knowing what projects other team members were working on, or how to welcome new team members.

We found that not having structures in place to facilitate relationship development, or clear documentation of partnership procedures, rules and administrative norms, led to complications for the team. The literature indicates that attention to group formation is critical for partnerships (Tuckman, 1965). This team had spent a great deal of time early on in the partnership establishing structures to support group processes and, as a result, they found themselves performing (Tuckman, 1965). However, as new members joined the team, they did not institute norming processes, and, when brainstorming began, there was not a shared group memory of processes used early on to facilitate group work (Tuckman, 1965). The absence of attention to process impeded group functioning; it also had implications for communication and coordination among the group. These barriers have been identified in the literature as challenges in associated partnerships (Bennett and Gadlin, 2012).

The CBPR literature highlights the importance of transparent communication and equal standing between all team members, regardless of leadership status or type of contribution (Ravn, 2004; Salas et al., 2018). Team members appeared still to perceive themselves as individuals, rather than as members of a cohesive team, which affected both the scientific process and collective external presentation to other groups or on social media. Clear and transparent processes for resolving conflicts and decision making are missing from this team's discourse. It is fairly standard in CBPR partnerships to have a charter outlining procedures that is developed by the partnership (Israel et al., 1998; Mayan and Daum, 2016), but the absence of such structures can leave team members without a clear way to resolve conflict and without a basic lack of trust. Bivens and colleagues (2015) speak to the institutional-level shifts needed within universities to strengthen CBPR partnerships. This includes improving infrastructure, making community-engaged research readily available to all faculty and students, and improving access to resources such as publications for all (Bivens et al., 2015). Notgrass and colleagues (2013) noted that team cohesion improved when team leaders expressed enthusiasm for their goals and acted in ways that built their team members' respect. Conversely, leaders with the lowest group cohesion were leaders who monitored results and took corrective actions after problems had occurred and become significant issues. Ravn (2004) discusses how the number of experts in a team is conversely associated with a shared knowledge system, and highlights the difficulties of working cooperatively in a discipline-oriented world of knowledge, when information is discipline-specific. Salas and colleagues (2018) build on Ravn's (2004) work, emphasising that even in a team of experts, the group's mission will fail if the team does not know how to cooperate and communicate effectively together. Furthermore, open and honest communication is necessary to resolve conflict, without team members worrying about being judged by other members of the team.

Power dynamics between the PI and other investigators, between those with various forms of expertise, between genders, and between more experienced and newer team members contribute to stifled communication and unresolved tensions, which are likely to remain until the power dynamics are collectively acknowledged, unpacked and dismantled (Gilligan, 1993; Muhammed et al., 2015). The co-PIs presented with different leadership styles, and, in response, were viewed and judged differently. Dynamics between team members created an ineffective communications space, especially given the different expectations for participation, academic versus community partner views of what was important to discuss in meetings, and power struggles over who controlled the development and transmission of knowledge.

Academia is hierarchical in nature, and CBPR partnerships are not immune to the stresses of hierarchical positionality and power, which play out in partnerships as they do in the broader academy and society (Hong et al., 2020; Leavy, 2011). Given the CBPR values informing the partnership, one might assume that the team would be better versed in discussing these dynamics more explicitly, and yet they are not. Tensions were largely between researchers, who were more likely to have patience with community stakeholders, yet not with the academically based co-PI, given that co-PI's position.

Our findings are consistent with the literature as it relates to team science with respect to the ways in which breakdowns of communication and trust affect collaborations of experts in different fields who

are united for a common scientific goal (Bennett and Gadlin, 2012; Stokols et al., 2008; Tebes and Thai, 2018). The challenges experienced by the partnership also reflect many common challenges that are part of the development of any group process (Tuckman, 1965).

These findings are not without limitation. We only spoke with 7 of 10 steering committee members, and it could be that others' views are different. Moreover, the findings reflect the experiences of one partnership and are not broadly generalisable. Nonetheless, we have learned important lessons that we think can benefit other partnerships, specifically as they relate to engaging in conversations about team dynamics and having structures in place to address concerns as they arise.

We shared the results of this paper with the team in order to raise group awareness about potential directions for overall improvement for collaborative work moving forward. At the time of writing, meetings have been scheduled to discuss the results in more detail, in order to decide how to address and incorporate the recommended changes. These changes will take time to implement, especially as projects are completed and other priorities arise for the team, and as such are a topic for a future paper.

We also note that despite the negative implications of these findings, the group has worked together for many years, due in part to shared goals for improved health outcomes and a process-oriented intention for community-based research and action. Team members also demonstrate a fruitful collaborative effort for publishing and accessible, inclusive data sharing. We share these findings not to detract from CBPR, but rather to highlight potential pitfalls that might occur along the way. The specific team described in this paper has accomplished several goals, including community-led charrettes aimed at identifying and implementing specific needs around air quality and health.

Recommendations

The interviews emphasise a need for improved and continuous communication between all team members in order for team members to be equally informed of all decisions and projects. This might include regular updates at team meetings about new and ongoing projects, so that all team members can be equally informed, even if they are not actively part of a specific project. Team members could present on their work to the whole team, which would both allow current and new team members to get to know more people in the team, and inform other team members of ongoing projects. (Co-)PIs could also regularly present on the progress of various team projects in order to inform team members of what remains to be done with projects. In order to not extend normal meeting times beyond what members are able to commit to, leadership could set aside time on a bimonthly basis specifically for project updates. These meetings should be open to both team members and community members who are interested in the progress of projects of which their organisations are part.

Improving intergroup communication could also include regular reminders about current team membership, each member's roles, and overall group policies, so that everyone is familiar with the overall team structures and specific member objectives. Having such reminders about membership and team structure would be beneficial for new members who are unfamiliar with group norms, as well as for members of longer standing who might need refreshers as the group size changes.

Furthermore, the interviews draw attention to the need for equitable and transparent knowledge sharing between community and academic partners in order to mitigate the consequences of status and hierarchical positionality. While having a team leader (a PI, a co-PI) is useful in making final decisions, team members are part of the group because their knowledge and experience are valued, and, as such, their knowledge and experience should be equally valued and trusted. In practical terms, this might include soliciting collaborations from all partners prior to implementing a project, rather than requesting assistance with pre-developed components. Holding regular workshops that focus on relationship building and transparent communication will improve the dynamics between team members, as everyone involved will gain a clearer understanding of each person's role and team contributions, as well as a better appreciation for differing communication styles. Group leaders should both lead *and* participate

in workshops, so that team members can get to know them, and for the team as a whole to become a more cohesive unit.

In retrospect, in terms of solutions to improve transparency and communication, the team could have a shared group calendar with project goals, so that team members could join subgroup meetings if they wanted to be involved in specific projects. One or two of the team members who are proficient in social media and website design could regularly update the website with plain language, so it is accessible to both team members and to other community members, and maintain an active social media presence with updates on team progress.

Conclusions

In partnership research, the process employed by the team is critical because it shapes the outcomes of the research. However, the dynamic nature of partnerships requires intentionality, particularly in the context of hierarchical systems based in production. A lack of attention to the process, particularly relationship dynamics, can lead to transactional interactions aimed at advancing research outcomes and products, as opposed to collective co-creation of the knowledge collected by the team to advance health justice and community change, which requires sustained equitable partnerships. These conclusions highlight the complexity of working on large interdisciplinary cross-institutional community–academic teams, specifically the ways in which interdisciplinary, collaborative research can be a complicated, meandering process, often without clear-cut answers to sometimes simple questions.

Declarations and conflicts of interest

Research ethics statement

The authors declare that research ethics approval for this article was provided by the Boston University Charles River Institutional Review Board ethics board, protocol number 4434X.

Consent for publication statement

The authors declare that research participants' informed consent to publication of findings – including photos, videos and any personal or identifiable information – was secured prior to publication.

Conflicts of interest statement

The authors declare no conflicts of interest with this work. All efforts to sufficiently anonymise the authors during peer review of this article have been made. The authors declare no further conflicts with this article.

References

Adams, M.S., Carpenter, J., Housty, J.A., Neasloss, D., Paquet, P.C., Service, C., Walkus, J. and Darimont, C.T. (2014) 'Toward increased engagement between academic and indigenous community partners in ecological research'. *Ecology and Society*, 19 (3), 5–14. https://doi.org/10.5751/ES-06569-190305.

Bennett, L.M. and Gadlin, H. (2012) 'Collaboration and team science: From theory to practice'. *Journal of Investigative Medicine*, 60 (5), 768–75. https://doi.org/10.2310/JIM.0b013e318250871d.

Bivens, F., Haffenden, J. and Hall, B.L. (2015) 'Knowledge, higher education, and the institutionalization of community–university partnerships'. In B.L. Hall, R. Tandon and C. Tremblay (eds), *Strengthening Community University Research Partnerships: Global perspectives*. University of Victoria Libraries, 5–30.

Braun, V. and Clark, V. (2006) 'Using thematic analysis in psychology'. *Qualitative Research in Psychology*, 3 (2), 77–101. https://doi.org/10.1191/1478088706qp063oa.

Burgh, G. and Yorshansky, M. (2011) 'Communities of inquiry: Politics, power and group dynamics'. *Educational Philosophy and Theory*, 43 (5), 436–52. https://doi.org/10.1111/j.1469-5812.2007.00389.x.

Charmaz, K. (2014) *Constructing Grounded Theory*. Thousand Oaks, CA: Sage.

Cooke, B. and Kothari, U. (2001) *Participation: The new tyranny*. London: Zed Books.

El Ansari, W., Phillips, C.J. and Zwi, A.B. (2002) 'Narrowing the gap between academic professional wisdom and community lay knowledge: Perceptions from partnerships'. *Public Health*, 116 (3), 151–9. https://doi.org/10.1038/sj.ph.1900839.

Gilligan, C. (1993) *In a Different Voice: Psychological theory and women's development*. Boston, MA: Harvard University Press.

Hart, A., Davies, C., Aumann, K., Wenger, E., Aranda, K., Heaver, B. and Wolff, D. (2013) 'Mobilising knowledge in community–university partnerships: What does a community of practice approach contribute?' *Contemporary Social Science*, 8 (3), 278–91. https://doi.org/10.1080/21582041.2013.767470.

Hong, W., Lee, E.K. and Son, J. (2020) 'The interactive effects of perceived expertise, team identification, and dyadic gender composition on task-related helping behavior in project teams'. *Group Dynamics: Theory, research, and practice*, 24 (2), 88–101. https://doi.org/10.1037/gdn0000116.

Israel, B.A., Schulz, A.J., Parker, E.A. and Becker, A.B. (1998) 'Review of community-based research: Assessing partnership approaches to improve public health'. *Annual Review of Public Health*, 19, 173–202. https://doi.org/10.1146/annurev.publhealth.19.1.173.

Leavy, P. (2011) *Essentials of Transdisciplinary Research: Using problem-centered methodologies*. New York: Routledge.

Mayan, M.J. and Daum, C.H. (2016) 'Worth the risk? Muddled relationships in community-based participatory research'. *Qualitative Health Research*, 26 (1), 69–76. https://doi.org/10.1177/1049732315618660.

Muhammed, M., Wallerstein, N., Sussman, A.L., Avila, M., Belone, L. and Duran, B. (2015) 'Reflections on researcher identity and power: The impact of positionality on community-based participatory research (CBPR) processes and outcomes'. *Critical Sociology*, 41 (7–8), 1045–63. https://doi.org/10.1177%2F0896920513516025.

Notgrass, D., Conner, C. and Bell, T.J., III (2013) 'Leading external auditing teams: The correlation between leaders' behaviors and team dynamics of cohesion and conflict'. *International Journal of Business and Public Administration*, 10 (2), 1–14. Accessed 16 June 2022. https://www.academia.edu/5446433/Leading_external_audit_teams_The_correlations_between_leaders_behaviors_and_team_and_team_dynamics_of_cohesion_and_team_conflict.

Ravn, J.E. (2004) 'Cross-system knowledge chains: The team dynamics of knowledge development'. *Systemic Practice and Action Research*, 17 (3), 161–75. https://doi.org/10.1023/B:SPAA.0000031782.84641.dd.

Rowley, T.J. and Moldoveanu, M. (2003) 'When will stakeholder groups act? An interest- and identity-based model of stakeholder group mobilization'. *The Academy of Management Review*, 28 (2), 204–19. https://doi.org/10.2307/30040709.

Sadd, J., Morello-Frosch, R., Pastor, M., Matsuoka, M., Prichard, M. and Carter, V. (2014) 'The truth, the whole truth, and nothing but the ground-truth: Methods to advance environmental justice and researcher–community partnerships'. *Health Education & Behavior*, 41 (3), 281–90. https://doi.org/10.1177%2F1090198113511816.

Salas, E., Reyes, D.L. and McDaniel, S.H. (2018) 'The science of teamwork: Progress, reflections, and the road ahead'. *American Psychologist*, 73 (4), 593–600. https://doi.org/10.1037/amp0000334.

Schulz, A.J., Israel, B.A. and Lantz, P. (2003) 'Instrument for evaluating dimensions of group dynamics within community-based participatory research partnerships'. *Evaluation and Program Planning*, 26 (3), 249–62. https://doi.org/10.1016/S0149-7189(03)00029-6.

Stokols, D., Misra, S., Moser, R.P., Hall, K.L. and Taylor, B.K. (2008) 'The ecology of team science: Understanding contextual influences on transdisciplinary collaboration'. *American Journal of Preventive Medicine*, 35 (2 Suppl.), S96–S115. https://doi.org/10.1016/j.amepre.2008.05.003.

Tebes, J.K. and Thai, N.D. (2018) 'Interdisciplinary team science and the public: Steps toward a participatory team science'. *American Psychologist*, 73 (4), 549–62. https://doi.org/10.1037%2Famp0000281.

Tuckman, B.W. (1965) 'Developmental sequence in small groups'. *Psychological Bulletin*, 63 (6), 384–99. https://doi.org/10.1037/h0022100.