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Prerna G. Arora, Lauren S. Krumholz, Terry Guerra, Stephen S. Leff

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Measuring Community-Based Participatory Research Partnerships: The Initial Development of an Assessment Instrument

Perna G. Arora, PhD^{1,2}, Lauren S. Krumholz, PhD^{3,4}, Terry Guerra, MS^{5,6}, Stephen S. Leff, PhD^{5,7,8}

(1) Department of Psychology, Pace University; (2) Division of Child and Adolescent Psychiatry, University of Maryland; (3) Department of Psychiatry, Cambridge Health Alliance and Harvard Medical School; (4) Department of Psychology, Harvard University; (5) The Philadelphia Collaborative Violence Prevention Center; (6) ACHIEVEability; (7) Division of Developmental and Behavioral Pediatrics, Department of Pediatrics, The Children's Hospital of Philadelphia and The Perelman School of Medicine at the University of Pennsylvania; (8) The Violence Prevention Initiative of The Children's Hospital of Philadelphia

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Abstract

Background: Although the partnership between academic researchers and community members is paramount to community-based research efforts, a limited number of measures exist to evaluate this construct. Of those in existence, no assessment measures include a comprehensive coverage of the many dimensions of partnerships. In addition, these measures were not designed through an extensive community-based participatory research (CBPR) model, in which the strengths of traditional assessment techniques were integrated with input from stakeholders.

Objectives: The purpose of this article was to describe the creation of a measure to evaluate key dimensions of partnerships forged between researchers and community members using a CBPR approach to measurement development.

Methods: The iterative process of developing this measure consisted of integrating valuable feedback from community partners and researchers, via multiple rounds of item sorting and qualitative interviewing.

Results: The resultant measure, titled Partnership Assessment In community-based Research (PAIR), consists of 32 items, and comprises 5 dimensions: communication, collaboration, partnership values, benefits, and evaluation. The innovative process of using CBPR in the development of measures, the benefits of this approach, and the lessons learned are highlighted.

Conclusions: PAIR was developed out of a need identified jointly by community members and researchers, and is intended to characterize the range of relationships between researchers and community members engaging in community-based research and programming.

Keywords

Community-based participatory research, community-institutional relations, methods, qualitative research, questionnaires

With growing awareness that traditional approaches to community-based research have generally been unable to address complex issues related to health disparities, researchers and community members have increasingly been adopting a CBPR approach.¹ CBPR is a research paradigm in which empirically supported science is systematically adapted through active engagement of key

stakeholders.² Inherent to the CBPR approach is a collaborative partnership between academic researchers and community members, in which partners combine their expertise and unique strengths, while sharing responsibilities for conducting translational research.³ Israel et al.³ outlined nine guiding principles and Minkler and Wallerstein⁴ added two principles that direct and inform CBPR. These foundational principles

include facilitating an equitable, collaborative partnership, expanding on the strengths and resources within a community, and promoting co-learning and capacity building. Situated at the nexus between research, practice, and policy, CBPR is a potential strategy for eliminating long-standing health disparities, an area of national need.^{5,6}

Although there has been a proliferation of community-academic collaborative research efforts over the past several decades,^{7,8} there are numerous challenges associated with this approach, including that it is time consuming, requires patience, and may involve needing to overcome an understandable lack of trust from communities toward researchers.³ Nonetheless, there are many benefits stemming from these collaborations, including increasing the pertinence and usefulness of research data for participating partners; enhancing the quality, sensitivity, and validity of research by incorporating the perspectives of local community members; increasing the likelihood of reducing community members' distrust toward research (see Israel et al.³); and/or improving community members' social capital by providing them with research training and related skills.⁹

Successful partnerships often include mutual trust, open communication, mutual respect, joint participation/division of labor, and tangible benefits to partners.^{6,10,11} The evaluation of community-academic partnerships is considered valuable and worthwhile, because the relationships forged between academic researchers and community members are paramount to collaborative research efforts.¹²⁻¹⁴ Although several partnership measures have been developed, these do not seem to capture fully the range of important partnership dimensions.¹² Specifically, of those measures assessing partnerships, or relationship dynamics in the context of CBPR, most limit their assessment to certain domains. For instance, extant measures assess aspects of partnerships including but not limited to participatory decision making and negotiation, dialogue and mutual learning, leadership, task communication and action, and management of conflict.¹⁵ Examples of existing instruments include the Partnership Trust Tool Survey,¹⁶ Group Process Evaluation Questionnaire,¹⁷ Community Capacity Index,¹⁸ and Partnership Self-Assessment Tool.¹⁹ Although these and other partnership evaluation tools have strengths (e.g., in terms of the areas of relational dimensions they assess), none of the existing measures, to our knowl-

edge, incorporates the range of relational dynamic domains into a single instrument, thus permitting a more complete assessment of the varying key dimensions of partnerships at different points in the research process.^{12,15}

Given these limitations, three researchers and a community leader worked to better assess and understand collaborative relationships between researchers and community members engaged in applied research. Historically, the process of measurement development has been largely expert driven, as researchers define primary constructs and create items based on literature reviews and psychometric analyses.²⁰⁻²² Although this "expert-driven" approach has resulted in numerous theoretically and psychometrically sound instruments, it may also result in alienating ethnic minority populations or excluding measurement constructs valued by the community.²³ As such, there is a need for researchers to ensure that assessment tools are culturally sensitive and appropriate for use with ethnically diverse populations.^{24,25}

Traditional approaches to measurement design have emphasized the critical importance of internal validity in the development of assessment instruments to ensure that tests measure intended constructs.²⁰⁻²² However, the important role participants and community stakeholders can play in the development of externally and ecologically valid and culturally sensitive assessment tools has frequently been ignored.²⁶ For instance, community input is often only sought during the pilot testing phase, where input is elicited on a nearly completed measure.²⁷ Few examples of CBPR approaches to measurement development currently exist, especially in which researchers and community members were engaged in the process from the beginning to the end of the research project.²⁷⁻³¹ These studies have noted numerous benefits of including community members in the development of measures, including increased acceptability and cultural appropriateness of the measure.²⁷⁻³² Although a few examples of CBPR approaches to measure development exist, none have been used to design a tool for assessing community-academic partnerships, which are often relied on in accomplishing meaningful applied research in the community. Engaging in a CBPR approach for creating an instrument to evaluate community-academic partnerships, although likely lengthening the process and requiring additional effort, may result in the development of an increasingly relevant, culturally appropri-

ate assessment instrument, which subsequently may improve the quality and validity of data collected.

OBJECTIVE

The purpose of this study was to develop a comprehensive measure of a range of key dimensions of the partnerships forged between researchers and community members. We used a CBPR approach to measurement development, in which the strengths of traditional assessment techniques were integrated with stakeholder feedback. The intended use of this tool is to evaluate essential dimensions of relationships between researchers and community leaders engaged in community–academic collaborative research efforts. In this article, we highlight the creation of a comprehensive assessment of partnerships using a CBPR approach to measure development, as the first step of this work in progress.

METHODS

Partnership

The current measurement development project came about as the end result of five academic researchers and three community leaders collaborating on a 5-year community-based project to design a youth aggression prevention and leadership promotion project for a range of 10 to 14-year-olds attending after school programming across a number of diverse community sites (see Leff et al.³² for more details). Over the course of the development and implementation of the intervention, the team of researchers and community leaders met weekly to discuss and direct all aspects of the project. Within this context, our team of researchers and community members began to reflect on the importance of developing strong trusting relationships with each other; learning to respect each others' background, experiences, and goals; and remaining committed to staying at the table to discuss disagreements when they arose. In short, we realized the importance of better understanding and analyzing important partnership dimensions. As such, team members, including authors of this study, sought a culturally appropriate measure of the essential components of the relationships among their partners, which could be used at different points in the partnership process. When one was not located, one of the researchers and one of the community members (both

authors of this paper) decided to lead the current project.

Throughout the development of the measure, input from community members and researchers was elicited and incorporated. Community members and researchers who had experience engaging in community–academic collaborative research projects were selected for inclusion in the various phases of the current study; these individuals had either worked directly with the authors of this article or were referred to the authors by colleagues. We sought to incorporate researchers and community members with experience conducting community-based collaborative research so they could offer insight derived from their experience to enhance the quality of the measure. We selected respondents from diverse groups, representing multiple settings and agencies, to increase the comprehensiveness of the input we received. Specifically, across all phases of the research, the academic researchers were from four local academic institutions across our urban city, as well as one leading CBPR researcher from another urban city who had collaborated with the authors on previous research. Community partners were drawn from a number of community-based agencies with a focus on supporting single parents and promoting academic–community partnerships. Additionally, several community partners were community outreach workers and afterschool programming coordinators. Although some of these individuals participated in each phase of the measure development, other community members and researchers only participated in one phase, depending on their availability. This varying level of participation by respondents was not of concern, because each phase of the development process was distinct; thus, the provision of feedback during the various phases was not contingent on having participated in other phases.

Procedure

The steps for the measure development process will be delineated to illustrate how a CBPR approach was employed in the creation of this assessment instrument (for a summary of this process, see Table 1). The authors of this study organized and facilitated the following meetings and conducted the research activities in each of the phases.

Phase 1. One of the first steps in the current project was to enlist our broader team in conducting an extensive literature-search related to a measure that could be used to

Table 1. Measure Development Process

Activities	Community Input	Academic Research Input	Outputs
PHASE 1: Generation of Measure Idea and Initial Partnership Dimensions and Items			
<p>No extant measures found to comprehensively evaluate key dimensions of partnerships between academic researchers and community members</p> <p>Literature review conducted with proposed characteristics of successful partnerships identified</p> <p>Meeting for item ranking with academic researcher and community leader</p> <p>Creation of partnership dimensions and items</p>	<p>Discussed list of identified partnership characteristics and the utility of these characteristics in productive partnerships</p> <p>Rated perceived importance of partnership characteristics</p> <p>Suggested additional partnership characteristic for inclusion (i.e., appreciation of constraints of researchers by community members)</p>	<p>Discussed list of identified partnership characteristics and provided feedback about these characteristics within the context of community research collaborations</p> <p>Rated perceived importance of partnership characteristics</p> <p>Brainstormed additional partnership characteristics for inclusion</p>	<p>Reviewed importance ratings across respondents</p> <p>Created final list of partnership characteristics by integrating feedback from researcher and community leader</p> <p>Grouped characteristics into dimensions based on thematic similarities</p> <p>Developed definitions of dimensions and accompanying items based on descriptions of partnership characteristics from literature review</p>
PHASE 2: Item Sorting and Revisions to Dimensions and Items			
<p>Meeting with community members (3) and academic researchers (5) for item sorting procedure and feedback</p> <p>Additional meeting with majority of community members and researchers from previous meeting for additional item sorting and feedback</p>	<p>Participated in item sorting procedure during both meetings</p> <p>Provided feedback on dimensions and item wording (e.g., simplify language of certain items) during both meetings</p> <p>Provided ratings of perceived importance of each dimension to partnerships during second meeting</p>	<p>Participated in item sorting procedure during both meetings</p> <p>Provided feedback on item wording and dimensions (e.g., collapse two of the dimensions into one dimension) during both meetings</p> <p>Provided ratings of perceived importance of each dimension to partnerships during second meeting</p>	<p>Analyzed results from item sorting procedures</p> <p>Revised items, dimensions, and dimension definitions using sorting results and by incorporating written and verbal feedback from meeting attendees</p> <p>Evaluated perceived importance ratings (all dimensions viewed as “important” or “highly important”)</p> <p>Iteratively developed draft of measure</p>
PHASE 3: Measure Introduction			
<p>Measure introduced to academic researchers (8) and community members (2)</p>	<p>Requested clarification to general instructions (e.g., how to pick one partner?)</p>	<p>Viewed sustainability dimension as separate from other dimensions</p> <p>Suggested considering both strengths and challenges of the community setting</p>	<p>Modified measure instructions</p> <p>Moved sustainability dimension to separate section of measure</p> <p>Revised wording of certain items based on feedback from community members and researchers</p>
PHASE 4: Cognitive Interviews			
<p>Cognitive interviews with academic researchers (4) and community leaders (3)</p>	<p>Requested reduction in technical language</p> <p>Suggested additional clarification of general instructions</p>	<p>Questioned relevance of community partners understanding the strengths and challenges of the academic environment</p> <p>Questioned the use of the term “fair” when hierarchy still exists</p> <p>Suggested that sustainability did not fit with the other measure dimensions</p>	<p>Reduced technical language</p> <p>Made additional clarifications to measure instructions</p> <p>Kept item addressing relevance of community partners understanding academic environment based on additional feedback from community members</p> <p>Changed wording of some items (e.g., use of “fair”)</p> <p>Removed Sustainability dimension</p>
PHASE 5: Qualitative Interviews			
<p>Qualitative interviews with community leaders (3) and academic researchers (3)</p>	<p>Suggested further modification of language to improve readability</p> <p>Recommended improved appearance of measure</p> <p>Suggested adding one item to benefits dimension</p>	<p>Suggested further modification of language to improve readability</p>	<p>Language modified to improve readability</p> <p>Measure appearance improved</p> <p>Added item to benefits dimension</p>

assess academic–community partnerships in research (see Phase 1 in Table 1). The thorough literature review revealed a range of characteristics described as important to successful relationships between researchers and community members engaged in community-based research and programming. The search was conducted using PsycINFO, Academic Search Premier, PsycARTICLES, and ERIC with the following terms: community based participatory research AND evaluation, instruments, tools, and/or measures. Articles were reviewed for existing tools and descriptions of characteristics that have been proposed as important to CBPR partnerships. Based on information gleaned from this literature review, an exhaustive list of partnership characteristics was generated.

A meeting was then led by an academic researcher involved in the first step and included a community leader and an academic researcher, who each had extensive community-based collaborative research experience. The academic partner has had 15 years of research experience, is a leading researcher at a major medical center conducting research in the local urban community, and has been involved in a number of CBPR projects. The community partner is from the local community and has been a tireless advocate for promoting the needs of urban youth, families, and communities, including being involved in a number of both traditional and CBPR projects on behalf of her community in the preceding 20 years. These two individuals were chosen because they had been involved

in numerous CBPR projects and these individuals were among the most experienced CBPR researchers and community partners in the region. The objectives of this meeting were to a) present the identified partnership characteristics, b) inquire about additional characteristics not found in the literature, and c) request rankings of the perceived importance of the characteristics.

Based on information gathered during this meeting, several partnership characteristics were added to the list (e.g., understanding the constraints of researchers by community members, which was suggested by the community leader). In addition, evaluation of the rankings revealed that all of the identified characteristics were viewed as important to community–academic collaborative research efforts. After this meeting, characteristics were examined for thematic similarities, and were subsequently grouped into eight semantic dimensions (e.g., collaboration, equality, sustainability; for these dimensions and their evolution during the measure development process, see Figure 1; for definitions of the dimensions, see Table 2), which were well aligned with and thoroughly represented constructs in the literature.^{6,10,11} Based on descriptions of the partnership characteristics in the literature, items were then generated for each dimension.

Phase 2. The next stage (Phase 2 in Table 1) entailed a series of meetings with community members and academic researchers to solicit their input, conduct item sorting procedures,

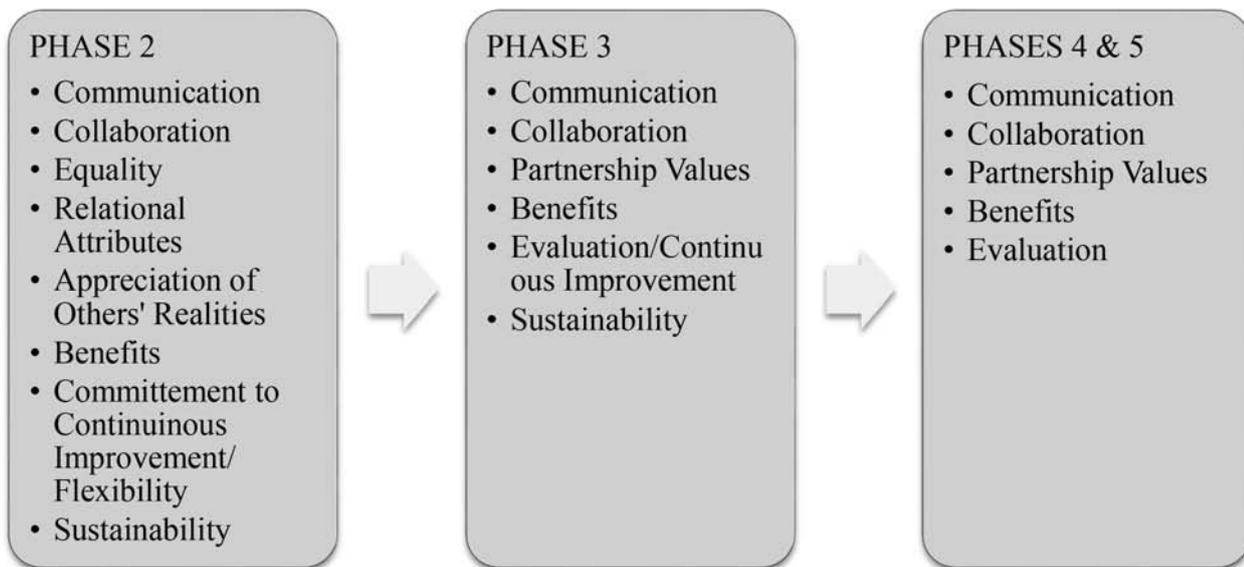


Figure 1. Measure dimensions through iterations.

Table 2. Measure Dimensions and Definitions

PHASE 2		PHASE 3		PHASES 4 and 5	
Dimension	Definition	Dimension	Definition	Dimension	Definition
Communication	Communication involves open communication and resolution of conflicts (e.g., commitment to working out differences, development of agreed-upon solutions).	Communication	Communication involves open dialogue between partners, including an honest exchange of ideas, conversations about issues that arise, and the resolution of conflicts through discussions.	Communication	Unchanged from Phase 3
Collaboration	Collaboration involves mutually agreed upon rules and regulations, collaborative data analysis and dissemination, and balance among partnership processes, activities, and outcomes (e.g., jointly deciding when and where meetings would occur).	Collaboration	Collaboration involves the demonstration of partners working together in an equitable manner by sharing leadership and resources, engaging in joint decision making, dividing responsibilities, and cooperatively determining goals.	Collaboration	Unchanged from Phase 3
Equality	Equality involves equitable sharing of resources among partners, shared leadership, equitable power relationships, equitable processes and procedures, and emphasis on joint participation/division of labor.				
Relational Attributes	Relational Attributes includes mutual trust, mutual respect, and value of all partners' perspectives.	Partnership Values	Partnership values comprise core values that characterize the relationship between partners, specifically mutual trust, mutual respect, valuing of the other partner's perspective, appreciation of the strengths and difficulties of the other partner's setting, and dedication to understanding the culture of the other partner's organization/community.	Partnership Values	Unchanged from Phase 3
Appreciation of Others' Realities	Appreciation of others' realities includes sensitivity to burden research can place on community organizations, understanding of the constraints of researchers, recognition by researchers of realities of working in a community, and commitment to understanding community (e.g. cultures, demographics, past collaborative experiences).				
Benefits	Benefits include tangible benefits to all partners stemming from the partnership and identification of locally meaningful indicators of success.	Benefits	Benefits include tangible benefits stemming from the partnership, specifically personal, professional, organizational, and community benefits, as well as advancement of scientific knowledge.	Benefits	Unchanged from Phase 3
Commitment to Continuous Improvement/Flexibility	Commitment to continuous improvement/flexibility includes ongoing partnership assessment and improvement and willingness to incorporate other perspectives and to renegotiate rules as appropriate.	Evaluation/Continuous Improvement	Evaluation/continuous improvement involves a commitment from the partners to engage in ongoing assessment of how the partnership is working and to use that information to inform and implement improvement efforts.	Evaluation	Unchanged from Phase 3
Sustainability	Sustainability includes development of shared understanding of sustainability (e.g., shared plan, vision, goals, ideologies, anticipated outcomes, identification of resources needed, long term commitment from both partners).	Sustainability	Sustainability reflects factors involved in the development and implementation of a plan for sustainability. These factors include a shared vision of how to sustain the intervention, strategies for carrying out this vision, access to resources needed to implement the plan for sustainability, and commitment from the partners to sustain the intervention.		

and revise the dimensions and items based on stakeholder feedback. One of the authors of the current study contacted academic researchers who have experience conducting CBPR; these individuals represented three large academic institutions in the city from which the research occurred. In addition, there was diversity among the researchers—the individuals were psychologists, public health academicians, or social workers. Three community partners involved in a previous CBPR project with one of the authors were invited to participate. Two of the partners had been in the field for a number of years, and the third community partner was a young adult from the community who served as an outreach worker on the prior CBPR project. During the first meeting with a group of community members ($n = 3$) and researchers ($n = 5$), who were selected using the procedure described, definitions of the dimensions were provided. The meeting attendees were then asked to sort each item into the dimension they believed best captured the item. Written feedback also was requested from each attendee about the clarity of the dimensions and items, as well as about items that were difficult to sort. Meeting participants completed these tasks independently and confidentially. At the end of the meeting, participants had the opportunity to share verbal feedback about the items during a group discussion. Data from the sorting procedure were analyzed, and items were kept when six or more (of the eight) people sorted them into the intended dimensions. Items were reworded or dropped when fewer than six people placed the items into the intended dimensions. The attendees provided suggestions for how to improve several of the items, such as using less technical language in certain items and splitting a double-barreled item into two separate items. Drawing on feedback from this meeting, additional edits were made to the items and dimensions, including simplifying the language of some of the items. Further, several items were added to ensure that all aspects of the partnership were represented.

We then reconvened with the group of researchers and community members to share updated definitions of the dimensions, to conduct a second sorting procedure with the modified items and dimensions, and to obtain ratings of the relative importance of each dimension on a 5-point Likert scale ranging from 1 (not important at all) to 5 (highly important). Results from this sorting procedure revealed consensus among meeting attendees, in that the revised items were all sorted into

the intended dimensions. Meeting attendees indicated that the sorting of these items was more straightforward because of the greater alignment of the dimension definitions with the specific items. Analysis of the importance ratings illustrated that the attendees perceived each dimension as “important” or “highly important” to collaborative partnerships between academic researchers and community members engaged in research projects. A draft of the measure was then constructed using the 34 items and 6 dimensions created as part of the prior measure development stages.

Phase 3. The measure was then briefly introduced to a group of academic researchers ($n = 5$), clinicians ($n = 3$), and community members ($n = 2$) as part of an ongoing weekly research meeting for a larger project. Each individual provided feedback about the general instructions of the measure, the wording of the items, and the overall organization of the dimensions (Phase 3 in Table 1). Based on their review, items related to the sustainability dimension seemed to represent a fundamentally different concept than the other dimensions.

Further, based on input from the academic researchers, clinicians, and community members at the research meeting, it was determined that the respondent should respond to the questions with one partner from the partnering institution in mind. This was done as several community members noted that their relationship occasionally differed with the various partners from the institution, which had implications for the evolution or continuation of the partnership. The general instructions were thus written to elucidate clearly the process of partner selection and the following instructions were added: “Before completing the measure, pick ONE partner who best represents the relationship between you and the organization with which you are partnering. Please pick ONE partner even if you work with multiple partners.” Additionally, the question, “How much does the relationship you have with this partner affect how you feel about your partner’s organization?” was added at the start of the measure, after the instructions. Finally, several research members indicated that, although a focus on the constraints of working in a community setting (e.g., limited resources) was valuable, it should be coupled with an appreciation of the strengths of the setting. As such, the wording of some items was changed to be more inclusive of both the strengths and challenges of the partnering institutions (e.g., “I try to understand the strengths and difficulties

of my partner's setting" and "I believe my partner tries to understand the strengths and difficulties of my setting").

Phase 4. A cognitive interview process was created to obtain feedback focused more directly on the items, the appropriateness of the response choices, and the relative contribution of each item to the assessment of partnerships (Phase 4 in Table 1). Cognitive interviewing, a technique used to evaluate concerns with items on survey measures,³³ was conducted with academic researchers ($n = 4$) and community partners ($n = 3$). Participants were asked to "think aloud" while reading and responding to each item. Four different academic partners had expertise in CBPR and represented four different universities/academic institutions (three were local and one was from another region of the country). The three community partners comprised one of the co-authors on the study and two community workers who had not been involved previously in this project, but were well known by several of the authors. These included two individuals who coordinated two different afterschool programs in the local community. Participants were instructed to consider a past community-academic partnership project and a particular partner who best represented their overall experience with the project; participants varied in their selection of partners, with a representative sample ranging from good quality to poorer quality partnerships. Interviewees rated their comprehension of the items, their decision making process when selecting a response, and their beliefs about the importance of each item's inclusion in the measure. Participants were also asked to provide input on the response choices (never true, occasionally true, sometimes true, often true, and almost always true) and were presented with item-specific probes to

clarify their understanding of each item. Responses were rated by a research team member (and author of this manuscript) on a scale of 1 to 3, with higher scores indicating greater understanding, logic, and importance for each item. Scores for understanding (i.e., the participants' understanding of the item as it was intended) and logic (the participants' process of determining their response choice) were determined by the research team member based on participants' responses to each probe; scores for importance were directly queried by the research team member. Scores were compiled across academic researchers and community partners (for cognitive interview results, see Table 3).

Overall, academic researchers rated items on the collaboration dimension the lowest on understanding, logic, and importance, whereas community members rated the sustainability dimension the lowest on understanding and logic. Specific themes noted, based on an analysis of the frequency in which they were represented in participants' responses to probes, included uncertainty about the degree of importance for community partners to understand the strengths and difficulties of the academic environment (the researchers), as well as the need to reduce the use of technical language (community members). Some questions about the use of the word "fair" in the items were discussed. Additional themes included the need for greater clarity in the description of how best to choose a partner who represents the relationship, as well as lack of fit of the sustainability dimension with the other dimensions of the measure. With regard to the latter, the sustainability dimension was seen as different from the other dimensions in that it was viewed as the result of the partnership (as well as other factors), rather than a characteristic of

Table 3. Results of Cognitive Interview^a

Dimension (# of Items)	Community Leaders Average Ratings			Academic Researchers Average Ratings		
	Understanding	Logic	Importance	Understanding	Logic	Importance
Communication (6)	3.0	3.0	3.0	3.0	2.8	2.7
Collaboration (4)	2.9	2.9	2.9	2.6	2.4	2.6
Partnership (7)	3.0	3.0	3.0	2.8	2.6	2.7
Benefits (5)	2.7	2.7	2.7	2.8	2.5	2.6
Evaluation (4)	3.0	3.0	2.9	2.9	2.6	2.7
Sustainability (5)	2.6	2.6	2.9	3.0	2.6	2.7

^a Scores range from 1 to 3, with higher scores indicating greater understanding, logical reasoning, and rated importance for each item.

the partnership itself. Modifications were made to the measure to address each of the areas noted above. Specifically, during Phase 4, we decided to eliminate the sustainability dimension from the current measure based on ongoing feedback from community and academic partners. When feedback was conflicting, the items were discussed with all partners (research and community team members) to try to come to consensus, reword, and/or develop additional items.

Further alterations to the measure were made after the cognitive interviews. These included the addition of one item each to the collaboration and partnership values dimensions, addition of clarifying items to the start of the measure (e.g., one question requesting duration of partnership; one question assessing degree to which the relationship with the partner affected the view of the partner's organization), and simplification of the wording of several items.

Phase 5. To confirm the accuracy of the changes and seek input on the newer version of the measure, additional unstructured qualitative interviews, during which participants were asked to complete the measure and to provide general feedback regarding the measure itself and its completion, were conducted with academic researchers ($n = 3$) and community partners ($n = 3$) (Phase 5 in Table 1). Most of these individuals had been involved in earlier phases of the work, although one new community partner was suggested, and she was from a different urban area of the country. Suggested areas of improvement included modification of language to improve readability, additional clarification of the instructions, and a greater focus on the appearance of the overall measure (e.g., changing the placement of items, bolding certain aspects of the directions). Community partners indicated that the use of strategic bolding of words would likely result in a higher response rate, because the questionnaire would be easier to understand. The addition of an item to the benefits dimension also was recommended by a community partner. Specifically, this partner indicated that the item, "The relationship is worth the amount of time I invest in it" captured the role of partnerships in her work—namely that, although the act of partnering was time intensive, the investment was worthwhile as it may result in benefits to her work and the community. After this, the measure was sent to one academic researcher and one community partner for a final review. The approved measure was then reviewed by the authors and considered ready for more

formal pilot testing, our goal for our upcoming research study.

Current Status and Next Steps

The current measure, titled Partnership Assessment In community-based Research (PAIR), consists of 31 closed-ended items comprising five dimensions: communication, collaboration, partnership values, benefits, and evaluation, with an open-ended final item (no. 32) included to assess respondents' view of whether they believe completion of the measure will impact how they work with their partner in the future. Closed-ended items are scored on a 5-point Likert Scale (never true, occasionally true, sometimes true, often true, almost always true). Brief instructions direct the respondent to pick one partner who best represents the relationship with their partnering organization and indicate how long the partnership has existed, as well as the degree to which the relationship with the partner is indicative of the relationship with the partnering organization. The measure yields dimensions scores (by summing the item scores within each dimension), as well as an overall score, with equal weighting provided to each dimension, although adjustments may need to be made based on results of subsequent psychometric testing. The manner in which scores will be interpreted will be addressed after psychometric testing of the instrument.

The PAIR measure is intended to characterize the range of relationships between researchers and community members collaborating on community-based programming and research. The goal of developing the measure, which was informed by both the literature base and input from academic researchers and community members who engage in partnership-based efforts, was to create a culturally sensitive and ecologically valid measure of key characteristics of community-academic partnerships. In our next series of studies, we plan to conduct psychometric testing of the new instrument with the hope that the measure will be helpful in assessing important aspects of the partnerships between researchers and community members, and measuring changes in these elements over time. Specifically, our future research includes a formal analysis of the psychometric properties of PAIR through determining the measure's factor structure (using exploratory analysis), reliability (internal consistency), and validity (construct, predictive, and ecological validity). Until the point when this psychometric analysis is completed,

using a diverse sample across different geographical areas, it is important to view this research as an important initial step in the development of PAIR.

FACILITATING FACTORS AND LESSONS LEARNED

To adequately represent the views of both academic researchers and community members, it is recommended strongly that community members be involved in measure development. Our experience with the use of CBPR methodology in the development of this psychological assessment instrument demonstrated that valuable feedback provided by community members and researchers at each stage of the measure development process could be used to improve the measure significantly. The fact that the project grew out of a joint initiative between researchers and community leaders (see Leff et al.³² for more details) emphasizes the perceived importance of the work by both researchers and community members. Further, the inclusion of community partners resulted in the incorporation of feedback beyond, and occasionally in conflict with, what was provided by the research partners. The integration of the perspectives of those involved in the process, often through extensive discussions, led to improved items, while also expanding the depth of the constructs assessed through this measure.

Throughout the process of eliciting feedback from both groups, we sought to underscore the potential meaningful benefits to the respondents and their agencies, listen respectfully to their feedback, and note how their feedback would be or had been incorporated. We hoped to ensure that respondents were comfortable providing honest feedback within a climate of openness and respect. We were surprised occasionally by feedback suggested by community partners, realizing that such views differed from researchers' perspectives. For example, researchers noted that it seemed less important for community members to be aware of the culture of the academic environment, whereas community members emphasized that learning about this culture was a significant benefit of the partnership in that it helped them to better maneuver future interactions with researchers, as well as increasingly understand the grant application process. This discovery highlights the value of obtaining this feedback along with the importance of appreciating and embracing differing viewpoints among partners throughout the research process.

Although the process of incorporating multiple stakeholder feedback was not without its drawbacks, including the time-consuming nature of the process, we believe that obtaining this feedback significantly enhanced the quality and applicability of the resultant measure by encouraging a broader conceptualization of partnerships, one that incorporates the perspective of both researchers and community members. Additionally, we sought to make such meetings useful for all members involved. As such, during meetings with community members, the facilitator also discussed other areas of interest to each community member (e.g., responding to requests for access to relevant literature and assistance with grant writing), and new partnerships were formed.

DISCUSSION

This article outlines the development of the PAIR measure, an assessment tool intended to measure important dimensions of the relationship between researchers and community members collaborating on community-based programming and research. Further, we highlight the CBPR methodology used, including a summary of the iterative development process and the ways in which partnerships with academic researchers and community members contributed to the measure development and influenced the interpretation of feedback.

This article provides an example of measure development using CBPR methodology. Key stakeholders were involved throughout the research process with the goal of producing an increasingly culturally relevant assessment instrument. The resulting measure of community research partnerships, moreover, has the potential to be a useful addition to relatively few measures existing to comprehensively assess for academic–community partnership factors. Further, PAIR is the only measure for this construct that applied a CBPR methodology in its development. The measure remains a work in progress, with subsequent steps including piloting the current version with various groups of community members and academic researchers partnering in community–academic collaborative research efforts to establish psychometric properties of the measure. Upon completion of these additional steps, we intend to disseminate that PAIR for use for research and clinical purposes within diverse community–academic collaborations.

Although an important illustration of the incorporation of a CBPR methodology to measure development, this measure

development process is not without its limitations. Specifically, although input from community members and researchers with experience in community–academic collaborative research projects was sought and incorporated into the measure development, only community partners and researchers with whom the authors had existing relationships or had contact via other partners participated. Although these individuals had both positive and negative experiences with past community–academic collaborative research projects, they were, for the most part, from the same urban cities. We are cognizant that differences across historical and geographical contexts in the process of partnership formation and maintenance are expected to exist; thus, we intend to address this concern in the next step of our measurement design as we pilot the measure nationally, with individuals working within increasingly diverse partnerships. Additionally, although we invited an equal number of researchers and community partners to participate in the measure development process, researchers were overrepresented in our sample, possibly owing to the greater flexibility of the researchers’ time during the course of this project. Nevertheless, we had strong participation of

both community-based researchers and community leaders interested in collaborative research throughout, and we plan to have much contact and high levels of involvement by community partners in our future studies and testing of PAIR.

Owing to the increased application of CBPR methodology, as evidenced by the growing number of peer-reviewed articles and grant-funding mechanisms directly supporting CBPR partnerships and projects, a better understanding of the contribution of the community–researcher partnership to the collaborative process is crucial. Once the psychometric properties of PAIR are established, this measure of community–academic partnerships may provide an opportunity to increasingly elucidate the potential benefits of such an approach through assessment of the impact of community–academic partnership characteristics on outcomes of interest (e.g., the sustainability of interventions). Further, PAIR may have important implications for partnerships in a variety of settings, wherein the measure could be used by community members and researchers to assess and subsequently enhance the quality and transparency of their relationships, thereby potentially improving the application of their work.

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