Measurement Approaches to Partnership Success: A Community-Based Participatory Research (CBPR) Validation Study

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MAPS RESEARCH TEAM

Multiple Principal Investigators
- Barbara L. Brush, PhD, ANP-BC, FAAN
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Core Research Team
- Chris Coombe, PhD, MPH: Co-Investigator
- Ricardo de Majo, MS: Database Analyst
- Carol Gray, MPH: Detroit URC Center Manager
- Megan Jensen, MPH: Project Manager
- S.Y. Daniel Lee, PhD: Co-Investigator
- Graciela Mentz, PhD: Data Manager
- Eliza Wilson-Powers, BFA: Administrative Coordinator

Postdoctoral Researchers
- Paul Chandanabhumma, PhD, MPH (2019-21)
- Michael Muhammad, PhD, MA (2016-18)
- Edward J. Rohn, PhD (2016-17)

Student Researchers
- Kerent Amaya, MPH ‘18
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- Anurima Kumar, BA ‘20
- Adena Gabrysiak, MPH Candidate ‘22
The Measurement Approaches to Partnership Success (MAPS) is a project of the Detroit Community-Academic Urban Research Center (Detroit URC) and builds upon its work using a CBPR approach throughout all stages of the project.
Measurement Approaches to Partnership Success (MAPS) Study: Specific Aims

**Specific Aim 1**
Clearly define CBPR partnership success and develop a tool (MAPS) to assess partnership success.

**Specific Aim 2**
Test the psychometric qualities of the MAPS tool.

**Specific Aim 3**
Develop mechanisms to feedback and apply partnership evaluation findings and widely disseminate.
Conceptual Framework for Understanding and Assessing Success in Long-standing Community-Based Participatory Research Partnerships

**Environmental Characteristics**

- **Structure**
- **Group Dynamics**
- **Partnership Programs and Interventions**

**Intermediate Outcomes of Effective Partnerships**
- Realization of benefits over time (individual, organizational, community)
- Shared ownership, commitment
- Ability to adapt, respond
- Synergy created
- Capacity enhanced
- Reciprocity (mutual exchange of knowledge, resources, and opportunities)
- Partnership equity

**MAPS Focus**

**Long-term Outcomes of Effective Partnerships**
- Sustainability
- Deliverables from research (grants, papers, presentations)
- Tangible community and/or health benefits
- Policy and practice change
- Health equity

**Success of Long-standing Partnerships**
- Expanded relationships/influence beyond the partnership
- Achievement of outcomes/accomplished what aimed to do
- Personal enrichment
- Long-term commitment to the partnership
- Intangibles associated with partnership over and above outcomes (such as, genuine friendship, good will, high level collaboration, acceptance)

MAPS Expert Panelists – Community Partners

Alex Allen
Executive Director
Chandler Park Conservancy
Detroit, Michigan

Linda Burhansstipanov
Founder/President & Grants Director
Native American Cancer Research Corporation
Denver, Colorado

Ella Greene-Motion
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CBOP Community Ethics Review Board
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Detroit Hispanic Development Corporation
Detroit, Michigan

Al Richmond
Executive Director
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Raleigh, North Carolina

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Friends of Parkside
Detroit, Michigan

Peggy Shepard
Executive Director
WEACT for Environmental Justice
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MAPS Expert Panelists – Academic Partners

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Nina Wallerstein  
Professor of Public Health  
University of New Mexico School of Medicine  
Albuquerque, New Mexico
WHY USE MIXED METHODS IN CBPR?

• Values both **OBJECTIVE** and **SUBJECTIVE** knowing

• Strengths of each single method combined to give fuller understanding

• Integration and comparison

*Members of the MAPS Expert Panel at the face-to-face round of the Delphi process in June 2018: From L-R: Zachary Rowe, Nina Wallerstein, Peggy Shepard, Angela Reyes*
DESIGNING A MIXED METHODS STUDY
BASED ON THEORETICAL FRAMEWORK & RESEARCH QUESTION

Exploratory Sequential Design

- Qualitative Data Collection and Analysis
- Quantitative Data Collection and Analysis

Explanatory Sequential Design

- Quantitative Data Collection and Analysis
- Qualitative Data Collection and Analysis

Convergent Design

- Qualitative Data Collection and Analysis
- Quantitative Data Collection and Analysis

Compare or relate Integration

A Concise Introduction to Mixed Methods Research, Creswell, J. 2015
MAPS QUESTIONNAIRE DEVELOPMENT

- Key informant interviews with Expert Panel + Scoping Literature Review
- Delphi process (3 Rounds: 2 online & 1 in-person)
- Cognitive interviews and pilot testing
- Survey launched in field with long-standing CBPR partnerships

MAPS Measurement Item Pool

Refinement of MAPS Items

MAPS Items Refined Further
EXAMPLE OF SELECTED MEASURES INFORMED BY MIXED METHODS

MEASURE OF INTEREST: PARTNERSHIP SYNERGY

**In Vivo Codes from Key Informant Interviews**

Where you get to is better than either would’ve gotten to alone. Having diverse partners together can accomplish more than could separately. Collaboration among diverse partners helps the partnership accomplish its objectives.

**Draft Questionnaire Item for Delphi Process**

B-2. Having diverse community and academic partners together accomplishes more than could be accomplished separately.

**Delphi (Rounds 1-3),* Cognitive Interviews (CI), Pilot Testing (PT)**

D-R1: Item Deleted
D-R2: Item Reworded, re-added

**Final Item in the MAPS Questionnaire**

76. Working together, the partnership accomplishes more than partners could accomplish separately.
<table>
<thead>
<tr>
<th>MAPS Questionnaire Domains (n=7)</th>
<th>No. of Items (n=81)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity in the partnership</td>
<td>23 items</td>
</tr>
<tr>
<td>Reciprocity</td>
<td>6 items</td>
</tr>
<tr>
<td>Competence enhancement</td>
<td>11 items</td>
</tr>
<tr>
<td>Partnership synergy</td>
<td>7 items</td>
</tr>
<tr>
<td>Sustainability</td>
<td>16 items</td>
</tr>
<tr>
<td>Realization of benefits over time</td>
<td>8 items</td>
</tr>
<tr>
<td>Achievement of intermediate and long-term partnership goals/outcomes (e.g., equity)</td>
<td>10 items</td>
</tr>
</tbody>
</table>
ADVANTAGES OF USING MIXED METHODS IN CBPR

- Creates mechanisms for multiple forms of participation from diverse entities
- Builds capacity across multiple methods and designs
- Demonstrates that diverse contributions are valued
- Increases confidence in the results

Members of the MAPS Expert Panel at the face-to-face round of the Delphi process in June 2018
Partnership Eligibility Criteria Include:

1. Have been in existence for at least six years and continue to operate
2. Show evidence of following CBPR principles and norms
3. Conduct ongoing partnership evaluation
4. Show evidence of dissemination
5. Consent to participate
Of the 44 partnerships that have completed the MAPS study
## TABLE 2: CHARACTERISTICS OF PARTNERSHIPS (n=44)

<table>
<thead>
<tr>
<th>Size of Partnership</th>
<th>n (%)</th>
<th>Years of Existence</th>
<th>n (%)</th>
<th>Community Type</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small: 3-8 partners</td>
<td>15 (34%)</td>
<td>6-9 Years</td>
<td>20 (46%)</td>
<td>Urban</td>
<td>19 (43%)</td>
</tr>
<tr>
<td>Medium: 9-15 partners</td>
<td>17 (39%)</td>
<td>10-14 Years</td>
<td>15 (34%)</td>
<td>Rural</td>
<td>7 (16%)</td>
</tr>
<tr>
<td>Large: 16+ partners</td>
<td>12 (27%)</td>
<td>15+ Years</td>
<td>9 (20%)</td>
<td>Suburban</td>
<td>1 (2%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tribal</td>
<td>1 (2%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>More than one</td>
<td>16 (37%)</td>
</tr>
</tbody>
</table>
### Table 3: Cronbach’s Alpha & Internal Consistency

<table>
<thead>
<tr>
<th>MAPS Questionnaire Domain</th>
<th>Cronbach’s Alpha</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity in the partnership</td>
<td>0.947</td>
<td>(0.940, 0.953)</td>
</tr>
<tr>
<td>Reciprocity</td>
<td>0.856</td>
<td>(0.836, 0.875)</td>
</tr>
<tr>
<td>Competence enhancement</td>
<td>0.916</td>
<td>(0.904, 0.927)</td>
</tr>
<tr>
<td>Partnership synergy</td>
<td>0.891</td>
<td>(0.876, 0.905)</td>
</tr>
<tr>
<td>Sustainability</td>
<td>0.905</td>
<td>(0.892, 0.917)</td>
</tr>
<tr>
<td>Realization of benefits over time</td>
<td>0.846</td>
<td>(0.824, 0.866)</td>
</tr>
<tr>
<td>Achievement of intermediate and long-term goals/outcomes</td>
<td>0.913</td>
<td>(0.901, 0.924)</td>
</tr>
</tbody>
</table>
### TABLE 4: CONVERGENT AND DIVERGENT VALIDITY:
Using MAPS “Reciprocity” Domain Compared with all other Domains

<table>
<thead>
<tr>
<th>Items from MAPS</th>
<th>Equity</th>
<th>RECIPROCITY</th>
<th>Competence</th>
<th>Synergy</th>
<th>Sustainability</th>
<th>Realization of benefits over time</th>
<th>Achievement of intermediate or long-term goals/outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECIROCITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53. Partners incorporate the ideas, skills, and abilities of one another.</td>
<td>0.665</td>
<td><strong>0.829</strong></td>
<td>0.648</td>
<td>0.676</td>
<td>0.557</td>
<td>0.561</td>
<td>0.583</td>
</tr>
<tr>
<td>52. Partners are a resource for each other.</td>
<td>0.599</td>
<td><strong>0.813</strong></td>
<td>0.602</td>
<td>0.623</td>
<td>0.541</td>
<td>0.549</td>
<td>0.526</td>
</tr>
<tr>
<td>56. Over time, all partners exchange their expertise within the partnership.</td>
<td>0.643</td>
<td><strong>0.805</strong></td>
<td>0.634</td>
<td>0.635</td>
<td>0.563</td>
<td>0.530</td>
<td>0.606</td>
</tr>
<tr>
<td>54. Partners recognize each other’s expertise.</td>
<td>0.603</td>
<td><strong>0.795</strong></td>
<td>0.558</td>
<td>0.632</td>
<td>0.465</td>
<td>0.465</td>
<td>0.493</td>
</tr>
<tr>
<td>57. Partners support each other outside of partnership activities (for example, attend events, celebrate partner's achievements, provide letters of support).</td>
<td>0.574</td>
<td><strong>0.753</strong></td>
<td>0.558</td>
<td>0.597</td>
<td>0.481</td>
<td>0.493</td>
<td>0.516</td>
</tr>
<tr>
<td>55. The exchange of expertise among partners may vary at different points in time in the partnership.</td>
<td>0.488</td>
<td><strong>0.645</strong></td>
<td>0.483</td>
<td>0.457</td>
<td>0.447</td>
<td>0.475</td>
<td>0.440</td>
</tr>
</tbody>
</table>
### TABLE 5: TEST-RETEST RELIABILITY

<table>
<thead>
<tr>
<th>MAPS Questionnaire Domain</th>
<th>Percentage of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity in the partnership</td>
<td>93.21</td>
</tr>
<tr>
<td>Reciprocity</td>
<td>97.40</td>
</tr>
<tr>
<td>Competence Enhancement</td>
<td>90.91</td>
</tr>
<tr>
<td>Partnership Synergy</td>
<td>96.88</td>
</tr>
<tr>
<td>Sustainability</td>
<td>88.67</td>
</tr>
<tr>
<td>Realization of Benefits over time</td>
<td>88.67</td>
</tr>
<tr>
<td>Achievement of intermediate and long-term outcomes</td>
<td>86.88</td>
</tr>
<tr>
<td>Overall</td>
<td>91.28</td>
</tr>
</tbody>
</table>
SUMMARY OF PRELIMINARY ANALYSIS – THE MAPS QUESTIONNAIRE DEMONSTRATES:

• **INTERNAL CONSISTENCY**
  - Cronbach’s Alpha show that all measured domains having high levels of internal consistency and reliability.

• **CONVERGENCE/DIVERGENCE VALIDITY**
  - Correlations demonstrate items converge to the appropriate domain and diverge from other domains.

• **RELIABILITY OVER TIME**
  - Test-Retest analysis demonstrates that when applied over time, item responses show consistent measurement of the domain.
Next Steps

- Finalize partnership recruitment
- Analyze data using classical and modern approaches
- Provide feedback to partnerships
- Develop and disseminate feedback and evaluation guide
- Revise and disseminate MAPS questionnaire
MAPS PUBLICATIONS TO-DATE


THANK YOU!
The Measurement Approaches to Partnership Success (MAPS) Team

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The MAPS Research Team and Expert Panelists at the June 2018 Face-to-Face meeting of the Delphi Process in Ann Arbor, Michigan.