

The Effect of Minority Academic Leadership on the Culture Centeredness of Community Based
Participatory Research Partnerships

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Abstract

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Community based participatory research (CBPR) approaches have been applied in public health research to address racial and ethnic health disparities. Previous work identifies minority investigators as having enhanced potential to conduct health research that is more appropriate, inclusive and representative of minority communities. This secondary data analysis of the Research for Improved Health Study explores the influence of minority Primary Investigators (PI) on the culture centeredness of CBPR projects. Federally funded community engaged research projects funded in 2009 were recruited (N= 333) and key research project personnel (N=450), project PIs (n=138) and community engaged research partners (n= 312), were surveyed on the dynamics and practices of their CBPR partnerships, including a culture centeredness scale which serves as an indicator of power sharing, community voice, and the grounding of the project in the community's culture. Linear regression analysis indicate that the difference in the mean culture centered scale score between projects lead by white and minority PIs is not significantly different from zero, and there is no significant association between the race of the PI and culture centeredness score, $\beta=0.0002$, $p=0.99$, (95% CI: -0.096, 0.097). The study hypothesis that projects lead by minority PIs would have higher culture centeredness scores than those lead by white PIs was not supported and these results suggest the minority status of the PI is not strongly related to the culture centeredness of community engaged research partnerships.

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Background

In the United States there are substantial health inequities between minorities and whites on many health outcomes, from life expectancy, acute and chronic diseases to birth outcomes.¹ Race is a socially constructed category with little biological significance, but health disparities between race and ethnic groups, are demonstrative of structural inequality, which results in poorer health outcomes for minority populations.² Race and ethnicity are rough proxies for socioeconomic status, and reflect how racism shapes influences the structures which differentially distribute resources, opportunity and power within society.³ Rather than a direct representation of race in itself, racial and ethnic health disparities are the result of complex interactions of the effects of social disadvantage, environment, psychosocial stress and discrimination.⁴ Public health has long recognized and documented the health disparities present in marginalized communities, but there is still a pressing need for effective, appropriate and sustainable strategies, to address these disparities.⁵

An example of the effects of social disadvantage on opportunity and participation is the underrepresentation of minorities in the health professions workforce, which does not reflect the demographic composition of the United States.⁶ Addressing this imbalance may help to eliminate racial/ethnic health disparities by providing more culturally competent care to an increasingly diverse population.⁷ The Institute of Medicine finds that that more representative diversity among clinicians and health researchers is both a social justice imperative and a necessary step in addressing racial and ethnic health disparities.⁸ Studies have demonstrated that a diverse health professional workforce can improve population health through increased access to care for underserved populations, better patient-provider relationships, increased likelihood of cultural and language concordance and improved trust in and utilization of health care services.⁹

For example, minority physicians are more likely to serve minority and underserved populations than non-minority physicians.¹⁰ Shared language, culture, and race and ethnicity, between patients and providers have been shown to improve outcomes such as perceived patient quality of care and access and utilization of services.⁹ Much of the literature on the importance of diversity in the health sciences has been focused on clinicians, yet there is an equally important need for diversity among public health researchers.

The National Institutes of Health, Institute of Medicine and National Academy of Sciences, among other organizations, have recognized the substantial underrepresentation of ethnic minorities in Science Technology Mathematics and Engineering (STEM) research.^{11,12} Similar to the health care workforce, the landscape of STEM does not reflect the increasingly diverse racial and ethnic composition of the United States. There are efforts to increase the diversity of STEM fields, but the status quo continues to be underrepresentation and underfunding of many minority scientists.^{13,14} The absence of large proportions of the population from these fields is viewed as an injustice and a loss of potential talent and innovation.¹⁵ The underrepresentation of minorities in the STEM workforce is demonstrative of systemic discrimination, historic exclusion and inequity throughout the education system in United States, which is connected to disparities in income, educational attainment, opportunity, power and health.¹²

Benefits of Diversity in Research

Minority researchers are not a homogenous group and there is great diversity among them, yet the minority experience may impart values and insights in investigators of color that influence their scholarship, service and involvement in the community.¹⁶ For example, minority

professors are more likely than white professors to identify the ability to influence societal change as a motivation for entering their profession.¹⁶ Minority faculty at universities are also more likely to provide services to the community and spend more time engaged in service than their white colleagues.¹⁷ Advocates for increased representation in scientific research suggest that minority investigators will be more likely to take a culturally appropriate approach to more relevant research questions that address racial and ethnic health disparities.¹⁸

It is also thought that researchers from diverse backgrounds bring added value through work that is more inclusive, sensitive and likely to address unmet needs.¹⁹ Research questions are informed by personal and lived experiences, and greater diversity in the health sciences may help broaden research agendas to more effectively address health disparities.²⁰ Minority scientists may also have greater access to, credibility within, and knowledge of their communities.²¹ Diverse research teams that are representative of the communities are more likely to be adept at understanding the nuances of the relationships between race and ethnicity, cultural context and health.²² Although there have been many assertions of the benefits of a more inclusive and diverse health research landscape, there is little research which characterizes community health research conducted by minority investigators.

CBPR and Health Disparities

Community engaged public health research is an increasingly important strategy to enhance efforts to address racial and ethnic health disparities.²³ Stakeholder knowledge and participation in health research is important in appropriately addressing the real-world settings and contexts of complex health issues.²⁴ CBPR is a collaborative research approach, which involves the community as an equal partner in the research process and seeks to democratize

knowledge production, equalize power between institutions and communities, empower community voice and combine knowledge and action for social change.^{25,26}

CBPR has its roots in popular education and is built on foundations of mutually beneficial partnerships between communities and researchers and the democratization of knowledge.^{27,28} Through meaningful participation, communities engage in all steps of the research process as active collaborators, challenging “top-down” models of research. Benefits to communities include improved access to needed services, technical assistance, resources for building community capacity and an enhanced ability to influence policy change.²⁹ In these partnerships, researchers are provided with opportunities for advancing public health science through improved intervention design and framing questions through a better understanding of complex population health issues.²⁹ Through shared power, CBPR has an emancipatory purpose, with the goal of equalizing the production of knowledge and benefiting both communities and researchers through social transformation.²⁷ There are nine principles, which guide CBPR partnerships in practice.³⁰

Principles of CBPR

1. Recognition of the community as a unit of identity that must be defined by the partnership.
2. CBPR builds on the community's strengths and resources.
3. All steps of research involve and empower participants through a collaborative and power-sharing partnership that attends to social inequalities.
4. Co-learning and capacity building is promoted among all partners.
5. Research and action goals are balanced and integrated for the mutual benefit of all partners.

6. CBPR places an emphasis on public health problems of local relevance and ecological perspectives that attend to the complex determinates of health and disease.
7. Involves a cyclical and iterative process for systems development.
8. Involves all partners in the sharing of findings and dissemination process.
9. CBPR requires long-term commitment to process and sustainability.

Adherence to these principles is important, and they should be integrated into CBPR partnerships with adaptations based on the context of each situation.³⁰ CBPR involves a reflexive approach to research and the partnership process. For example, data analysis may be a process that community members do not have the time nor desire to be involved with and may choose to put their efforts towards activities such as dissemination or advocacy for policy change.³¹

CBPR may help bridge gaps between science and practice by bringing research closer to the actual context and environment of complex health issues.³² CBPR is viewed as particularly promising in advancing translational and implementation science by helping produce culturally supported and contextually relevant public health interventions and programs.³³ Participation and partnership are at the core of CBPR, yet little is known about how these impact public health interventions and outcomes.³⁴ A systematic review of CBPR studies yielded mixed results on the impacts of CBPR, showing improved recruitment, research methods, dissemination and implementation, but the evidence regarding health outcomes was unclear.³⁵ The heterogeneity of projects creates a substantial challenge in evaluating the process, outcomes and impacts of CBPR. The CBPR evidence base is in need of evaluation that takes into account the complexity and variability of projects.³⁴

CBPR Conceptual Model

Understanding how the dimensions of CBPR practice impact health outcomes is important in evaluation and identifying effective community engaged research strategies to improve health and advance public health practice. A collaboration lead by the National Congress of American Indians Policy Research Center, the University of New Mexico and the University of Washington created a conceptual logic model for CBPR research (Figure 1). This model was developed to guide the study, strengthen the CBPR research agenda and provide a framework for practitioners of CBPR for the development, implementation and evaluation of successful CBPR.³⁴ The model was synthesized through a literature review, a survey of CBPR participants, knowledge from academic and community experts, and guidance from an advisory committee. The conceptual model categorizes four dimensions of CBPR factors; contexts, group dynamics, intervention and outcomes.³⁴

Contextual factors are the setting in which a partnership is initiated and developed. These factors include socioeconomic and cultural factors, national and local policies and trends, historic context, community and university capacity and readiness and the perceived severity and saliency of the health issue. Contextual factors influence partnership including the systemic conditions that contribute to health disparities, availability of resources, policy environments, the project's core values, the ability to create change, institutional support and the mobilization of communities.

Group dynamics are factors that determine how the practice of CBPR is carried out. The group dynamics interact with CBPR partnerships on three levels; individual, structural and relational. Individual level dynamics encompass self-efficacy, beliefs and motivation, cultural humility, trust and reflexivity. Structural dynamics describe factors, which influence the nature

of the group including diversity, membership, rules, modes of operation and alignment with principles. Relational dynamics characterize the way in which group members interact, communicate, negotiate, distribute power and influence, identify with beliefs and make decisions within the partnership.

Intervention is the dimension that leads to the outcomes and is shaped by the interaction of group dynamics and contextual factors. The intervention construct in the model includes research designs for implementation, programs, interventions and dissemination. Interventions in CBPR must reflect community culture and norms, be appropriate for communities' readiness for change and have relevant strategies for dissemination.

Outcomes include impacts on systems, capacity, health, relationship changes that promote more equal power dynamics, research infrastructure, policy development, organization and institution practices, and cultural revitalization. These factors are the ultimate goal of CBPR partnerships in eliminating health disparities and working towards social justice goals. Measuring outcomes is particularly difficult due to the variability of study designs and the extensive amount of time required for some policy, institutional and organizational changes to come into fruition.

Although the model is represented in a linear fashion, the dimensions of CBPR are dynamic and can interact in many ways. For example, outcomes can influence the context and other dimensions of the CBPR partnerships. The aims of further research are to test the constructs and relationships represented in the model and gain a better understanding of the dynamics of CBPR partnerships.

The Culture Centered Approach

The benefits of community engaged research have been recognized beyond health disparities research and within the field of health communication there is a growing emphasis on participation and community voice in the articulation and communication of health issues and their solutions. The culture centered approach is an emerging framework for addressing health disparities in marginalized communities by working from within a culture to identify the health issues and solutions that a community believes are important.³⁶ In response to traditional approaches to health promotion and communication, which aim to fit cultural components into the dominant culture's conceptualization of health, the culture-centered approach focuses on the construction of health meanings and experiences that originate in the local cultural context.³⁷ Additionally, the culture centered approach emphasizes the community articulation of health and participation as part of the foundation of meaningful social change to address health disparities.³⁸

The culture centered framework is built on the interactions between three main constructs; structure, culture and agency (Figure 2). Structure refers to the characteristics of social organization that facilitate or create barriers to community members in engaging in health related behaviors.³⁷ Culture refers to the context in which health meanings are constructed, and provides the communication, value and knowledge framework in which concepts of health, illness and wellbeing are understood. Agency refers to the capacity of communities to participate, influence, and make choices about health within society. These three constructs interact to create the settings in which communities understand, construct and navigate their meanings of health.³⁶ For example, culture is formed in response to community interaction with structure, and in turn culture is the venue in which agency is fulfilled. The culture centered approach provides a conceptual framework to understand the way in which community meanings and constructions of health are both articulated and silenced by the dominant culture.

The understanding of health communication is particularly important within the context of CBPR, because the research is a dialogue between communities and researchers, and the influence of community voice and the positioning of the project within the community's culture indicates power sharing in the partnership. Comparable to CBPR, the application of the culture centered approach involves identifying health problems and relevant solutions from the community, constructs health in the community context and mobilizes community members to address the health issue through social action. Culture-centeredness in CBPR partnerships serves as an indicator of important CBPR principles including, power sharing, the reflection of genuine community voice, the degree to which community participation is present and the location of the project in the community's culture. The culture-centered approach contributes to the evaluation of CBPR by providing a critical lens on the role of a community's culture in participation, partnership power dynamics, decision making and efforts for social change.

The role of culture in CBPR is important to consider because partnerships require complex and often difficult negotiations of power and privilege. The power relationships between academic institutions and marginalized communities are deeply entrenched, and despite good intentions, the principles of CBPR may not be sufficient for overcoming the dynamics of racism, privilege and differential access to resources that are present in research.³⁹ The navigation of relationships of culture, race and privilege is part of the minority experience in the United States, which is characterized by bicultural socialization, learning to function simultaneously in within minority culture and majority society.⁴⁰ Through bicultural socialization members of minority groups build skills in navigating and adapting to the norms and values of different cultures, an important competency when building the relationships in a CBPR partnership.⁴⁰ Given the importance of the success of CBPR partnerships on the ability of

the Primary Investigator (PI) to engage, navigate, communicate and understand community dynamics, the influence of a minority PI on a community engaged research project is an important topic of investigation.

A critique of CBPR is often, minority communities are the focus of projects, yet there is a dearth of minority PIs leading CBPR projects.⁴¹ When involved, minority researchers often act as bridges between academics and communities, helping to interpret community norms, values and culture.⁴² As a result, minority researchers may have greater access to the “hidden transcripts” of communities in academic community partnerships, leading to a better understanding of community voice and dynamics.⁴² Many minority investigators engaged in research with their communities, are motivated by a by a desire to contribute authenticity and a representative voice to the existing theories about their communities that have been constructed by others.⁴³ Although there is great diversity among minority investigators, the literature suggests that given increased access to, understanding of and motivation to represent community voice, that minority investigators conducting community engaged health research might have a higher likelihood of success in building culture centered research partnerships.

Hypothesis

Given that previous work identifies minority investigators as having the experience, understanding and insight to conduct health research that is more appropriate, inclusive and sensitive it was hypothesized that among community engaged research projects, those lead by minority investigators will have higher culture centeredness scores than projects lead by a white primary investigator.

Data Set: The Research for Improved Health Study

This thesis is a secondary analysis of data from “The Research for Improved Health Study” (RIH), which seeks to understand how communities are engaged in health research and intervention projects, including factors and conditions that facilitate or diminish successful, effective and sustainable community academic partnerships.⁴⁴ RIH was a mixed-methods study that included case studies, interviews, focus groups and a nationwide cross sectional survey to collect data on community-engaged research projects in health. This thesis is an analysis of only the quantitative survey data collected for the study from both participating project PIs and community engaged research partners.

Partnership

The RIH study was a partnership between the Native American Research Council of Health (NARCH), the University of New Mexico and the University of Washington. The primary grant recipient was the National Congress of American Indians Policy Research Center (NCAI), which subcontracted to the two academic institutions. The partnership grew out of previous work in developing the CBPR conceptual model (Figure 1). The University of New Mexico lead the qualitative arm of the study and the University of Washington lead the quantitative arm of the study. NCAI provided oversight, guidance, developed collaboration policies, and assisted in instrument development, data collection, interpretation of findings and manuscript writing. Advisory committees consisting of academic and community members with CBPR expertise provided input on qualitative and quantitative research design. The study protocol was approved by the University of Washington, University of New Mexico and the National Indian Health Service Institutional Review Boards.

Data Acquisition Process

Student participation in the RIH study required engagement with the research team, a presentation and approval of the research proposal to gain access to the data collected for the study. As a condition of conducting research with RIH study data, students must uphold the NCAI Policy Research Center core values, the project code of ethics and integrity and the project confidentiality policy while conducting their research. Manuscripts and publications utilizing study data required final approval from the RIH Study PIs.

Methods

Selection of Study Subjects

Survey data were obtained through a national cross sectional web-based survey among federally funded, community engaged, health research projects. Community engaged research projects active in 2009 were identified through a search of the NIH RePORTER grant database in February 2010 (N=103,250). Inclusion criteria for the study were US based projects, funded through Research Project Grant (R) and Cooperative Agreement (U) mechanisms and had at least two years of remaining funding (n=43,061). Potential community engaged research projects were identified through a programmed search of grant abstracts in the database for key words and specific aims for the following terms: community, community-based, participatory, tribal, AIAN, action, engagement, research, tribally-driven, CBPR, CEnR, and PAR ($n = 992$). A member of the research team reviewed research grant abstracts from these projects and categorized as “community engaged research,” “possible community engaged research” or “not community engaged research.” A second member of the research team reviewed the grant abstracts and discrepancies in categorization were decided upon by team consensus. Project officers from the Indian Health Service, Centers for Disease

Control and Prevention and the NIH were consulted to identify other key community engaged research projects to include in the study not in the RePORTER database and appropriate projects funded by NARCH grants were also included (n=39). In total, 333 community engaged research projects met the study inclusion criteria (Figure 3).

Recruitment

The study used a nested sampling design to recruit participants from November 2011 through August 2012. The PI of each qualifying project (N=333) was the initial contact an online Key Informant (KI) survey that collected project related information such as funding, resource sharing, data policies, types of formal agreements in the partnership, general policies and procedures and demographic information. Each qualifying community engaged research project PI (N=333) was sent an invitation letter, study information sheet and a \$20.00 cash incentive, which they could keep regardless of participation, via mail. Out of the 333 identified community engaged research projects, 294 self confirmed as community engaged research, 33 PIs self reported not conducting CBPR or community engaged research and 6 were screened out upon second review of project abstracts. Among these projects, 200 (68%) project PIs elected to participate by completing the KI Survey.

Project PIs identified and provided contact information for up to four community engaged project partners to complete the Community Engaged (CE) Survey that collected information on CBPR practice, group and relational dynamics and project outcomes. Among community engaged research partners referred to the study by a project PI, 312 (77%) out of 405 completed the CE Survey. Project PIs were also asked to complete this survey, and among these project PIs, 138 (69%) out of 200 completed the CE Survey in addition to the KI Survey.

In total, 450 combined PI and community engaged research partner participants completed the CE Survey.

Measures

The main independent variable of interest, minority status of the Primary Investigator, was created using self reported data on racial/ethnic origin collected by the Key Informant Survey. This measure represents the race of the PI leading the community engaged research project and is applied to all survey respondents for a given project. This measure does not always represent the race of the individual survey respondent, and in many cases they are different. The race of the Primary Investigator was represented as a binomial variable with those identifying as White as the reference category and those reporting American Indian, Alaska Native, Hispanic, Asian, Pacific Islander, Black, Mixed Race and Other as the minority category. White PIs were coded as “0” the reference category, and minority PIs coded as “1.”

In the main analysis the dependent variable of interest, culture-centeredness, is calculated as a composite value from select items from Community Engaged Survey responses. The scale was developed by RIH research team members in collaboration with a culture centered health communication scholar using survey items that corresponded with the constructs of culture centered theory.³⁶ (See Table 1 for culture centered scale items). Domain scores from each of the main constructs of the cultured scale (task communication, power relations, participatory decision making, system changes, and community capacity) were calculated from participant responses from the CE survey and factor analysis was conducted for each construct. A composite culture centered score was calculated from the construct domain scores and is presented as a mean score for each respondent.

Covariates of interest are the gender of the project PI and the role of the participant on a project. Information about the gender of the PI was collected by research team members through names on the RePORTER database and verified through Internet search of biographical information on the PI. Role of the participant was determined by whether a participant was the project PI or a community engaged research partner that a PI referred to participate in the study.

Data analysis

All data analyses were conducted using Stata 12 statistical software.⁴⁵ Descriptive statistics were calculated and reported for variables of interest (Table 2). T-tests were conducted to compare means between groups. Linear regression analysis was conducted with race of the associated project PI as the independent variable and the culture-centered score as the dependent variable. The hypothesis for this analysis was that the minority status of project PIs would have an effect on the mean culture centeredness scale scores of respondents. PI gender and respondent role type, PI or research partner, were also considered as covariates to include in the model. All regression models used a variance estimator that adjusted standard errors for within-cluster correlation of respondents associated with the same project.

Results

Sample Demographic Characteristics

Descriptive statistics were calculated and are presented in Table 3. In the sample PIs comprised 138 (31%) of participants and community engaged research partners were 312 (69%) of the 450 respondents. Race/ethnicity data for associated project PI was available for 440 participants and only responses from these participants were used in the analysis. Among PIs 88 (66%) were

white, 47 (34%) were minorities and 3 (2%) did not provide information on their race/ethnicity. Among community engaged research partners, 128 (40%) were white, 148 (47%) were minorities and 38 (9%) did not provide any information regarding their race. Among PIs 101 (73%) were female and 37 (27%) were male.

Comparison of means

Mean culture centeredness scores for all respondents ($M=3.11$, $SD=0.41$), results from an independent t-test indicate that among study respondents there is no significant difference between the mean culture centeredness score of projects with a White ($M=3.11$, $SD=0.39$) or Minority ($M=3.11$, $SD=0.43$) Primary Investigator, $t(437)=-0.004$ $p=0.99$.

Regression Analysis

The dependent variable, the composite score on the culture centeredness scale is represented as a continuous variable. The main independent variable of interest is the minority status of the project Primary Investigator, which is represented as “white” the reference category, or “minority.” Linear regression analysis results (Table 4) indicate that the change in the mean culture centered scale score between projects lead by white and minority PIs is not significantly different from zero, and there is not a significant association between race of the PI and culture centeredness score, $\beta=0.0002$, $p=0.99$, (95% CI: -0.096, 0.097) (Table 4). The overall model fit was $R^2 < 0.00$. Minority status of the project PI is not a significant predictor of the variation in culture centered scale scores, $F(1, 158)=0.00$, $p=0.99$. Multiple regression models indicate that gender of the PI and project roles are not significant predictors of culture centered score and controlling for them did not significantly improve the model (Table 4).

Discussion

This study investigated whether the minority status of a project PI has an effect on the culture centeredness of a CBPR project. Linear regression analysis results indicate that the change in mean culture centeredness scale scores between white and minority PI lead partnerships was not significantly different and the study hypothesis was not supported. These results suggest that among community engaged research projects, the culture centeredness of partnerships is not associated with the minority status of the project PI.

In this study, we conclude that the culture centeredness of community engaged research projects, as rated by project participants, is not significantly different between white and minority PIs. What we can conclude from this data is limited, but one possible explanation for these findings is that community engaged research approaches, such as CBPR, help provide a framework for research partnerships that helps to bridge racial, ethnic and cultural differences to facilitate interventions and research practices that originate in the community's culture. The culture centered approach is aligned with many of the key principles of CBPR and uptake and implementation of CBPR principles across projects in the sample may be reflected in culture centeredness scores of respondents.

Culture is identified as an important factor in health disparities research, yet the concept of culture remains largely unoperationalized and its impacts on health outcomes are still not well understood.⁴⁶ The shifting demographics of the United States requires that our public health efforts understand and respond to the needs of an increasingly multicultural population.⁴⁷ Within health services research there is an emphasis on cultural competency in health care to help eliminate racial and ethnic health disparities by improving communication, understanding and

utilization of services in the clinical and community health setting.⁴⁷ Public health programs and interventions that are grounded in the community culture may be more effective and have better uptake than those that are not centered in the local context. The culture centered approach provides a tool for community health researchers to design interventions which originate in a community's own values and concepts of health. Both CBPR and the culture centered approach provide frameworks to guide public health research that engages and reflects the values and culture of communities, strategies which have the potential to improve the effectiveness of public health programs and interventions. As public health seeks to better understand the impact of culture on health outcomes and its role in health disparities, it is necessary for the field's scholars to conceptualize, represent and accurately interpret the cultural context of communities as it relates to health.

In public health diversity is recognized as being valuable to the field, yet there is still a need for scholarly leadership to better represent minority communities. For example, within this study's sample, the proportion of white primary investigators was greater than the proportion of minority investigators. Although this is a typical pattern in academia, it is necessary for the success of the field to have more researchers of color that are trained in the application of public health science and theory to real-world contexts. Despite recognition of the benefits of diversity in research and efforts to increase diversity, minority investigators still face a disadvantage in academia. A recent analysis of NIH funding patterns found that Black and Hispanic investigators were less likely to successfully receive funding from the NIH, even after controlling for experience, publication record and education.¹³ Even among those that receive funding, underrepresented minorities received less money than their white and Asian counterparts.¹³ This differential distribution of resources and opportunity demonstrates that

despite recent efforts to increase minority representation among funded investigators, there are still significant barriers for minority researchers.⁴⁸

A recent paper by James and colleagues, suggests that the traditional definitions of academic career accomplishment are not well suited for measuring success in minority involvement in community engaged health research.⁴⁹ They argue that departures from the academic pipeline should not always be seen as failures of completion, and when minority students choose to leave the academic career path to pursue community work, it should be viewed not as a loss, but as a gain for community capacity and infrastructure.⁴⁹ Although the focus of this paper has been on the influence of minority academic leadership, it is important to recognize and value many ways of engaging in CBPR . There is still a need for greater representation of minorities in academia, but recognizing the successful outcomes of minority education and training programs outside of academia, and in the community, helps to expand the scope and reach of efforts to engage communities in research.

Limitations

This work is a secondary data analysis and there are several limitations to this study. For example, these data only evaluate projects that self-identified as community engaged research and we could not make comparisons to non-community engaged research projects. CBPR is a research approach that is time, energy and resource intensive and is not suited for every research question, community or setting. Although it is gaining traction, it lies on the intensive end of the community engaged research continuum and requires additional, time, commitment and relationship building. Given the challenges of community engaged research and CBPR, these research approaches may appeal to investigators, regardless of their race, that are inclined to take a culture centered approach to research due to their interest in and commitment to working with

communities. The PIs in our sample may already have histories of community oriented work and have established relationships working with the community of interest, which may contribute to culture centered research practice.

Minority status of the PI is a crude measure that does not represent the diversity and variability of experience among researchers, nor does it capture important factors such as culture, class, privilege or income.⁵⁰ Minority investigators may not be of the same race as the communities they work with and even among those that are from a similar racial/ethnic background, the affiliation with a university and class differences can impart the investigator with “outsider” status.²³ Additionally, we do not know the race of the community served by the research project for (67%) of the sample and we cannot not make. This limits our ability to make comparisons based on the race of the project PI and partner community and make conclusions about partnership dynamics and the role that the race of the partners plays in project outcomes.

There are limitations to what can be understood from these cross sectional survey data. Community academic partnerships are complex multifaceted relationships and what we can understand about them from survey data is limited. The culture centeredness scale used in this study was developed relatively recently and culture centeredness is an emerging framework and its use in the field of public health is still young. The analysis presented was conducted as an aggregate of responses by participant type, PI and research partner, and conclusions about the culture centeredness on the individual project level are limited. Additionally, the method of sampling community engaged partners, through referrals from the project PI, could have created bias in the survey responses. It is possible that project PIs would have a tendency to refer community engaged research partners that would speak well of the project or with whom they

had good relationships. This might lead to a possible inflation of culture centeredness scores through the exclusion of more critical or dissatisfied voices from the evaluation of the project.

Conclusion

Although this study did not find a significant difference between the culture centeredness of a research project lead by white or minority, PIs it does not negate the importance of researchers from diverse backgrounds leading community engaged health research. Currently, there is a lack of research that characterizes the effect of diversity among investigators and scientific research leadership. Further research on the effects of diverse leadership in community engaged health research will contribute to our knowledge on the dynamics of community academic partnerships and may help to advocate for a more inclusive and representative research landscape to enhance public health scholarship.

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Tables and Figures

Table 1. Culture centeredness scale survey items.

Construct	Community Engaged Survey Item
Task communication— problem definition.	Community partners involved with developing community-based theories of the problem or intervention
	Community partners involved with grant proposal writing.
	Community partners involved with background research
	Community partners involved with choosing research methods
	Community partners involved with developing sampling procedures
Task communication— dissemination/solution	Community partners involved with interpreting study findings
	Community partners involved with writing reports and journal articles
	Community partners involved with giving presentations at meetings and conferences
Task communication— data collection/intervention/ solution.	Community partners involved with recruiting study participants.
	Community partners involved with implementing the intervention
	Community partners involved with designing interview and/or survey questions
	Community partners involved with collecting primary data.
Power relations (reflexivity)	As a result of this project community partners have increased participation in the research process
	As a result of this project community partners can talk about the project in other settings such as a community or political meeting.
	As a result of this project community partners can apply the findings of the research
	As a result of this project community partners can voice their opinions about research in front of researchers
	As a result of this project community partners have sought

	continuing formal or informal education
Participatory Decision-making (reflexivity)	11a. Feel comfortable with the way decisions are made in the project
	11b. Support the decisions made by the community partners
	11c. Feel that your opinion is taken into consideration by other community partners
	11d. Feel that you have been left out of the decision making process (reverse)
System Changes (structural transformation)	25c. Resulted in policy changes
	25d. Improved the overall health status of individuals in the community
	25f. Resulted in the acquisition of additional financial support
	25g. Improved the overall environment in the community
Community capacity (communicative resources)	2a. Partnership has skills and expertise to work effectively towards its aims.
	2c. Partnership has diverse membership to work effectively towards its aims.
	2d. Partnership has legitimacy and credibility to work effectively towards its aims.
	2e. Partnership has ability to bring people together for meetings and activities
	2f. Partnership has connections to political decision-makers, government agencies, other organizations/groups
	2g. Partnership has connections to relevant stakeholders to work effectively towards its aims.

Table 2. Summary of variables used in regression analysis

Variable	N	Mean	Min	Max	SD	Missing
Culture centered composite score	449	3.11	1.75	4.17	0.41	1
PI Race (0= White 1= Minority)	440	0.36	0	1	0.48	10
PI Gender (0= Female 1=Male)	397	0.25	0	1	0.44	53
Role Type (0=PI, 1=Partner)	450	0.69	0	1	0.46	0

Table 3. Participant demographic information.

PI Race		N	%	Partner Race		N	%
White		88	64.2	White		126	40.3
Minority		47	34.1	Minority		148	47.4
	American Indian	4	3.0		American Indian	33	10.8
	Alaska Native	4	3.0		Alaska Native	3	<1
	Hispanic	8	5.9		Hispanic	33	10.8
	Asian	8	5.9		Asian	22	7.2
	Pacific Islander	1	<1		Pacific Islander	3	<1
	Black	14	10.3		Black	42	14
	Mixed Race	7	5.2		Mixed Race	10	3.3
	Other	1	<1		Other	4	1.3
Missing		3	2.1	Missing		38	9.2
Total		138		Total		312	
Total number of respondents				450			
Other characteristics		N	%				
PI Gender							
Female		101	73				
Male		37	27				
Role Type							
PI		138	27				
Partner		312	73				

Table 4. Linear regression models

	(1)	(2)	(3)	(4)
	cc_overall	cc_overall	cc_overall	cc_overall
PI Race	0.000166 (0.0488)	-0.00335 (0.0534)	0.000995 (0.0490)	-0.00286 (0.0536)
PI Gender		0.0386 (0.0625)		0.0372 (0.0629)
Role			-0.0528 (0.0346)	-0.0538 (0.0354)
_cons	3.106*** (0.0287)	3.098*** (0.0338)	3.143*** (0.0373)	3.134*** (0.0399)
N	439	390	439	390
R-sq	0.000	0.002	0.004	0.006
adj. R-sq	-0.002	-0.003	-0.001	-0.002

Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Figure 1. The CBPR Conceptual Logic Model

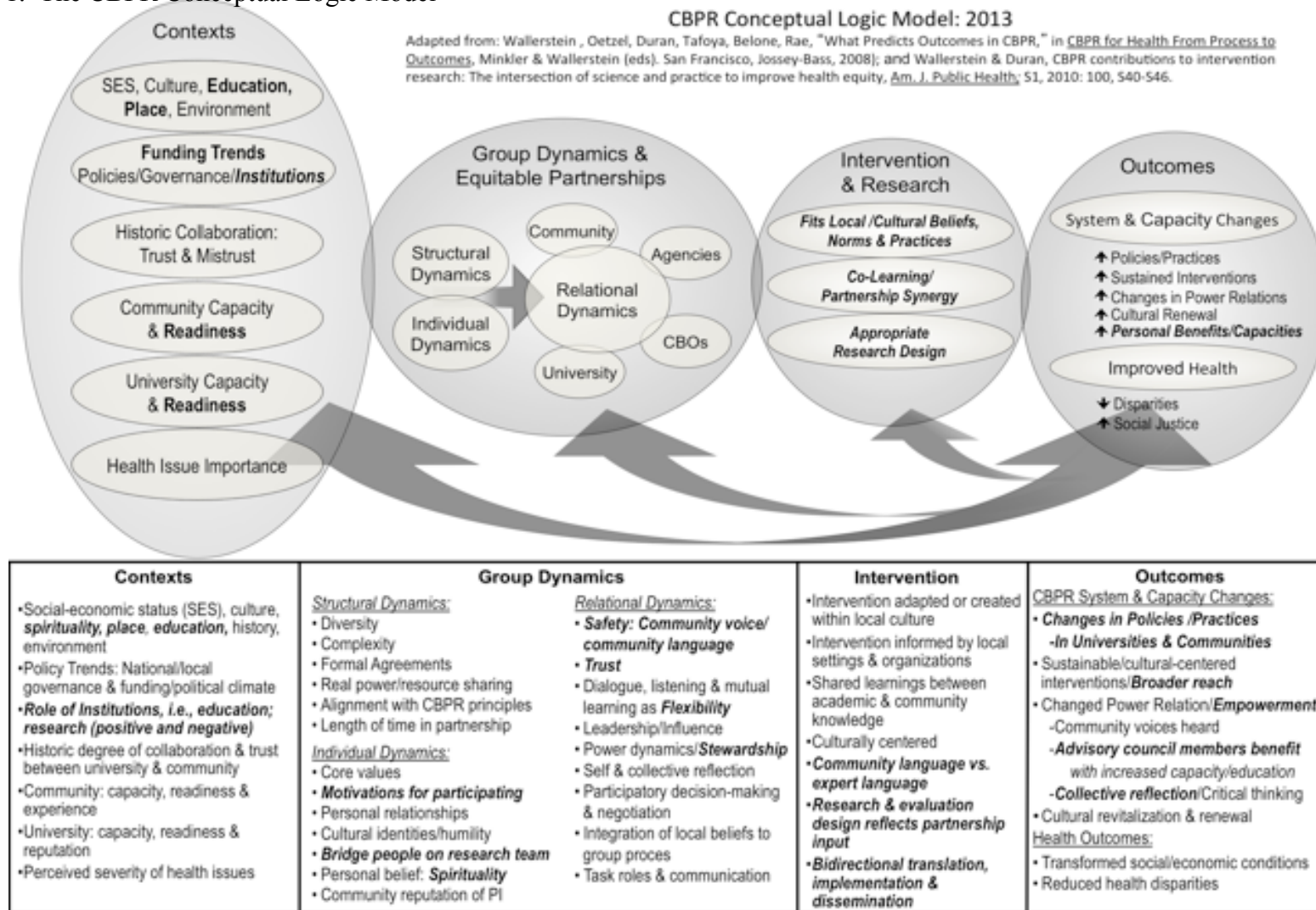


Figure 2. The culture centered conceptual model. Dutta M. *Communicating health: A culture-centered approach*. Polity; 2008.

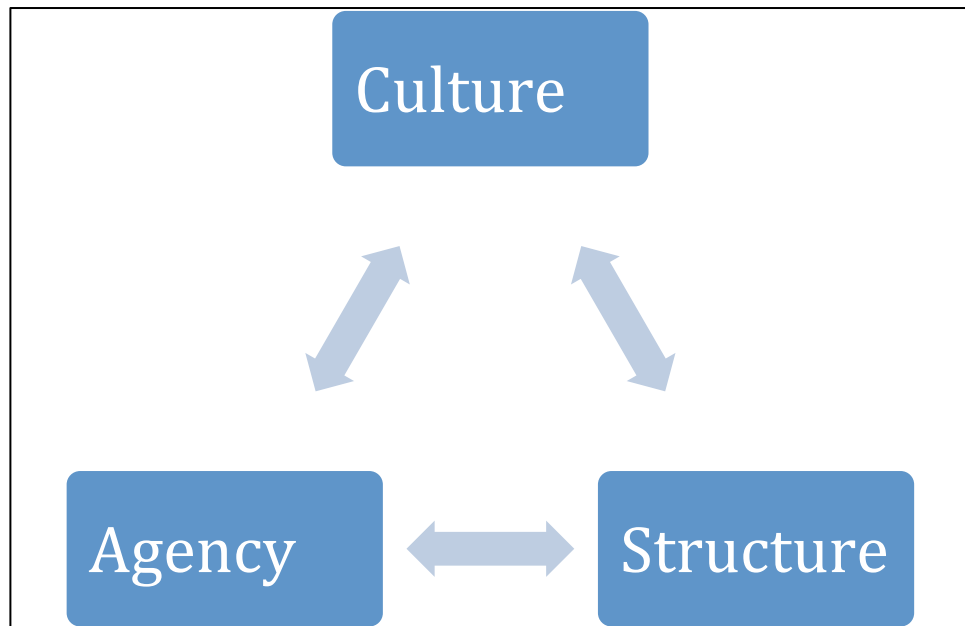


Figure 3. Selection Flowchart of the 2009 Community Engaged Research (CEnR) projects from the NIH RePORTER database.

