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Assessing the Readiness of Black Churches to Engage in Health Disparities Research

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Abstract

We assessed church readiness to engage in health disparities research using a newly developed instrument, examined the correlates of readiness, and described strategies that churches used to promote health. We pilot tested the instrument with churches in a church-academic partnership ($n = 12$). We determined level of readiness to engage in research and assessed correlates of readiness. We also conducted interviews with participating pastors to explore strategies they had in place to support research engagement. Churches scored fairly high in readiness (average of 4.04 out of 5). Churches with a pastor who promoted the importance of good nutrition in a sermon or had a budget for health-related activities had significantly higher readiness scores than churches without such practices. Having a tool to evaluate church readiness to engage in research will inform targeted technical assistance and research projects that will strengthen church-academic partnerships and improve capacity to address health disparities.

Keywords

spirituality; health disparities

Church-academic partnerships are a promising way to reduce health disparities in communities that have been marginalized and mistreated in biomedical research.¹⁻³ Churches hold a central, trusted position, especially in African American communities. In addition, churches have a wealth of expertise and experience in providing education, outreach, and social support to the communities they serve.⁴⁻⁶ Church-academic partnerships based on mutual respect foster understanding, trust, and ownership. These conditions, in turn, enhance the appropriateness, effectiveness, and sustainability of interventions to reduce health disparities.⁷⁻¹¹

The commitment of pastors and other church leaders is critical to the success of any church-academic partnership. Pastors, in particular, play a pivotal role in shaping congregational members' perceptions and preferences to participate in health promotion and research. However, church leadership commitment alone does not assure church readiness to engage in health disparities research. *Readiness* implies both motivation and capability.¹² Although this point might seem self-evident, not much is known about what makes predominantly African American churches ready to engage in health disparities research beyond securing the interest and buy-in of church leaders.

In this article, we conceptually define *church readiness* to engage in health disparities research, assess church readiness using a newly developed instrument, examine the organizational correlates of church readiness, and describe strategies that churches use to promote health in their congregations. To accomplish these aims, we collaborated with the 20 predominantly African American churches participating in the Data Collection/Data Distribution Center network, a network of churches located throughout North Carolina developed by the Carolina-Shaw National Center for Minority Health and Health Disparities (NCMHD) Comprehensive Research Center.⁶ The majority of churches in the Data Collection/Data Distribution Center Network are Baptist (9) or Missionary Baptist (7), while others are nondenominational (2), Pentecostal (1), or Christian Methodist Episcopal (1).

BACKGROUND AND LITERATURE REVIEW

Organizational readiness for change is a 2-dimensional construct that reflects organization members' collective commitment (willingness) and collective efficacy (ability) to implement an innovation, to change.^{13,14} This technical definition follows the ordinary language use of the term *readiness*, which means that an individual or group is both psychologically and behaviorally prepared to make a change. Although individuals may vary in their personal readiness for change, we focused on collective readiness because the implementation of complex innovations such as health disparities research projects usually entails collective action among interdependent individuals. We will discuss the collective efficacy (ability) domain of readiness, in particular, because that is the domain measured in the present study. Collective efficacy for change refers to targeted organization members' shared beliefs in their collective capabilities to organize and execute courses of action that will lead to successful implementation.¹⁴ These shared beliefs result from organization members' common exposure to external and internal stimuli, including past performance in implementing change.^{15,16} Collective efficacy for change is higher when people share a sense of confidence that collectively they can implement a complex innovation—in this case, engagement in research to reduce health disparities.

Organization members' sense of collective efficacy for change is shaped by the organization's policies and practices supporting the innovation.¹⁷ Research on innovation implementation in other fields has revealed myriad policies and practices related to implementation effectiveness.¹⁸⁻²⁰ In the context of the present study, examples include communication about the value of research engagement, procedures for planning and managing the organization's research engagement, and training to support congregants as they engage in research. In general, more policies and practices supporting implementation are better than fewer policies and practices, yet some high-quality policies and practices may compensate for the absence or low quality of others.^{21,22}

METHODS

This study is part of a larger research project conducted between the University of North Carolina at Chapel Hill (UNC-CH) and Shaw University, a historically black college/

university. The Carolina-Shaw NCMHD Comprehensive Research Center is a collaborative effort that seeks to eliminate minority health disparities. The partnership is comprised of a diverse group of researchers, theological educators, and public health professionals from Shaw University Divinity School; the Institute for Health, Social, and Community Research at Shaw University; and UNC-CH.^{4,6,23} Both the institutional review boards of Shaw University and UNC-CH approved the study protocol.

Instrumentation

Description—The Readiness to Engage in Research instrument consisted of two 1-page scenarios of potential health promotion research projects each followed by 15 items to gauge readiness to conduct both intervention and assessment activities. Respondents answered each series of questions by rating how confident they were that their church could carry out the activities associated with each project (Box 1). Sample intervention activity items included the ability to find someone to lead the intervention or space to hold intervention activities. Sample assessment activity items included the ability to administer pretests and posttests. Items were measured on a 5-point Likert scale (1 = not at all confident and 5 = confident). Because we used hypothetical scenarios for this pilot study, we measured the capability domain but were unable to assess the motivation domain of organizational readiness for change.

Development—The Readiness to Engage in Research instrument was developed by first reviewing the existing literature on organizational readiness for change, community-academic partnerships, community engagement (eg, community-based participatory research), and black churches to determine which domains of organizational readiness for change were pertinent to engagement in research by black churches. In addition, interviews were conducted with pastors of 6 black churches in North Carolina, who had experience implementing the National Cancer Institute's Body & Soul healthy eating curriculum²⁴ in their church. Pastors were asked to identify factors they felt made their churches ready to engage in the research project using Body & Soul. An initial pool of items was created. One of the authors, who also serves as pastor of a black church, reviewed the items for clarity. Cognitive interviews were conducted with 2 Body & Soul pastors to assess the comprehensiveness and appropriateness of the items for use in black churches.

The content adequacy (also known as content validity) of the survey was assessed following existing procedures.²⁵ We recruited 36 graduate students in the Department of Health Behavior and Health Education in the Gillings School of Global Public Health at UNC-CH to assess the content validity of the survey. Students were provided with a description of the core domain of organizational readiness for change (capability) that the instrument was designed to assess. The students then rated on a 5-point scale (1 = does not reflect the domain at all and 5 = reflects the domain well) how well each item reflected the domain. We averaged responses for each item. The averages ranging from 4.06 to 4.81 were considered adequate for preliminary psychometric assessment.

Piloting of the Instrument

Between January and June 2008, we piloted the readiness instrument with church leaders whose churches participated in the Data Collection/Data Distribution Center network.⁶ The network emphasizes a 2-way flow of information where the health concerns and priorities of black churches and their congregants are communicated to health professionals, researchers, and funding agencies to inform and influence their practices; and health information is packaged and disseminated to church members. The network also provides a mechanism for study recruitment, ensuring African Americans are included in health disparities research.²⁶

The pastor of each Data Collection/Data Distribution Center church was initially informed about the study, invited to participate, and asked to provide the names of up to 5 other church leaders who could also be invited to participate. In some cases, the pastor provided the names and, in others, a church liaison to The Carolina-Shaw NCMHD Comprehensive Research Center provided the names. These other church leaders were contacted and informed about the study. Each church leader who agreed to participate was sent (via e-mail, fax, or regular mail) a survey with a cover letter explaining the study. Completion of the survey served as consent to participate. Surveys were administered via telephone to those who did not return a survey.

During this time, Data Collection/Data Distribution Center pastors were also interviewed and asked a set of 13 quantitative questions about the policies and practices they had in place to support health disparities research, education, and interventions. Examples of policies or practices queried included presence of a health ministry, a budget for health activities, and policies concerning provision of healthy food at church events. Along with these quantitative questions, pastors were interviewed about strategies their churches employ to support health promotion and research engagement within their congregation. As part of the larger Data Collection/Data Distribution Center study, data were also collected on church demographics, including geographic location and years since founding.

Data Analysis

We determined the mean level of readiness of all churches together for each segment of the instrument: scenario A (weight management) intervention and assessment items and scenario B (nutrition and policy change) intervention and assessment items. We calculated the mean for each item and then created a mean scale score for each of the 4 segments. These scales had high internal consistency reliability (standardized Cronbach α coefficients were 0.96 for the scenario A intervention scale, 0.96 for the scenario A assessment scale, 0.95 for the scenario B intervention scale, and 0.95 for the scenario B assessment scale).

We determined whether readiness was associated with any of the 13 possible church policies and practices. Due to sample size constraints, our analyses were restricted to the examination of bivariate relationships. We used nonparametric Kruskal-Wallis χ^2 tests instead of t tests to determine if there were differences in readiness between those churches that had each policy or practice in place vs those that did not because the readiness variables were not normally distributed.²⁷ For example, we used a Kruskal-Wallis χ^2 test to determine if there was a statistical difference on any of the readiness items between those churches with a health ministry and those without one.

We then determined whether readiness was associated with church demographics. Again, given sample size constraints, our analyses were restricted to use of bivariate correlations and nonparametric Kruskal-Wallis χ^2 tests. We conducted Kruskal-Wallis χ^2 tests to determine if the mean of each readiness item differed by self-identified church location (rural/not rural). We used Spearman's rank correlation coefficient (ρ) to examine whether readiness on each item was correlated with time since founding. For all analyses, we set $\alpha = .05$ and tests were 2-sided. All quantitative analyses were conducted using SAS statistical software version 9.2 (SAS Institute Inc, Cary, North Carolina).

We conducted an initial review of the 9 pastor interview transcripts to look for emergent themes. Next, potential themes and subthemes were developed based on the literature review, research questions, and interview questions. Research team members then met to discuss initial impressions. A code book was created with definitions for themes and subthemes and coding rules. Team members worked in dyads to code the transcripts using ATLAS.ti qualitative analysis software version 5.0 (ATLAS.ti, Berlin, Germany). Each

dyad member coded a transcript individually, after which the partners met to review their coding and reconcile discrepancies. Any remaining issues were brought to the full team for discussion. The team met to interpret results. For this article, we particularly examined the strategies churches had implemented that would support research engagement.

RESULTS

Church Characteristics

Characteristics for the 15 Data Collection/Data Distribution Center churches with demographic data are as follows. The mean time since founding was 110 years (range, 6-144 years). Of these 15 churches, 9 were located in rural North Carolina vs 6 in other locations (urban/suburban). Mean church size was 496 (range, 75-2000 congregants, measured by the number of members on the church roll as self-reported by each church pastor or liaison).

Level of Readiness to Engage in Research

Between 1 and 6 leaders from 12 of the 20 (60%) Data Collection/Data Distribution Center churches agreed to participate, for a total of 41 completed surveys. The overall readiness of the participating churches to engage in research was high. For the scenario A (weight management) intervention activities, the mean level of readiness was 4.08 on the 5-point scale (church range, 3.06-4.78). For the scenario A (weight management) assessment activities, the mean level of readiness was 4.03 on the 5-point scale (church range, 3.08-4.83). For the scenario B (nutrition and policy change) intervention activities, the mean level of readiness was 4.03 on the 5-point scale (church range, 3.33-4.71). Finally, for the scenario B (nutrition and policy change) assessment activities, the mean level of readiness was 4.05 on the 5-point scale (church range, 3.08-4.83).

Relationship Between Readiness and Church Policies and Practices

Of the 12 churches that completed the readiness survey, 9 also had data on church policies and practices. Box 2 shows the mean level of readiness for each survey item by presence or absence of the given policy or practice. Similar results were seen across the 2 scenarios and for both the intervention and assessment activities. Churches with a pastor who promoted the importance of good nutrition in a sermon in the past 12 months had significantly higher mean readiness scores for the intervention and assessment activities of both scenarios. In addition, those churches with a budget for health-related activities had significantly higher mean readiness scores for scenario A intervention and assessment activities and scenario B assessment activities. The presence of a lay health advisory program at the church was associated with significantly higher mean readiness to conduct the scenario A intervention activities. Finally, churches whose pastor promoted the importance of physical activity during sermons in the last 12 months had significantly higher mean readiness scores for the scenario A assessment activities.

Relationship Between Readiness and Church Demographics

We examined whether level of readiness differed depending on whether the church was located in a rural location or not. We found that level of readiness differed based on church location for only one item. "Readiness to carry out the intervention activities," associated with scenario B (nutrition and policy change), differed significantly given church location ($\chi^2 = 6.33, p < .05$). Churches in nonrural locations had higher readiness scores for that item than churches in rural areas.

We found 2 items to be significantly correlated with time since founding (in years). Both items were from the scenario A (weight management) intervention segment. These were "Plan the program's activities around other activities in your church" ($\rho = 0.36, p < .05$),

which indicates that 12.96% of the variation in a church's response to this item can be explained by variation in the time since church founding, and “Find volunteers to help with intervention activities” ($\rho = 0.36, p < .05$), indicating that 12.96% of the variation in a church's response to this item can be explained by variation in the time since church founding.

Strategies to Promote the Health of the Congregation

In trying to understand variability in church readiness to engage in research to eliminate racial health disparities and knowing that readiness scores provide a summary but do not tell us how churches are achieving readiness, we analyzed qualitative data provided by leaders from each church. This allowed us to learn what strategies churches are already using that would support their efforts to conduct the intervention and assessment activities associated with the hypothetical health promotion research projects within their congregations. We found numerous strategies the churches used or would use to conduct the various activities (Box 1). To highlight a few of the activities and strategies, church leaders said they would use announcements from the pulpit to find program leaders, use their existing health ministry to coordinate intervention activities, and have assessments administered during bible study or Sunday school.

DISCUSSION AND CONCLUSIONS

This is the first study to report on the development of an instrument to assess the readiness of churches to engage in research and to measure such readiness and its correlates with predominately African American churches. As a result, this study fills an important gap in the scholarship of engaging African American communities in research.

We found that the overall readiness to engage in research of the sampled churches was high. This was true across scenarios and intervention and assessment activities with little variation in average readiness score between them. There are several reasons why the churches in this sample reported fairly high readiness. First, participating churches were recruited and selected to participate in the Data Collection/Data Distribution Center network based on their willingness and perceived readiness to engage in health disparities research and had been active members of this network for up to 7 years. These factors made the sampled churches different from other black churches. Furthermore, the churches that chose to participate in this study were among the more active churches in the network. Many of them had also been engaged in a variety of other health promotion, research, and intervention activities in recent years. Hence, many of the churches already had experience in collaborative efforts to engage in health disparities research, including data collection and information dissemination.

Although church characteristics, such as time since founding and location, did not appear to play a large role in church readiness to engage in research, more proximal factors, such as pastor leadership and presence of a health-related budget, did. Churches with pastors who took a lead role in promoting health or that had money budgeted specifically for health-related activities had significantly higher readiness scores. Furthermore, church leaders reported that they had numerous strategies in place to support the various intervention and assessment activities, which other less-ready churches may not have implemented.

Use of a readiness instrument has several advantages for health professionals and researchers alike. Such a tool can aid in the development of health programs and interventions that are appropriately targeted to the needs of a specific church or community. The readiness instrument can also help in identifying areas where technical assistance would be useful. For example, health professionals could match a church that has had trouble

recruiting participants or volunteers in the past with another church that has done well in that area for a peer-mentoring relationship.

The ability to measure readiness will allow researchers to select churches with similar likelihood of successful intervention implementation prior to random assignment into intervention vs control condition. Furthermore, if churches are found to have gaps in their capabilities, these gaps can be addressed prior to research implementation. Hence, use of the readiness instrument can minimize the risk of a type III error due to failure of the church to properly implement the intervention.²⁷ Moreover, conducting intervention research within communities requires large quantities of goodwill from community members, as well as money and labor on the part of researchers. Being able to assess the readiness of churches to engage in intervention implementation and data collection can facilitate the speed in which these activities can take place, thus maximizing success of the intervention and the collection of useful data.

Churches can also use such a tool to chart their course or measure their progress in becoming ready to take on a research project. Moreover, use of a readiness instrument is one way to engage churches in a discussion of what research engagement would entail, which is an important factor in church-academic partnerships. The ability to assess a church's readiness to engage in research could help to eliminate health disparities because this discourse promotes a sense of trust and ownership that enhances congregational members' acceptance of research results and strengthens their commitment to act on the research findings. This engagement in research can also facilitate the adoption and implementation of evidence-based health promotion interventions by creating an infrastructure for mobilizing people and resources and by fostering an organizational culture that values health promotion.

Several study limitations exist. The church-level response rate was moderate due to the realities of working in partnership with churches because health promotion is not necessarily at the center of the mission of the church and is a lower priority than other activities such as worship, bible instruction, pastoral care, counseling, and spiritual formation. We had to balance our research needs with our desire to maintain a strong partnership because some churches felt that we were doing too much taking (data collecting) and not enough giving (resources, technical assistance). As a result of low response rate, validation of the readiness instrument has yet to be completed. Ideally, we wanted to use a measure of shared agreement between church leaders when constructing the readiness scores for each church. This would have required a minimum of 5 raters from each church. We were limited to taking the mean for each church from the limited number of church leaders who provided ratings. Because of this deficiency, it cannot be assumed that our instrument is appropriate for measuring church readiness to engage in research. This is an area that warrants further investigation.

Another possible study limitation is the use of hypothetical scenarios in the instrument, which may upwardly bias the ratings of readiness. Due to the use of hypothetical projects instead of real interventions that would be implemented, it is likely that the church leaders overestimated their readiness to actually engage in research. Use of hypothetical scenarios may have also depressed the response rate because potential respondents did not feel any immediacy to complete the survey. However, the use of hypothetical scenarios was also a strength because using identical scenarios provided a standardized stimulus for response. Respondents received the same information so that judgment of readiness was based on a common set of facts.

Church-academic partnerships hold promise as a mechanism for conducting research that can lead to the elimination of racial health disparities. Now, researchers and health professionals have a tool to assist churches in determining whether they are ready to engage in such research and, if not, what they need to do to become so.

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Box 1**Strategies Used by Churches to Promote Health Categorized by the Intervention and Assessment Activities Queried in the “Readiness to Engage in Research” Instrument**

Activity	Strategy
Find someone to lead program	<ul style="list-style-type: none"> • Use pulpit announcements. • Develop a job description of the requirements; share with church family, and interested individuals would approach the health ministry for interviews and process for selecting a leader.
Plan program activities around other church activities	<ul style="list-style-type: none"> • Use a church calendar for scheduling events. • Use administrative staff to schedule events. • Plan activities during health awareness months. • Hold health promotion activities after services, when congregation is already present.
Determine church members who are eligible for the intervention	None given by respondents.
Recruit church members to participate in intervention	<ul style="list-style-type: none"> • Use pulpit announcements, church bulletins, bulletin board, newsletter, and handouts. • Send e-mails to flock groups through leaders.
Organize intervention activities	<ul style="list-style-type: none"> • Use computer provided through network to print information from the Internet for congregants. • Use existing health ministry team to coordinate.
Find volunteers to help with intervention activities	<ul style="list-style-type: none"> • Use pulpit announcements, church bulletins, newsletters, flyers and handouts. • Use sign-up sheets in the back of the church. • Use existing health ministry team. • Find/solicit for volunteers from congregants who are known health professionals.
Carry out intervention activities	None given by respondents.
Encourage church members to participate in intervention activities	<ul style="list-style-type: none"> • Use pulpit announcements, bulletin boards, newsletters, and flyers. • Pastors give health-related sermons and lead health-related seminars. • Send e-mail to flock groups through leader. • Use incentives.
Help church members to stay involved with the intervention	Use phone campaigns to remind people of events.
Figure out which church members should participate in the assessment	None given by respondents.
Encourage church members to participate in the assessment	<ul style="list-style-type: none"> • Complete surveys in a group (bible study, Sunday school) to reach the largest number of people. • Disseminate surveys in the pews during Sunday morning worship, bible school, or bible study. • Pastor announces and encourages completion on site. • Set target of number of surveys wanted returned. • Set up a form of accountability.
Organize the assessment activities	<ul style="list-style-type: none"> • Complete surveys in a group setting such as at bible study or Sunday school. • Use sign in-sheets to track attendance. • Set target of number of surveys wanted returned. • Set up a form of accountability.
Find volunteers to help with assessment activities	<ul style="list-style-type: none"> • Use pulpit announcements. • Use church bulletins. • Find/solicit for volunteers from congregants who are known health professionals. • Use e-mail tree to encourage participation.
Carry out the assessment activities	Use ushers to administer surveys.
Encourage church members to complete all assessment activities	<ul style="list-style-type: none"> • Have health ministry coordinator put on the church calendar. • Use incentives.

Box 2

Kruskal Wallis χ^2 Test Results of Whether the Mean Readiness to Conduct The Research Intervention and Assessment Project Activities Differ for the Church Groups That Answered Either No or Yes to the Policies and Practices^a

Policy or Practice	Mean Readiness		χ^2	p Value
	No	Yes		
Scenario A: Intervention Activities				
1. Does your church have a person appointed to be responsible for health-related activities?	4.500	4.302	1.138	.286
2. Does your church have a lay health advisor program?	4.267	4.385	4.479	.034 ^b
3. Does your church have a budget for health related activities?	3.925	4.520	23.154	<.0001 ^c
4. Has the church established health or wellness policies or goals for the congregation?	4.556	4.269	3.416	.065 ^d
5. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of physical activity in a sermon?	4.127	4.399	2.233	.135
6. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of good nutrition in a sermon?	3.861	4.409	6.294	.012 ^b
7. Does your church have guidelines for healthy church meals?	4.225	4.372	3.841	.050 ^d
Scenario A: Assessment Activities				
1. Does your church have a person appointed to be responsible for health-related activities?	4.292	4.222	0.001	.990
2. Does your church have a lay health advisor program?	4.256	4.211	0.007	.933
3. Does your church have a budget for health related activities?	3.889	4.395	10.076	.002 ^e
4. Has the church established health or wellness policies or goals for the congregation?	4.361	4.197	0.227	.634
5. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of physical activity in a sermon?	3.905	4.341	6.449	.011 ^b
6. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of good nutrition in a sermon?	3.417	4.368	18.431	<.0001 ^c
7. Does your church have guidelines for healthy church meals?	4.313	4.200	0.027	.870
Scenario B: Intervention Activities				
1. Does your church have a person appointed to be responsible for health-related activities?	4.111	4.197	1.331	.249
2. Does your church have a lay health advisor program?	4.141	4.230	1.322	.250
3. Does your church have a budget for health related activities?	4.012	4.259	2.274	.132
4. Has the church established health or wellness policies or goals for the congregation?	4.222	4.176	0.059	.809
5. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of physical activity in a sermon?	3.921	4.266	3.388	.066 ^d
6. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of good nutrition in a sermon?	3.778	4.248	3.943	.047 ^b
7. Does your church have guidelines for healthy church meals?	4.306	4.141	1.100	.294
Scenario B: Assessment Activities				
1. Does your church have a person appointed to be responsible for health-related activities?	4.375	4.160	0.363	.547
2. Does your church have a lay health advisor program?	4.133	4.244	1.002	.317

Policy or Practice	Mean Readiness		χ^2	p Value
	No	Yes		
3. Does your church have a budget for health related activities?	3.852	4.333	8.684	.003 ^e
4. Has the church established health or wellness policies or goals for the congregation?	4.500	4.111	3.423	.064 ^d
5. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of physical activity in a sermon?	3.952	4.261	2.019	.155
6. In the past 12 months have you or another minister/has your pastor or other minister promoted the importance of good nutrition in a sermon?	3.625	4.276	6.630	.010 ^e
7. Does your church have guidelines for healthy church meals?	4.292	4.152	0.387	.534

^a Policy and practice items with the same response from all the churches or with only 1 church reporting no were not included in this analysis.

^b $p < .05$.

^c $p < .0001$.

^d $p < .10$.

^e $p < .01$.