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What is This?

Community–Academia Partnerships to Promote Nutrition in the Lower Mississippi Delta: Community Members' Perceptions of Effectiveness, Barriers, and Factors Related to Success

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This study examined the perceptions of community members' engaged in community–academia partnerships involved in developing nutrition interventions in three communities in the Lower Mississippi Delta. Perceptions on effectiveness of the partnerships were investigated. Six focus group interviews were conducted, with 33 participants that included 27 females and 6 males. The data were analyzed by content coding. Emerging themes were identified and related to accomplishments, barriers to success, and factors related to success of the partnerships. Accomplishments included the establishment of active committees, positive changes in health behavior related to food choices, and participation in community events. Barriers to success included the slow pace of intervention implementation, difficulties with understanding the role of the community in the participatory research process, the decision-making processes, and project name recognition. Factors related to success were tangible benefits to the community, participation that was representative, simplification of the research process, and the decision-making processes.

Keywords: *community–academia partnerships; community-based participatory research; nutrition interventions; rural*

Community-based participatory research (CBPR) is an approach that actively engages communities in designing, implementing, and evaluating interventions. This approach assumes that building trusting relationships and enhancing empowerment provide greater satisfaction and ownership of the research process among community members and ultimately improve sustainability (Eisinger & Senturia, 2001; Israel, Schulz, Parker, & Becker, 1998; Kone et al., 2000). The CBPR method borrows from the emancipatory educative process attributed to the Brazilian educator Paolo Freire. Freire, and other philosophers and social scientists rooted in the emancipatory participatory research tradition, saw dialogue within the community as the means to bring about change that benefits and strengthens the community (Freire, 2000; Wallerstein & Duran, 2003). Friere's concept of *cultural invasion* typified much of the health research conducted in the past, in which community members were simply the objects of research. In contrast, CBPR embraces Friere's concept of *cultural synthesis* in which the community and outsiders engage each other in dialogue and thematic investigation, providing mutual support and in the process learning from and enriching each other.

One increasingly popular method for engaging community members in participatory research to address public health issues has been the formation of

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community–academia partnerships or coalitions (Butterfoss, Goodman, & Wandersman, 1996; Eng & Parker, 1994; Plough & Olafson, 1994). Involving the community in designing interventions helps define community health problems and solutions from a local perspective and thereby increases the likelihood of creating successful preventive health initiatives (Israel et al., 1998; Kone et al., 2000).

The Lower Mississippi Delta Nutrition Intervention Research Initiative (Delta NIRI) is a consortium of the Agricultural Research Service of the U.S. Department of Agriculture (USDA-ARS); seven institutions of higher education and research from Arkansas, Louisiana, and Mississippi; and the cooperative extension service in each state. The primary goals of Delta NIRI are to evaluate nutrition and health status in the Lower Mississippi Delta (LMD) and to design, implement, and scientifically evaluate nutrition interventions using community participatory methodologies. To achieve these goals, the Delta NIRI project has facilitated the formation of partnerships in three communities in three states in the LMD. The communities of interest, as defined during community entry by local residents, include an incorporated town, an incorporated town and the unincorporated areas within the local school district boundaries, and a county and range in population from about 1,500 to 21,000. Unlike most urban community-campus research partnerships, distance between these rural communities and university partners ranges from 85 to 183 miles. In each of these sites, referred to here as Communities A, B, and

C, community members, university and cooperative extension faculty and staff, and USDA-ARS representatives formed community–academia committees to oversee the planning, implementation, and evaluation of nutrition and health interventions.

This article reports the results of focus group interviews carried out among community members in the three committees to evaluate their perceptions of the effectiveness of the Delta NIRI community–academia partnerships. This evaluation was conducted as partnerships in each state were initiating quasi-experimental intervention feasibility or pilot studies, and following formative work that included establishment of the community committees, community resource assessment, community research intervention planning, and a series of community outreach and/or service activities conducted over a period of 1 to 2 years. Each partnership had also established local offices. This study sought to answer three questions from the community committees' perspective: (a) what were the accomplishments of the partnerships, (b) what barriers impeded the effectiveness of the partnerships, and (c) to address the broader question of how these factors were related to the success of the partnerships.

▶ BACKGROUND AND LITERATURE REVIEW

The formation of partnerships to promote preventive health initiatives has become a popular approach in the past two decades. Community partnerships have been formed to address issues as diverse as substance abuse prevention (Join Together, 1993), low birth weight (Plough & Olafson, 1994), immunization (Butterfoss et al., 1996), and nutrition (Eng & Parker, 1994). Partnerships have also been formed between communities and academic institutions. Specific examples of community–academic coalitions are the Seattle Partners (Eisinger & Senturia, 2001) and the Detroit Community-Academic Urban Research Centers (Lantz, Viruell-Fuentes, Israel, Softley, & Guzman, 2001). Typically these partnerships are made up of community representatives, agencies, departments, individuals, and academic institutions. Partnerships function through collaboration (Rosenthal, 1998) with most community research collaborations characterized by community members' active participation in selecting, planning, implementing, and evaluating research interventions in their communities (Eisinger & Senturia, 2001; Kone et al., 2000; Lantz et al., 2001).

Various studies identify factors related to the success of community–academia collaborations. These include the creation and nurturing of trust among all the partners; respect for a community's knowledge; community-defined and prioritized needs and goals; mutual division

of roles and responsibilities; continuous flexibility, compromise, and feedback; strengthening of community capacity; joint and equitable allocation of resources; sustainability and community ownership; and sufficiency of funding periods (Wolff & Maurana, 2001). Lantz et al. (2001) suggested that for community–academia collaborations to be successful they have to establish clear working guidelines as a foundation. They also need to work with community representatives who know and are known by the community and truly represent it. Brown-Peterside and Laraque (1997) recommended combining service to the community with a funded research protocol. Such service could also help keep the community motivated to continue participating. Other factors related to the success of collaborations include community leadership of the partnership, shared decision making (Butterfoss et al., 1996), and small and concrete accomplishments (Eisinger & Senturia, 2001). Effective community–researcher collaborations require a paradigm shift from traditional practices to an approach that includes acknowledging community contribution, recruiting and training minority people to participate in research teams, improving communication, sharing power, and valuing respect and diversity (Kone et al., 2000).

Barriers and challenges to collaborations have also been identified. These include struggles with the decision-making process, project selection, and the composition of the community board or committee (Eisinger & Senturia, 2001). Others are organizational constraints, time pressures including the length of time required for results to be realized, balancing community interests in interventions and academic research needs (Lantz et al., 2001), cultural differences among the partners, competing demands for time and attention, and differences in orientation to the power structure (Quandt, Arcury, & Pell, 2001).

▶ METHODS/STRATEGIES/INTERVENTION APPLICATIONS

The purpose of the current study was to examine the perception of community committee members from the three research sites of the Delta NIRI project regarding the accomplishments of the community–academia committees and the barriers that may impede success, using focus group interviews for data collection.

Focus group discussion questions were developed and pilot tested with members of a community–academia partnership working in tobacco prevention in another community in the region. The partnership membership consisted of a nonprofit agency, university representatives, and participants drawn from health, education, government, and lay leadership sectors in the community.

Eight female members of this partnership, four African American and four White, participated in the pilot focus group session. Modifications were made to improve focus group questions following conduct of and data analysis from the pilot focus group.

For the Delta NIRI evaluation, focus group participants from the three communities were purposively sampled with the criteria for selection being active membership on a NIRI community–academia committee, defined as having attended a committee meeting at least three times in the past year. Meeting attendance logs were used to identify eligible participants. Recruitment was conducted in three steps. At least 2 weeks before the focus groups interviews, participants were contacted by telephone to schedule the focus group sessions. A week before the interviews, the participants received a letter describing the research procedures and inviting them to the sessions. This was followed up by a phone call to each participant 1 day before the sessions. At the beginning of each session, written consent was obtained from each participant, according to protocols approved by the University Institutional Review Board. A US$20 gift card was provided to each participant.

Two focus group interviews with two to eight participants each were conducted in each of the three communities. The total number of participants was 33. Table 1 describes the characteristics of the focus group participants in each community. Most of the participants were female, African American, and older than age 50 years. The participants represented various sectors in the community including education, health, local government, churches, and laypersons. Community committee members had previously classified themselves by primary and secondary sector of identification, using an adaptation of Haglund, Weisbrod, and Bracht's (1990) key community sectors (Yadrick et al., 2001). In these small, rural communities, representatives of the education sector might include an Early Head Start parent support coordinator or a cooperative extension agent; of local government, a city alderman or county supervisor; of churches, an elder or pastor. Some of the participants held leadership positions in the community–academic committees. For example, the chairs of the committees, each of whom was a community member, participated in the interviews.

The focus group sessions were conducted in the committees' meeting venues. The same focus group moderator led all sessions in the three communities to maintain consistency. The interviews ranged from 1½ to 2 hr long. Focus group sessions were audiotaped, and an assistant moderator made supplementary notes. Immediately following the sessions, the moderator and the assistant moderator debriefed each other by sharing their insights into key points and notable quotes.

TABLE 1
Focus Group Interview Participants' Characteristics

	Community A		Community B		Community C		
	Session I	*Session II*	*Session I*	*Session II*	*Session I*	*Session II*	*Total*
Total	2	6	8	7	5	5	33
Gender							
Female	2	6	5	6	4	4	27
Male			3	1	1	1	6
Age							
20 to 30 years			1	1			2
31 to 40 years		1	2	2			5
41 to 50 years			1	2			3
51 to 60 years		3	4	1	2	3	13
Older than 60 years	2	2		1	3	2	10
Race and/or ethnicity							
African American	2	6	8	7	2	4	29
White					3	1	4

The researcher, through a series of steps, transcribed the focus group audiotapes verbatim. The researcher listened to the tapes several times to gain a sense of the whole. This was followed by the actual transcription. The transcripts were then coded into two sections relevant to each of the research questions. The sections were (a) community members' perceptions of partnership accomplishments and (b) barriers impeding the effectiveness. Within these sections, themes were identified (Krueger & King, 1998). A grounded theory process was used to let themes emerge from the data. Data in the themes were categorized and summarized, and interpretive statements included in the summaries to provide understanding. Data from each community was analyzed independently and then compared to the other two communities for similarities and differences. Coding of data was carried out by one researcher. To ensure the reliability and external validity of the coded themes, three things were done. First, the results of the focus group analysis were discussed and confirmed with the moderator. Second, another researcher reviewed the coding of the themes. Third, the results were shared with focus group participants to confirm the findings as recommended by Krueger and King (1998).

▶ RESULTS

Participants in all three NIRI groups were asked to state what they felt were the accomplishments of the committees in their communities. Table 2 summarizes the themes that emerged.

Two similar themes on accomplishments emerged in all three community groups. These were the formation and maintenance of active committees, and participation in community events and activities. Participants in all groups expressed satisfaction with the formation and maintenance of the NIRI committees, noting that the committees were still actively meeting in the community 2 years after they were first formed, as reflected in this statement by a committee member: "We still have a very active committee that actually meets all the time."

Participants were also pleased that the committees had taken part in community events such as the local Christmas parades, health fairs, and food preparation demonstrations. The NIRI committees had also facilitated the development of nutrition and physical activity facilities and programs in the communities including the construction of a walking trail and basketball courts to encourage physical activity, activities such as summer youth nutrition programs, and a pilot intervention intended to increase access to fresh fruits and vegetables in one community.

Participants from Communities B and C stated they had individually benefited by becoming more conscious of their eating and physical activity habits, reflected in the following statements: "[The committee has] been very instrumental in helping us to achieve a healthy atmosphere as far as exercising and eating the proper foods" and "Even at my house, my husband is eating fruit. I see bananas disappear."

TABLE 2
The Community–Academia Committees' Accomplishments as
Perceived by Community Members

Community A	Community B	Community C
The survival and maintenance of the committee	Maintaining an active committee	The formation and sustaining of the committee
Participation in community activities and projects	Participation in community activities and projects	Participation in community activities and projects
The pilot intervention	Raising awareness about the committee in the community	Raising awareness about community health among committee members
	Increased interest in exercising and eating healthy among committee members	Positive changes in health behavior among committee members
		Increased capacity of community members

Raising awareness in a broader sense was also seen as an important accomplishment in Communities B and C, with aspects of awareness couched a little differently in each group. In Community B, raising awareness about the committee (and by implication the partnership and its goals) in the community was emphasized, whereas in Community C, increased awareness of committee members about the health of their community was noted as an accomplishment.

Although participants readily noted accomplishments of the partnerships, they identified several barriers to partnership effectiveness, a number of which were common to all three communities. Barriers are summarized by community in Table 3.

Four themes on barriers emerged in all three communities. These were the slow pace of intervention implementation, difficulties with understanding the role of the community in the participatory research process, the decision-making processes, and project name recognition in the community.

All participant groups mentioned the slow pace of intervention implementation in their communities as a major barrier to the success of the NIRI committees. They noted that it was important for the communities to experience tangible benefits of their participation, suggesting that progress in intervention implementation would also enhance community participation in the NIRI committees. These sentiments are reflected in the following quote:

> You know meetings are important but the biggest thing with a community-based program is that you have to get out into the community and work. But if

there's not much on the action, the community may hear about it . . . , but their attention will go somewhere else. . . . You can over-meet and under-work.

Participants from all three committees also identified the participatory process as a barrier to effectiveness. They indicated that they were slow in realizing that they were taking part in a participatory process and that they were supposed to drive the process. Some participants expressed a preference for a more traditional, service-oriented structure where the program came into the community already designed. The frustration experienced with the process was expressed by two participants in the quotes that follow:

> It was a project that was supposed to be carried out, I think, by primarily the people in the community, and the people in the community thought they [university partners] were gonna give more input, . . . we didn't understand what was to be done.

> I thought [the university partners] should have said 1, 2, 3, but they were letting it evolve so it would eventually come to us how we were supposed to do it. Well [I] am not accustomed to that in the way I operate. . . . You have to tell us A, B, C and then we do A, B, . . . it wasn't done because they were waiting for us to catch on to number B . . . it just wasn't moving.

Participants also noted some difficulties with the decision-making processes of the committees. For instance, participants from the Community A committee

TABLE 3
Barriers to Effectiveness as Perceived by Community Committee Members

Community A	Community B	Community C
Slow pace of intervention implementation	Slow pace of intervention implementation	Slow pace of intervention implementation
The participatory research process	The participatory research process	The participatory research process
The decision-making process	The decision-making processes	The decision-making process
Difficulties with the project name and lack of visibility in the community	Difficulties with the project name	Difficulties with the project name Committee members' mostly older than age 50 years
Lack of clarity of the committee's goals		Perception of committee as targeting only African Americans
Sporadic attendance and low community participation in committees' activities		Low community participation
		Lack of adequate publicity and/or location of office
		Location of the walking trail

stated that they felt excluded from some decisions related to hiring of staff and publicity of events. Community B participants felt that they were not always consulted in a timely manner on some decisions and only had input at the last minute or after the action had already been taken, though they did not ultimately disagree with the decisions made. Community C participants felt the decision-making process was too tedious, requiring substantial time to consult all partners. The following quotes from individuals in two different community groups reflect the frustration associated with decision making and some understanding of the challenges occurring when a number of partners are involved: "It just seems like . . . it would work better if the community decided what happens to the project and that the community was heard more" and

> I realize with the five or six entities that are involved in this, you all have to meet certain criteria and that makes it awfully hard to come to some mutual understanding in less time than it's taken us to get there.

Another barrier noted in two communities was the name of the project. Participants suggested that the communities being served by the NIRI committees had high levels of illiteracy; and therefore the name of the project needed to be simpler for easy recognition in the community. They felt that greater publicity and name recognition in the community would enhance community participation, reflected in this quotation: "when

the sign reads 'Delta NIRI,' and as you know we have a high rate of illiteracy in this area, people are often asking me, 'What that mean?' or 'What that sign say?'"

Issues of community participation were noted as barriers in two communities, with low participation a general problem in Communities A and C, and participation being limited to certain ethnic or age groups noted in Community C. Community C participants ascribed low community participation to lack of adequate publicity and the location of the committee's office and expressed regret that the committee had difficulty gaining participation from community members who were younger than age 50 years or White.

DISCUSSION

Community perceptions of partnership accomplishments and barriers to effectiveness suggest that the following factors are important to the success of the NIRI community–academia committees. These include providing tangible benefits to the community such as implementation of community projects, ensuring that the various sectors of the community were represented in the committees, educating community members on the participatory research process, and sharing power equitably by maintaining community leadership of the committees and through equal participation in the decision-making processes. The NIRI community–academia committees demonstrated three of these factors. First, all the NIRI community–academia committees had

implemented projects in the communities. Second, the committees strived to be representative of the community in their membership. Third, all the committees were community led. However, a number of barriers were noted that if addressed would have enhanced the success of the partnerships.

A common barrier to the effectiveness of the NIRI committees mentioned in all three groups was the slow pace of implementation of interventions. There were tensions associated with the time required by the university partners for research processes versus the community partners' need for expediency in realizing the results of their participation. This tension was a major threat to community participation and therefore sustainability. It has been observed that one characteristic of CBPR is that it takes a long time for benefits to be realized (Eisinger & Senturia, 2001; Israel, Schulz, Parker, & Becker, 1998). This sometimes acts as a barrier to community participation as members hope for quick tangible results. This is especially true when all program goals and objectives are long term. Solutions have to be found to keep up the tempo of activities in the community; otherwise there is real danger of losing community interest if no tangible results of the collaboration are visible. Such solutions may include developing short-term, intermediate, and long-term goals and objectives when planning the program. Brown-Peterside and Laraque (1997) analyzed the challenges of merging the rigor of research methodology with the need for providing tangible services in community-based programs. They suggested combining service with a funded research protocol. Lantz, Viruell-Fuentes, Israel, Softley, and Guzman (2001) acknowledged that balancing community interests in interventions and academic research needs was a challenge faced by community–academia collaborations. The community members want to see change quickly and are not aware of processes that may take time such as community entry, university research procedures, and establishment or enhancement of community capacity to participate. This may call for the restructuring of traditional university research policies and procedures when they are applied to CBPR. A theme common to successful CBPR efforts is the acknowledgement that different participants or partners have different goals (Arcury, Quandt, & Dearry, 2001). Fundamental to CBPR is the principle that there be a balance between research and action (Israel et al., 1998). This may therefore mean that activities that are of interest to the community and that may not necessarily be research should be entertained. These promotional or service activities may not result in publishable data; however, they motivate and help maintain

the interest of the community and keep the academic partners' face in the community.

The participants in the current study recognized that broad community participation was important to the effectiveness of the NIRI committees. They suggested that the lack of tangible benefits in the short term was affecting the level and type of community participation. All three groups of participants expressed a need to enhance community participation in the NIRI committees, and one group expressed concern that the committee did not truly represent the community, especially members of the White community and adults younger than age 50 years. Lantz et al. (2001) stressed the importance of committees that were representative of the whole community. There is a need to study any nested subcommunities (Brodsky & Marx, 2001) not being reached by the NIRI committees and also investigate how to reach those not being included. It is also important for the NIRI committees to demonstrate some successes in the community to gain greater participation. Butterfoss, Goodman, and Wandersman (1996) found that perceived program effectiveness was associated with increased levels of participation in community drug abuse prevention coalition committees.

An important finding from the current study was that some community members expressed dissatisfaction with the participatory process as implemented by the NIRI committees. This likely resulted from failure on the part of the university partners to adequately set the stage in the communities for CBPR. Although this initiative was for the most part the university partners' first experience with CBPR, they were in a position to apply the findings of others regarding barriers to and facilitators of successful community–academia collaborations, and to share these with the communities early in the collaborative process. Efforts to establish clear working guidelines (Lantz et al., 2001) and to set short-term goals and plan for short-term accomplishments (Eisinger & Senturia, 2001), including action and service, might have averted some of the frustrations experienced by community members. Instead, the inexperience of the university partners in CBPR resulted in a process of engagement that was iterative, in which colearning and capacity building were occurring throughout the engagement process among all partners (Israel et al., 2003). Clearly, the communities expected more direction from the outside "experts." The communities had past experience with traditional research or services where programs came into the communities fully developed but had not had experience with CBPR. The findings in the current study suggest that communities may need to be empowered early in the participatory process to take a stronger role in that

process. This could be accomplished by providing education on the participatory research process, helping community members to move from the perspective that "these outsiders know better" to an appreciation of their own role and value in shaping collaborative research in their communities.

Participants expressed some dissatisfaction with some of the decision-making processes of the NIRI committees. Community members at times felt excluded from crucial decisions and emphasized the importance of always having a community voice in any partnership decisions. Participants in the current study also stated that it was important to keep the leadership of the committee in the community. Encouraging community members to take up leadership roles enhances capacity (Laverack, as cited in Labonte & Laverack, 2001). Social inequalities that favor one-sided decision making may need to be addressed early on by explicitly focusing on the value of the knowledge and expertise that community members exclusively bring to the community–academia collaboration (Israel et al., 1998). Likewise, developing a sound infrastructure and set of processes for sharing information, making decisions, and working together could foster shared control and contribute to leadership capacity in the community (Butterfoss et al., 1996; Kone et al., 2000; Lantz et al., 2001).

▶ CONCLUSION

Formation of community partnerships has become an increasingly popular approach in planning, implementing, and evaluating preventive health interventions. The insights gained from the current study will be useful in guiding the work of community–academia partnerships. The current study expanded the understanding of community–academia partnerships' functioning and the perceptions of community members regarding this process. Specifically the results have implications for collaborations that are seeking to engage communities in seeking solutions to nutrition and other health problems. To further strengthen the applicability of the current study and as a next step to better understanding the functioning of these and other such partnerships, the academic partners' perceptions should be investigated and contrasted to those of the community members.

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