Developing Systems Interventions in a School Setting: An Application of Community-Based Participatory Research for Mental Health

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Objectives: The goal of this study was to develop systems interventions in a public school district using community-based participatory research (CBPR) methods to improve the social and academic functioning of children from racial and ethnic minority populations.

Design: The study used qualitative methods in the process of problem definition and intervention planning, including in-depth qualitative interviews and stakeholder dialogue groups. The study was conducted at three levels—the school system as a whole, two individual schools, and a multiple-stakeholder participatory group.

Setting: The study took place in a public school system in an urban city with a population of 101,355 and in two public schools located in this city.

Participants: The CBPR team included two researchers, a researcher/consulting psychiatrist in the schools, the director of the special education office, her management team, four teachers, and two school-based administrators.

Interventions: The CBPR group engaged in a process of problem definition and intervention planning at all three levels of the system. In addition, both schools initiated systems interventions to target the needs of their school environments.

Results: The project led to system interventions at both schools, clarity about the policy constraints to effective collaboration, and increased awareness regarding the behavioral and academic needs of minority children in the schools. The process produced a series of questions to use as a framework in CBPR partnership development.

Conclusions: The CBPR approach can expand the scope of mental-health services research, particularly related to services for racial and ethnic minorities. (*Ethn Dis*. 2006;16[suppl 1]:S1-107–S1-117)

Key Words: CBPR, Mental Health Services Research, School Mental Health, Special Ed (SPED)

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Introduction

This paper describes the development of a community-based participatory research (CBPR) project in mental-health services research. The project's objective was to generate a series of interventions in a public school system to improve the behavioral and academic functioning of students from racial and ethnic minority backgrounds. The project was developed in a participatory fashion with the special education office in a public school district and with personnel from two individual schools in an urban city. Data have consistently shown that some minorities are disproportionately represented in special education (SPED) and in special classrooms for emotional and behavioral disorders (SED).[1,2] In 2001, African Americans represented 19.8% of the SPED population nationally but only 14.8% of the child population in the country. Latinos and Asians tend to be under-represented nationally with 14.5% and 1.9% of the SPED population, respectively, compared to 17.5% and 3.8% of the child population. Recent recommendations for addressing these disparities include more integrated general and SPED services and early intervention through a universal and multitiered intervention strategy that is based in general-education classrooms.[3]

Schools are ideal settings to introduce changes that can help minority youth achieve academic competence, increase engagement and valuation, and decrease emotional distress. Previous literature has stressed the importance of schools for minority children to prevent academic failure and drop-out[4] and emotional problems.[5] In the refugee population, poor school performance has been associated with emotional problems as well.[6] Students' school failure and academic difficulties may be partly attributed to deficiencies in the teaching environment. Academic rigor and classroom management account for considerable variance in students' achievement, even when controlling for family and socioeconomic disadvantage.[7–9] For example, students with limited English proficiency may not succeed because they do not have access to effective instruction in English as a second language (ESL), to instruction that is sensitive to the cultural and social values of students' context, or to specialized instruction that addresses specific learning disabilities.[10,11]

This CBPR study was guided by the person-environment fit framework based upon work by Eccles et al[12] who suggest that students may develop behavioral and conduct problems, when in fact the primary problem is that the school environment is not conducive to learning. Thus, students' academic needs are inadequately addressed, and as a consequence, behavioral problems emerge. A number of interventions focused on the behavioral and academic needs of youth in a school setting have been successful.[13] Some interventions

The project's objective was to generate a series of interventions in a public school system to improve the behavioral and academic functioning of students from racial and ethnic minority backgrounds.

Table 1. Socioeconomic, ethnic/racial, and linguistic characteristics of children in the city compared to the state

Characteristic	City (%)	State (%)
Race/ethnicity		
African American	39.1	8.9
Hispanic	14.8	11.8
Asian	10.5	4.8
Native American	.6	.3
White	35.0	74.2
First language not English	32.4	14.0
LEP	8.1	5.1
Low income	49.0	27.7
SPED	21.2	15.9

LEP=limited English proficiency; SPED=special education.

focus on treating the student at an individual level, providing cognitive behavioral therapies[14] or interventions for individual children in the classroom.[15] Others interventions are designed to enhance the way a school operates as a system and thus decrease the risk for problem behaviors for all students across that system. These approaches have targeted school climate and academic accountability,[16,17] school-wide discipline plans[18] and "ecological" assessments that customize interventions to fit the specific needs of individual schools across multiple levels of the school system (eg, school-wide, classroom, family).[19]

In this project, the authors took a broad systemic approach to understanding the needs of minority students and designing interventions that could improve their academic and behavioral functioning. Based on recent recommendations in mental-health services research,[20,21] the authors used CBPR in the design and implementation of this project. By identifying problems and generating solutions in an iterative process from within communities, CBPR methods may provide a more effective means of developing and integrating sustainable interventions to prevent illness or improve mental health.[22,23] This paper describes three levels of intervention development that were conducted in a public school system using CBPR: at the district level with the special education office, at the school level with two individual schools, and through a collaborative workshop with participants from all of these groups. The objective was to engage in a problem-definition process that was collaborative at the level of the school system. In addition, the authors hoped to develop interventions to address the problem of disproportionate referrals to special education and improve services within the schools for children from racial and ethnic minority backgrounds.

METHOD

The project took place in three phases, and the methods used in each phase will be described below. The authors used multiple qualitative methods with a CBPR approach to understand the system, generate potential solutions, and apply the knowledge in developing pilot systems-level interventions. Throughout the process, the methods were developed in an iterative process based upon the information being generated in meetings with the project partners.

Phase 1

The CBPR project was initiated in a city (population 101,355) with 12 elementary schools and one secondary school. This particular district has higher percentages of children from racial and ethnic minority backgrounds, as well as higher percentages of children for whom English is their second language, than the state average (see Table 1). In addition, this city has a greater proportion of low-income families and children in special education than the state average.

Although the state as a whole has a disproportionate rate of referral to special education, the district in which this project was launched had an even higher rate. In 2003–2004, 25.4% of students with disabilities in this state were from an African-American or Hispanic background, while these minorities made up 20.3% of the population as a whole. In the public school district where this project took place, the disproportionate referral rate was 66% of SPED students from African-American or Hispanic backgrounds compared to 53% from these populations in the district as a whole.[24]

The participatory research team consisted of the director of the special education office, her management team, and three researchers, one of whom also worked as a consulting psychiatrist in the schools. The authors chose a CBPR approach in this project given that the collaborative focus of participatory research builds capacity.[25,26] Capacity building is considered to be particularly important in overburdened and under-

funded public-school settings that often lack personnel trained to provide linguistically and culturally relevant education.[10]

Using a CBPR approach with multiple consensus-building meetings, the team worked together to identify the problem and develop a strategy for addressing this problem at a systems level. In addition, the authors conducted a series of in-depth qualitative interviews (N=14) and one focus group with school personnel from multiple disciplines (eg, teachers, school counselors, administrators, literacy specialists) as a way to understand the nature of the problems in the school context regarding minority youth. The questions in the interview guide were generated in a collaborative fashion with the CBPR team (see Appendix 1). The interviews were conducted by a trained research assistant who was also on the CBPR team during this stage of the project. Informants were identified based upon a purposive snowball sampling method by which initial informants were referred by the CBPR team members and several subsequent respondents were identified by the interviewees themselves. Identities of the informants, however, were kept confidential.

The research team analyzed the transcribed interviews and grouped responses into themes that summarized the categories of problems and concerns identified by the informants. Because interviews included information that could reveal the identity of the informant, and some of the information was sensitive, the transcripts themselves were not shared with the entire CBPR team. However, the summarized information from these interviews was presented to the participatory team for critical analysis and reflection. Based upon these discussions, a process of shared problem identification occurred, in which potential projects to address the school system's improvements were identified and discussed.

Table 2. Characteristics of the schools

	School A	School B	District (K-8)
Limited English proficiency	18%	10%	10%
Free lunch	29%	55%	45%
Race			
Other Black	30%	14%	11%
White	44%	24%	37%
Hispanic	5%	11%	14%
African American	14%	40%	25%
Asian	6%	11%	11%
Native American	1%	0%	1%

Phase 2

Once the problem was defined collectively, the research focus was identified as developing an intervention to improve the functioning of the teacher-assistance teams (TAT). The TATs are school-based teacher-support teams that are also the first common point of entry for many minority children into a review process that can often result in a referral to SPED.[27] The TATs are ideally designed to provide general-education teachers additional support with strategies for students at risk for academic failure and/or behavioral problems. These teams can support teachers by incorporating problem clarification, plan design, implementation, and outcome assessment to enhance the strategies they are already trying in the classroom.[28]

By selecting TATs as the intervention focus, the authors needed to expand the stakeholder group and obtain a more comprehensive understanding of the two schools interested in participating in the project. A group of teachers and administrators from the two schools joined the project, and small working groups consisting of a researcher, a SPED participant, and school personnel were formed to conduct a system analysis of the individual schools. Each small group embarked on an ecological assessment process.[19] According to this framework, assessments are conducted at multiple levels of the school according to the needs of the project, including the broader school level, classroom level, peer level, parent level, and child level. The objective of conducting these assessments was to identify ways to maximize the mental health–promoting capabilities at each of the two schools. The authors sought to obtain a deeper understanding of the school factors and system patterns leading to disruptive or problem behaviors in minority children beyond the individual level, as well as to identify school resources (eg, teachers, ancillary personnel) that could leverage change.

The makeup of the student body at the two schools differed (see Table 2). School A had a lower proportion of students on the free lunch program than the district average but a higher percentage of students with limited English proficiency and in the "other Black" category. School B was a relatively poor school, with more than half the students on the free lunch program and a much higher proportion of African-American students than the district average. The authors engaged in a process of participatory data collection, by which the school-based CBPR teams identified the type of data they wanted to collect for their school. The teams evaluated which children were being referred to TAT at the system level and whether a pattern in the referrals emerged (eg, across age, race, behavioral concerns). Data were collected at both schools on the demographic characteristics of the children who were seen by the TAT that year, as well as information specific to each school including absenteeism rates in different classrooms, failure rates on the statewide achievement exams among

students from low-income families and racial and ethnic minorities, other available sources of academic and social support and resources at the school, and the process for accessing these resources. In addition, the researchers conducted observations of the school environments and of TAT meetings at both schools. Through this process of participatory data collection, the participants identified the issues specific to each school and identified the problems to be addressed by the project.

Phase 3

The third component of the project involved several structured workshops with the multiple stakeholders participating in the project. Including diverse stakeholders in intervention planning creates a complex organizational dynamic, particularly in school systems that frequently have diffuse and multiple decision-making bodies at different levels of the system.[29] Tensions between stakeholders in the process of developing an intervention have particular relevance for many who design and implement mental-health programs[30,31] and school-based services[32] in which the different perspectives of consumers, service providers, family members, and administrators can be difficult to reconcile.

Based upon the growing literature on the challenges of transporting mental-health interventions into real-world settings,[33] we decided to include an organizational consultant on the team to help facilitate these multiple-stakeholder meetings, generate data to more closely understand the system dynamics, and identify the leverage points for systemic change. The consultant worked with the research team and the SPED director to develop agendas for the meetings, facilitated the actual meetings, and worked with individual members of the team as needed to resolve questions or conflicts that arose from the collaboration.

The authors held two multiple-stakeholder workshops with the school participants and the SPED team. The consultant guided the team through a process of critically evaluating the beliefs, or mental assumptions, that each participant held regarding the school system to develop consensus about the intervention planning. In the first meeting, the team mapped the school system and the provision of SPED services to minority children. The participants visually represented this map as a way of understanding the barriers to the effective implementation of services. In the second meeting, the participants presented the data collected from the two schools and discussed the implications in the group. Verbatim notes were taken at both meetings, and the information collected was synthesized thematically and used to inform the process of intervention development.

Development of Questions to Guide the Process

The final methodologic strategy that provided insight throughout the project was the authors' reflection on their own experiences and impressions as researchers. This continuous, self-reflective process provided data about the system in which they were working. Qualitative researchers stress the importance of using one's own impressions of the environment,[34,35] and this self-reflective stance is a critical component of participatory research.[36] Within a CBPR process, this approach emerged from the conflicts that arose as the participants worked in the community setting. The CBPR team discussed the experiences of miscommunication and disappointments from unmet expectations. The sources of confusion were noted and used as data to inform the continued progress of the project. A series of questions was developed based on these experiences to provide a framework for discussion and consideration in the course of a CBPR project. The authors approached these questions through the lens of mental-health services researchers, primarily in thinking about the issues that are most relevant to CBPR in this field.

RESULTS

Phase 1

The SPED director initially requested help to understand why many parents from ethnic and racial minorities seemed to be disengaged in the process of SPED referrals for their children. However, after several meetings, the consensus of the CBPR team was that it was premature to work with the parents before understanding the larger systemic difficulties. These early conversations shifted the problem from parents' lack of engagement with SPED to tensions in the interactions between the school and SPED systems about how best to provide support to minority children with disruptive behavior problems. The CBPR team agreed that inviting parents to engage with SPED personnel should be postponed until interaction between SPED and the school system improved, and that the mental health intervention should focus on this systemic component of the problem.

This decision led to the series of in-depth qualitative interviews, administered throughout the school system to understand the specific issues across the system. The themes that emerged from these interviews noted the tensions that were common between SPED personnel and general education, and among school-based specialists regarding the amount of involvement required from SPED personnel. We noted an overall sense from these informants that training and resources for behavioral problems were not being used effectively by school personnel. The informants highlighted the poor communication between the teachers, service providers from SPED, and other ancillary personnel that led to inadequate service provision to children who had behavioral problems. Further, consensus was that

these difficulties particularly affected the school system's capacity to effectively serve minority children. Explicit mention was also made of the need for more training and professional development for school personnel to address effectively the needs of minority students.

From this analysis, the specific question that emerged was how to improve the system's ability to intervene in a preventive manner with minority students who do not progress effectively through the school system. Insufficient insight was available about how to improve the interface between SPED and the schools, with evidence of both inappropriate referrals to SPED in some cases (eg, for learning problems when the issue was actually limited English proficiency) and a lack of referral when needed in other cases. In generating the specific problem to address in the project, the authors presented all of the possibilities that were identified as related to the potential overrepresentation of ethnic and racial minority children in SPED services for behavioral and academic problems. The research goal of the participatory partnership became to develop an intervention to improve the functioning of school-based TATs dealing with behavioral and academic problems, particularly for children from minority backgrounds. Given that the classroom is the center of the person-environment fit for students, and the TAT was the gateway between the child-centered environment and the system, the CBPR team thought that an intervention focused here represented the best point of leverage for change in the school system.

Phase 2

In conducting the ecological assessment, the data collection process generated information that further informed the process of the problem identification in the two individual schools. At school A, the data showed that most (97%) of the children from minority, low-income backgrounds were in the "needs improvement" or "failing" categories on a statewide standardized test, and many of these same children were not proficient in English. Absenteeism rates were extremely high, with ≥30% of the students absent seven or more times in a six-month period in half of the classrooms. These absenteeism rates appeared to be particularly high among non-English speaking children who often would visit their country of origin for extended periods of time. However, the data showed that these non-English speaking minority children were not receiving SPED services, nor were they being presented as part of the TAT process. At school B, the team found that, under the current school administration, no formal teacher support team existed at all, even though the TAT is a mandated prereferral process for all schools in order to meet SPED regulations. As a result, not a single new child in a school of 600 elementary students had been through the process of receiving an initial assessment for SPED services during that year.

These data showed even deeper systemic problems that influenced the provision of behavioral health and SPED services for children from racial and ethnic minorities at these two schools. At the same time, they illuminated a tension that is familiar to school-based, mental-health intervention development. Every school has its own ecosystem, and the type of intervention that is appropriate for one school may not match the other. A system-level approach that focuses on improved mental-health interventions for children may encompass different specific strategies at individual schools.[32] Based on this ecological assessment, the problem-identification and intervention-development process began to be structured slightly differently at each school.

Phase 3

The stakeholder workshop provided a forum for the data collected as part of the ecological assessments. The data were presented to all participants, and the information sparked rapid and immediate school action. The process of both collecting the data and then presenting it to colleagues had a powerful effect on both schools.

At school A, the information resulted in a problem definition that focused attention on the reading and mathematics instruction for children for whom English was not their first language. The poor performance of non-English speaking students on standardized state tests quickly led the principal to negotiate with the bilingual department, a department that functioned separately from the SPED team, to increase resources for these students. This initial attempt to secure more resources for bilingual students did not immediately result in the desired outcome, and the principal at this school approached the researchers again to brainstorm alternative strategies for helping bilingual children. In the current year, several system-level interventions have been implemented including rescheduling school periods to offer more time for language and reading and altering instructional approaches. In addition, the school administration has added reading specialists and mentoring to help support the students. On a more profound level, the school participants have asked for help in critically thinking about how to redesign their school to increase the chance that these students can succeed, despite their continued concern that they may not be able to provide the necessary intensity of support.

At school B, the problem was systemic, as the school had not had a formal TAT operating that year. In response to the data, the principal shifted funds to hire a part-time aide to coordinate the teacher-support teams, who could then facilitate the process of necessary referrals for SPED services. In the current year, the TAT has been functioning, and the authors have been

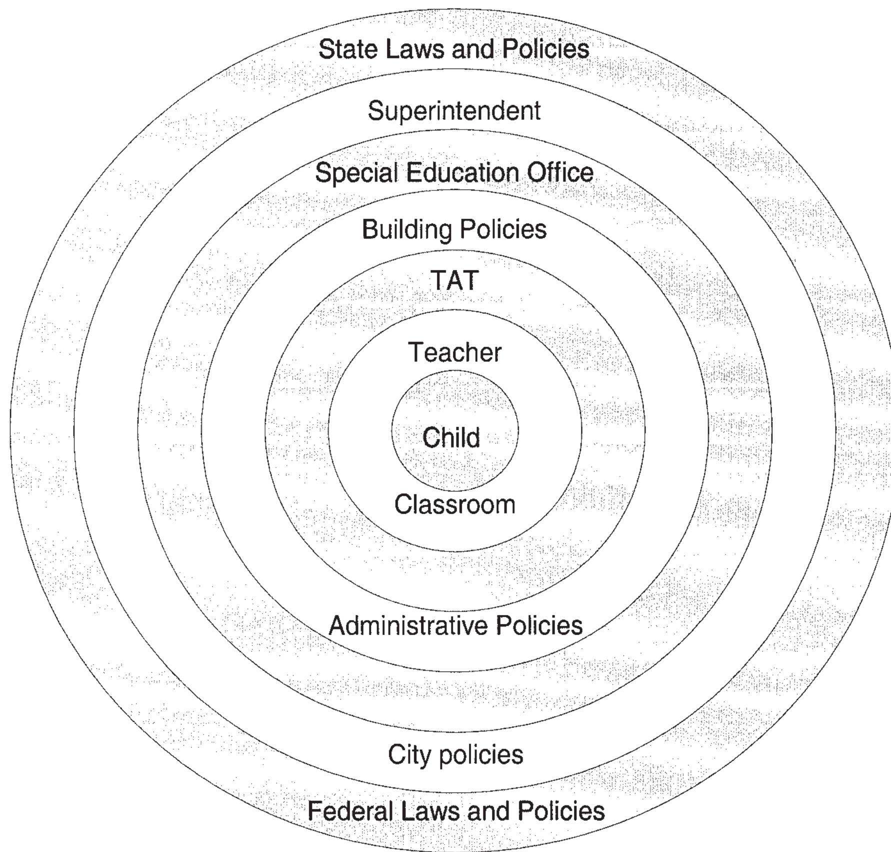

Fig 1. Diagram illustrating team's understanding of policy constraints related to project implementation

monitoring the effect of this process on the ethnic and minority students as well as on this school as a whole. Analysis is underway to examine whether children from racial and ethnic minorities are disproportionately over- or underreferred to TAT and to observe whether outcomes differ across racial and ethnic groups (including non-English speakers). In particular, the authors are tracking how many of the minority students who teachers identify as needing help are adequately addressed at the TAT level or are referred for more intensive SPED services.

The collaborative workshops also yielded rich information about the system. The group generated a diagram in the first workshop (see Figure 1), providing data that expanded the team's understanding of the policy constraints regarding project implementation. Reflecting as a group on the systemic constraints to progress in the schools in these multiple-stakeholder meetings provided clarity about the structural components at many levels that could undermine an intervention.

For example, the authors discovered legal constraints to the scope of the project that had not been taken into account during the initial problem-definition stage. They found that because of boundaries outlined in the Massachusetts state practice guidelines, SPED personnel were not able to participate routinely at a school level in offering more intensive resources unless the child had completed an assessment and was identified as needing SPED resources. Understanding these legal constraints contextualized the way in which the different stakeholders engaged in the project. For example, the SPED team participants became less involved in the CBPR project over time, as the locus of the problem shifted toward the school and the school-based system supports. This policy also contributed to the creation of a system dynamic that discouraged the preventive allocation of resources and contributed to frustration for the teachers. At the school level, informal administrative policies that discouraged the referral of minority children to SPED services before third grade were evident at school B. This policy placed the lack of a formal TAT structure at this school in context, as leadership at this school was concerned about the effect that premature referral might have on labeling children from certain minority groups.

Questions Generated by CBPR Team

The authors generated a list of questions to ask themselves as the project developed in order to continue the project in a participatory fashion (See Table 3). The questions grouped into three general themes: feasibility, research process, and stakeholder participation.

These questions developed over the course of the CBPR project in response to conflicts and concerns that evolved from the process of problem definition and intervention development. The questions were then used as a framework for understanding and addressing problems in the partnership, although satisfactory answers were not always readily available. Often, a question was simply raised in order to spark a discussion. For example, the authors asked whether the SPED personnel could be included in TAT sessions to provide advice on strategies for dealing with disruptive behaviors in a preventive rather than reactive fashion. Many of these questions addressed problems or concerns that were imbedded in the project itself and not necessarily able to be solved immediately. In this respect, the ques-

Table 3. Questions for reflection during CBPR process

Feasibility

- Are the proposed problems feasible to address in terms of time, resources, and legal/administrative constraints? If they are not, which ones are better suited to be addressed given the resources available?
- Does the identified problem lend itself to a research method? What kind?
- What are the best strategies for constraining the problem-identification process to a feasible task?
- What is the trade-off between continued depth of understanding of the system and the time constraints to implement the intervention project?
- Have we developed a realistic time line for the project implementation?

Research Process

- What is the relationship between the project and the direct mental-health outcomes? Have we mapped the connections concretely from more indirect components of the problem to the direct outcomes?
- Does the problem that is selected have the potential for a successful mental-health intervention?
- Have we discussed what researchers can and cannot do as a part of the CBPR project?
- Do some of the research methods require delaying action until the study is complete (eg, not sharing preliminary findings about the intervention with the comparison group)?
- Do all parties understand how to make decisions regarding problems that occur during the implementation of the project?

Stakeholder Participation

- What is the underlying objective of the project for the different stakeholders?
- Are all stakeholders critical to the implementation of the intervention-development process included in the CBPR? Are any critical players missing?
- Are all necessary participating stakeholders committed to the project?
- If some collaborators are not fully committed to the project, have we considered whether their participation is critical to this phase of the project? Do alternative strategies or models of participation for these collaborators exist?
- To what degree are all participants responsible to the stakeholders regarding updates on actions related to the intervention? Is the delineation of expectations regarding each participant's actions clear?
- Have we discussed competing demands for the participants in implementing the project and how to manage these constraints?
- Is everyone participating clear about the role that he or she will play in the implementation process?

CBPR=community-based participatory research.

tions worked in a circular fashion, framing and then reframing the process as the CBPR participants worked as a team (eg, uncovering state policies that conflicted with needed action). The feasibility questions, in particular, continued to be stumbling blocks throughout the project, as the focus of the problem identified by the CBPR team was one of a lack of coordinated resources, and this systemic weakness became evident in the implementation of the research project as well.

DISCUSSION

Although much has been written about the opportunities, challenges and tensions of community/academic partnerships in public health,[37–39] the use of CBPR in the mental-health field is relatively new. To date, researchers have only recently addressed the process of CBPR as it relates specifically to mental health,[21] and just a few have incorporated these techniques in the development of mental-health interventions.[40] The authors' experiences have particular relevance in several areas as this approach begins to be adapted in the mental-health field.

Problem Definition

During the course of early discussions with the CBPR team, the research focus concerning how to improve behavioral functioning for children from racial and ethnic minorities expanded. Whereas, initially it was a narrow project to enhance parental engagement in SPED services, it shifted over time to a broader project focused on the need for systemic change to address the academic and social needs of ethnically and racially diverse youth. Based on input from the community, the team diverted from a topic that was primarily centered on mental health to one that was more distant, namely referrals to TAT. Thus, the nature of the problem the interventions addressed was not just constrained to emotional difficulties but also included the possibility of learning problems.

By broadening the focus to include the learning component of emotional problems, the researchers encountered a situation in which the specific problem chosen was to some extent outside their area of expertise. The project focus began to include problems in the academic curriculum that needed realignment in order to serve the needs of children coming from culturally and linguistically diverse households that were linked to behavioral problems. These experiences suggest that using a CBPR approach in mental health may increase the possibility that the team will need to attend to indirect factors that are closely aligned with mental-health concerns. This possibility may

also require expanding the boundaries of what a mental-health intervention encompasses and the expertise needed to adequately address the problem.

Stakeholder Negotiations

Challenges in developing a shared vision in the course of CBPR work have been noted by those experienced with this approach in public health.[41] What distinguishes the processes used in the applications of CBPR from other research approaches are the patterns of decisionmaking and problem-solving undertaken by the project participants.[42,43] The decision-making processes for the traditional research approach focus on the question to be addressed and the scientific methods to be employed from the researchers' point of view. The community-based action approach focuses instead on immediate action, prioritizing the solution of treating the symptoms of the problem (short-term approach) over designing an intervention to address a systemic problem (prolonged approach). The CBPR approach, however, focuses on the relational requirements needed to define the specific problem and implement the project in a truly collaborative way (eg, what structures for shared decisionmaking are in place for defining the problem). According to Israel et al,[44] the development of a strong CBPR team requires explicit attention to the process of building an equitable partnership in the decision-making process. They note that time and attention must be paid to this process, despite the fact that some may experience it as detracting from the CBPR objectives.[42,45]

These negotiations regarding decisionmaking are relevant to the process of developing interventions in mental health, particularly the difficulties in the implementation of evidence-based practices experienced in this field.[46] In mental health, the effective transportability of evidence-based practices into real-world settings may require modifications on the part of both the tested treatment protocol and the practitioners in the community setting,[33,47] including schools.[32] To be successful, the decision-making processes require a high level of participatory, collaborative problem solving, and successful implementation hinges on the social, interpersonal processes that occur during the transition from the design to the implementation phase.[48]

The process of CBPR provides a framework for negotiating the relational components of implementing an intervention in mental-health research. Using CBPR in the development of mental-health interventions could facilitate the implementation process, as well as generate data on the interpersonal processes that facilitate the project goals. In this project, by working with an organizational consultant and observing their responses to the process as part of the qualitative data collection, the authors were able to reflect on the relational components of the intervention development and adjust the methods accordingly. Several interpersonal dynamics affected the successful implementation of the interventions: a tendency for each constituency to blame the other for the problem, a reluctance to acknowledge that current patterns of operation are not really working, and differing levels of readiness for change across participants.

Working with these difficulties required engaging in the process of relationship development. The researchers did not impose their own agenda and instead sought to define the overlap between what most stakeholders defined as the main problem and their research expertise. The CBPR team engaged in a collaborative decision-making process that included qualitative interviewing to gather a broad range of opinions from across the system and multiple meetings to evaluate and reflect on these findings. The systems interventions were chosen by a multidisciplinary group of stakeholders. Finally, when conflicts occurred, the CBPR participants worked to understand and resolve the issue, often with the organizational consultant as mediator.

Systems Development

Community-based participatory research (CBPR) has been widely described as a cyclical and iterative process of systems development in the public-health field.[44] In this project, the patterns of responses to the data generated by the ecological assessment illustrate the circular nature of the engagement process with the community stakeholders. After the presentation of the participatory data at one of the workshops, the principal from one school stated that with these data she was ready to just work on the problem on her own with her staff. Whereas the authors viewed the participatory data collection process as the first step in the design of a mental-health intervention, this principal wanted to forgo the CBPR process and jump immediately to fixing the problem. In this case, as described above, the attempt to secure additional funds for bilingual programs at the school did not yield results, and the research team was again contacted to continue working with the problem. Throughout the project, the authors have observed this cyclical engagement pattern, whereby the school partners branch out, experience limited success, and then recommit to the participatory research group.

The role of reflection and analysis, and the way in which this process can improve the development of and implementation of system-level strategies to address the behavioral problems of minority children, was not always immediately apparent to all members of the participatory group. The project has been a process by which the researchers have slowly become more aware of the complexity of the problem from the perspective of the system, while the community participants have become more appreciative of the op-

portunity that the researchers provide to step back and reflect on the problem using scientific methods. The process has led to the point where, as a team, the CBPR participants have begun to achieve two components essential to the effective implementation of a mental-health systems intervention—the ownership of the problem by multiple stakeholders across the system and a deep understanding of the complexity of addressing the mental-health needs of minority youth, especially non-English speaking youth. For example, teachers at school A now reflect on how they can use learning strategies that concretely convey the idea in a text as a way to engage and motivate students who have limited language proficiency in their classrooms. The principal has also spearheaded capacity-building seminars to help teachers accommodate to the needs of their minority children, and the bilingual education department has made a concerted outreach to minority parents.

Resources for CBPR in Mental Health

Throughout the process, we have used the questions in Table 3 as a mechanism for reflection. Revisiting these questions as the project developed gave the team information to provide guidance in decisionmaking and in particular encouraged persistence with the CBPR process. By asking these questions, we learned that defining the contributions of the research expertise and exploring expectations ahead of time aids the development of a mental-health intervention. We also learned that participants can expect some blame-shifting among stakeholders and ambivalence about the need for research participation in the early stages. Finally, each stage of data collection yielded a slightly different formulation of the research problem, which in turn resulted in a deeper investigation of the constraints in the system and leverage points for change.

However, these questions do not have static answers and continue to be revisited as the project evolves. Participatory researchers in public health have described how this type of research follows the logic of continuous change, a process that is emergent and evolutionary.[36] This quality presents particular challenges within the traditional funding cycles of more mainstream research initiatives in the area of resources—both time and money. The process uncovered a level of complexity that the authors had not anticipated, causing them to reconsider and expand the resources and time that had been allotted for the project. The questions regarding feasibility, at times, were not answerable. The lack of resources is a constant reality for many conducting CBPR work, both for those within the community[41] and for participants trying to fund these projects.[49,50] The resource constraints are often both the impetus for designing a CBPR project and also what impedes successful implementation.

By raising the questions and working with the responses within the context of the project, the team has slowly begun to build the capacity to support system change. Traditional research approaches encourage participation in a project through external means, by providing monetary incentives to respondents and professional advancement for researchers. Neither of these incentives is necessarily available for CBPR, and thus the participants must work to develop the motivation to participate through the relationships that are built and the desire to engage and solve a mutual problem in a collaborative fashion. Even small victories with very constrained problems are building blocks in the process of establishing community partnerships.[44] Addressing the questions in Table 3 and bringing them forward for open discussion facilitates relationship building as the project develops, even if some of the questions remain unanswered.

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This project had certain limitations. Given the scope of the system problems within the schools, the authors were unable to include family members, who are critical stakeholders in any project that aims to improve school functioning for children.[8,51] Involving family members is the next step in building a strong basis for systemic change. This paper also represents only the first stage of this project and what has been learned in just two years of a collaborative partnership focused on problem identification and intervention development. Given the iterative nature of building a CBPR partnership, many of the intervention outcomes have yet to be seen and have not been outlined in the experiences described here. Finally, given the lack of CBPR research in the mental-health field, no models specific to mental health were available to guide the process. More experience in applying CBPR in mental-health research will hopefully provide skills in managing issues unique to this field, such as the expansion in the problem-definition process beyond a narrow mental-health focus and the policy constraints to implementation that were outlined in the stakeholder workshop. These findings suggest that current CBPR frameworks may need to be supplemented for mental-health research.

Use of the CBPR approach can expand the scope of mental-health services research, particularly related to services for racial and ethnic minorities.

The approach allowed the participatory team to observe the underlying complexity and systemic connections that need to be addressed in the development and implementation of mental-health interventions at multiple levels of the school system—the district level, the school level, and through stakeholder workshops. From the perspective of the school community, the analytic strategies that were used appropriately identified the strengths as well as the barriers to effective implementation of the project. Identifying the key stakeholder groups, the level of commitment and accountability, ownership, and the need for ongoing self-reflection and assessment in the first phase of the research was the key to its success.

The CBPR process also generated critical insights about how this school system functioned. The team became aware that a packaged mental-health intervention (eg, cognitive behavioral therapy) might, in fact, be merely palliative and not substantively change the systemic deficits that fueled the distressed minority students' lack of academic skills and behavioral symptoms. Enhancing how SPED and general-education teachers address the gap in the academic achievement of these minority students required a shift in the research perspective that was shaped by the exploratory process of CBPR. Using CBPR techniques, both researchers and community members engaged in a process of self-reflection to generate viable interventions that capitalize on this deeper understanding and subsequently hold the potential for substantive, meaningful change.

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Appendix 1.

IN-DEPTH INTERVIEW QUESTIONS

GENERAL OVERVIEW: Can you describe the special-education system and how it works in terms of meeting the needs for our most challenged students? Who is included under the special-education system? What seems to be the system's strengths? How about the system's weaknesses?

GOAL SETTING: What is your definition of a positive outcome for the most challenged students? How would you measure success? What would happen to that child for you to say that it has been a bad outcome?

PROCESS: Can you give an example of when the system worked well and a positive outcome for the particular student with special needs was achieved? Why do you think this process was successful? What did the team do that made it a success?

COMMUNICATION: When people work in a system, they sometimes get information on how they are doing and what tasks or responsibilities they are performing or not doing so well. In other systems, people receive very little feedback on how they do. How would you describe this system in terms of giving feedback or not? In what areas do people get feedback? In what areas do they not get feedback? What information exchange is the most relevant for a system to have so that it works well? How frequently are you asked your opinion about how the system is working? How frequently are you asked about how the team is working? Is there a mechanism for information exchange?

TEAMWORK: Some teams seem to work effectively and others not so well. Can you please provide an example of a time that you participated in an effective school team? Can you please provide an example of a time that you participated in an ineffective school team? What made the team effective/ineffective? What elements differentiate effective from ineffective teams? What would be your advice on how to build more effective teams in special education?

SYSTEM: Do you perceive there to be any structural barriers to the process to meeting certain students' special needs? Can you please describe this? Do you have any ideas about how we could address/eliminate some of these barriers?