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Combining Ethnographic Mapping and Reflective Methodologies to Recruit Researchers and Practitioners to Address Health Disparities

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Bidirectional learning; CBPR; learning-by-doing; community-university partnerships; mentoring

INTRODUCTION AND BACKGROUND

An important strategy to address health disparities is the active involvement of the target population in research efforts to reach this goal. However, despite the urgency of diversifying the medical and public health workforce, and despite their potential to contribute to the reduction of health disparities in their own communities [1, 2], Latinos in medical and other health-related degree programs and community residents who participate in research activities continue to experience limited institutional structures to support their needs for faculty mentoring, collaboration with a diverse group of Latino peers, and experiential learning activities [3–5]. Correspondingly, the growth of the Latino population in the United States has yet to translate into a significant increase in Latino health professionals and/or researchers. Since the 1980s, Latino higher education research scholars

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¹Existing literature interchangeably uses the terms Latino and Hispanic. As Table 1 illustrates, there is no consensus among people from Latin American countries who presently reside in the United States as how to identify themselves. For the purposes of this research, we use the term Latino to describe the characteristics of our research team.

CONFLICT OF INTEREST STATEMENT

Authors Phillip Granberry, Idalí Torres, Jeroan Allison, Milagros Rosal, Sarah Rustan, Melissa Colon, Ivette Cruz, and the Puerto Rican Cultural Center Research team declare that they have no conflict of interest.

COMPLIANCE WITH ETHICAL STANDARDS

This research was reviewed and approved by the university's Institutional Review Board, Assurance #FWA00004634. All procedures involving human participants performed in this study were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments.

have suggested the application of Freirean approaches to literacies [6–8], in which programs highlight experiential learning and reflection on the applied learning process. In this article, we explore how this experiential educational process can help to stimulate future researchers and practitioners, with the long-term goal of eliminating health disparities.

Latino community residents and undergraduate students are underutilized resources in the reduction of health disparities. Engaging undergraduate students in a health-related field research experience not only increases their understanding of research methods, but also has the ability to shape their understanding of health disparities, and to encourage them to conduct further research with the aim of addressing health disparities [9]. Likewise, engaging community residents in a community-based participatory research (CBPR) project facilitates their contextual understanding of their community, and a field research experience can provide entry to the research world for those wishing to investigate health disparities. This applied approach to research strives not only for scientific discovery, but also for social justice. Community–university partnerships provide an opportunity to bring Latino community residents and undergraduate students together to gain the background and initial skills necessary for building research potential, with the aim of investigating research questions on health disparities [10–12].

In such community–university partnerships, researchers and community residents must commit not only to sharing their skills and experiences, but also to learning from and valuing each other’s literacy frameworks [13, 14]. This requires that both groups engage in a bidirectional learning process with a long-term goal of reducing health disparities. The transfer of research literacy (understood as a cluster of knowledge, language, concepts, and skills) empowers community residents to participate actively in research that is being conducted about them and their community [15, 16]. Likewise, the transfer of local community literacy increases the capacity of researchers (and their institutions and funders) to understand the needs of the community and reconcile them with their own academic priorities [17, 18]. This interchange of research and community literacies is often an unnoticed outcome of community–university partnerships.

The commitment to promoting research and community literacies developed out of Latin American educational and social reform movements, which united critical theory with social change movements [19]. We treat acquiring literacy as an interactive and iterative process that builds competency through the direct application of theory to an immediate experience, in contrast to knowledge that is the accumulation of facts. In a research context, research literacy (1) demystifies empirical investigation through learning by doing, (2) awakens curiosity and inquiry about one’s daily life experiences, and (3) activates the capacity for critical analysis and community action. Community literacy (1) increases faculty’s and undergraduate students’ awareness of the value of resident participation in the research process, (2) grounds research activities in the broader community experience, and (3) promotes change in policy and practice.

Although research literacy training for community residents and/or partners is frequently identified as a capacity-building factor for the successful implementation and sustainability of CBPR, only a few examples are available on the content, materials, and delivery

methodologies: The efforts of Goodman and colleagues to increase research literacy among members of minority communities through the CARES Fellows produced a syllabus for 11 sessions and four workshops [20]. Likewise, to develop the required research skills for the meaningful participation of community members in an HIV research project, Sanchez and colleagues designed a curriculum on the basic principles of CBPR, research ethics, and both qualitative and quantitative methodologies and delivered it using a dialogical Freirean education methodology [16]. Even less has been written about community literacy training for faculty and students to build their capacity effectively to develop and maintain CBPR partnerships. Based on her experience as a CBPR researcher, D'Alonzo identified a set of competencies that researchers should develop at different stages of the research process, from the pre-research community engagement to the post-research dissemination of findings [18]. Wallenstein and her colleagues highlighted the absence of these skills in research courses required for health careers training [11]. Little focus on community literacy could reduce access to research skills for undergraduate students from underrepresented communities and for community members in a CBPR project. Students from underrepresented communities often experience health disparities and are motivated to act on their new knowledge about health disparities and research methods skills, but universities do not always offer opportunities to apply their developing skills directly.

This article describes a method to engage the often overlooked groups of undergraduate students and community residents. The use of an ethnographic mapping research task in combination with reflective methodologies facilitated the participation of community residents and undergraduate Latino students in a technical research activity and increased research and community literacies among team members. This task was designed as the initial activity to help lay the foundation for a five-year research project to address health disparities. This research was built on the second author's 20-year history of CBPR involvement with the Puerto Rican Cultural Center, a community-based organization in Springfield, Massachusetts, drawing also upon the expertise of coauthors from the Gastón Institute, a research institute at the University Massachusetts Boston. In addition to the successful implementation of this research agenda, this research exposed community residents and undergraduate students to each other's literacies to promote the development of future researchers and practitioners aiming to address health disparities.

METHODS

Our CBPR methodological approach is anchored on the framework of experiential and reflective learning used by Fals-Borda and Freire [21–24] to facilitate the engagement of those affected by disparities in a process of investigation of and reflection about their own communities. This framework has been carried forward by CBPR researchers seeking to promote health equity [3, 12, 16, 25].

Fieldwork as an Experiential Learning Activity

The ethnographic mapping research activity located, listed, and identified households as the first step of a larger household survey of Spanish-speaking Puerto Rican mothers about communication with their children regarding sexuality and sexual health [26]. We chose

ethnographic mapping because it was an iterative process that allowed frequent interaction between community residents and undergraduate students involved in this research activity. Each of the six mapping teams consisted of a community resident and an undergraduate student, with assistance from a graduate student, two faculty members, and the community partner's executive director. Each week, different configurations of the six mapping teams were composed, always consisting of one community member and one undergraduate student. Each mapping team walked along a sidewalk and used housing characteristics such as the number of doorbells, mailboxes, utility meters, trash containers, and/or satellite dishes to estimate the number of household units in a housing structure [27]. Team members were instructed to suspend judgment before approaching a structure and observing its characteristics to record how many units it contained. When team members differed in their observations, they compared their lists of identified objects and reached consensus on the number of units a structure contained. Disagreement on initially perceived observations of the housing structures enhanced the bidirectional learning process, because the team members learned to trust other members' skills in identifying the number of possible households in each structure. In this process, team members realized the importance of another person's observational skills to arrive at a more comprehensive household list. In addition to these numerical data, mapping team members recorded observations of housing and general neighborhood characteristics. These observations included objective characteristics (e.g., the condition of the front steps, the presence of a sign warning of a dog, or locked front gates) along with subjective characteristics (e.g., the overall impression of each census block).

Puerto Ricans, the largest Latino subpopulation in Springfield, were selected for this research because they have the worst health outcomes [28]. The community residents participating were all Puerto Ricans, and all but one of the undergraduate students were Latino (although none were Puerto Rican or lived in the researched community). This lack of Puerto Rican student participation was not intentional and was an artifact of their limited enrollment in the university due to disparities in educational attainment of Puerto Ricans [29]. In addition, our team included two graduate students (one of whom was Puerto Rican), two faculty members (one of whom was Puerto Rican), and the director of the community-based organization. The community members were on average slightly older than the undergraduate students. The undergraduate students were recruited from a course in the Anthropology Department that supports the Latino Leadership Opportunity Program at the university, and community residents were recruited by the community partner.

The mapping task was conducted over eight weeks. The first session aimed to (1) introduce the research team members, (2) explain the scope and motivation of the project, (3) develop the skills to begin ethnographically mapping a census block, and (4) practice mapping two census blocks. The remaining seven sessions were spent mapping buildings in 100 randomly selected census blocks. After each weekly fieldwork session, an hour-long debriefing meeting allowed for reflection on the day's experience. A longer final session of two hours was used to reflect on the entire research activity. In total, there were eight reflection sessions conducted by the second author. Only the final two-hour reflection session was recorded and transcribed. However, all data generated by participant observation and debriefing sessions was analyzed to generate results.

Reflection and Analysis

Building on the Freirean/Fals-Borda tradition, the reflection sessions were designed to debrief the mapping teams on their field observations after each field research experience and provide an opportunity to increase both research and community literacies [21–24]. The reflection sessions brought out three types of observations. The first few days of fieldwork yielded broad descriptive observations of the neighborhoods. As the fieldwork progressed, team members' enthusiasm produced more focused observations on physical aspects of the community. Toward the end of the experience, the group made selective observations of the housing units that began to reflect concerns about the housing disparities among neighborhoods. Conversations about these disparities emerged organically as people exchanged ideas on how to address issues they encountered during fieldwork activities.

When the group decided to engage in the development of the present article on the results of the fieldwork experience, community residents asked that they be listed as a team, rather than individually, in any written product of the reflection session. Three members of the university research team, including a graduate student, read the transcription and independently identified the most salient themes. They met to compare their individual lists and reached consensus on the primary emerging themes from the debriefing sessions as presented below. As shown in the list of authors, all community members of the Puerto Rican Cultural Center Research Team contributed to the paper by reviewing these themes, and one community member is an identified author who also contributed to developing the framework for the research project.

RESULTS

Demystification of Research

Our field research allowed community residents and undergraduate students to integrate skill-based research training applied to a field experience. During reflection sessions, participants' intellectual curiosity about their experiences became evident, and connections were made between the learning-by-doing research activity and the participants' own cultural context. One community resident who had been in a homeless shelter connected the ethnographic mapping data to the broader issues in the community: "Four families living in one small house, and you wonder ... Why did these people all have to live here?... It's going to make me wonder about what's going on inside of ... of all that." Through the experience, this respondent's interest was sparked to investigate her own research question. As a result, she included several questions on the condition of a home, including problems with hot water and broken pipes, in the later developed survey instrument.

We observed examples of both community residents and students with little or no research experience becoming aware of the potential of research as tool for community change. One community member referred to research as a "Pandora's box," communicating her concern that research would result in requests for services that would not be fulfilled. In response, another community member suggested developing survey questions to evaluate where additional services were needed in the community, prompting a discussion of how to use research results as a tool for advocacy and change. The same community member also

expressed curiosity about whether his perceptions of the survey respondents' knowledge of sexual health were accurate; he looked forward to comparing the survey results with his perceptions of the community.

Translation of Scientific and Community Knowledge

The reflection process documented that the translation of scientific and community knowledge was required for the project's success. The faculty members learned the importance of translating abstract concepts into examples that prioritized the experience of the community. This approach strengthened the bi-directional learning process by giving everyone further insight into the scientific process. In an attempt to explain random sampling, the second author used a box that included numbered pieces of paper. She shook the box and withdrew one piece of paper. After she did this several times, a community resident expressed an important point about randomization; that is, not everyone is easy to talk to, but their viewpoint is important to be included in a community survey. That is why we need to take this extra step to the research project. As the mapping process developed, one resident observed that one of the census blocks in a Puerto Rican neighborhood included well-maintained single-family homes. In a debriefing session, she shared her surprise about having learned of "places that I didn't know were here, and I have lived here all of my life." This type of observation reflects new awareness of disparities existing between neighborhoods within the same city, and it provides an opportunity for using research as a tool for community change.

The university researchers learned the importance of translating abstract concepts into examples that prioritized the experience of the community. A transformative moment happened when the researchers realized that community trust is a tenuous trait that requires ongoing cultivation. Tensions arose between the two groups when an aspect of the research methodology—the partnering of a community resident and a student—was interpreted as form of "quality control" on their work by some community residents who felt their contribution was not valued. Not until this was raised at a debriefing session did the university researchers realize the issue and addressed it by explaining the difference between the need to adhere to a research protocol, and procedures for quality control. Our reflection sessions facilitated research literacy by demonstrating the value of the partnership on the day-to-day application of the study methodology. As a result, both community concerns and adherence to the science protocol were strengthened.

Exposure to Multiple Literacies

The exchange of experiences between the community residents and the students offered an opportunity for exposure to each other's preferred literacies. As one student highlighted, "It is really great that we are working together, because we are so many different points of view, and everybody has his or her own ideas. Every time we meet, I'm learning something new about a different way we can do things better." Likewise, a community member valued insights learned from other members of the research team: "We know how we think, we know how we work together, but it was good to be able to work with people outside our circle and see how you guys took a different approach."

Community residents and undergraduate students were able to implement another basic requirement of research: the need to suspend judgment. An example came from students who learned to shed their stereotypes about the host community. One student said “Before I came here, I heard that [this place] was a bad place, but now that I am working here, I don’t think that’s true. It might be like in any other place, but not as many people describe it.”

Increased Awareness of Research as a Tool for Change among Community Residents and Their Organizations

On one occasion, a community member observed that much of the low-income housing in the neighborhoods appeared to be occupied by Puerto Ricans. She then linked this observation with the market structure for low-income housing in which rent is paid to someone who does not live in the neighborhood, and may not share the same community concerns as the residents. Through this reflection, group members supported each other in reassessing and validating their own goals for developing their community-based organization, as well as its capacity to serve the larger community. One community resident expressed his satisfaction at discovering that students and faculty shared the same goal: “to help our people” and a concern for health disparities. This was echoed by a community resident with limited exposure to research who became encouraged about the long-term possibilities that research offered his community. He stated “One of the things I am grateful for is that we finally have been able to get a project where we can work with a community and identify some of the problems they have and figure out how we are gonna address them.”

Interaction among community residents in the reflection process awakened latent aspirations for building their own capacity to contribute to the community in other areas, such as law. One female resident articulated a long-term professional development goal to address health disparities: “I’m looking to hopefully start school very soon, I want advance a career as an attorney, so I’m looking at about seven years of school, right now. I’m researching my different options, because I want to get started. I have a goal, that by the age of 35, I have my own office. That’s my commitment.”

DISCUSSION

This paper reports on a study that sought to align the common goals of building capacity for health equity research and strengthening the Latino pipeline for medicine and other health careers by combining ethnographic mapping and reflective methodologies to stimulate research and community literacies among a group of community residents and undergraduate students. Reflections on the ethnographic mapping process served as an opportunity to decipher an empirical investigation task, crystalizing the “learning-by-doing” experience [30]. Our reflections suggest that undergraduate students and community members who learn to use investigation and reflection begin to think about how to activate themselves, their families, and their communities to act on the conditions that affect their health and wellbeing.

Completing research tasks offers an opportunity for introducing people to the role that research plays in reducing health disparities. The neighborhood-level data needed to

implement this research project could have been collected in a shorter period of time without using our learning-by-doing and reflection process, but the project's community and university leadership chose to use participatory methods, both to strengthen the partnership and to integrate the resulting new knowledge into a larger community action agenda. To address health disparities, undergraduate students need the opportunity to apply their developing knowledge about the topic and research methods in a research setting. At the same time, community members need more exposure to research practices and their significance.

Although faculty members have more frequent contact with undergraduate students, they also have a responsibility to ensure that community residents develop the research literacy necessary to support their aspiration to reduce health disparities. The reflection process in this project began to demystify the research process and provided examples of how research can be an important tool for community change. Discovering that one has always been a researcher of some kind is an initial step in valuing one's literacy discourse (articulation of ideas and experiences) as a legitimate source of knowledge [21–24]. This is not always an easy task in the face of stigmatization and other socially induced exclusion processes that thrive on silencing people who have historically experienced disparities. This research and reflection process suggests that community residents were supported by the faculty and students to further their own education to help ensure that subsequent research addresses health disparities in their community.

Students benefit from directly connecting their academic experience to the local context of people experiencing health disparities. Faculty and undergraduate students increased their awareness of the value of resident participation in the research process. Putting science and its methodologies in the hands of the people who are familiar with their community needs and resources can be most effective in creating social change [19, 23, 24]. Undergraduate students benefited from the opportunity to apply their developing theoretical understanding in a research environment. Their efforts to change policies, programs, and practices must be grounded in the local community's knowledge and context to enable them to develop the ability to affect change and ultimately to overcome inequalities. As community-literate researchers, they can make a contribution as knowledge brokers in translating scientific knowledge to practical applications for those experiencing health disparities.

CONCLUSION AND IMPLICATIONS

One strategy for building capacity for health equity in communities experiencing disparities involves linking a new generation of Latino undergraduate students (many of whom are the first in their families to attend college) and community residents (who are seeking to document their own experiences of disparities) through the experience of field research activities like the ethnographic mapping and reflective methodologies in the present study. In our project, community residents and students assumed the roles of researchers in the making. They developed a “can do” attitude that translated into an awareness that each individual can contribute to strengthening community action to address community disparities. By pairing students with community residents, adding the active presence of two faculty members in the fieldwork exercises, and incorporating sessions for reflection on the

fieldwork, we strengthened the research and community literacies of the team members. University faculty and students with exposure to research methods and community residents with exposure to neighborhood conditions each possess information that the others need to better understand institutions that lead to health disparities and to develop strategies to address these disparities. Our experience must be viewed within the limitations of the study population of community residents and undergraduate students. The limited participation of undergraduate students of Puerto Rican origin reflects the disparities of educational attainment compared to other Latino populations in the United States.

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Table 1

Characteristics of the PAD Research Team Members by Partner Institutions

	Puerto Rican Cultural Center	UMass Boston
Age (mean years)	37	33
Female	71%	78%
Educational attainment		
Bachelor's degree or higher	57%	44%
Some college	0%	56%
High school	43%	0%
Place of Birth		
Continental – US Born	29%	56%
Puerto Rican – US Born	71%	11%
Foreign born	0%	33%
Language		
Primary Spanish	71%	56%
Primary English	29%	33%
Primary Portuguese	0%	11%
Self-identity		
Ethnicity		
Hispanic	14%	0%
Latina	14%	22%
Race		
Non-Latino White	0%	22%
Place of Birth		
Puerto Rican	72%	22%
Dominican	0%	11%
Salvadoran	0%	11%
Peruvian	0%	11%