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Promotoras as Data Collectors in a Large Study of Physical Activity in Parks

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Abstract

There is a large literature on *promotores*' involvement in health promotion and a smaller literature on their roles in data collection, most often among predominantly Latino populations. But the extent to which *promotores* can be successful as the primary data collectors across racially/ethnically and socioeconomically diverse neighborhoods is less well documented. In a study of physical activity in 50 urban neighborhood parks, we found that a team of Spanish/English bilingual *promotoras* (female *promotores*) successfully implemented a direct observation protocol in all participant neighborhoods and achieved high interrater reliability (.80-.98). Overall, they were also effective in administering surveys to park users and residents across the racially/ethnically diverse neighborhoods. The *promotoras* brought to the project important language skills and cultural sensitivity, surveying experience, and familiarity with human subjects and confidentiality issues. Their extensive field experience gained over the course of a long-term collaborative effort helped improve survey and observation protocols. The *promotoras* reported gaining professional skills, which can strengthen their contributions to other projects. The *promotoras* were accustomed to being a source of information, and collecting rather than providing information was challenging for some and had to be addressed in order to avoid contamination across study groups.

Keywords

promotoras; data collectors; physical activity; parks

INTRODUCTION

Promotores de salud (i.e., community health workers) have become valuable to addressing numerous health conditions across many settings (Lewin et al., 2005; Rhodes, Foley, Zometa, & Bloom, 2007). As this role has become more prevalent, efforts have been made to summarize common skills and characterize the many tasks entailed (Ingram et al., 2012; Rosenthal, Wiggins, Ingram, Mayfield-Johnson, & De Zapien, 2011). Wiggins and Borbón

(1998) compiled a list of core roles that *promotores* play, such as health education, capacity building, direct service provision, and cultural mediation between communities and the health system. Varying conceptualizations of the role persist (Koskan, Hilfinger Messias, Friedman, Brandt, & Walsemann, 2013), but, on a fundamental level, *promotores* can be described as individuals who “generally share the ethnicity, language, socioeconomic status, and life experiences of the community members they serve” (U.S. Department of Health & Human Services, Office of Minority Health, 2014) and serve as a link between community members and health services (Eng, Parker, & Harlan, 1997).

Promotores’ involvement in outreach and health promotion activities in the United States and abroad is well established and documented (Viswanathan et al., 2010), but their roles in data collection are less well described. There are some examples of *promotores* collecting data in conjunction with interventions among Latino populations. For example, *promotores* have administered surveys with Latino populations before implementing health education and environmental health interventions (Artinian, Myers Schim, Vander Wal, & Nies, 2004; Minkler, Garcia, Williams, LoPresti, & Lilly, 2010). *Promotores* have also successfully administered surveys and direct observation protocols in the *colonias* along the Texas–Mexico border (O’Hegarty et al., 2010; Sharkey, Dean, St. John, & Huber, 2010). Furthermore, there is growing interest in an expanded role for *promotores* as research partners, in which they help shape research design and influence the research agenda (Farquhar et al., 2008; Johnson, Sharkey, Dean, St. John, & Castillo, 2013; St. John, Johnson, Sharkey, Dean, & Arandia, 2013). However, the range of research roles played by *promotores* across diverse populations and settings is much less well documented as compared to their more traditional roles in health promotion (Johnson et al., 2013; St. John et al., 2013); thus the lessons learned in this particular adaptation of the *promotores* model are still emerging.

In this article, we describe our experience working with *promotoras* (female *promotores*) as data collectors in a randomized trial of park use and physical activity (PA) across 50 racially/ethnically diverse neighborhoods in Los Angeles, California. The overall framework for this study was a community-based participatory research approach, which aimed to involve various park stakeholders (park staff, neighborhood residents) in assessing park use and PA to develop park-led interventions. Just as *promotores* are believed to be effective in health promotion because they have the linguistic, cultural, and community-building skills to establish rapport with and influence community members, we believed they would also be effective scaling up a community-based data collection effort across 50 diverse neighborhoods. Specifically, we believed that *promotora* involvement would enhance data quality by making instruments more culturally appropriate and improving response rates, and facilitate the interpretation of results, similar to community-based participatory research projects that hire community members as interviewers. However, we aimed to leverage existing skills and training that *promotores* commonly have in order to focus project training on the more challenging components, thereby strengthening our data collection team. The purpose of this article is to describe our experience employing *promotoras* in this manner, and the experiences the *promotoras* reported in a focus group conducted near the end of

follow-up data collection, in an effort to further our understanding of how *promotores* can be involved in community health research.

STRATEGIES AND OUTCOMES

Study Design

The study described here is one of several conducted through an ongoing collaboration between a nonprofit research organization and the Los Angeles Department of Recreation and Parks, which aims to increase park use and community PA. The study design and results are described in detail elsewhere (Cohen et al., 2013; Derose, Marsh, Mariscal, Pina-Cortez, & Cohen, 2014). Briefly stated, this randomized controlled trial included 50 parks in Los Angeles, California, and the surrounding neighborhoods; examined how different demographic groups use local parks; and identified park characteristics and programming that promote moderate to vigorous PA. Additionally, this study compared two ways of engaging community stakeholders in the research process: (1) working with the local park advisory board (composed of neighborhood residents) and the park director to adapt the survey to the local context, interpret data on park use and PA, and implement park-based interventions based on findings from the park assessments; and (2) working with the park director only to accomplish those tasks. Each of these methods was compared against a control group (parks with no intervention).

Eligible parks were dispersed throughout the metro region, and those serving a large proportion of at least one of four predominant race/ethnic groups (Latino, Black, Asian, and White) were identified for inclusion. Latino was the most common, with the largest percentage in one neighborhood being 92%, and 10 neighborhoods being at least 75% Latino (Table 1). The park sample reflected the socioeconomic diversity and varying population densities found in Los Angeles.

Data Collection and the Promotoras' Role

The data collected constitute two cross sections: pre- and postintervention. The core data collection team consisted of nine bilingual *promotoras*, who assessed park use and PA using the System for Observing Play and Recreation in Communities (SOPARC; McKenzie, Cohen, Sehgal, Williamson, & Golinelli, 2006) and in-person surveys with park users and neighborhood residents. In the 16 parks where we worked with the park advisory boards, we invited local residents to be trained and paid as data collectors working alongside the *promotoras* in their respective parks during the two, 1-week assessment periods (baseline and follow-up). Seven parks contributed local data collectors.

The survey focused on park use and PA and included (1) park users, who were recruited systematically based on activity level and location in the park; and (2) randomly sampled neighborhood residents living within 1 mile of the park. In nine neighborhoods where we could not administer sufficient in-home resident surveys due to safety concerns or inaccessible housing units, the *promotoras* conducted supplemental intercept surveys in high-pedestrian traffic areas, recruiting individuals who reported living within 1 mile of the park. Verbal consent was obtained prior to administering the survey in Spanish or English (and Cantonese or Mandarin in one community) as preferred by the respondent. All data

collection protocols were approved by the RAND Human Subjects Protection Committee prior to administration.

In addition to data collection, the *promotoras* played important roles helping refine data collection instruments, ensuring cultural equivalence and appropriateness of the Spanish language versions, troubleshooting issues as they arose in the field, and interpreting study results.

Promotora *Background and Training*

The *promotoras*' ages ranged from 22 to 58 years. Five reported speaking English "very well" or "well," and three reported "not well." Two had high school diplomas, four had completed college courses without a degree, one had a 1-year technical degree as a medical assistant, and another was nearing completion of a bachelor's degree in social work. On average, they had 6 years, 8 months, experience as *promotoras* (ranging from 3-10 years). The time worked on the parks and PA projects ranged from 3 to 8 years (Table 2).

The *promotoras* were employed by AltaMed, a federally qualified health center with sites in Los Angeles and Orange Counties that offer a comprehensive range of services to underserved communities, including primary health care, dental care, senior long-term care, and prevention and disease management programs. All *promotoras* had received training by AltaMed, much of which focused on providing health-related information to community members through classes and individual instruction. Most had worked on health education projects, addressing topics such as mental health, nutrition, and diabetes, and some had participated in project evaluations and received training relevant to data collection. All *promotoras* had been trained on Health Insurance Portability and Accountability Act and confidentiality issues.

For the parks study, the *promotoras* participated in 2 days of intensive training. The first day focused on systematic observation; summarizing relevant research, methods, and instruments; in-depth SOPARC training; and data quality issues, such as reactivity, validity, and reliability. Day 2 focused on survey administration, review of the instrument and recruitment protocols, use of the data entry devices, and human subjects protection protocols. Both days included extensive practice with the study instruments. We conducted a refresher training prior to follow-up data collection to assess data collector drift, realign to standards, and review protocols, and ongoing coaching was provided as needed throughout baseline and follow-up data collection. *Promotoras* were paid for all training and fieldwork (data collection) and reimbursed for mileage.

Promotora *Accomplishments in the Field*

Including baseline and follow-up data collection, the *promotoras* administered 7,418 resident surveys and 7,430 park user surveys across the 50 sites; local data collectors added 93 and 322 surveys, respectively (Table 3). Just over half the baseline park user surveys were administered in Spanish, while at follow-up, this increased to 62%. On days when surveys were administered, the *promotoras* completed surveys at a more efficient median pace of 4.9/day than did the local data collectors (3.7/day). It is important to interpret this

cautiously, however, as the *promotoras* worked across all parks, while local data collectors worked only in their local parks. As such, each *promotora* worked far more days (*Mdn* = 359) than did local data collectors (5), and conducted many more surveys (*Mdn* = 1,645 vs. 19).

The overall refusal rate for park user surveys was 39%, but it varied by observed race/ethnicity and was lowest among Latinos at 37% (Table 4). Among park users, it also varied by gender: 37% for women and 46% for men. In terms of activity level, 39% of sedentary individuals refused, while 51% of park users who were active when approached refused. The refusal rate for in-home resident surveys was 11%, and for intercept surveys, it was 66%.

Of the 214,605 individuals observed across the 50 parks, 38% were recorded as female and 62% as male. Fifty-eight percent were recorded as Latino, 12% Black, 24% White, and 7% as other race. Sixty-six percent were sedentary at the moment of observation, 19% walking, and 15% were vigorously active.

Reliability

To assess interrater reliability, two *promotoras* or one *promotora* and a project manager conducted SOPARC observations simultaneously. For 80 combined gender, age, and PA variables, the correlation coefficient was between .80 and .99. On the seven SOPARC contextual variables (e.g., organized and supervised activities, accessible areas), concordance was high, being between .96 and .98. This high level of agreement compares favorably with levels reported elsewhere (Cohen et al., 2011).

Promotoras' Perspectives of Their Role

With institutional review board approval, we conducted a focus group to obtain systematic feedback on how the *promotoras* perceived their project roles and how their participation had affected them. The 90-minute focus group was conducted in Spanish by a bilingual project manager and bilingual coinvestigator. Eight of the nine *promotoras* participated, and informed consent was obtained prior to beginning. The session was audio-recorded and transcribed, and a third bilingual staff person took manual notes. The transcript was compared with notes to ensure accuracy and was coded based on key content areas into main themes and sub-themes, and the coded data were reviewed and revised by two additional bilingual project team members.

Several themes spoke to the advantages of employing *promotoras* as data collectors. The *promotoras* identified previous interviewing experience, communication skills, and training on Health Insurance Portability and Accountability Act and privacy concerns as relevant. They also identified several contributions, in particular cultural sensitivity and familiarity with local populations and their ability to approach and recruit survey respondents. For example, one participant described how the *promotoras* were able to build trust with respondents:

Since you're part of the same community [as the respondent], you reach them with the same point of view that they have. In other words, you are going to connect with the person, for example, perhaps they will confide in you about some

problem . . . and they feel comfortable enough to tell you since you are the same as them, part of the [same] community, and you can have a link or resource for them and perhaps help support them in the situation that they are in.

The *promotoras* also felt that they were able to provide valuable feedback on data collection instruments, improving our ability to collect valid data in a culturally appropriate fashion.

Equally important were challenges that the *promotoras* encountered. Many were specific to project design and implementation; prominently, some were frustrated that they had to adhere to a rigid recruitment protocol. Other challenges included safety concerns in higher crime areas and not always feeling welcome in more affluent, predominantly White neighborhoods.

Also of interest was how the *promotoras*' involvement had enhanced their professional capacity. The *promotoras* indicated having gained general skills (e.g., using maps, improved punctuality) and professional skills, such as how to follow structured protocols and use technology. Some also indicated exploring new opportunities, including returning to school to complete a degree or pursuing interests in human services and psychology or becoming a medical assistant.

Finally, we asked the *promotoras* how their role in the research project differed from their other projects and tasks. The main difference noted was that instead of giving information to participants, they were asking for information:

Instead, we are asking for it [information]. Because I am asking you, "What do you do at the park?" "What does this do?" But I am not telling you, "You know what, do you have diabetes? Well, you should walk. You know what, you should eat in portions." I am not giving you any information, I am only getting it from you—it's different.

They similarly described their previous roles as encouraging healthy behaviors, whereas their role in the parks project was research oriented. As one stated, "For *promotoras*, it's promoting something . . . I think that what we are doing right now in the parks is more research."

The *promotoras* also commented on how they inter-wove their role as health promoter and data collector when they provided survey participants information about the various activities available at the parks:

And although we only collect information, once in a while we also give them information because many ask us, "What programs are there?" or "Why this?" And we try to get a [park] brochure or ask the park director, so when they ask us we know what to tell them.

This sentiment was shared by many of the *promotoras* who said that they provided information to neighbors, friends, and family about where they could find certain park programs or amenities.

DISCUSSION AND LESSONS LEARNED

This project benefited from long-term collaboration between AltaMed and the research team. Prior to this study, these two organizations had collaborated on another study, so several *promotoras* had been working with the park data collection instruments across multiple studies and for numerous years. Their experience with the study instruments enabled them to collect data more efficiently and provide valuable feedback that helped the project team adjust to changing field conditions, and their familiarity with protocols and methodology resulted in less need for daily supervision.

This long-term arrangement also benefited the *promotoras* and the AltaMed *promotora* program. The experience has helped build the *promotoras*' professional capacity by improving existing skills and expanding to new areas, such as systematic observation and scientific methods. Meanwhile, the multiple projects have provided a fairly consistent funding stream, allowing AltaMed to retain these staff. This is particularly important given challenges in sustaining *promotor* programs (Koskan et al., 2013). There are regional efforts to support and fund community health workers (Mason et al., 2011), and the Affordable Care Act continued the trend toward heightened awareness of the value thereof, but the lack of a mainstream funding source for these programs remains a challenge (Bovbjerg, Ester, Ormond, Anderson, & Richardson, 2013). Demonstrating the strengths of the *promotor* model and the potential for expanded capacity seem likely to bolster the argument for a sustainable funding stream.

In addition to the benefits of the long-standing collaborative relationship with an established program, the *promotoras* themselves were of great value to the project. Most of these *promotoras* had experience working with patients and participants in behavioral health and diabetes clinics, and giving nutrition education and other courses. As such, they brought with them skills needed for successful surveying, such as attentiveness, good listening skills, and the ability to perceive and respond to respondent's verbal and nonverbal cues. These skills complemented topics such as objective empathy that were covered in the project training. Meanwhile, having worked in sensitive situations before enhanced their willingness to approach strangers in parks and at respondents' homes and facilitate a comfortable interaction.

The *promotoras* also brought a basic understanding of data collection through evaluation experience and research-related issues like confidentiality, which provided a foundation for the project training and enabled us to allocate additional time to the relatively more demanding observation instrument. Park observations were a central component of this study, so the quality of these data was of primary importance, and the *promotoras* achieved a high level of interrater reliability across all participant neighborhoods. While SOPARC is a purposefully easy to learn instrument, achieving a high level of proficiency and reliability takes considerable time and practice. The *promotoras*' strength implementing SOPARC allowed us to focus local data collectors on the survey component and better train them to ensure accurate administration.

The *promotoras*' language and cultural skills and ability to build rapport with participants were important, especially considering that most of the participating neighborhoods were home to large Latino populations. Others have reported similar experiences with *promotoras* as data collectors in Latino communities (O'Hegarty et al., 2010; Sharkey et al., 2010), but we found that most *promotoras* could also successfully achieve survey goals across diverse neighborhoods.

Nevertheless, our employment of Latina *promotoras* as data collectors also presented some challenges, particularly with the survey component. First, some *promotoras* encountered difficulties in survey administration in predominantly White neighborhoods. The addition of local data collectors or other project staff in these instances helped achieve participation goals. Assigning *promotoras* who were more comfortable with English to work in these neighborhoods also helped address these challenges. We encountered a similar situation in a park situated in a predominantly Asian neighborhood, where it was necessary to supplement the *promotora* team with Cantonese and Mandarin speakers.

We also may have experienced some biases in survey recruitment. A higher proportion of park users reported Latino ethnicity (72%) compared to residents (62%) and observed park users (58%), and a higher proportion of surveyed park users were female (61%) compared to observed park users (38%). There was a protocol to recruit park users systematically, but an inclination to approach persons of the same ethnicity and gender may have influenced recruitment. However, the lowest refusal rates obtained were among Latinos and women, so these groups may have been more likely to participate, as has been found elsewhere (Wendler et al., 2006). Furthermore, park user activity level may have influenced recruitment, since in this study and in previous work conducted in the same metro area, more females than males were recorded as sedentary (Cohen et al., 2007). It is challenging to survey a person engaged in PA, so more females may have been recruited or agreed to participate simply as a result of being sedentary.

Finally, given the design of this particular study, we faced difficulty integrating health promotion into the *promotoras*' data collection roles. The *promotoras* were accustomed to providing information and promoting services, and we found that only collecting information ran contrary to their previous training and inclination to assist community members. Having the *promotoras* provide information about park programs and activities was initially a component of some park-developed interventions, but due to the risk of inadvertent contamination across study groups, the practice was stopped altogether. However, in a current study, we are exploring how *promotoras* can provide information in addition to their data collection roles, as a way to reinforce and expand the park-based interventions. Thus, the extent to which *promotora* data collection roles need to be, and can be, separated from any given intervention will vary across studies.

The limitation of conducting a single focus group with the *promotoras* should be noted, as we may not have captured a comprehensive report of their experiences on this project.

CONCLUSIONS

The *promotoras*' linguistic abilities and cultural knowledge were invaluable to the survey administration in neighborhoods with large Latino populations; however, they encountered some obstacles in predominantly non-Latino communities. Asking *promotoras* not to provide information to community members while collecting data can run contrary to their training, but this can be addressed if the study design necessitates this separation of tasks. There was substantial overlap between the *promotoras*' previous experience and the training required for this project, which allowed us to spend more training time on the observation tool. This likely contributed to the high levels of reliability achieved during observations.

Ongoing collaboration with an existing *promotora* program has led to a well-trained and consistent data collection staff for multiple projects. AltaMed gained from the additional training provided to its team as well as from being able to diversify their funding sources for sustaining the program. While the skills needed and activities allowed may differ from traditional health promotion efforts to randomized controlled community research studies, *promotora* involvement can be beneficial to both efforts.

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TABLE 1

Neighborhood Characteristics, 1-Mile Radius Around 50 Participating Parks (U.S. Census, 2000)

<i>Characteristics</i>	<i>M</i>	<i>Range</i>
Population size	39,370	5,075-125,201
Households in poverty (%)	24	3-43
Latino (%)	49	3-96
African American (%)	13	0-60
Asian (%)	10	0-54
White (%)	26	1-91
Other (%)	3	0-8

TABLE 2*Promotora* Characteristics ($n = 8$)

Characteristics	Result	Range
Mean age, years	33	22-58
Average years working as a <i>promotora</i>	6 years, 8 months	3-11 years
Average no. of years working with the parks projects	6 years	3-8 years
English language-speaking ability, %		
Very well or well	63	
Not very well	38	
<i>Promotoras</i> with a second paying job, %	25	

TABLE 3

Summary of Survey Outcomes

	Baseline (%)		Follow-Up (%)		Total (%)	
	Residents	Park Users	Residents	Park Users	Residents	Park Users
Total completed	3,249	3,654	4,262	4,098	7,511	7,752
Refusal rate	13% ^a	32%	11% ^a	44%	11% ^a	39%
Administration						
In Spanish	1,675 (52)	2,232 (61)	2,160 (51)	2,535 (62)	3,835 (51)	4,767 (62)
<i>Promotoras</i>	3,201 (99)	3,378 (92)	4,217 (99)	4,052 (99)	7,418 (99)	7,430 (96)
Local data collectors	48 (2)	276 (8)	45 (1)	46 (1)	93 (1)	322 (4)
Gender						
Female	2,127 (66)	2,273 (62)	2,582 (61)	2,454 (60) ^b	4,709 (63)	4,727 (61) ^b
Male	1,122 (36)	1,381 (38)	1,680 (39)	1,643 (40)	2,802 (37)	3,024 (39)
Race/ethnicity						
Latino	2,013 (62)	2,733 (75)	2,585 (61)	2868 (70)	4,598 (61)	5,601 (72)
Black	335 (10)	205 (6)	472 (11)	268 (7)	807 (11)	472 (6)
White	678 (21)	545 (15)	916 (21)	765 (19)	1,594 (21)	1,310 (17)
Asian	69 (2)	79 (2)	97 (2)	83 (2)	166 (2)	162 (2)
Other	154 (5)	92 (3)	192 (5)	112 (3)	346 (5)	204 (3)

^aThe resident survey refusal rate excludes street intercept surveys (66% refusal rate).

^bMissing gender for one park user survey respondent.

TABLE 4

Park user Survey Refusal Rates by Observed Demographics and Activity Level

	Refusal Rate, %
All park users	39
Observed park user gender	
Female	37
Male	46
Observed park user race/ethnicity	
Latino	37
White	47
Black	52
Other race	54
Observed activity level	
Sedentary	39
Moderate to vigorous	51