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Research Design:

Finding Respondents from Minority Groups

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Abstract

The recruitment of respondents belonging to ethnic minorities poses important challenges in social and health research. This paper reflects on the enablers and barriers to recruitment that we encountered in our research work with persons belonging to ethnic minorities. Additionally, we applied the Matching Model of Recruitment, a theoretical framework concerning minority recruitment, to guide our reflection. We also explored its

applicability as a research design tool. In assessing our research experience, we learned that minority recruitment in social and health research is influenced by the social context of all key players involved in the research. Also, there are enablers and barriers within that social context facilitating or delaying the recruitment process. The main enablers to recruit respondents belonging to ethnic minorities include working with community agencies and gatekeepers who share a common vision with researchers and the latter's ability to gain the trust of potential respondents. The main barriers include demanding too much from these same community agencies and gatekeepers and ignoring factors that could delay the completion of the research. Although we found the Matching Model of Recruitment to be an effective tool in assessing the processes of recruiting respondents belonging to ethnic minorities, further empirical research is needed to explore its usefulness during the research planning phase.

Keywords: recruitment of respondents; minority groups; Hispanics; US-Mexico border; Matching Model of Recruitment

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1. Introduction

Racial and ethnic health disparities, defined as differences in the incidence, prevalence, mortality, and burden of disease among specific population groups, are still persistent in the US (National Institutes of Health, 2006). Addressing such disparities requires effective strategies to find respondents belonging to ethnic minorities to participate in research studies.

Considerable literature exists in the US documenting the underrepresentation of Hispanics in public health research, including research on cancer (Ashing-Giwa, Padilla, Tejero, & Kim, 2004; Sheppard et al., 2005), HIV and substance abuse (Whitfield, 2005), women's health (Fouad et al., 2004), marrow donor program (Freytes & Beatty, 1996), and Alzheimer's disease (Fitten, Ortiz, & Ponton, 2001). Moreover, Hispanics continue to be underrepresented in health-related research at a time when the US is becoming more racially and ethnically diverse. Hispanics are now the largest minority group in the US and comprise 14 per cent of the population. In addition, almost 40 per cent of this growing population is foreign-born. Approximately two-thirds of Hispanics are of Mexican origin, followed by Puerto Ricans (10 per cent) and Cubans (4 per cent). The states bordering Mexico have the highest concentration of Hispanics (US Census Bureau, 2007).

Scholars committed to research studies aiming at addressing public health issues affecting ethnic-minority groups face the challenge of devising successful strategies of finding and recruiting respondents. In many of our studies, we have found that in some instances the task of recruiting Hispanics has become difficult and has delayed the completion of studies. This paper reflects on the recruitment enablers and barriers that we have encountered in our research work at the US-Mexico border region. Our binational border studies included Hispanics and Mexicans. Additionally, to guide our reflection we applied a theoretical framework of minority recruitment and we discuss its applicability as a research design tool to examine the recruitment process. This theoretical framework is the Matching Model of Recruitment (MMR) (Levkoff, Levy, & Weitzman, 2000).

2. Applying the Matching Model of Recruitment (MMR)

Studies show that the reluctance of ethnic minorities to participate in research may be explained by experiences of discrimination in scientific trials, a lack of understanding of and trust toward the study, and disparities in access to healthcare (Stahl & Vasquez, 2004). The focus of these previous studies, however, has been the analysis of obstacles within minority communities and individuals (Levkoff, Levy, & Weitzman, 2000). Little research has been done to examine recruitment *enablers* and *barriers* that go beyond focusing solely on respondents' motivations and interest to participate in a study. More work is needed to explore the role that other key players may have in the recruitment process, such as the research teams, academic institutions, participant communities, and individuals. In this paper, we applied the MMR to guide the reflection and analysis of our experiences in finding and retaining Hispanics in four projects that we conducted.

The MMR is a theoretical framework concerning the recruitment of research respondents belonging to ethnic minorities. The main postulate of this framework is that the decision making of potential respondents is influenced not only by their personal interest or needs, but also by the *social context*. The MMR consists of two different *perspectives* and, within each perspective, three different *levels*. One perspective comes from the researchers, including the academic institution, the research team, and recruiters. Another perspective comes from the ethnic minority group, including hospitals and community agencies, gatekeepers, and respondents. According to this framework, recruitment is affected by barriers and enablers that take place at three different levels: (a) the macro or institutional level, (b) the mediator or gatekeeper level, and (c) the individual level. The framework suggests that a successful recruitment process will be the result of a good match between the perspective of the ethnic minority group and that of the researchers.

Table 1. *Summary of Studies Included in Analysis and Reflection*

Study	Purpose of Study	Study Design	Procedures
<i>Study 1: Diabetes and depression: Improving the health outcomes of a binational population</i>	To examine the burden of disease among adults with type-2 diabetes on both sides of the US-Mexico border	Binational; cross-sectional Sample: 400 adults, ≥ 18 years of age, both genders	Interview
<i>Study 2: Identification of children at high risk for diabetes</i>	To determine the prevalence of obesity and type-2 diabetes risk factors among preschoolers on both sides of the US-Mexico border	Binational; cross-sectional Sample: 202 Children aged 3-6 years, both genders	Interview and self-administered questionnaire
<i>Study 3: Socio-environmental factors of physical activity among Mexican American adults with diabetes</i>	To identify factors influencing physical activity among adults of with type-2 diabetes	Cross-sectional Sample: 39 adults aged 30-55 years, both genders	Focus group
<i>Study 4: Adaptation of a physical activity instrument--Spanish version</i>	To test the cultural appropriateness of an instrument	Cross-sectional Sample: 210 adults, ≥ 18 years of age, both genders	Focus group and self-administered questionnaire

In our analysis we included four different projects that we conducted between 2002 and 2006. Table 1 presents a summary of the studies. These studies took place on both sides of the border in the easternmost part along the Texas-Mexico line, in a region where the South Texas Valley and the Mexican municipality of Reynosa Tamaulipas share the river named Rio Grande. Approximately one million people live in the South Texas Valley, almost half of the population of the South Texas region. Most people in the Valley are of Mexican origin, speak Spanish at home, are poor, and have low levels of education (Mier, Flores, Robinson, & Millard, 2004). The northern part of Tamaulipas in Mexico has a population of almost one million and extends over only 10 per cent of the state territory, but it is home to 46 per cent of the state's population (Instituto Nacional de Estadística Geografía e Historia, 2007). Participants in all studies were Hispanics or individuals of Mexican origin residing in the Texas-Mexico border region.

During the implementation of our four projects, we encountered barriers and enablers to find and retain respondents in the US and Mexico, at the macro, mediator, and individual levels. In the following sections, we present our reflections on finding and retaining respondents in each of the research projects.

2.1. Identifying Participants in US and Mexico

In one of our binational studies aimed at examining the burden of diabetes in adults on both sides of the border (Study 1 in Table 1), we encountered both barriers and enablers at all levels--macro, mediator, and individual levels. At the macro level, we had to convince at least one local hospital on each side of the border to assist us in recruiting patients for the study. Finding a collaborating hospital on the US side was much more time consuming than identifying one in Mexico. In Mexico, we encountered immediate cooperation from the first hospital contacted. The only barrier at the macro level encountered in Mexico was that the research protocol had to be approved by the

hospital's research ethics committee, which delayed the recruitment process by several weeks. Once the protocol was approved, finding respondents was not problematic when compared to the process on the US side.

Reflecting on additional enablers at the macro level in this study, we consider that a key element to gain the cooperation of hospital representatives on both sides of the border was their perception about our universities. Border hospital representatives considered that our academic institutions were prestigious and shared their concern to improve the well-being of the border population.

In the US, the recruitment process became lengthier and more complex than in Mexico. It took us 10 months to recruit respondents in the US while recruitment in Mexico was completed in 2 months. The first hospital we contacted on the US side refused to participate arguing that they were being reorganized--a barrier at the macro level. The research team continued seeking another collaborator and found it through a local community network, in which one of the researchers and a representative of a local hospital were elected executives. The existing working relationship between the researcher and the hospital representative through the network became a recruitment enabler at the mediator level. In Mexico, belonging to a community network was not of major relevance.

Once we began recruitment on the US side, we encountered another barrier at the macro level. The hospital requested a written agreement from our university. The purpose of the institutional agreement was to allow hospital staff to identify potential respondents and to assure that the respondents' identities would not be disclosed. This event delayed the implementation of the study by at least 2 months.

Other barriers were encountered at the mediator (i.e., gatekeepers) and individual (i.e., participant) levels on the US side. At the mediator level, identification of potential respondents through the US hospital was limited to contacts established by the staff assigned to assist in the research. We were not allowed to contact any individuals in outpatient waiting rooms. The hospital staff identified respondents at the weekly diabetes sessions and from a roster of former and current diabetes education enrollees. Every week, the staff provided us with a list of potential participants. Researchers then called every person on the list to schedule an interview. The list usually included not more than ten contacts. Many patients, who initially indicated an interest in the study, refused afterward to be interviewed citing a lack of interest, time, or transportation (individual-level barriers). The response rate at the US hospital was lower than expected, which resulted in the need to redesign our recruitment strategies. Finding respondents through other means and sites meant that we had to modify our research protocol and request an approval from the university's Institutional Review Board (IRB). The IRB is a research-ethics committee established by many US or Mexican universities to protect human and animal rights in research studies. The approval process became another barrier at the macro level because it delayed the completion of the study once more.

Once the IRB amendment approval was obtained, we contacted additional hospitals as well as physicians' offices asking them to become recruitment sites. Although two other hospitals and two physicians accepted to collaborate, the hospitals did not provide staff support to recruit respondents. Instead, we could only post flyers on the hospital's bulletin board and attend their diabetes education sessions to invite patients to participate in the study. Our efforts at both hospitals resulted in zero participants. In this case, the barrier at the mediator level was the absence of a gatekeeper, say a hospital staff, convincing patients to participate. Gatekeepers are individuals or agencies that have the ability to gain the trust and cooperation of members in a community to participate in programs or studies (Sinclair et al., 2000). Contrary to the experience at the hospitals, physicians' offices were effective sources of recruitment (an enabler at the mediator level). Collaborating physicians persuaded their patients to participate in the research and provided us with a private room to conduct the interviews. On the US side, a total of 198 individuals were recruited for this study (27 per cent through the hospitals, 69 per cent through physician offices, and 4 per cent through community health clinic). The response rate in this study was not documented.

In Mexico, we encountered some enablers at the mediator level. Hospital staff were the gatekeepers that introduced the research team to potential participants during the monthly diabetes support group sponsored by the hospital. Hospital staff also endorsed the project during the support group meeting and encouraged patients to be interviewed. In addition, recruiters were permitted to contact patients in the outpatient waiting room (an enabler at the mediator level) and participants received a monetary incentive (an enabler at the individual level). Although the ethical appropriateness of such incentives may be questioned, the use of incentives in our studies was approved by the university's research-ethics committee and was an enabling factor to recruit respondents. Incentives are ethically appropriate when they do not establish a dependency on the researchers and when the project is neither degrading the participants nor subjecting them to high risk (Grant & Sugarman, 2004).

Only a few patients declined to participate, citing lack of time or interest (barriers at the individual level). Some patients in the waiting room who expressed their interest to participate could not wait till the next available interviewer. More patients could have been interviewed with more than three interviewers contacting patients in the waiting room (barrier at the mediator level). Out of 208 patients contacted in the Mexican hospital, 202 accepted to participate, yielding a high response rate (97 per cent).

2.2. Working with Parents of Young Children in US and Mexico

In another binational project to determine the prevalence of obesity and other diabetes risk factors among children, we encountered more recruitment enablers than barriers. In the US, we contacted a government-funded institution administering 48 preschool centers for low-income children. We asked this institution to use their database to analyze health information of 2,376 enrollees. This initial collaboration evolved into a stable liaison with the preschool institution allowing us to collect additional information on children's health status and to pilot a nutrition intervention. At the macro and mediator levels, the initial

rapport with high-level administrators (macro level), center managers (mediator level), and teachers (mediator level) facilitated the recruitment of respondents. Other enablers at both macro and mediator levels were the strong interest of the institution's director and his staff to assist in the study. However, the staff's lack of time to recruit participants became a barrier.

At the individual level, we also encountered more enablers than barriers. Parents were recruited to report the food intake of their children and the response rate was 87 per cent (out of 232 parents contacted, 202 accepted to participate). Recruitment enablers included the following: the ability of teachers to persuade parents to participate, the diligence of teachers to identify effective channels to hand out the questionnaires, the interest of parents to learn about their children's health status, and the monetary incentive offered to participants. Recruitment barriers with some parents (individual level) included lack of time and low literacy levels.

In Mexico, we recruited 1,000 young children from 26 public schools. The response rate was not documented. At the mediator and individual levels, enabling factors of recruitment included the interest of administrators, teachers, and parents to learn about the children's health status through the study and to obtain a hardcopy of the final report. Another recruitment enabler among parents was a free nutrition consultation offered to their children. At the mediator level, the only barrier encountered was that some recruiters had difficulties with transportation to reach the recruitment sites.

2.3. Finding Respondents for Focus Groups

The main recruitment enabler in another study (Study 3, Table 1) was the interest of gatekeepers (mediator level) to find out ways to improve the health of the community. Gatekeepers in our study included leaders of community organizations, health clinics, as well as community health workers who assisted us in recruitment. The gatekeepers identified potential participants by telephone or in person inviting them to a *focus group*. Another recruitment enabler was that focus groups took place at the facilities of collaborating organizations. Potential participants were familiar with these facilities. Additional enablers included the monetary incentive and transportation offered to participants. The response rate was about 74 per cent (out of 53 individuals contacted, 39 participated in the study).

At the mediator level, deficient communication between researchers and gatekeepers with regard to recruitment eligibility criteria and scheduling became main barriers. Additionally, some participants did not have the time, interest, or transportation to participate.

2.4. Contacting Participants in Neighborhoods

Another study aimed at testing the cultural appropriateness of a physical-activity instrument for Hispanics (Study 4, Table 1). This study required us to find adult respondents to attend two focus groups and to fill out a survey. The response rate was 95

per cent (out of 220 individuals contacted, 210 accepted to participate). Participants were found through existing *social networks* in low-income neighborhoods. Recruitment enabling factors at the mediator level included the ability of community health workers to find respondents.

At the individual level we encountered several enablers. Social-network leaders contacted and persuaded their neighbors to participate and let us use their homes to meet participants. Also, participants asked other neighbors to take care of their children while they attended the focus groups or filled out the survey. An additional enabler was the incentive to participants.

Table 2 presents a summary of recruitment barriers and enablers encountered in all four studies. The table also shows the components of the Matching Model of Recruitment.

Table 2. *Barriers and Enablers Categorized by MMR Dimensions and Levels*

Levels of Recruitment*	Dimensions	
	<i>Ethnic-minority groups</i> *	<i>Researchers</i> *
Macro level*	Community Agencies*	Academic Institutions*
Barriers	<ul style="list-style-type: none"> An institutional agreement was requested Recruitment limited to contacts established by staff Lack of support from agency staff 	<ul style="list-style-type: none"> Institutional procedures on research-ethics
Enablers	<ul style="list-style-type: none"> Access to patients in the waiting room Interest of agencies to collaborate Agencies assisted in organizing focus groups 	<ul style="list-style-type: none"> Prestige and goals of research institutions Interest of universities to globalize academic and research activities
Mediator level*	Gatekeepers*	Research Team*
Barriers	<ul style="list-style-type: none"> Non-Spanish speaking staff Lack of time 	<ul style="list-style-type: none"> Use of ineffective recruitment strategies (e.g., posting flyers)
Enablers	<ul style="list-style-type: none"> Enthusiasm of gatekeepers Ability of gatekeepers to identify and persuade potential participants 	<ul style="list-style-type: none"> Researchers and recruiters were bilingual and bicultural Use of community-health workers
Individual level*	Participants*	Interviewers*
Barriers	<ul style="list-style-type: none"> Lack of time, transportation, or interest 	<ul style="list-style-type: none"> Ineffective communication between recruiters and gatekeepers
Enablers	<ul style="list-style-type: none"> Monetary incentives to participants Transportation and childcare provided to participants 	<ul style="list-style-type: none"> Language and ethnicity matched language and ethnicity of participants

* Components of the Matching Model of Recruitment (MMR)

3. Conclusion

Any success in recruiting respondents for social and health research concerning ethnic-minority groups, whether from clinical and community settings, depends on a multitude of factors in addition to the time and interest of potential respondents. In assessing our research experience, we found that recruitment is also influenced by the social context of research teams, academic institutions, and local agencies associated with the project.

There are multiple enablers and barriers within that social context, which may also be interdependent. For instance, in our studies we learned that community agencies perceiving a common goal with researchers and academic institutions (e.g., improving the health of the community) were more willing to collaborate in recruiting respondents. However, this enabling collaborative effort was also influenced by other factors such as how it disrupted the regular work of the community agencies. Another striking example is the role of gatekeepers or individuals who have the ability to gain the trust of potential respondents. The collaboration of gatekeepers in all of our studies boosted the response rate. In one instance, when there were no gatekeepers to assist us, we could not persuade patients to participate in our research.

Understanding the enablers and barriers within the social context of the participants as well as the other key players involved in a research project is important in identifying effective recruitment methods. The assessment of our recruitment experience presented in this article may guide us and other researchers to find adequate number of respondents in future research projects. It is now clear to us that the main enablers in recruiting respondents belonging to ethnic minorities include: (a) working with community agencies and gatekeepers that value our work and share a common vision, (b) being assisted by gatekeepers with good persuasive skills to recruit participants, (c) providing incentives to participants to compensate for their time (as long as the research-ethics committee considers the incentive not coercive and approves it), and (d) relying on recruiters with a profile matching the language and ethnicity of the target groups. We are also aware that the main recruitment barriers include: (a) the usual workload of community-agency staff that leaves little time for additional recruitment-related tasks, (b) delays involved in the approval of research protocols by the appropriate research-ethics committees, and (c) non-availability of transportation to help interested participants to reach a recruitment site.

We also found that the Matching Model of Recruitment (MMR) was an effective framework to examine the social context influencing the outcome of research involving respondents from ethnic minorities. Analyzing the context into factors at different levels (macro, mediator, or individual) facilitating or hindering the recruitment of respondents seems potentially useful in the planning stage of a research project, for example in identifying the best allies for the project. However, the value of the MMR framework at the planning stage of research remains to be empirically demonstrated.

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