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Latino Community-Based Participatory Research Studies: A Model for Conducting Bilingual Translations

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Abstract

Many behavioral health materials have not been translated into Spanish. Of those that are available in Spanish, some of them have not been translated correctly, many are only appropriate for a subgroup of Latinos, and/or multiple versions of the same materials exist. This article describes an innovative model of conducting bilingual English–Spanish translations as part of community-based participatory research studies and provides recommendations based on this model. In this article, the traditional process of conducting bilingual translations is reviewed, and an innovative model for conducting translations in collaboration with community partners is described. Finally, recommendations for conducting future health research studies with community partners are provided. Researchers, health care providers, educators, and community partners will benefit from learning about this innovative model that helps produce materials that are more culturally appropriate than those that are produced with the most commonly used method of conducting translations.

Keywords

community-based participatory research; translation; Latino; community engagement

There is growing evidence that the typical process involved in translating research tools or materials is less than ideal (e.g., Brislin, 1970; Marin & Marin, 1991; Sperber, DeVellis, &

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Boehlecke, 1994; van Widenfelt, Treffers, de Beurs, Siebelink, & Koudijs, 2005). Many of the present materials that exist in Spanish are often problematic when used with Latino subgroups because of different vocabulary or idioms that have been missed in translating from English into Spanish. The translation process also has not accounted for the differences that exist between subgroups (Marin & Marin, 1991). Another problem that has occurred is the use of various translated versions of the same materials leaving researchers unclear about which version is most appropriate to use with a given sample or population. Furthermore, even when materials are properly translated and back-translated, additional adjustments may be necessary to tailor it to the individual population of interest. Traditionally, materials have been translated “word for word” even when literal translations resulted in a loss or change in meaning from the original materials (Marin & Marin, 1991). Finally, and most importantly, there is a dearth of guidelines on the process of conducting accurate translations within a community-based participatory research (CBPR) model. Having clear guidelines is especially important because CBPR studies require close partnerships between researchers and community collaborators. Although other articles have described approaches to community staff involvement in research, the aim of this article is to describe the collaboration between community partners and research staff specifically regarding conducting translations. As such, this article is focused on the integration of these two practices (CBPR research and conducting translations).

This article describes an innovative model of conducting English/Spanish translations as part of community-based participatory health research studies and provides recommendations based on this model. First, the most common process (translation and back-translation) of conducting bilingual translations will be reviewed. Second, a model for conducting translations in collaboration with community partners will be described. Finally, recommendations for future translations with community partners will be provided.

CBPR has become increasingly common in health and behavioral research studies. CBPR can be defined as research that involves community partners (e.g., community outreach organizations, local hospitals or clinics, schools) in all stages of the research (e.g., from the initial stages of project conceptualization through interpretation and dissemination of results) within an ecologically valid context (Anders, Balcázar, & Paez, 2006; Israel, Schulz, Parker, & Becker, 1998). Within this framework, CBPR principles are adopted by researchers to facilitate collaborative, equitable, and active involvement of the community in all phases of the research (Anders et al., 2006; Fong, Braun, & Tsark, 2003; Israel et al., 1998). CBPR is especially relevant for research that addresses health disparities because it can allow researchers greater access to targeted populations, such as ethnic minorities, who may be difficult to recruit under typical circumstances. CBPR also benefits community partners by allowing them to bring their concerns to the forefront of research and ultimately affect public policy (O’Brien & Whitaker, 2011).

CBPR has been an important part of addressing the health disparities that exist among Latinos. Recent research has found that Hispanics/Latinos in the United States have high rates of obesity, and certain Hispanic/Latino groups have high rates of diabetes (e.g., Mexicans and Puerto Ricans; Daviglus et al., 2012). CBPR has had positive effects on health-related outcomes with Latinos (O’Brien & Whitaker, 2011). CBPR can be used to

facilitate and improve Spanish language translations of assessment measures, interview materials, and various research documents when conducting research with Spanish-speaking Latinos.

The common method for conducting translations involves translation and back-translation as discussed by several authors (e.g., Brislin, 1970; Marin & Marin, 1991; Sperber et al., 1994). In general, this process is as follows: First, the translation from the original English materials should be conducted by someone who is proficient in both English and the other language. Next, a back-translation of the translated materials into English is conducted by another individual who is also proficient in both languages and who is not familiar with the original English versions of the materials. Finally, the original and back-translated versions are compared. This process is repeated until the original and back-translations are identical. Despite these clear steps for the translation process, many health and behavioral materials and measures have not been translated into Spanish using these guidelines.

Several articles have described the translation process within a CBPR framework (Baker et al., 2010; Garcia et al., 2008; Tajik, Galvão, & Siqueira, 2010). Overall, involvement by community partners has typically been used to refine measures, with results demonstrating the strong ecological validity and acceptability of translated measures (e.g., Baker et al., 2010; Garcia et al., 2008). Baker and colleagues (2010) described a process-oriented, mixed-method approach to translation with community partners that addressed conceptual, item, semantic, operational, measurement, and functional equivalence. In another study, by building on the strengths and resources of community partners, Tajik and colleagues (2010) developed an instrument that was reliable, equivalent, and culturally appropriate in English and Brazilian Portuguese. An additional common finding is that involving community partners in the translation process also leads to the development of adaptations in other aspects of the research protocol, such as changes in item/instrument administration (e.g., Baker et al., 2010). Overall, describing CBPR approaches to instrument translation can provide helpful recommendations for producing content-equivalent translations and culturally appropriate research protocols. As such, this article offers additional guidance about how to conduct translations within a CBPR framework by describing this process within the context of three research studies on overweight/obesity in Latino adults.

Methods

The approach detailed in the following sections involves a novel iterative model—that is, a repetition of a sequence of steps—for conducting bilingual translations of materials using a CBPR framework. This model was developed during the process of translating materials on two National Institutes of Health (NIH)-funded studies focused on obesity, diet, physical activity, and body image with Mexican and Puerto Rican women (R21-CA131433) and Mexican and Puerto Rican men (R21-CA143636) and one NIH-funded study, which addressed overweight/obesity and secondhand smoke exposure in Latina women (K01-CA098753). The first author (LSJ) was the principal investigator (PI) of these studies. This model also represents a collaborative effort between a community-based medical center (Alivio Medical Center) and the first author who was a faculty member at several universities (University of Illinois at Chicago and The University of Chicago). These

collaborations were developed for designing and developing behavioral health research studies with Latinos.

Description of Research Studies

Three NIH-funded studies used a CBPR framework in translating their survey tools. The study names were as follows: *¡Viva la Salud!* (K01-CA098753); *¡Viva la Cultura Latina!* (R21-CA131433); and the *Latino Men's Health Initiative* (R21-CA143636). The purpose of the *¡Viva la Salud!* study was to (a) test the acceptability/feasibility of a diet, physical activity, body image, and secondhand smoke exposure intervention for overweight Latina smokers and nonsmokers; (b) estimate the effectiveness of this treatment on diet, physical activity, and secondhand smoke exposure at postintervention; (c) estimate the effectiveness of this intervention on decreasing weight concerns/negative body image and increasing healthy eating and physical activity; and (d) develop/adapt measures of smoking, weight concerns/body image, nutrition, and physical activity to be culturally proficient for Latinas and compare the reliability and validity of different measurement tools. The purpose of the *¡Viva la Cultura Latina!* study was to (a) explore the role of acculturation in diet, physical activity, and body image in adult Mexican and Puerto Rican women; (b) explore the role of acculturative stress in diet, physical activity, and body image in Mexicans and Puerto Rican women; (c) explore the role of ethnic identity in diet, physical activity, and body image in Mexican and Puerto Rican women; (d) explore the relationships between Latino cultural values and diet, physical activity, and body image in Mexicans and Puerto Rican women; and (e) identify logistical/practical and cultural considerations regarding the development of culturally proficient obesity interventions for Mexican and Puerto Rican women. The *Latino Men's Health Initiative* study had similar aims as the *¡Viva la Cultura Latina!* study but focused on Mexican and Puerto Rican men.

Description of Materials Translated

Table 1 presents a description of materials that were developed in English for each of the studies and translated into Spanish. For these studies, two professional translation companies translated the measures from English to Spanish through a forward translation and back-translation procedure. Pretest translations were also conducted by the PI and her study team, and differences in wording based on Mexican and Puerto Rican vocabulary were included. In addition, a type of communication style called *Broadcast Spanish* (Marin & Marin, 1991), which consists of basic vocabulary, grammar, and syntax, was used. The measures and materials were tailored to Mexicans and Puerto Ricans for two of the studies (*¡Viva la Cultura Latina!* [R21-CA131433] and *Latino Men's Health Initiative* [R21-CA143636]) because those two groups were the focus of those studies. For the other study *¡Viva la Salud!* (K01-CA098753), the focus was on Latina women in general. However, because of the location of where we were recruiting, we expected that most participants would be Mexican, and therefore, we paid particular attention to tailoring the Spanish to Mexicans if it was needed. Translations were then reviewed and adapted by the PI's bilingual research assistants and community partners, as described in the novel five-step process (Sánchez-Johnsen et al., 2010).

Five Phases of the Novel Translation Model

The novelty of this model is that it builds on the common process of conducting Spanish translations by including the active input and recommendations of community partners as part of the Spanish language translations. The model includes the following five phases, which are described in detail in the following sections: (1) planning phase, (2) preparation phase, (3) action phase, (4) pre-testing phase, and (5) finalization phase.

Phase 1: Planning Phase

The first phase involved hiring bilingual and culturally competent research team members as part of the larger studies. Our hiring process involved conducting phone interviews and subsequent in-person interviews to assess for the following qualifications: prior experience and/or interest in working with Latinos, particularly in the health area; prior experience and/or interest in conducting health programs or health research; and finally, an informal assessment of proficiency in speaking and reading English and Spanish.

Description of University Research Team—The university-based research staff included the first author and undergraduate and postbaccalaureate research assistants. The first author was the PI and a Puerto Rican clinical psychologist with a PhD and health psychology researcher with 16 years of experience conducting Latino health research. She was born in the United States and learned basic conversational and written Spanish in high school and college. She learned more advanced conversational skills through two brief Spanish immersion courses as an adult in Latin America. The undergraduate and postbaccalaureate fluent bilingual Latino research assistants who were considered core members of the translation team were of various Latino descents, including single-ethnic Latinos, as well as multiethnic Latinos and multiracial Latinos, and all but one was born in the United States. In addition, one university staff member was a Latina bilingual native Spanish speaker who was born in South America and learned English as a second language after she immigrated to the United States as an adult. The number of undergraduate and postbaccalaureate research assistants varied according to the translation phase as well as the phase of the research study, with an average of between two and four research assistants who were considered core members of the translation team (i.e., they participated in the in-depth reviews of the translations). On occasion, additional bilingual Latino research team members added input as needed during their practices of the interviews in English and Spanish. Finally, as research staff members left to pursue higher education and training, they were replaced with new translation team members.

Description of Community Partners—The community-based partners who participated in the translation process included two primary individuals who were staff members of a community medical center. One partner was a Spanish native speaker from Mexico who learned English as a second language after she immigrated to the United States as an adult. She attended 3 years of college in the United States, she earned an Associate's degree, and had a minimum of 11 years of experience translating health documents and health promotion program documents tailored to Latinos. The other community partner was of Mexican descent, born in the United States, and Spanish was her first language. She had a

bachelor's degree in Spanish and 25 years of experience conducting health-related Spanish translations.

Of note, for one of the studies (*¡Viva la Salud!*), four additional community partners attended meetings to review the manual and materials for the intervention only. These individuals were included in the review of the intervention manual and materials because they were community health workers (*promotoras de salud*) who were being trained to conduct the intervention, and they needed to review all of the intervention materials as part of this training. Occasionally, changes in the Spanish translations or English documents were made as they reviewed the documents during the training sessions and they noticed that certain ways of describing items could be simplified or made more appropriate to their culture. The majority were native Spanish speakers who were born in Mexico and immigrated to the United States as adults, whereas one was a fluent bilingual Latina who was born in the United States. Their level of education ranged from some high school to college, and one had a medical degree from a university in Mexico.

Overall, community partners were largely representative of the target populations. The target populations were Latina women (for two studies) or Latino men (for one study). The community partners were Latinos, and their work involved contact with other members of the target population. As such, the demographics of the research staff and community partners were reflective of the overall target population, and they had a deep understanding of the target population recruited for the studies.

As part of the planning phase, the PI of the research studies met with community partners to discuss the translation and back-translations method. The PI also discussed the role of the professional translation company versus the role of the community partners in the Spanish language translations. Specifically, the professional translation company conducted the forward and back-translations for the research studies, and then the community partners reviewed the translations. University research staff members were also trained through supervision with the PI on topics such as common errors that can occur during the translation process.

Phase 2: Preparation Phase

Review of Materials in the English Language—In the preparation phase, community partners were involved in the review of the English materials and, if needed, the development of new English materials that were specific to the study. The community partners reviewed and edited the English versions of the study materials. Changes that were made generally had to do with increasing the cultural appropriateness of the materials to make them more Latino-centered or editorial changes in the readability of the materials. For example, changes in the way that the material was presented in the intervention to make it more interactive for participants were discussed and changed prior to the Spanish language translation. If the material was already translated into Spanish but the English material needed to be developed or edited, then subsequent changes to the Spanish version were made in later phases. All of these reviews were done in person, and any changes were discussed with the PI of the study. Decisions were made collaboratively with the research team and community members to finalize the English materials.

Seeking Permission to Use Materials—During this phase, the research team sought permission from authors and publishers to use and translate (if not already done so) the materials as part of our research studies. If a measure was from a formal company, then it was bought directly from them. In some cases, when the questionnaire or measure was mentioned in an article but not published in a journal or book, then the author of the measure was sent an e-mail requesting a copy of the English version of the material as well as requesting permission to translate the document into Spanish. When contacting the author of a particular measure, we also used this opportunity to inquire about whether someone else translated the measure into Spanish. This was important because sometimes a questionnaire or measure is translated into Spanish by several researchers for various studies, and as a result, multiple Spanish versions of the same measure exist. If we discovered that the Spanish version of the material existed (but was not published), then the author of the Spanish version of the material was contacted to obtain a copy of the measure.

In other cases, if the English version of the material was published in a journal or book, then the author, publisher, or legal department was contacted to obtain permission to translate the document (in the cases where only an English version existed) into Spanish. Finally, if a Spanish version of a document or measure already existed, then the community partners still reviewed the information for accuracy and edited it if needed.

Identifying Translation Companies and Translation Resources—The next step in our community-based translations involved the selection of a professional translation company. Translation companies with experience in health-related translations were selected based on online research conducted by the PI. The translation companies that were sought were those that could provide a team of certified translators doing forward and back-translations as well as oversight of the entire process and formatting of the items. Initially, one company was sought, but as our translation needs increased and there was an administrative change in the first translation company, we also selected an additional company to use. The second company was selected because one of the key administrative personnel that we used for the original company moved to this second company. Based on the work that this person did for the first company, we felt comfortable with their work quality and turnaround time and felt that they understood the scope and needs of our study. Because that person was already familiar with our work, it made sense to work with both companies to speed up the translation process and maintain the same level of quality. For both companies, we first sent them samples of materials that needed to be translated and then we obtained price quotes and proposed services to be rendered prior to finalizing their use in this study.

Finally, additional resources (websites, dictionaries, key informants) were identified that the university and community partners could use in the translation process. The PI also occasionally posed a question on a professional Latino psychology listserv (National Latino/a Psychological Association) to seek guidance about translating certain psychological terms that were difficult to translate (e.g., self-conscious).

Phase 3: Action Phase

Professional Translations—In the action phase, we obtained professional translations of materials using a forward and back-translation process. The translation companies were selected based on the process described previously. Across the studies, we used two translation companies who provided comparable services. The professional translation teams consisted of both fluent Spanish and English speakers. Individual team members were certified by the American Translators Association. These companies were also commissioned to format the Spanish materials so that they were visually similar to the English materials.

Review of Spanish Translations—Once we received the certified translations by electronic mail, the PI and bilingual research assistants reviewed the translated materials for accuracy, assessed whether items were missing, fixed formatting issues, and read through the materials to ensure that the material was accessible and easy to understand. At this stage and throughout subsequent phases, in addition to reviewing the accuracy of the word-for-word translation, the research and community team members also reviewed the translated materials to ensure that the meaning of the translated documents accurately reflected the meaning of the original materials.

Community partners then met with the university research team members to review and edit the translated materials. During the review of the translated materials, meetings were held with community partners every 2–3 weeks or as needed to make decisions about all aspects of the study, including to refine the consent form, questionnaires, and measures prior to recruitment and to provide advice on the design, intervention and implementation, results, and dissemination plan. As needed, items were tailored to the target populations of adult Latinos. Particular attention was given to differences between words used among Mexicans and Puerto Ricans because these Latino ethnic groups were the focus of two of the three studies. For example, when collecting demographic questions on educational level, knowing the terms used for each level of education was important. For Mexicans, completing *preparatoria* or *tecnológico* can mean finishing high school, and for Puerto Ricans, completing *cuarto año* indicates completing high school. In addition, some scales that were created using Mexican vocabulary occasionally included appropriate clarifications for use with Puerto Ricans to create a culturally competent translation. When errors were found or translation questions arose, the university research team and community partners reviewed these items and alternative words/phrases were discussed. After those issues were resolved, the research team and community partners conducted another review of the Spanish materials. This process was repeated until the research team and community partners did not find any additional problems with the translated materials. In general, after thorough discussion, if any additional discrepancies still existed, then consultation was sought from outside sources such as Spanish–English dictionaries and Spanish translation websites and then discussed with community and university partners until they agreed on the best translation.

Phase 4: Pretesting and Practicing Phase

The pretesting phase involved pilot testing the materials through practice interviews between research team members and other volunteers who were and who were not part of the research team. Research team members conducted practice interviews and/or measures with fellow research assistants, Spanish-speaking family members, friends, community partners, and various other volunteers. The purpose of the pretesting was to pilot test the materials to determine if items needed to be edited for greater clarification. The pretesting also served as an opportunity for the interviewers to become proficient with the study materials prior to being certified by the PI to administer study items to participants. For the interviews, consent forms, and measures, research team members were required to practice both Spanish and English versions between 5 and 10 times at a minimum and until they felt competent to administer the interviews, consents, and measures. The reviews and edits of study materials were subsequently conducted by the research team, PI, and community partners based on the practices and pilot tests of the study materials. For example, during the pilot testing of the measures, it was noted that certain instructions had to be edited, such as instructions for the questionnaires or homework assignments, to make it easier to understand and/or to achieve greater consistency between the English and Spanish language versions. The reviewing, editing, and pilot testing of the materials continued until the materials were finalized.

Phase 5: Finalization Phase

In the finalization phase, the final editing of the Spanish and English versions of the materials was conducted. This mainly involved comparing the English and Spanish versions of the materials for consistency between languages (such as tenses and changes in the materials being written in the first, second, or third person) and ensuring that the formatting was uniform and functional across all materials. In this stage, all study materials were closely examined for missing accents and other punctuation marks. At times, native Spanish speakers on our team were not confident in their ability to identify where accents should be placed. If any words were missing accents, the final spelling was confirmed by having university staff and/or community partners locate these words in Spanish language dictionaries and then discussing the final placement of accents with community and university partners to determine the final spelling. Materials were also read out loud during practice interviews, assessments, and measures, and during role-plays of the intervention study. This also helped with identifying the location of accents and other information that needed to be edited or clarified. At this stage, if errors were identified, they were corrected in both the English and Spanish versions of the materials. For example, during this phase, edits were often made to correct issues related to formatting; to ensure that the skip patterns matched both the English and Spanish versions of the interviews; or to clarify/simplify the newsletters, intervention materials, or measures.

Discussion

Recommendations Based on Lessons Learned

Conducting Spanish language translations as part of health research studies is critical to increasing the representativeness and external validity of findings to Spanish-speaking Latinos. Moreover, conducting these translations with community partners while using a

community-based participatory research framework added an additional dimension of cultural appropriateness because the collaboration involved Latinos who had a deep understanding of the target population. The following recommendations are suggested based on the numerous lessons learned in the process of translating documents within a CBPR framework.

First, conducting translations is a complex, iterative, and time-consuming process. As such, it is important to speak with research team members and community partners about the flexibility that is needed in the project timeline to accommodate this complex process. Flexibility is needed in terms of the frequency of meeting days and times because both community and university partners have hectic schedules and multiple obligations. Flexibility is also needed to permit communication between meetings to address brief translation questions by e-mail or phone. This is particularly helpful if there are critical deadlines to reach, such as deadlines for submitting revisions or amendments to the university's institutional review board. It is important to revisit this timeline frequently and revise goals as needed. In addition, the time for a professional translation company to translate a document depends on the length and complexity (e.g., technical nature) of the document. To decrease the time associated with conducting translations, for health-related research documents, we recommend that research and community partners select a company that has experience in the target language and in the types of documents to be translated, as well as has experience with the specific Latino ethnic group that is the focus of the study, so that the Spanish wording can be modified, if needed. In some cases, it may be helpful to provide feedback to the translation company if common errors occur (e.g., consistency with the use of personal pronouns within and across documents in both Spanish and English). In addition, we recommend selecting translation companies who are International Organization for Standardization (ISO) 9001:2008–certified translation providers. ISO 9001:2008 certification indicates that a company has met certain quality management requirements (e.g., products that meet regulatory industry standards and company mechanisms that improve production and customer satisfaction).

Second, it is important to allocate adequate funding for the Spanish language translations. Translations can be expensive, and the time and expense needed to conduct CBPR translations need to be considered when developing a budget. Professional translations and formatting by translation companies can be very costly, with some companies having a minimum amount for each translation project (e.g., \$150) and/or charge per number of words. The cost depends on the type of service requested, such as project management, translation, back-translation, editing, review of back-translated material, formatting, and translation certificates. Funding for translations using a CBPR framework should include the following costs: funding for a certified translation company to conduct the translations, funding to train the research staff and community partners to conduct reviews of the materials from the professional translation company, and funding to pay research staff and community partners for their time to review both the English and Spanish translations and review and edit the documents as needed.

A third recommendation is that incentives should be a part of this labor- and time-sensitive translation process. For example, we served food and drinks during meetings when we

reviewed the translations and conducted edits with community partners and research staff. Positive reinforcement was also used to enhance motivation, and reminders about why the overall research study was important were often discussed. The reason why the latter was particularly important was because translations are a labor-intensive and highly technical activity. Keeping the “big picture” in mind was helpful to ensure that the task of translating and editing various documents did not become overwhelming to research staff and community partners. Meetings were also held at the location of the community partners to make it convenient for them, reduce disruptions to their busy schedules, and thereby enhance motivation to participate in the meetings. Finally, the organization that employed the community partners was paid for services rendered for one of the studies, which also included the time spent on translations. We found that community partners were easily engaged because of the nature of the studies, their recognition of the huge need for well-translated and culturally appropriate materials, and our ability to provide customary rates of compensation for one of the studies. We also found that additional incentives were not necessary.

A fourth recommendation is that community partners should be involved in the hiring of new research staff members so as to ensure that staff are hired who can read, write, and speak Spanish fluently. This is important because community partners can assist in testing the Spanish language fluency of the study staff to ensure that their Spanish language skills are adequate. Our university research team did an excellent job of assessing conversational style Spanish and Spanish reading skills. However, having community partners involved in this process enriches the ability to assess the subtle forms of Spanish words and native language fluency in a way that university research staff may overlook. Moreover, depending on the scope of their work, community partners may speak Spanish most of the day, whereas university partners may speak Spanish 50% of their work day or less. Therefore, subtle differences in wording and fluency may be missed by university staff when assessing the language skills of potential new research staff members. At a minimum, community partners should be involved in the development of employment advertisements for new positions as well as the dissemination of the employment advertisements throughout their networks. This strategy has the added benefit of broadening the search to community members who may have less access to publications or internet sites, which universities typically use to hire staff. The overall goal should be to hire bilingual and bicultural research staff and community partners who can assist in the translation process so as to enhance the cultural competency of the research study with Latinos. A suggested list of questions that may be helpful to include during an interview to assess Spanish ability, experience with Spanish speakers and Hispanics/Latinos, and translation experience can be seen in the Appendix. This list is a starting point that should be developed with community partners. This list is not exhaustive.

Fifth, translations should take into consideration differences in the region and country of origin of the target population. For example, when working with a specific Spanish-speaking population, it is crucial to recognize that there are differences in verbal expression between Spanish-speaking countries and attempt to include several people on the translation team who are native from the country of the target population. For instance, the word *orange* (the

fruit) is commonly called *naranja* among Mexicans, whereas *china* is sometimes used among Puerto Ricans. In addition, although our intervention study (*¡Viva la Salud!*) was not specifically targeted toward Mexican women (but rather Latina women in general), because of the demographics of our study location and recruitment site, most participants in this study were Mexican. Our community partners were also Mexican women who were able to provide insightful information during the translation process so that study materials would be appropriate for a Mexican and Mexican American population. Finally, we recommend that university and community partners represent a range of socioeconomic statuses, as well as educational and acculturation levels, because differences in these background characteristics may affect their ability or level of comfort in translating documents that do not match their particular background or experience. For example, some may have completed their college degrees in Mexico, whereas others completed postsecondary education in the United States, and it is important to keep these strengths in mind when selecting a diverse translation team. Diversity of educational backgrounds within the research team will allow for familiarity with a range of vocabulary and idioms. However, ultimately, it is essential for university and community partners to have a clear understanding of the target population and match their translations to this population.

Conclusions and Future Directions

Community partners, researchers, health care providers, and educators will benefit from learning about this innovative translation model, which used several novel methods to ensure accurate translations. In addition to the aforementioned suggestions, several final points are important to keep in mind for future directions. First, research needs to be conducted on the reliability and validity of the Spanish translations of the materials. This is a forthcoming task for our research team. Second, future research should explore the benefits of developing materials first in Spanish (vs. English), to increase the cultural appropriateness of the measures. Finally, as previously mentioned, we conducted a language assessment of our study team members to ensure that they were proficient in Spanish. We opted to use a brief assessment of reading and speaking rather than a formal assessment of language because of the expense and time involved in a more formal measure of language. Future researchers may wish to consider a more in-depth assessment of language fluency if resources and time are available. At the same time, we also found that it was equally important to engage in a casual conversation with potential research staff and community partners to assess level of comfort in speaking Spanish and English as well as to establish specific skills in this area.

In conclusion, we believe that the time, effort, and learning that occurred as part of this translation process produced materials that were more culturally appropriate than the traditional approach used to translate research materials and measures. The fact that the perspectives of both community partners and university researchers were taken into consideration at every stage of this process made this a more thoughtful, engaging, and genuinely enjoyable project than ever anticipated. We attribute this to the close and personal nature of working diligently and collaboratively together as a family (*una familia*) to reach our common goal of helping to develop better Spanish and English materials to assist in Latino health research studies.

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Appendix

Suggested List of Questions to Assess Language Proficiency, Experience With Spanish-Speakers and Hispanics/Latinos, and Translation Skills in Research Staff and Community Partners

Questions asked in English to assess spoken and written Spanish language ability, experience with Spanish speakers and Hispanic/Latinos, and experience in translating written materials:

- 1 What is your experience speaking, writing, and understanding spoken and written Spanish? How would you describe your ability in these areas (speaking, writing, and understanding spoken and written Spanish)?
- 2 Have you ever worked with Hispanics/Latinos or Spanish speakers in your current or past job? If yes, please describe these experiences in detail.
- 3 Which Hispanic/Latino ethnic groups do you have experience working with as part of your current or past job?
- 4 Have you ever translated written materials from English to Spanish and from Spanish to English? Which aspects of the translation process were the most difficult for you?

Questions asked in Spanish to assess spoken ability in Spanish:

- 1 Can you tell me about your current job?
 - 2 What made you interested in this job?
 - 3 Tell me about your experience working with Latino communities.
 - 4 Have you ever conducted recruitment for a research study? If yes, tell me about those experiences.
 - 5 What questions or comments do you have about this project or job?
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Note. The overall goal is to hire bilingual and bicultural research staff and community partners who can assist in the translation process to enhance the cultural competency of the research study with Latinos. This list is meant to serve as a starting point that should be developed with community partners. This list is not exhaustive.

TABLE 1

Description of Materials Translated for Each Study

Translated Items	¡Viva la Salud!	¡Viva la Cultura Latina! and Latino Men's Health Initiative
Recruitment, eligibility, and study introduction	<ul style="list-style-type: none"> Recruitment flyers Eligibility interviews Informed consent forms Physician letter, physician information sheet, and physician medical clearance form 	<ul style="list-style-type: none"> Recruitment flyers Eligibility interviews Informed consent forms
Study interviews	<ul style="list-style-type: none"> Demographic questions Questions about diet, physical activity, body image/weight concerns, eating problems, smoking, secondhand smoke, and obesity Questions about the development of a future health intervention 	<ul style="list-style-type: none"> Demographic questions Questions about diet, physical activity, body image/weight concerns, eating problems, smoking, and obesity Questions about the development of a future health intervention Qualitative questions about attitudes and beliefs regarding cultural aspects of healthy eating, physical activity, and body image/healthy weight
Participant instructions	<ul style="list-style-type: none"> Diet questionnaire instructions Pedometer instructions Pedometer recording book 	<ul style="list-style-type: none"> Diet questionnaire instructions Accelerometer instructions Accelerometer recording book
Information provided to participants	<ul style="list-style-type: none"> Feedback on weight, height, body mass index, body fat, blood pressure, and carbon monoxide levels 	<ul style="list-style-type: none"> Feedback on weight, height, body mass index, body fat, and waist and hip measurements
Intervention and control group content (for <i>¡Viva la Salud!</i>)	<ul style="list-style-type: none"> Four intervention manuals on health focused on healthy eating, physical activity, body image, and secondhand smoke exposure Intervention handouts Homework materials (e.g., recipe for healthy eating, body image, and secondhand smoke activities) Newsletters targeting various health issues relevant to Latinos 	