Cross-Cultural Reliability of the Health Control & Competence Index and the Health Perception Index

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Cross-Cultural Reliability of the Health Perception Index and the Health Control and Competence Index

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Purpose: To test the reliability of two Spanish instruments to measure (a) health perceptions, and (b) health control and competence.

Design: Triangulated methodology used with two different Latino populations.

Methods: Preliminary qualitative data were collected in Mexico. Based on themes from Mexico, data were collected from 44 men (Dominican Republic, \( n=24 \); Peru, \( n=20 \)) with two instruments, the Health Competence and Control Index and the Health Perception Index. Alpha reliability estimates were obtained.

Findings: Results of the study confirmed reliability of the instruments in one of the Latino populations, consistent with understanding of the constructs found in the Mexican study. Reliability was low in the second Latino population.

Conclusions: Although results from this study are useful, further translation and research procedures are needed to address the many differences among ethnically similar groups and to further strengthen internal and external validity of instruments designed to assess Latino men’s perceptions of health and their control over health.

Ethnic minority men are at risk for health disparities because of lifestyle, cultural norms, gender roles, and historical legacies that have resulted in marginalizing conditions such as low socioeconomic status (SES) and racism (Audi, 2003; Binford, 2005; Perilla, Wilson, Wold, & Spencer, 1998; Vasas, 2005). Despite their proclivity for health problems, ethnic minority men also have the lowest participation in health promotion services. Issues such as health knowledge, health perceptions, access to care, and culturally and linguistically competent care should be addressed to increase participation in health care, health promotion, and health-screening activities in an effort to decrease the preventable mortality and morbidity evident in this population. This article is a report of two phases of investigations into Latino men’s health in several Latin regions of the Western Hemisphere, including a preliminary study followed by instrument testing in two geographically different locations.

Background

Men of Latino origin often place their health and well-being last on their daily priority scale (Galanti, 2003). Improving awareness, access, follow-up, and culturally safe and appropriate health services are necessary to reduce morbidity and mortality from preventable health problems (Baer, García de Alba, Leal, Campos, & Goslin, 1998; Balcazar et al., 2001; Healthy People 2010, n.d.; Villarejo & Baron, 1999). Several researchers (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 2000; Bliss, 2001; Gil & Vasquez, 1996) have explored the relationship between gender role and social norms, and found that cultural beliefs about power, strength, invulnerability, low levels of acculturation to a dominant culture, and maintaining close connections to the Latino culture might offer protection from high-risk behaviors, diseases, and mental health problems. Thus, gender-specific cultural norms might paradoxically protect against health problems.
Conversely, some common male social role behaviors in men of Latino origin, such as being aggressive, emotionally guarded, risk-taking, self-reliant, self-sufficient, independent, and leaders have been found to contribute to health problems (Orpinas, 1999). Young boys are raised to “tough it out” (Sobalske, 2006, p.134) when they are sick (Bliss, 2001; Orpinas, 1999). Such ascribed role expectations and the stress surrounding these behaviors have put men at risk for health problems, especially those related to cancer, cardiovascular disease, substance use and abuse, depression, and anxiety (Flaskerud & Winslow, 1998; Galanti, 2003; Konrad & Harris, 2002; Pan American Health Organization, 1998). These health problems might be related to genetic vulnerabilities as well as to a phenomenon referred to as allostatic stress load, a persistent state of hyperarousal related to chronic exposure to institutional racism that results in significant mental and physical health responses (Carlson & Chamberlain, 2005; McKenzie, 2003; Mohit, 2001). However, little study has been done to assess variables that might contribute to ethnic minority men’s lack of participation in health care and health promotion.

**Preliminary Research**

To explore explanations beyond Galanti’s (2003) findings for why men of Latino-Mexican origin do not participate in health care and health promotion, the researchers conducted the preliminary investigation with 101 men in an economically impoverished colonia on the Mexican side of the US-Mexico border adjacent to a large border city. The colonia was populated by families who migrated there from various regions of Mexico’s interior, hoping to find work in one of the numerous maquilas (factories) that have been built since 1965. A colonia is a Spanish term meaning neighborhood or community, and is often perceived as a community lacking basic amenities such as potable running water, proper sewage disposal, electricity, and paved roads that are parts of a public health infrastructure (Housing Assistance Council, 1994). A collaborative venture with a small church-related health clinic in this colonia was the venue for nurses and other health providers from the US to provide free health assessment, management, and teaching, in an effort to increase community members’ awareness about their own health and the services available to them. To help the clinic identify factors that might contribute to the community members’ lack of utilization of their clinic, a preliminary research study was conducted by the authors.

Institutional review board approval was obtained from the university to acquire the needed information, such as demographics, diagnosis, and data obtained from focus groups with the men and their significant others. Gender groups were separated to increase the comfort level of both in sharing their thoughts and perceptions. Members of the research team were either bilingual, experienced in working with the Latino cultures, or had experienced interpreters to assist them. Participants were assured of anonymity, confidentiality, and data security.

In the focus groups, participants were asked about their perceptions related to gender expectations, health beliefs and practices, and barriers to health care. Data from these focus groups indicated the importance of gender-role expectations, resource availability, access to care and elimination of barriers to care, provider-participant congruence (ethnicity, gender, language), cultural responsiveness, participation in healthcare activities, and acculturation as highly important factors that influenced their health seeking and health-promotion behaviors. Both groups confirmed that the lack of these factors contributed to compromised health-seeking activities among men.

These findings, consistent with other research, were a basis for the church-related clinic personnel to explore ways to decrease barriers and increase access to care for the men in the colonia. The clinic providers requested that health surveys be completed to assess whether their interventions were successful. Thus, one of the priorities for the researchers was to identify instruments that might be used to assess health beliefs and perceptions of Latino men by these providers and others working with people of Latino origin. No valid or reliable Spanish language instruments have been reported to assess the health beliefs and perceptions of Latino men.

The lack of instruments translated into Spanish for Latino men is important as researchers begin to address the variables affecting the participation in health-promotion activities of men of ethnic minority status. The paucity of tested instruments in Latino populations is a serious problem in the conduct of research with such populations that should be remedied (Flores et al., 2002).

Two instruments, the Health Perception Index (HPI) and the Health Control and Competence Index (HCCI), were selected for the proposed study. The HPI and HCCI subscales were designed by researchers in the Carolina Adolescent Health Study (S. Hardin, personal communication, May 4, 2006), based on the unpublished 35-item Health Hardiness Inventory (HHI) developed by Wallston, Wallston, and DeVellis (1978) and Smith, Wallston, and Smith (1995). Items contained in the HPI and HCCI were believed by the authors of this study to assess health perceptions and control in Latino men. To test the reliability and validity of the HPI and HCCI for Spanish-speaking populations, the instruments were translated into Spanish by a bilingual speaker from Central America whose first language was Spanish. They were then tested with men in two Latino populations.

**Methods**

**Design**

In this exploratory study, responses on the HCCI and HPI were obtained from men from two different Latino cultures: (a) the Dominican Republic, whose cultural values and beliefs closely matched those of men of Mexican origin; and (b) Peru, whose cultural values and beliefs appeared to be slightly different from those of men of Mexican origin. Part of the dilemma in research studies with Spanish-translated
Instruments selection.

and then were asked for their responses on the Likert-scale instruments read to them by one of the research assistants. Those unable to read Spanish had the questions from the trained research assistants provide information explaining why the data were being collected, how results would be used, and indicating that participation was voluntary. Inclusion criteria were: men over 16 years of age, able to read or understand Spanish. Participation was voluntary. Inclusion criteria were: men over 16 years of age, able to read or understand Spanish. Those unable to read Spanish had the questions from the translated instruments and to explore further themes not identified in the original instruments.

Sample

A convenience sample of 45 participants from the Dominican Republic (n=24) and Peru (n=20) participated in the study. All discussions were conducted in Spanish. Each participant was asked to sign a consent form and was provided with information explaining why the data were being collected, how results would be used, and indicating that participation was voluntary. Inclusion criteria were: men over 16 years of age, able to read or understand Spanish. Those unable to read Spanish had the questions from the translated instruments read to them by one of the research assistants and then were asked for their responses on the Likert-scale selections.

Instruments

The HPI and the HCCI are 5-point Likert-type scales used to assess Latino men’s perspectives about health and control over health. The HPI contains 15 items to measure men’s health perceptions. Statements translated into Spanish, such as “I am responsible for my health” and “I look for new experiences that increase my knowledge and abilities to care for myself,” were included in the HPI. The HCCI contains 18 items to measure men’s perceptions regarding health control. Statements translated into Spanish included, “Most things that affect my health happen to me by accident” and “I can pretty much stay healthy by taking care of myself.” Participants in the study were asked to rate their agreement (1=strongly disagree, 5=strongly agree) with items contained in the HPI and HCCI.

The English version of the Health Hardiness Inventory (HHI) had shown alpha reliability of .83 in studies with staff in an AIDS-vaccine trial, although this information was never published because of difficulty with some of the items contained in the survey (K. Wallston, personal communication, May 3, 2006). The HPI and HCCI had no recorded reliability estimates. A literature search indicated that the instrument subscales had not previously been tested with Latino populations.

The interview questions used in structured discussion groups about health beliefs, practices, and gender-role expectations, helped us validate concepts from these subscales for use with Latino men. Four questions posed in Spanish during the structured discussion groups were: (a) What does it mean to be a healthy man in your community? (b) What are the major reasons men in your community do or do not obtain regular medical check-ups and physicals? (c) What do you believe are barriers to health in your community? and (d) What do you believe would help men be more active participants in their health on a regular basis?

The HPI and HCCI were translated from English to Spanish by a translation specialist. This process, described as forward translation with testing, has some strengths including time and cost savings and allowing the translated version to be tested with monolingual subjects (Maneesriwongul & Dixon, 2004). As part of the overall process, content validity for the HPI and HCCI instruments was established by consulting with Spanish-speaking medical experts from Mexico. Both indices were found to be comprehensive and representative of concepts being measured by the instruments.

Procedures

All discussions were conducted in Spanish; the researcher and assistants were bilingual and experienced in working with Latino cultures. Anonymity, confidentiality, and data security were discussed with the participants. Data from the Dominican Republic were collected during a 2-week medical mission trip to that country in January 2005. Data from the Peruvian sample were collected in May 2005 over a 1-week period while on a trip to explore possibilities for conducting medical missions in that community. Spanish versions of the HPI and the HCCI and a brief demographic questionnaire were distributed to the men. In the Dominican Republic, participants completed the surveys before the focus group discussion began. If they were unable to read the surveys, the survey was read to them. These structured discussions were tape-recorded and then transcribed by a translation specialist from Spanish to English. Questions for the discussion group were designed to validate constructs from both HPI and HCCI instruments. Themes from men’s focus groups were identified. Unfortunately, lack of time to collect data in Peru interfered with the ability to conduct the content validity focus group sessions like those conducted with men from Mexico and the Dominican Republic.

Results

Men (N=44) who participated in the study ranged in age from 17 to 71 years; 53% reported being married; 84% reported completion of a high school education or higher; 46% reported having medical insurance. Their average household size, including the participant, was four people. Men in the Dominican Republic, like men in Mexico, reported limited employment opportunities within their community. Most positions were temporary and were, not sufficient for supporting themselves and their families, and health insurance was virtually nonexistent in their community. In contrast, men in Peru reported more support for healthcare access both at local and national levels, and employment was more reliable and consistent. Table 1 shows the demographic characteristics of each sample.

Analysis of variance (ANOVA) techniques were used to obtain reliability estimates for the translated instruments. In the Dominican Republic, reliability estimates for the HPI and HCCI were high and consistent with the English version.
of the HHI; in Peru, responses on both instruments were less reliable. These findings indicate the need to conduct focus group discussions to identify the meaning of the constructs in the HPI and HCCI instruments when using Spanish-translated instruments with varied Latino populations. Table 2 shows the Cronbach’s alpha reliability estimates for both subscales by country.

Themes from the focus groups conducted in the Dominican Republic were similar to the ones identified in our preliminary study in Mexico. Men expressed a lack of control over their health, related to barriers such as: (a) economics (no jobs), (b) time constraints, (c) inadequate health resources and quality, (d) contaminated environments, (e) political corruption, (f) poor life choices (alcohol, drugs, sexual practices), and (g) role expectations (machismo). Health was perceived as important but was less a priority for men than for women, children, and other members of the family. In other words, women and children come first when healthcare services and expenditures are needed. Men are expected to provide for their families and to receive health care for a man implies sickness, weakness, and an inability to provide for his family. Health was defined as freedom from disease, and included the ability to help others. Finally, the distance to and accessibility of clinics and health care agencies prevented easy access to care.

Discussion

The results of this study are useful with participants from those Latino cultures whose men have similar beliefs and values as the men of Mexican origin. The high correlation of thematic results from the men’s focus groups in the Dominican Republic and Mexico and the good reliability coefficients on the HCCI and HPI (r=.83 and .78 respectively) reflect cultural similarities in their health beliefs. However, the cultural origin of the professional translator was Central America, and the Spanish spoken in Central America might be more similar to that of the Dominican Republic and Mexico.

The demographic characteristics of the Peruvian sample were similar to those of the Dominican Republic and the Mexican samples, except that men in Peru reported more consistent employment and healthcare access. Thus, the extremely low reliability estimates on both instruments in the Peruvian sample may have occurred because of how words and concepts are used differently among Spanish-speaking countries. Men in Peru may have had difficulty understanding some of the words and concepts from the translated instruments. To determine whether this phenomenon of cultural differences could explain the low reliability scores obtained in Peru, focus groups similar to those conducted with the Dominican Republic and Mexico samples would have been important.

Given the small sample sizes and the lack of focus group information from the Peruvian sample regarding their health beliefs and ability to understand the terms and concepts used in the instruments, limited generalizations can be made about the health of the men in these countries and about the validity and reliability of instruments to assess the health beliefs and practices of men of Latino origin. Samples of this size, with the selected design of the study, cannot be considered representative of the total Latino male population across Latino subgroups.

Conclusions

Results obtained from this study contribute to furthering the state of the science on reliability and validity of the HPI and HCCI instruments with Latino populations. The instruments had moderately high reliability when administered with men from the Dominican Republic, but extremely low reliability estimates when administered to men from Peru. The study also indicated that people from ethnically similar cultures might perceive health in similar or different ways. Important cultural, educational, socioeconomic, and language differences must be considered when testing instruments in Spanish; concepts are not necessarily consistent across ethnically similar subgroups. Although these results are important, further translation and research are needed to accommodate the many differences among ethnically similar groups when assessing internal and external validity of instruments.

References


Table 1. Demographic Characteristics of the Sample by Country

<table>
<thead>
<tr>
<th>Country</th>
<th>Dominican Republic (n=24)</th>
<th>Peru (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>37</td>
<td>35</td>
</tr>
<tr>
<td>Marital status: % partnered</td>
<td>33%</td>
<td>20%</td>
</tr>
<tr>
<td>Insurance: % insured</td>
<td>13%</td>
<td>33%</td>
</tr>
<tr>
<td>Mean educational level a</td>
<td>3.42</td>
<td>3.98</td>
</tr>
</tbody>
</table>

Note: a1= no education; 2=elementary; 3=high school; 4=college; 5=graduate school.

Table 2. HCCI and HPI Reliability Estimates by Country

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Standardized alpha coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dominican Republic (n=24)</td>
</tr>
<tr>
<td>Health Control &amp; Competence Index (HCCI)</td>
<td>.83</td>
</tr>
<tr>
<td>Health Perception Index (HPI)</td>
<td>.78</td>
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