

# Implications for Quality of Life Research in Latino Populations

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*Assessing cross-cultural equivalence in quality of life (QOL) measures is important with Latino populations. It can be argued that Latino culture influences responses on QOL instruments that may be insensitive to detecting cultural differences. Although qualitative methods are predominately used in exploring cultural phenomena, structural equation modeling (SEM) is suggested as a method for assessing cultural invariance. This method provides confidence that response differences are based on actual differences rather than on interpretations of QOL instruments. SEM may reveal other, more nebulous characteristics of Latino culture that influence the conceptualization of QOL and responses on measures aimed at quantifying it.*

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In research and practice, nurses use a number of psychometric measures in efforts to quantify the perceptions, thoughts, and feelings of those with whom they are working. Psychometric measures have also been used in conjunction with health outcomes in attempts to provide context to data. During the span of the last two to three decades, numerous instruments have been developed in attempts to quantify an individual's quality of life. Perhaps the thrust to do so has evolved as a means to temper inconceivable advances in technology that have prolonged life, at times foregoing those other, more precious aspects of living now recognized as "quality of life" (QOL).

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The aspect of QOL that has not received much attention is the difference in conceptualization in QOL as influenced by one's culture. Because most psychometric measures such as QOL instruments are developed within ethnically homogeneous samples, the appropriateness of then administering them to broader, ethnically heterogeneous samples has been questioned (Corless, Nicholas, & Nokes, 2001; Staniszewska, Ahmed, & Jenkinson, 1999). To date, the vast majority of attempts to adapt QOL measures—notably, the Short Form-36 (SF-36)—across cultures have been through the use of language translation (Aaronson et al., 1998; Fukuhara, Bito, Green, Hsiao, & Kurokawa, 1998; Keller et al., 1998; Loge, Kaasa, Hjermsstad, & Kvien, 1998; Ren, Amick, Zhou, & Gandek, 1998). Although language translation is an integral component of administering QOL measures across cultures, it is merely a cursory process. Linguistic equivalence alone often does not recognize idiomatic differences in embedded cultural constructs (Berkanovic, 1980). Stewart and Napoles-Springer (2000) stressed the importance of considering both social and psychological factors of culture as embedded constructs necessary in achieving conceptual equivalence across diverse groups. These cultural differences may contribute to the relevance or lack thereof in any particular construct presented in a QOL instrument.

In an early discussion on measurement issues in cross-cultural research, Hui and Triandis (1985) described the concept of cross-cultural equivalence as the prerequisite for comparisons across cultural and ethnic boundaries. Researchers strive to accommodate cross-cultural equivalence in a psychometric instrument through a number of approaches, including conceptual/functional, construct operationalization, item equivalence, and scalar equivalence (Hui & Triandis, 1985). In a more recent review of the literature, Corless and colleagues (2001) noted numerous challenges to the utilization of QOL instruments across cultures and suggested similar approaches to achieving cross-cultural equivalence. They recommended considerations of the mean-

ing of the phenomenon of interest across cultures, delineation of cross-cultural versus cross-national, salience, conceptual equivalence, cultural hegemony versus cultural validity, cultural equivalence versus verbal equivalence, and other factors.

This article discusses the need for assuring cross-cultural equivalence of psychometric measures, particularly QOL measures, with Latino populations. It argues (a) that aspects of Latino culture influence responses on QOL instruments, (b) that there are quantitative research methods that can assist researchers and clinicians in ascertaining the appropriateness of using QOL measures with Latino populations, and (c) that although these research methods exist, their potential for measuring QOL among Latinos has been largely untapped.

### INTRA-ETHNIC DIVERSITY AMONG LATINOS

In the United States, the Latino population is becoming as large as it is diverse. It is currently the second-largest segment of the population and is fast becoming the largest emerging minority group in the United States (Spector, 2004). Between 1990 and 2000, the Latino population in the United States increased 57.9%, from 22.4 million to 35.3 million. Of this 35.3 million, 20.6 million report Mexican ethnicity (Ramirez & de la Cruz, 2003). There are not only significant changes in demographic data among the Latino population between the last two censuses, there are also striking differences in socioeconomic data and culturally linked phenomena between Latinos and the non-Hispanic White population. Latinos are more likely to live in poverty, have lower levels of educational attainment, be unemployed, and, when employed, earn less. In addition, Latinos live in larger family households, with a lower median household income (Ramirez & de la Cruz, 2003; Spector, 2004). This difference in persons per household may be regarded as a product of two variables: either economic necessity or the importance of family and cultural practice.

The Latino population, however, is far from homogenous. Latinos reflect the observation that in addition to the existence of distinct racial differences among people, there is often a larger degree of intra-ethnic diversity within a racial group than between racial groups (Aguirre, 2003; Rumbaut & Portes, 2001; Susser, Patterson, & American Anthropological Association, 2001). This is readily seen when looking at the many ethnic groups that make up the Hispanic or Latino race, as described by the U.S. Office of Management and Budget for the purposes of collecting and presenting data. According to the U.S. Census Bureau (2000), Hispanics or Latinos are those people who classify themselves in one of the specific Spanish, Hispanic, or Latino categories. They are inclusive of Mexicans, Mexican Americans, Chicanos, Puerto Ricans, or Cubans as well as those who indicate that they are "other Spanish/Hispanic/Latino." In addition, persons who indicate their origins from Spain, the Spanish-

speaking countries of Central or South America, or the Dominican Republic or who identify themselves generally as Spanish, Spanish American, Hispanic, Hispano, or Latino are also included. In brief, individuals who identify their origin as Spanish, Hispanic, or Latino may be of any race. Despite the large degree of ethnic diversity within the Latino population, shared cultural values and language similarities contribute to a shared ethnic identity (Marin & Marin, 1991).

### CONCEPTUALIZING QUALITY OF LIFE IN THE LATINO CULTURE

Developing a succinct concept of QOL in the Latino culture is likely not possible. The intra-ethnic diversity of the population, coupled with numerous factors related to length of time since immigration, naturalization status, degree of acculturation, and individual variability, makes conceptualizing QOL a difficult task. There appear to be, however, some common cultural patterns and belief systems among Latino populations that contribute to their unique identity and perceptions of health. A primary characteristic of this identity is that of being a *collectivist* culture (Triandis, 1989). Individuals identifying with a collectivist culture place a higher value on the family and larger community than on the individual. Central aspects of collectivist cultures include interpersonal relationships as well as the interplay between individual, family, and the environment (Gloria, Ruiz, & Castillo, 2003; Ohbuchi, Fukushima, & Tedeschi, 1999; Triandis & Suh, 2002). Reflective of this perspective is that the nuclear family in Latino culture, consisting of the immediate family, grandparents, aunts, uncles, cousins, and often, members unrelated by blood, is on average larger than the family as defined by the dominant U.S. culture. This concept of the nuclear family leads to multigenerational Latino households, which are not as common in the dominant population (Purnell & Paulanka, 2003).

The collectivist culture is in contrast to the U.S. dominant culture, which is seen as *individualistic* (Purnell & Paulanka, 2003). Members of an individualistic culture place emphasis on the goals and values of the individual rather than on those of the larger community (Triandis & Suh, 2002). The concept of "health" from an individualistic perspective is often defined as personal and individual rather than reflective and responsive to the larger community (McCarthy, Ruiz, Gale, Karam, & Moore, 2004), as it is in Latino culture.

Numerous authors of studies on the attitudes toward health and illness among Latinos have suggested that Latinos believe in a degree of inevitability related to their health status and that their health is a result of "good luck" (McCarthy et al., 2004; Welch, Comer, & Steinman, 1973) or the will of a higher power (Davison, Frankel, & Smith, 1992; McCarthy et al., 2004). Conversely, poor health is often attributed to bad luck, curses, or punishment for some wrongdoing. Spector (2004) suggested five categories that could describe the cause

of illness as perceived, specifically, in the Mexican culture: the body's imbalance, dislocation of parts of the body, magic or supernatural causes outside the body, strong emotional states, and *envidia* or envy. Due to this variety in attributed antecedents to illness, a range of treatments is employed in efforts to restore health. These include herbal remedies, prayer, use of amulets or *milagros*, and *curandismo*, a traditional medical system that is holistic in nature. Often, Latinos blend these traditional practices with the dominant allopathic medical system of the United States today.

The importance Latinos generally place on personal relationships outside one's self and beliefs related to the causes of illness can have an impact on health-related behavior and health-related decision making among them. These beliefs affect how the individual experiencing illness internalizes health problems, shapes reactions to it, and formulates the impact on one's future. It is these constructs that are measured on psychometric assessments such as those measuring QOL.

### ASSESSING CULTURAL INVARIANCE IN QUALITY OF LIFE INSTRUMENTS

Recognition of the relationship between culture and health-related behavior and outcomes (Ashton et al., 2003; Genao, Bussey-Jones, Brady, Branch, & Corbie-Smith, 2003; Kleinman, Eisenberg, & Good, 1978; Pachter, 1994) has already led health care researchers and providers to see the need for the delivery of culturally competent health care and appropriate research methods. Qualitative methods, being seen as inherently more sensitive to the embedded culture in a research sample, have been most often used in research specifically investigating the role of culture as either predictor/modifier or outcome in a study. What has not received as much attention is the need for culturally specific quantitative research. As many researchers have come to realize, quantitative methods such as those employing psychometric measures often lack sensitivity in culturally distinct groups (Berkanovic, 1980) and so have rendered questionable results.

Only a very few QOL instruments have been investigated for their appropriate use in Latino populations. The SF-36 has been cited in the literature as valid for use in a Cuban American population with benign prostatic hyperplasia (Arocho & McMillan, 1998). Another group of researchers found that intra-ethnic diversity, degree of acculturation, and the need among the study sample for idiomatic translations could account for their lack of success in validating a QOL instrument in Hispanic Americans with cancer (Canales, Ganz, & Coscarelli, 1995). At present, no additional studies have been found in a review of the literature in which QOL was studied among Latinos in general or subpopulations of Latinos living with particular diseases or disabilities.

Being aware of issues that arise when using psychometric assessments in diverse cultural groups, we approach quanti-

fying the concept "quality of life" judiciously. In addition to containing biases in development and having issues related to cultural equivalence, assessments aimed at quantifying QOL have originated atheoretically, providing little insight as to the relationships of the many items that are measured within these assessments and resulting in a set of potentially unrelated variables. This lack of an explicit underlying theory prohibits generalization and limits the use of the outcomes recorded in these assessments (Sousa & Chen, 2002). The use of theoretically based conceptual models, on the other hand, enhances the applicability of QOL as a reliable and valid measure.

### Applying Structural Equation Modeling in Cross-Cultural Analyses

Nursing researchers are often interested in studying theoretical constructs that cannot be measured directly. Measurement related to concepts of both culture and QOL are examples that have historically been challenging. Predominately, QOL outcomes have been quantified using a single-item measure or multiple single-item measures that do not reflect the multidimensional structure or theoretical origin of the concept. Structural equation modeling (SEM) has been recognized as a statistical method that elucidates relationships between multidimensional concepts, such as QOL (Sousa & Chen, 2002). This method provides confidence that response differences are based on actual differences rather than on different interpretations respondents might have to the assessment instrument. SEM might further reveal other, more nebulous, and unanticipated characteristics of culture that play a role in the conceptualization of QOL and subsequent responses on measures aimed at quantifying it.

SEM takes a confirmatory approach to the multivariate analysis of a structural theory bearing on some phenomenon (Byrne, 1998), such as culture or the identified factors of QOL in a theory. This approach evaluates theoretically error-free constructs that enhance the ability to assess group differences on the construct of interest (Hancock, 1997). It is a comprehensive approach to testing hypotheses about relationships among these latent variables or abstract phenomena not readily observed. In contrast to many qualitative methods, SEM can be used to identify causal constructs embedded in a QOL study carried out with a particular culture (Keller et al., 1998). In addition, an SEM analysis can be part of an initial phase that investigates the appropriateness of a previously designed QOL instrument for use in culturally distinct populations.

### Using SEM With Existing QOL Measures

Tests of measurement invariance, within the framework of SEM, are important if one wishes to make group comparisons (Bryant, Windle, & West, 1997). Measurement invariance involves testing the construct validity, that is, the equivalence of measured constructs in two or more independent groups, to

assure that the same constructs are being assessed. To ensure appropriate cross-cultural comparisons when using an existing QOL measure, invariance analysis should be employed before administering the measure to two or more cultural groups of interest to provide confidence in its construct validity from an emic perspective.

The International Quality of Life Assessment Study used SEM in its multinational investigation to reproduce the conceptual model of QOL underlying the scoring and interpretation of the SF-36 and to test the construct validity of the SF-36 in nine European countries and the United States (Keller et al., 1998). Initial testing involved language translation and customizing of the response items to increase the relevance to individuals in each country, for example, changing “downhearted and blue” in the U.S. version to “downhearted and low” in the British version. Subsequently, researchers administered the measure in the participating countries. They used confirmatory factor analysis (CFA), a component of SEM, to investigate cross-cultural construct validity among the 10 countries. Results of the analysis showed that the confirmed model structure for the U.S. studies was duplicated in the 9 other countries being investigated. Noted differences were seen, however, in factor loadings between countries. This would suggest that although the model structure is congruent or invariant across the 10 countries, the relative meaning or “weight” ascribed to the items comprising each factor is cognitively integrated somewhat differently across the groups—not to the degree, however, that would render the measure culturally incongruent.

Numerous other studies have used SEM in examining QOL related to other latent variables associated with the experience of health challenges. Some of these are disease specific, including breast cancer (Northouse et al., 2002), chronic obstructive pulmonary disease (Morimoto, Takai, Nakajima, & Kagawa, 2003), diabetes (Senecal, Nouwen, & White, 2000), and epilepsy (Amir, Roziner, Knoll, & Neufeld, 1999), among others. Other studies used SEM to elucidate differences in outcomes (Aiken, Stein, & Bentler, 1994) or to distinguish differences in symptom manifestation (Sousa & Williamson, 2003). Significant in these studies is that the cultures of the populations studied were not investigated as a variable in the SEM process, and culture as a mediating factor was not assessed. Latent variables such as self-efficacy, social support, motivation, adherence, and self-regulation, to name a few, were the variables of interest.

#### Using SEM With Qualitative Methods

One’s culture has powerful prescriptive effects on the ways in which one thinks about self, views the world, and acts based on values dictated by cultural patterns of thought. Developing measures that are both sensitive and valid in relation to these cultural constructs can be challenging but is possible using a variety of methods. Traditionally, nurse researchers use qualitative approaches to study cultural phe-

nomenon. Methods such as cognitive interviewing and discourse analysis can be used to validate existing measures—in essence, providing confidence that quantitative measures represent scores on instruments reflective of authentic answers to understood questions. Prospectively, qualitative approaches in the early stages of instrument development assure hierarchical levels of validity and reliability in response items.

Triangulation of research methods combining, specifically, SEM with qualitative methods of inquiry can be particularly beneficial. When invariance analysis suggests the possibility of race, ethnicity, or culture as the cause for discrepancies in outcomes using SEM, qualitative inquiry may explicate unknown latent variables. Continuing then with the process, qualitative approaches can be used to formulate an instrument that will more accurately present the constructs of QOL congruent with that culture.

### CONCLUSION

As the notion of an American “melting pot” continues to diminish, rapidly changing demographics and the desire of many cultural groups to maintain their heritage necessitates attention to the appropriate use of psychometric measures. Culturally responsive measures can enhance our understanding of QOL across cultures. In the many Latino populations, recognizing the reflective aspects of collectivism and the significance of such concepts as luck and health is paramount to ascertaining a culturally congruent model of QOL.

This article has argued that researchers have a valuable tool, SEM, that has the potential for illuminating critical cross-cultural differences and that has, by and large, been unrecognized in nursing research. Use of SEM has the potential of correcting some of the shortcomings of previous efforts to adapt QOL measures by merely translating languages. When applied to theories and concepts in nursing practice, this method can increase the validity and reliability of instruments for use in cross-cultural research. When using SEM, the ability to assess relationships comprehensively provides a transition from exploratory to confirmatory analysis.

In addition to using SEM in isolation, triangulation in cross-cultural QOL studies offers nurse researchers a way to isolate the variables that significantly contribute to the conceptualization of QOL among Latinos. They can then formulate instruments that will more accurately present the constructs of QOL within that culture. As the Latino population in the United States continues its rapid growth, the need for culturally appropriate QOL measures becomes increasingly evident. Testing psychometric measures such as QOL for cultural congruency within distinct populations can increase its applicability as an accurate outcome measure. Culturally responsive measures can enhance our understanding of QOL within this population, thus driving the development of cul-

turally appropriate nursing interventions that may reduce the many health disparities experienced in this population.

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