Predictors of Mexican *colonia* residents' health perceptions and spirituality level: A pilot study

Elliott Pauli, MA[1]; Linda Synovitz, PhD, RN, FASHA, CHES[2]; Ralph Wood, PhD, CHES[2]; Keri Diez, PhD, CHES[2]; Ann Carruth, DNS[3]

Author[1] is affiliated with the Research Triangle Institutes International, International Development Group. Author[2] is affiliated with the Department of Kinesiology & Health Studies, Southeastern Louisiana University. Author[3] is affiliated with the School of Nursing, Southeastern Louisiana University. **Contact author**: Elliott Pauli, 110 Electra Drive Cary, NC, 27513; Phone: 919 465 1370; Fax: 202 354 4840; Email: **elliottpauli@hotmail.com**

Submitted March 29, 2007; Revised and Accepted October 19, 2007

Abstract

The purpose of this pilot study was to examine and identify factors predictive of health perceptions and spirituality levels of Mexican residents living in a border colonia. Sixty residents completed a survey. The instrument consisted of demographics items, a spiritual well-being scale containing two subscales, and a general health rating index (GHRI) containing five subscales used to measure health perceptions. Current health was rated better by those who reported having a physician. Health outlook was positively correlated to church attendance and to the number of individuals living in the home. Health worry/concern was positively correlated with age and inversely correlated with income. Correlations between general health perceptions and spiritual well-being yielded three significant relationships: current health, resistance to illness, and health outlook. Higher sense of spiritual well-being positively correlated ($r = 0.61$, $p < 0.01$) to participants' overall general health perception. Predictors of spiritual well-being were church attendance, number of people living in the home, and three GHRI subscales: current health, resistance to illness, and health worry/concern (accounted for 45.2% of the variance). Predictors of self-rated health perceptions were marital status, existential well-being, and religious well-being (accounted for 39.4% of the variance). These findings suggest an interconnectedness between health perceptions and spiritual well-being. Even though the physical environment of a colonia is unhealthy and impoverished, holding a high sense of spiritual well-being could aid in enhancing personal health perceptions. The results of this study provides a justification to plan and implement a larger randomized study involving several colonias.

Key words: *Health, Health Needs, Health Education, Colonia, Spirituality, Predictive Measures*

Introduction

Background: Establishment of maquiladoras* industry *and colonias near the U.S. and Mexico Border

The United States (U.S.) and Mexico border region is defined by the U.S. and Mexican government in the *La Paz Agreement* of 1983 as the 62 miles north and south of the border.[1] The area is approximately 2,000 miles long, stretching from San Ysidro, California to Brownsville, Texas. Comprised within the border area are four states in the United States and six states in Mexico. The forty-eight counties on the border within Texas, New Mexico, Arizona, and California are among the poorest in the country, and the border area, including Mexico's side, ranks last in access to health care and last in per capita income. Not only are high rates of poverty and unemployment a concern, the region is medically underserved, creating pressing health and social conditions.

On January 1, 1994, the National America Free Trade Agreement (NAFTA) among the United States, Canada, and Mexico was implemented in order to make international trading of imports and exports less complicated. Before NAFTA, on the Mexican side of the border, there were only a few hundred *maquiladoras* (export-oriented factories). However, ten years later they numbered more than 3,800.[2] The *maquiladoras* industry has become Mexico's second-largest source of export earnings and primarily produce electronic equipment, clothing, plastics, furniture, appliances, and auto parts; however, the wages within several *maquiladoras* are relatively low, ranging from 50 cents to one dollar per day.[2, 3]

A large number of individuals throughout Mexico migrate north to the border, seeking employment opportunities. Unfortunately, the cost of living in border towns is often 30% higher than in southern Mexico, and many of the *maquiladora* employees are forced to live in shanty towns or *colonias* (neighborhoods) near the factory cities.[2] The development of *colonias*, defined as unincorporated subdivisions or pockets of shanty homes with extreme impoverished conditions, began in the late 1950's. Approximately 432,000 people live in 1,300 *colonias* within the border region of New Mexico and Texas.[4] The potential health hazards and harmful effects on residents living in a *colonia* are numerous.

Environmental Health Risks and Disease Rates

People within border communities are exposed to many health risks. Since there are no foundations in many homes, the bare ground serves as the floor. To elude possible thieves, livestock are reared close to, or inside, the homes increasing the risk of obtaining a disease from fecal coliform bacteria or other bacterial and viral contaminants. Mroz, Morales, and VanDerslice[5] found that fecal coliform levels in the Rio Grande *colonias* near El Paso contained levels greater than 10,000 organisms per 100ml because the livestock are reared so close to water source, exceeding the EPA limit of 200 fecal coliform per 100ml. Additional findings indicated that 20% of 73 wells sampled were considered unsuitable for human use, and 50% were found to be nonpotable.[5] The only means of obtaining an adequate water source is to buy water that is shipped in. Water shipped in has been tested in the past for bacterial contaminants and reported to be of adequate quality, but the most important health concerns arise from the unsanitary storage of water (e.g., old fifty-gallon waste containers, garbage cans, and recycled five gallon buckets).[5] Air quality can also be problematic due to many *colonia* residents using biomass [wood, leaves, grass, or trash] for heating and cooking, thus creating indoor air pollution.[6] Health statistics in the border region differ significantly from other parts of Mexico. The infant mortality rate for the border region is 16.9 per 1,000 on the Mexican side, compared to Mexico's national rate of 14.5 per 1,000.[7] For adults, the age-adjusted death rate in the border region is 760 per 100,000 versus the national mortality rate of 630 per 100,000.[7] High heart disease, cancer, diabetes, and homicide prevalence rates exemplify the poor health of people living in border states. Communicable diseases that are problematic in the border region include tuberculosis, dengue fever, salmonella, and Hepatitis A.[7]

In sum, individuals living in *colonias* are at a very low socio-economic status; environmental health hazards are potentially great; and disease prevalence rates are high. The researchers, therefore, designed a pilot study in order to determine if certain conditions affected residents' general health perceptions and spirituality level.

Purpose of Study

The main purpose of this initial study was to survey residents living in a *colonia* on the Mexican side of the border to assess their self-ratings of general health and spirituality level. The researchers

attempted to: (1) determine if self-ratings of general health vary by demographics; (2) investigate any potential relationship between self-rated general health perceptions and spiritual well-being level; and (3) identify factors that might predict general health perceptions and spiritual well-being. Depending on the results, a subsequent study involving a larger randomized sample of border *colonias* could be designed and implemented.

General Health Perceptions and Spirituality Concepts

Culture, socio-economic status, gender, education, and demographics can influence health perceptions and beliefs of individuals.[8] Because general health perceptions are not a measure of a specific illness or disability, they can be measured as poor, fair, good, and excellent.[9] General health ratings also reflect differences in how a population evaluates information about personal health. The application of self-rated health perceptions is important in predicting use of medical and mental health services.[9]

Spirituality or spiritual well-being may be defined as one's personal relationship to a sacred or transcendent power, meaning and purpose of one's life, and one's values and beliefs. Spiritual well-being is conceptualized as a sense of well-being in relationship to "God," or a sense of life purpose and life satisfaction, but does not specify nor require reference to a religion. Spiritual health models include sub-elements of spiritual well-being that involve the capacity for love, compassion, forgiveness, altruism, joy, and fulfillment.[10]

Research Questions

- What are residents' self-ratings of general health and do those ratings differ on selected demographic characteristics?
- What is the relationship between self-rated general health perceptions and selected demographics?
- Is there a relationship between self-rated general health perceptions and spiritual well-being levels?
- What are the factors predictive of general health perceptions and spiritual well-being?

Methods

Participants and Procedures

Several months before data collection, the primary researcher accompanied an American missionary/physician to a *colonia* located on the outskirts of Reynosa, Tamaulipas, Mexico. The *colonia* is located at the end of a three-mile unpaved road and has dirt roads that cut through the community, making square plots with about eight dwellings within a plot. The population of the *colonia* is approximately 1,000, with about 40% consisting of children under the age of fifteen. While there, the primary researcher recruited two individuals to help with future data collection: a Mexican woman who lives and works as an English teacher in the *colonia* and a Mexican missionary who lives just across the border in Mission, Texas.

The Southeastern Louisiana University Institutional Review Board (IRB) approved the study. Data collection began several months after the initial trip to the *colonia*. Person to person interviewing by the primary researcher assisted by the Mexican English teacher and the Mexican missionary was implemented by walking the streets of the *colonia* and knocking on doors.

Research Design

The research design consisted of a quasi-experimental survey study utilizing a convenience sample of people residing in a Mexican *colonia*. All participants were required to be eighteen years of age or older. Individuals had the choice to participate, not to participate, and/or to stop the survey anytime they decided they did not want to continue. An incentive to recruit participants was to give each person a bag of healthful personal items (toothpaste, toothbrushes, children's vitamins, a comb, deodorant, shaving cream, tissues, alcohol wipes, and soap).

All three data collectors spoke Spanish and were present at data collection to ensure that each participant understood the informed consent and all survey items. No names were placed on surveys, and the completed surveys were immediately placed in a large envelope to maintain confidentiality.

Instrument and Measures

The survey instrument was first constructed in English, translated into Spanish and then back-translated into English. A Spanish professor from

Southeastern Louisiana University with translating experience translated the Spanish questionnaire for grammar and appropriateness. A second individual whose native country is Mexico also reviewed the Spanish and English versions for grammar accuracy. Copies of both the English and Spanish instruments were prepared so that participants could choose the version they wanted to complete.

The instrument contained three main sections. Section one elicited general demographics (age, gender, marital status, whether or not participants used a medical doctor or a *curandero* [folk healer], religion, church attendance, number of children, number of people within the house, length of residency in the *colonia*, and annual household income).

Section two contained 20 spiritual well-being (SWB) items using the *Spiritual Well-Being Scale* (SWB) by Ellison, 1983.[11] This scale has been extensively used and has been proven to have high internal consistency and reliability of r (500) = 0.90.[11-13] The scale consists of 2 subscales and an overall score (SWB). The first subscale, *Religious Well-Being* (RWB), assesses the degree to which individuals report that they experience a satisfying relationship with God. It contains 10 questions scored from 10 – 60. The second sub-scale, *Existential Well-Being* (EWB), relates to a sense of life satisfaction and purpose. It contains 10 questions scored from 10 – 60. The combination of the RWB and EWB score provides an overall general measure of SWB. The SWB scale (RWB and EWB combined) includes sections about transcendent concerns such as ideals, faith, commitment, purpose in life, and relationship to God. Questions of positive origin are scored from 6 (strongly agree) to 1 (strongly disagree) and questions of negative origin are scored from 1 (strongly agree) to 6 (strongly disagree). See Table 1 for samples of *Spiritual Well-being Scale* items.

Section three contained 22 items to assess self-rated general health perceptions (beliefs) and were derived from Ware's 1976, *Health Perception Questionnaire* (HPQ).[9,14,15] The 22 items comprise a scale called the *General Health Rating Index* (GHRI) that is divided into five subscales pertaining to current health, prior health, resistance or susceptibility to illness, health outlook, and health worry or concern. The GHRI has negative and positive questions that are measured on a 5-point Likert scale. The positive responses are scored from 5 (definitely true) to 1 (definitely false), and the negative responses are scored from 1 (definitely true) to 5 (definitely false). The GHRI and its subscales have been extensively researched, and norms are available for adults and children.[9,15-17] The internal consistency estimates indicate very strong reliability with a correlation coefficient ranging from 0.88 to 0.90 for adults (N=3521).[9] Validity was investigated over a number of years and subsequent factor analysis revealed six correlated health perception factors (basis of sub-scales) and substantial correlations between HPQ subscales and measure of physical and mental health and self-reported use of health care services.[9,15-17] Sample items can be seen in Table 1.

Data Analysis

Researchers utilized SPSS version 7.5. Statistics used were descriptive (percents, means, standard deviation); Pearson (r) for parametric correlations; Spearman (r_s) for nonparametric correlations; t-tests, and backwards stepwise multiple regression. The level of statistical significance was set at $p<0.05$.

Results

Characteristics of Sample

Sixty residents were asked to complete the survey and all agreed (100% response rate). Participants appeared very appreciative when they were given the personal items used as an incentive for completing the survey. Of the 60 participants, 52 were women and 8 were men. The average number of individuals living in the home was approximately 5. The number of children ranged from 0–16 with an average of 3. The overall martial status was 41 women and 7 men married, 10 women and 1 man single, and 1 woman divorced. Other selected demographics can be seen in Table 2.

Annual household income ranged from $0 – $48,000MXN ($0 - $4163.00US), and the median consisted of $3,000MXN ($260.19US). Of the 60 participants, 23 (38%) stated they earned no income within the last year. Male participants held menial jobs (a masonry worker, a chauffeur, a guard, 3 plant operators, and a handyman). One was not employed. None of the women worked out of the home. Annual household incomes can be viewed in Figure 1.

Spiritual well-being and subscales

Participants scored their spiritual well-being on a scale from 1 to 6 (strongly disagree, moderately disagree, disagree, agree, moderately agree, and strongly agree). The mean score of the 10 summed *Religious Well-Being* (RWB) items was 53.80 out of

a possible 60. The mean score of the 10 summed *Existential Well-Being* (EWB) items was 45.47 out of a possible 60. *Spiritual Well-Being* (SWB) consisted of the sum of the subscales, existential and religious-well being. The mean score was 99.27 out of a possible 120, representing a fairly strong sense of spiritual well-being. Means and standard deviations are presented in Table 3.

General health perceptions (beliefs) utilizing the General Heath Rating Index* (GHRI) *and Subscales

Participants rated their general health fairly high as evidenced by the following mean scores: (a) *current health* was 35.90 of a possible 45, (b) p*rior health* was 10.67 of 15, (c) *health outlook* was 14.83 of 20, (d) *resistance to illness* was 16.92 of a possible 20, (e) *health worry/concern* was 6.98 of a possible 10 and (f) *overall general health* rating was 85.30 of a possible 110. Means and standard deviations are presented in Table 3.

Differences on general health perceptions (beliefs) based on gender, having a physician or not, and religion

There were no significant differences on general health beliefs based on gender or religion. However, participants who reported having a physician did rate their current health status higher ($t = 2.23$, $p < 0.05$) than participants who did not report having a physician. (See Table 4)

Relationship between general health perceptions (beliefs) and age, church attendance, and marital status

Spearman's (r_s) nonparametric correlation was used to examine the relationship. The GHRI subscale, *health outlook*, was positively correlated to church attendance ($r_s = 0.27$, $p < 0.05$), and the GHRI subscale, *health worry/concern*, was positively correlated with age ($r_s = 0.32$, $p < 0.05$). Those individuals who reported they attended church were more likely to positively view future health outlook. On the contrary, the older the participants were, the more likely they were to worry about their health. The overall GHRI score was positively correlated to marital status. Participants who were married self-rated higher scores on general health than those who were single or divorced. (See Table 5)

Relationship between general health perceptions (beliefs) and number of children, number of people living within the house, length of residency, and annual household income

Pearson's *r* parametric correlation was used to examine this relationship. The GHRI subscale, *health outlook*, was positively correlated to the number of individuals living in the home ($r = 0.26$, $p < 0.05$). The higher the numbers of individuals living in the home, the more likely participants were to respond positively about their health outlook.

The GHRI subscale, *health worry/concern*, was inversely correlated with income ($r = -0.33$, $p < 0.05$). The less the financial household income, the more participants worried about their health. (See Table 5).

Relationship between general health perceptions and spiritual well-being

There was a significantly positive correlation ($r = 0.61$, $p < 0.01$) between the overall score of self-rated general health (GHRI) and the overall score of spiritual well-being (SWB). The higher participants rated their general health, the higher they rated their spiritual well-being. To further analyze the relationship between GHRI and SWB, a correlation between the overall score of GHRI and the SWB subscales was conducted. GHRI was positively correlated to *existential well-being* (EWB) ($r = 0.52$, $p < 0.01$) and *religious well-being* (RWB) ($r = 0.54$, $p < 0.01$).

Correlations between the five GHRI subscales and the overall score of SWB yielded three significant relationships: c*urrent health* ($r = 0.44$, $p < 0.01$); *resistance to illness* ($r = 0.45$, $p < 0.01$); and *health outlook* ($r = 0.28$, $p < 0.05$). The GHRI subscale, *prior health* and *health worry/concern* were not significant. The coefficient of determination of the overall correlation between GHRI and SWB was $r = 0.61$, $p < 0.01$); $r^2 = 0.377$ and accounted for 37.7% of the variance. (See Table 6)

Factors predictive of spiritual well-being level

Fifteen variables were placed into step-wise regression analysis: religious affiliation, church attendance, length of residency, gender, age, annual household income, marital status, number of children, having a doctor, number of individuals living in the home, and the five GHRI rating subscale scores. Three GHRI subscale scores (*current health, resistance to illness, and health worry/concern*);

c*hurch attendance; and number of people living in the home* significantly predicted (R = 0.67) spiritual well-being at $p < 0.000$. The five variables accounted for 45.2% of the variance (mean squared error of the regression = 9.28 and $F(5,54) = 8.91$). (See Table 7)

Factors predictive of general health perceptions (beliefs)

Twelve variables were placed into step-wise regression analysis: religious affiliation, church attendance, length of residency, gender, age, annual household income, marital status, number of children, having a doctor, number of individuals living in the home, and the two spiritual well-being sub-scales (EWB and RWB). Three were predictive (R = 0.64) of general health perceptions: *existential wellbeing*, *religious wellbeing*, and *marital status* and comprised 39.4% of the predictability of self-rated general health (mean squared error of the regression = 7.57 and $F(3,55) = 11.90$, $p < 0.000$). (See Table 7)

Discussion

The people who participated in this study live in an extremely impoverished environment and one might expect that their view of personal health and spirituality would be low. The results, however, revealed some surprises.

Colonia participants scored moderately high on self-rated general health and spiritual well-being, and there was a strong positive correlation between the two ($r = 0.61$, $p < 0.01$). The relationships between the three GHRI subscales (*current health*, *health outlook*, and *resistance to illness*) also positively correlated with overall spiritual well-being.

There were no differences among health ratings based on gender or type of religion, but there was a difference when participants reported having a physician. Those who reported having a physician reported a more positive outlook about their current health. One possible explanation is that participants who had a doctor were confident their physician would provide solace, advice, and/or a cure regarding a health problem.

Relationships between general health perceptions and age, church attendance, number of children, number of people within the house, length of residency in the *colonia*, and annual household income were also explored. Individuals who attended church regularly were more likely to report a better health outlook. Similarly, the more individuals who lived in the home, the more residents viewed a positive outlook about their health. This finding may be explained by the following two studies. Selis (2003)[18] found that attending church regularly and having social support is important in shielding Mexicans from feelings of hopelessness when they reside in unhealthy living conditions. A second study revealed that individuals who gain solace from their religion and who also participate in social groups show fourteen times reduced mortality risks compared to individuals who gain no comfort from religion and participate in no social groups.[19] It could be that family members are the social group for individuals living in this *colonia*. Therefore, attending church and having a large family may provide beneficial social support.

Age and income were associated to the GHRI subscale *health worry/concern.* The older that participants were, the more they worried about their health, and the less the household income, the more they worried about their health. A study by Forsberg and Bjoervell[20] in 1993 also found that lower socio-economic status was related to health concerns. The present study supports the notion that advancing age and inadequate income are related to worries about personal health.

The spiritual domain has been referred to as the core of an individual's health and is inter-connected to other domains of health (physical, mental, emotional, social, and vocational).[21,22] Based on that view, it seems that the more individuals felt a sense of spiritual well-being, the more they perceived their overall health as good. These results were similar to the findings of a study of Mexican-American women in the U.S. wherein a positive relationship between spiritual well-being and self-rated health was found.[23] In addition, a study of people living in a *colonia* revealed that residents seek the comfort of spirituality in order to cope with environmental stressors.[24]

Existential well-being (subscale of spiritual well-being) is defined as the meaning and purpose in one's life and includes one's values and beliefs. Existential well-being correlated moderately with two of the GHRI subscales: *current health* and *resistance to illness*. Social support, love, and comfort among Mexican family members may give rise to how individuals gain meaning and purpose in life. A high sense of existential well-being may help *colonia* residents to hold a stronger belief that they can resist illness and retain a belief that they are healthy.

Interestingly, a spiritual well-being subscale (*religious well being*) was positively correlated to four of the GHRI subscales (*current health, prior*

health, *health outlook*, and *resistance to illness*). Religious beliefs and practices have been demonstrated to have positive effects upon illness prevention, recovery from surgery, mental illness, and coping with physical illness.[25] This study supported that religious or spiritual well-being may result in a more positive perception about personal health.

Three predictors of participants' spiritual well-being were positive health beliefs: a belief that they were physically healthy (*current health*), the perception that they could resist being ill, and a low level of health worry/concern. Perhaps had participants been unhealthy or had major illnesses, the results would have been different, however, two studies assessing spiritual well-being found that individuals who were faced with a debilitating illness such as cancer or AIDS were shown to have inversely high spiritual well-being levels.[26,27]

Attending church more often was a strong predictor of spiritual well-being. Studies by Koenig and others[28,29] found a relationship between attending church regularly and its contribution to individual's religious well-being. The researchers stated that religious participants who attend church led healthier lifestyles, required fewer health services, and were generally healthier. Similar to the previous analysis that found the number of people living in the home was a predictor of general health beliefs, the number of people living in the home also predicted spirituality. These results appear to be consistent with the findings of Selis[18] who found that social support is necessary to shield feelings of hopelessness. Large families may provide the feeling of social support that could enhance a feeling of spirituality.

Wherein three general health perceptions predicted spiritual well-being level, the two spiritual well-being subscales (existential and religious well-being) were strong predictors of general health perceptions. Holding a high sense of spiritual well-being was predictive of participants' overall positive health beliefs.

Finally, marital status (being married) was the only other predictor of positive health perceptions. Previous studies have demonstrated that married individuals experience lower rates of morbidity and mortality than that of single, divorced, or widowed[30] and that marriage offers social support, an important element in providing a sense of comfort.[31]

Limitations of the study included the utilization of a small convenience sample of residents living in one *colonia*; thus, results cannot be generalized to other *colonias*. Even with two volunteers helping the primary researcher conduct the house to house surveys, the process took a week. Because of this and budget constraints, after obtaining 60 completed surveys, data collection was discontinued. Giving participants the incentives/relief bags and data collection by three individuals who were Spanish speaking contributed, however, to full participation from all who were asked to complete a survey.

Conclusion

The findings of the present study demonstrate the interconnectedness of residents' personal health perceptions/beliefs and their sense of spiritual well-being. Even though there is an obvious need to improve their impoverished physical environment and to raise their socio-economic status, the people living in this *colonia* maintain a fairly strong perception that they are healthy and hold a fairly high level of spiritual well-being. Thus, when conducting research or educational interventions in communities such as this, health professionals should not assume that individuals living in poor environmental conditions are unhealthy and/or unhappy.

Even though the people in this study self-rated themselves as healthy, based on the poor health statistics of people living in border *colonias*, there is a need for health education disease prevention programs. Including a spirituality topic could enhance the programming.

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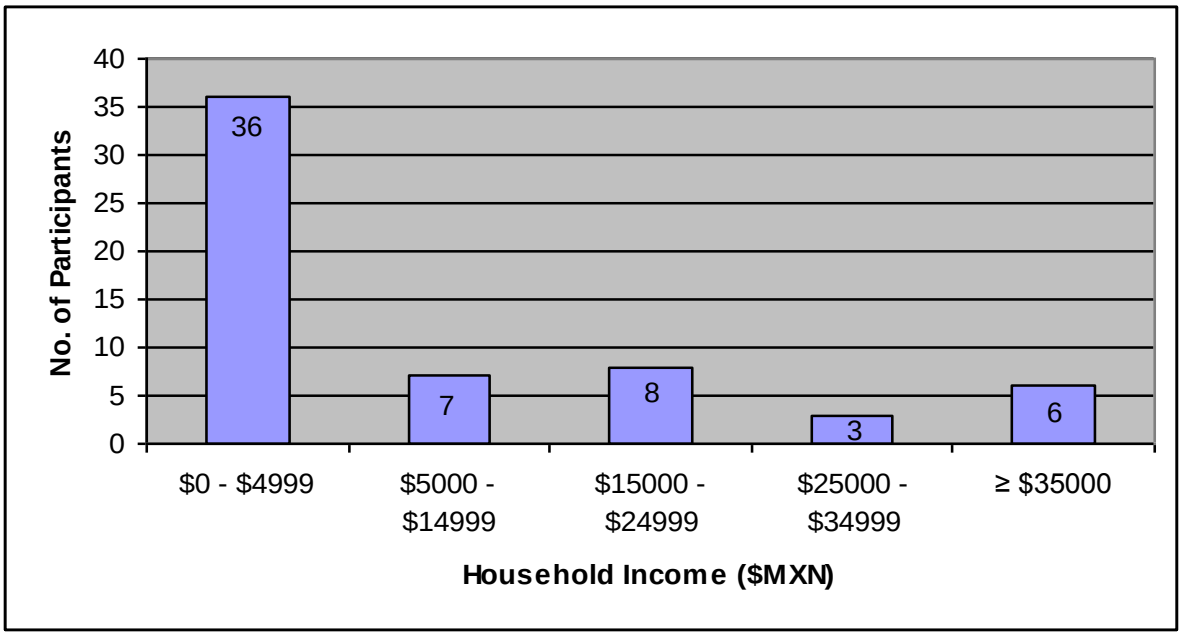
Figure 1. Annual Household Income ($MXN)



At the time of this study, the exchange rate was $11.53MXN to $1.00US.

Table 1. Sample health perception and spiritual well-being items

Sample of Health Perception Items (8 of 22 items)						
DT = Definitely True, MT = Mostly True, DK = Don't Know, MF = Mostly False, DF = Definitely False						
1. According to doctors or *curanderos* I've seen, my health is now excellent.	DT	MT	DK	MF	DF	
2. I seem to get sick a little easier than other people.	DT	MT	DK	MF	DF	
3. I feel better now than I ever have before.	DT	MT	DK	MF	DF	
4. I will probably be sick a lot in the future.	DT	MT	DK	MF	DF	
5. I never worry about my health.	DT	MT	DK	MF	DF	
6. Most people get sick a little more easily than I do.	DT	MT	DK	MF	DF	
7. I am somewhat ill.	DT	MT	DK	MF	DF	
8. In the future, I expect to have better health than other people I know.	DT	MT	DK	MF	DF	
Sample of Spiritual Well-being Items (8 of 20 items)						
SA=Strongly Agree, MA=Moderately Agree, A=Agree, D=Disagree, MD=Moderately Disagree, SD=Strongly Disagree						
1. I believe that God loves me and cares about me.	SA	MA	A	D	MD	SD
2. I don't know who I am, where I came from, or where I'm going.	SA	MA	A	D	MD	SD
3. I don't find much satisfaction in private prayer with God.	SA	MA	A	D	MD	SD
4. I feel that life is a positive experience.	SA	MA	A	D	MD	SD
5. I believe that God is not interested in my daily situations.	SA	MA	A	D	MD	SD
6. I feel unsettled about my future.	SA	MA	A	D	MD	SD
7. I have a personally meaningful relationship with God.	SA	MA	A	D	MD	SD
8. I feel very fulfilled and satisfied with life.	SA	MA	A	D	MD	SD

Table 2. Selected Demographics

GENDER	**No.**	**%**
Female	52	87%
Male	8	13%
AGE		
18 – 25	15	25.0%
26 – 35	23	28.3%
36 – 45	10	16.7%
46 – and over	12	20.0%
NUMBER PEOPLE LIVING IN THE HOME		
0-2	10	16.7%
3-5	32	53.3%
6-8	15	25.0%
10	2	3.3%
13	1	1.7%
NUMBER OF CHILDREN		
0-2	31	51.7%
3-5	24	40.0%
6-8	4	6.7%
16	1	1.7%
MARITAL STATUS		
Single	11	18.3%
Married	48	80.0%
Divorced	1	1.7%
HEALTHCARE		
See a physician	19	32%
Reports no physician	41	68%
Reports no *curandero*	60	100%
RELIGON		
Catholic	19	31.7%
Protestant	37	61.7%
Other	3	5.0%
No religious affiliation	1	1.6%
CHURCH ATTENDANCE		
1 or more times per week	16	26.7%
2 – 3 times per month	37	61.7%
Never attend	3	5.0%
Other	4	6.6%

Table 3. Spiritual Well-being Scale and General Health Rating Index: Means and Standard Deviations

Spiritual Well-Being Scale

SUBSCALE	**Possible Range of score**	**Means**	**SD**
Religious Well-Being	10 – 60	53.80	6.83
Existential Well-Being	10 – 60	45.47	6.89
OVERALL SCORE			
Spiritual Well-Being	20 - 120	99.27	11.99

Scored on a Likert scale of 1 (Strongly Disagree) to 6 (Strongly Agree) for questions of positive origin

General Health Rating Index

SUBSCALE	**Possible Range of Score**	**Means**	**SD**
Current Health	9 – 45	35.90	6.93
Prior Health	3 – 15	10.67	3.81
Health Outlook	4 – 20	14.83	2.44
Resistance to illness	4 – 20	16.92	2.79
Health Worry	2 - 10	6.98	2.31
OVERALL SCORE			
GHRI (General Health Rating Index)	20-110	85.30	9.99

Scored on a Likert scale of 1 (Definitely False) to 5 (Definitely True) for questions of positive origin

Table 4. Differences on general health perceptions (beliefs) based on gender, having a physician or not, and religion

	GHRI (General Health Rating Index)	Current Health	Prior Health	Health Outlook	Resistance to illness	Health Worry/Concern
Gender	0.32	0.45	1.58	1.04	1.05	0.02
Having a physician	1.64	2.23*	0.82	1.12	0.55	0.32
Religion	1.32	0.38	0.94	1.74	1.93	1.09

* = difference is significant at the 0.05 level (2-tailed)

Table 5. Relationship between general health perceptions (beliefs) and selected demographics

	GHRI (General Health Beliefs)	Current Health	Prior Health	Health Outlook	Resistance to illness	Health Worry/Concern
Age (r_s)	0.03	-0.18	0.07	0.17	0.12	0.32*
Church Attendance (r_s)	-0.01	0.002	-0.18	0.27*	-0.11	0.097
Marital Status (r_s)	0.21*	0.19	0.11	0.18	0.10	0.14
# of children (r)	0.01	0.04	-0.06	0.11	0.02	-0.12
# of people living in the home (r)	0.016	0.14	-0.17	0.26*	-0.15	-0.16
Length of residency (r)	0.09	0.07	0.19	-0.03	0.03	-0.13
Income (r)	-0.05	0.05	0.10	-0.12	-0.07	-0.33*

* = correlation is significant at the 0.05 level (2-tailed)

r = Pearson correlation

r_s = Spearman correlation

Table 6. Relationship between spiritual well-being and general health perceptions (beliefs)

	SWB	RWB	EWB	GHRI	Current Health	Prior Health	Health Outlook	Resistance to Illness	Health Worry/ Concern
SWB	1.00	0.87**	0.88**	0.61**	0.44**	0.24	0.28*	0.45**	0.07
RWB	0.87**	1.00	0.53**	0.54**	0.33*	0.28*	0.30*	0.37**	0.14
EWB	0.88**	0.53**	1.00	0.52**	0.44**	0.14	0.20	0.42**	-0.02
GHRI	0.61**	0.54**	0.52**	1.00	0.81**	0.61**	0.21	0.68**	-0.16

***** = correlation is significant at the 0.05 level (2-tailed)
****** = correlation is significant at the 0.01 level (2-tailed)

Spiritual Well-Being Scale = SWB

Subscales
RWB = Religious Well-Being
EWB = Existential Well-Being

General Health Rating Index = GHRI

Subscales
Current Health, Prior Health,
Health Outlook, Resistance to Illness
Health Worry/Concern

Table 7. Predictors of spiritual well-being and general health perceptions (beliefs)

Variables	Coefficient	Std. Error	t stat	Sig.
Spiritual Well-being				
Current Health (GHRI subscale)	0.55	0.20	2.77	0.01
Church Attendance	4.21	1.62	2.59	0.01
Number People Living in the Home	1.19	0.54	2.20	0.03
Resistance to Illness (GHRI subscale)	1.97	0.49	4.00	0.00
Health Worry/Concern (GHRI subscale)	1.49	0.56	2.64	0.01
Constant	38.26	11.55	3.31	0.00
General Health Perceptions				
RWB	0.54	0.16	2.34	0.02
EWB	0.40	0.17	3.11	0.00
Married	5.37	2.54	2.11	0.04
Constant	42.11	8.65	4.87	0.00

RWB = Religious Well-being subscale of Spiritual Well-being
EWB = Existential Well-being subscale of Spiritual Well-being