

ABSTRACT

A Pilot Study of Community Based Participatory Research Methods among Brazilian Church Members

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A CBPR-based study was conducted to examine health status, self-reported health behaviors, spiritual wellbeing, and program interests among Brazilian church members (N = 66) and to identify key informant (N = 6) perceptions about research procedures, community needs, and the health promotion capacity of local churches. A self-administered survey and a qualitative Delphi technique were used. Significant associations were detected among self-reported mentally unhealthy days, spiritual wellbeing, age, current health status, and health care coverage and access. Program interests included a focus on depression and anxiety, which was also validated as a health concern among survey participants. The Delphi results validated the need, desire, potential capacity, and benefits of training local church members to promote health in their communities. CBPR-specific outcomes included community support for on-going research and health promotion programming in Brazilian churches.

A Pilot Study of Community Based Participatory Research Methods among Brazilian
Church Members

by

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A Thesis

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Submitted to the Graduate Faculty of
Baylor University in Partial Fulfillment of the
Requirements for the Degree
of
Master of Science in Education

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August 2007

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ACKNOWLEDGMENTS

First, I would like to thank my Lord and Savior, Jesus Christ. Without His help throughout this entire process, I would not have stayed sane long enough to complete this task. I pray that I will always remember to give You the glory in all my endeavors.

Next, I would like to thank my committee. Dr. Eva Doyle has been a mentor to me during my time at Baylor, both academically and personally. She has provided guidance for me throughout this entire process, teaching me how to be a better writer, researcher, and academic. Dr. Robert Doyle has been a translator of documents and conversations both in the United States and Brazil. He has been a wonderful “outside” committee member and Brazilian expert. Dr. Lutz has been an integral part in helping me determine and understand which statistics to use in this study. Thank you all!

Next, I would like to acknowledge all my Brazilian and American partners and participants in this study. They have all been flexible and wonderful throughout this entire process. Thank you to my American partners and muito obrigada to my Brazilian partners.

And lastly, I would like to acknowledge my family and friends. You have all been so supportive, understanding, and encouraging during this stressful time! You have all made this document possible!

CHAPTER ONE

Introduction

This chapter contains a brief description of background information on topics that will be covered in the literature review in Chapter 2. The statement of the problem and the purpose of this pilot study are clearly explained. The researcher has defined the research questions, limitations, delimitations, and pertinent terms to provide clarity to the reader.

Background Information

Community-Based Participatory Research (CBPR) is a new “buzz phrase” among community health promotion professionals that is rooted in the established paradigms of action research and community empowerment (Wallerstein & Duran, 2003). Application of CBPR principles can enable researchers to establish and maintain long-term, mutually beneficial partnerships with the communities in which they work. The focus of CBPR is not necessarily in the creation of new research methodologies but, rather in the procedures used to adapt existing research methodologies and engage community partners in each study phase. These procedures are considered an integral part of the methodological design because their use can affect sample sizes, instrument reliability and validity, and the accuracy of outcomes interpretation (Minkler & Wallerstein, 2003).

The appropriate application of CBPR principles can build individual and institutional capacities and create sustainable community health outcomes. Yet, despite these potential community benefits, engendering community trust and support for the

research can be a challenge. Measuring and adapting on-going research efforts to leader and gatekeeper perceptions about study implementation and its potential community benefits can be a critical step in the early project stages.

In many community settings, churches can be effective CBPR partners when their mission is to address the needs of their communities and when their leaders are trusted community gatekeepers (Markens, Fox, Taub, & Gilbert, 2002). The church provides social support and a trusting environment where community members can feel comfortable engaging in programs and sharing intimate details about their lives. Pastors and other church leaders are often a researcher's key into the community. And, by utilizing an already established institution in the community, like a church, it can increase the sustainability and impact of a project.

Two Baylor professors have been working since 2005 to establish a long-range CBPR partnership with Baptist churches in Brazil. Their goal has been to establish a framework through which local churches and health researchers can work together to collect needed data, develop and pilot health interventions, and establish health promotion ministries that impact health knowledge, behavior and status in their local communities.

To reach this long-term goal, local church volunteers would need to be trained and equipped with the research and health promotion skills needed for on-going assessment and intervention maintenance. Preliminary steps were taken in the summer of 2005 through visits to two regions of Brazil: Porto Velho, Rondonia and Anchieta, Espirito Santo. These two areas were chosen because of already-established connections with potential church-based partners with established relationships in needy communities.

Discussion and planning meetings in both locations yielded commitments to support some preliminary research pilots scheduled for the summer of 2006.

In June of 2006, the professors returned to these two locations with a small group of Baylor health education students who were enrolled in the first annual *Baylor in Brazil Summer Study Abroad Program (BIB)*. The purpose of the BIB program was to provide an experiential learning environment in which the students completed college credit courses that focus on international health and cross-cultural health education. The required course work included course projects through which the students partnered with local church leaders to develop and implement health promotion interventions and/or design and pilot health promotion research.

Statement of the Problem

Updated, pertinent information is needed about the health status, health behaviors, and spiritual wellbeing of church members in Brazil. Also, the impact of CBPR on Brazilian community health needs and the capacity of local Brazilian churches to address these health needs are unknown.

Purpose of the Study

The purpose of this CBPR-based study was two-fold. The first purpose was to examine Brazilian church members' health status, self-reported health behaviors, spiritual wellbeing, and expressed interest in future church-based health promotion programs through the use of a piloted survey. The second purpose was to obtain a qualitative measure of perceptions among key informants about the data collection procedures used by the researchers; the need in Brazil for faith-based, health promotion efforts; and the capacity of local churches to address community health needs.

Research Questions

The following research questions were addressed through this study. Questions 1-3 were applied to survey participants who participated in the 2006 pilot study. Questions 4-6 were addressed through interviews of key informants who participated in the two rounds of the Delphi study.

1. What self-reported health behaviors and health status indicators were evident among the survey participants?
2. What potential health promotion programs interested the survey participants?
3. What were the relationships between spiritual wellbeing, self-reported health behavior, and self-reported health status among the survey participants?
4. What were the interview participants' perceptions about the major health needs of their community?
5. What were the interview participants' perceptions about the capacity of local churches to address community health needs?
6. What were the interview participants' perceptions about the efficacy and impact of the 2006 pilot study?

Limitations

The study was limited by the following:

1. Participants were volunteers recruited through a faith-based, community outreach effort, which constitutes a convenience sample.
2. The survey instrument, originally intended as a guide for face-to-face interviews, was used as a written survey, which may have introduced response bias.
3. The health behavior and health status measures collected in the 2006 sample (survey participants) were self-reported.
4. A translator was used in the survey data collection and Round One of the Delphi study with one Brazilian key informant (Delphi participant).

Delimitations

The study was delimited by the following:

1. All study participants were eighteen years old or older.
2. The 2006 survey participants were members of partnering communities in Brazil.
3. The 2006 survey participants attended a local health promotion event sponsored by the BIB research team in collaboration with local faith-based organizations.
4. Delphi participants were limited to key informants who partnered with the research team in the respective communities.

Definitions of Terms

The following terms are defined for the purpose of this study:

1. *Community-Based Participatory Research (CBPR)*: A research approach that actively incorporates community participation from the planning to implementation, evaluation, and dissemination of information of the research process.
2. *Community Capacity*: The strengths and skills possessed by community members that contribute to improving the quality of life for the community as a whole (CDC, 1997).
3. *Complementary Medical Care System (SSAM)*: The private healthcare sector in Brazil created by Article 199 of the Brazilian Constitution established in 1988 to complement the public Unified Health System (Elias & Cohn, 2003).
4. *Delphi Participant*: An individual who participates in the Delphi technique.
5. *Delphi Technique*: A widely used, qualitative research method developed by the Rand Corporation in the 1950s used for gaining input from key informants about complex issues (Ali, 2005; Benarie, 1988; Woudenberg, 1991).
6. *Gatekeepers*: Formal or informal leaders or substantial individuals within the community that other community members listen to, follow, and respect. These individuals often provide a researcher with access into a community; this “access” may entail respect from the community, a mouthpiece to the community, or a catalyst to speed up the change process.
7. *Health Promotion*: A process of empowering an individual to gain control over improving his or her health (WHO, 1986).

8. *Holistic Health*: A comprehensive concept of health that realizes that health is multi-dimensional and includes more than just physical aspects, but also intellectual, environmental, social, psychological, and spiritual components.
9. *Key Informant*: An individual who provides a direct pathway into a specific community; Weiss (1994, p. 20) describes key informants as “knowledgeable insiders” into a community.
10. *Moderately Scheduled Interview*: An interview process where the interviewer refers to an interview schedule (outline) and follows this set of questions with more rigor than a non-scheduled interview and less rigor than a highly scheduled interview. Moderately scheduled interviews follow a set of questions, but allow the interviewer the freedom to moderately deviate from the interview schedule (Gilmore & Campbell, 2005).
11. *Pan American Health Organization (PAHO)*: The Latin American division of the World Health Organization (WHO) that is actively working in Brazil and other Central and South American countries (<http://www.PAHO.org>).
12. *Religion*: A systematic method of values, beliefs, exercises, ceremonies, and symbols designed to facilitate intimacy with God, a higher power, or an ultimate truth or reality (Moreira-Almeida, Neto & Koenig, 2006).
13. *Spirituality*: A striving for purpose and meaning in existence, searching for some greater power or God, something that motivates individuals to hope for something greater; often broken into three main areas: meaning and purpose, the will to live, and belief and faith in self, others, and God (Ross, 1995).
14. *Spiritual Wellbeing*: A two-fold concept that has both a horizontal and vertical dimension; the horizontal aspect of spiritual wellbeing addresses the relationship of the individual to others, purpose in life, and life satisfaction; whereas, the vertical aspect involves an individual’s relationship with God (Moberg, 1971).
15. *Stakeholders*: Individuals who have a vested interest in the project, program or initiative being planned and/or implemented. Stakeholders are often community members, gatekeepers, financial supporters, community institutions (banks, churches, schools), participants in the program, volunteers, research team, etc.
16. *Unified Health System (Sistema Unica de Saude [SUS])*: The public healthcare system in Brazil created by Article 198 of the new Brazilian Constitution established in 1988 (Elias & Cohn, 2003).

CHAPTER TWO

Literature Review

This chapter contains a review of the literature about CBPR in health promotion from an international, faith-based perspective. The following review of literature consists of these sections: CBPR; International Health; Brazil; Spirituality, Religiosity, and Spiritual Wellbeing.

CBPR

For decades, individuals have utilized various approaches to conduct research within community settings. Research in a community presents different challenges than traditional lab-based research. Researchers in a lab are able to more directly control for extraneous variables that are harder to control in a community setting. However, it is impractical to conduct community-based research in a lab, which creates a need for an effective community-based research approach or methodology that allows for maintaining the integrity of the data.

Researchers often find it difficult to gain access and build trust when entering a new community. The community may view the researcher as an outsider who is trying to identify and correct all of the community's flaws. How then can a researcher gain access to a community and build trust? CBPR is one research approach that allows the investigators entrance into a community.

CBPR is a novel approach that creates an atmosphere of co-learning and empowerment for all individuals involved in the research process. In order for the

researcher to be seen as an equal partner with the community, he or she must create a sense of trust through honest, open communication with the community. This means that the investigator must honestly set aside his or her agenda to be able to confront the problems the community deems important. A researcher can also engender the trust of the community through creating a team of community leaders. As the researcher gains the trust of key leaders within the community, the trust of the rest of the community is likely to follow. Another way the researcher builds trust is through involving the community in the process of assessing needs and developing a strategic plan for meeting these needs. A researcher must not overlook the fact that it takes both time and effort to build a healthy, symbiotic relationship with the community (Higgins, Maciak, & Metzler, 2001; Katz, 2004).

As the name describes, CBPR means that the community will actively *participate* throughout the research process. Previously, community research meant that a researcher collected data in a community setting rather than a “traditional” lab setting. However, CBPR provides a much needed shift in community research by allowing community members, organizations within the community, and the researcher to equally participate in the process (Minkler & Wallerstein, 2003).

CBPR has been used to collect data and create health promotion initiatives that interest, include, and empower the community. Researchers (Westfall, VanVorst, Main, & Herbert, 2006) have conducted CBPR in practically all healthcare settings including ambulatory mental health care, rural care of patients with human immunodeficiency virus (HIV) infection, community adolescent diabetes prevention, hospitalized malnourished children, and health promotion in immigrant women. It is likely that more agencies and

organizations will utilize the CBPR approach as the significance of this research style is fully realized.

Key CBPR Principles

CBPR is a systematic approach combining principles from action research methods and process program evaluation (Rogers & Palmer-Erbs, 1994). CBPR is not within itself a research method; however, it is a paradigm that is transforming community research (Doyle, Rager, Bates, & Cooper, 2006). Minkler and Wallerstein (2003) characterize CBPR as a set of nine principles:

- Recognizing the community as a unit of identity and a vital partner
- Developing the strengths and resources of the community
- Facilitating equitable collaborations in all phases of the research
- Encouraging capacity building and co-learning of all partners
- Balancing research and action for the benefit for all partners
- Collecting information concerning improving health status
- Disseminating the findings and results to all partners
- Involving partners in this dissemination process
- Realizing that CBPR is a long-term process and commitment

Within the context of CBPR, the researcher is encouraged to invite community stakeholders to serve as partners in the research effort. These stakeholders may consist of individuals from the community, representatives from community institutions, and funding sources. Each stakeholder has differing responsibilities and expectations throughout the research process. For example, community members are involved in identifying needs, creating procedures, determining assessments, implementing

interventions, analyzing, interpreting, and disseminating the outcomes. Therefore, community members operate as advocates for the intervention (Rogers & Palmer-Erbs, 1994; Nyamathi et al., 2004). Some examples of community institutions are civic centers, churches, local businesses, hospitals, and banks. Collaborations between various community institutions can aid in building community capacity and empowering community members. Funding sources help finance various aspects of the research efforts. One of the key principles of CBPR is that the investigator provides continual communication and evaluation of progress to all stakeholders (Minkler & Wallerstein, 2003), especially to those that provide the money.

Benefits to CBPR

There are many advantages to utilizing a CBPR approach within the community. One key advantage is that it increases the usefulness of the research data for stakeholders. CBPR provides more applicable data which helps the community better understand their own interests and needs through the experiences and perceptions of the individual. Another advantage of CBPR is seen through the researcher creating collaborations with stakeholders, and stakeholder to stakeholder (e.g. the creation of a taskforce or coalition addressing depression among schoolteachers) in the community. These collaborations allow the researcher to better understand the social and cultural dynamics of the community. Community members and the researcher gain skills, knowledge, and experience in tackling complex issues caused by the social and cultural dynamics within the community (Israel, Schulz, Parker, & Becker, 2001).

A CBPR approach has been found to enhance the quality and validity of the collected data. As participants feel more involved in the research process, they are more

likely to provide accurate answers. Lastly, CBPR provides an avenue for the investigator to overcome the distrust caused by the “researcher” label by involving community members in the process (Israel et al., 2001; Minkler & Wallerstein, 2003; Nyamathi et al., 2004). Community engagement is essential for community members to reap the desired benefits of CBPR.

Building rapport and empowering the community are challenging but essential in CBPR. Community empowerment may come when the community members are able to set their own agenda addressing issues they deem important, rather than abiding by what the researcher decides. Respect from the researcher and community empowerment increases the community’s willingness to give accurate and detailed information (Arcury, Austin, Quandt, & Saavedra, 1999). Community involvement also leads to improvement in program creation, sustainability, and replication. Community input creates a culturally appropriate intervention in both format and content. When community members invest large amounts of time and energy, the program becomes more sustainable as community members are now “sold” on this idea and they are willing to see it through to completion. And lastly, the community’s expertise creates a more reproducible intervention for similar communities. The resulting increase in community empowerment through a successful program can serve as an important initial step in building community capacity (Arcury et al., 1999).

Capacity Building as a CBPR Component

Capacity building is an important component of CBPR. Goodman et al. (1998) defines capacity as community attributes that influence the ability of identifying, mobilizing, and addressing social issues. The Centers for Diseases Control and

Prevention (CDC) has defined community capacity as the strengths and skills possessed by community members that contribute to improving the quality of life for the community as a whole (CDC, 1997). It is important to build community capacity early in the CBPR process as it helps increase the quality of research outcomes. The Vancouver Health Authority (2006) identified five aspects of community capacity including knowledge and skills to effectively plan and implement the program, leadership that encourages collectively addressing a health issue through utilizing the skills of the community, the confidence of the community to effectively address the health issues, current trust, networks, and social capital already intact within the community that will aid in addressing the health problems, and lastly, an environment that is conducive to brainstorming and piloting new ideas and techniques for addressing health issues (Hodges & Videto, 2005; Vancouver Health Authority, 2006).

There are various approaches to build community capacity. An Australian research capacity building model suggests there are six guiding principles to building capacity. These principles include viewing capacity building as a whole system approach, adapting to diversity, reducing obstacles to participation, encouraging partnerships, mentoring, and networking (Bacigalupo, Cooke, & Hawley, 2006).

Researchers also utilize community participation, collaborations and empowerment to further community development, which leads to health improvements (Huang & Wang, 2005). Building capacity promotes empowerment. Empowerment has been identified as a contributor to meaningful and sustained action. Therefore, if community members are empowered through increasing self-efficacy, knowledge, and skill development; interventions and education may also aid in capacity building (Raik, Decker, & Siemer, 2006).

Johnson, Hays, Center, and Daley (2004) identified capacity-building factors that aid in project sustainability. The first factor entails structures and formal linkages within the community that includes already established formal and informal collaborations. The researcher is then able to assess, build, maintain, implement, evaluate, or modify structures and linkages in the community. Another of Johnson's capacity-building factors is champion roles and leadership actions. Champions are individuals who have the influence and power to act as an advocate for the community, sometimes referred to as key informants. A researcher can cultivate identified champions and leaders thus improving the quality of the data collected and ultimately the health of community members. The third factor is resources within and available to the community. A community is not able to utilize what they do not have or do not know they have. A resource acquisition plan can be developed that includes continuous funding sources, staff, technologies (computers, software, etc.), workspace, and access to information. This plan is important to help map where the resources are within the community. Administrative policies and procedures is another important factor when planning for project sustainability. An understanding of the policies and how to adjust these policies and procedures with the changing times and culture is key (Johnson et al., 2004). Training participants to acquire the needed expertise to conduct the research, such as interviewing other community members, is vital to project sustainability and capacity building. The researcher should remember the importance of assessing, building, maintaining, implementing, evaluating, or modifying any of these factors in order to increase the sustainability of a project (Johnson et al., 2004).

The goal of community capacity building is to establish a true partnership rather than a codependent relationship. True partnerships are characterized by sharing decision-

making and a symbiotic relationship between researchers and community members. A codependent relationship may be described as parasitic, where one partner relies on the other to make all the decisions and take the actions. Building community capacity includes cultivating the independence of the community. This autonomy will promote empowerment rather than a codependent relationship between the community and researcher.

Barriers to CBPR

Benefits of CBPR are best realized when stakeholders reach maximum participation. Maximum participation is achieved when the project's primary purpose is the community's empowerment, and the outcome is community-initiated and sustained change. Maximum participation is also attained when the personal experiences and opinions of participants are included as research data (Plaut, Landis, & Trevor, 1992; Rao, Arcury, & Quandt, 2004). Community participation is obviously needed in order to have any outcome, but this is often a huge barrier that researchers must overcome.

Historically, community participation in research has been minimized by a number of factors. First, if community members do not understand the benefit of research or the research process, they may be less inclined to participate. Also, participant's distrust of researchers, in general and possibly the specific the researcher on the project, may reduce involvement. In the past, some studies have produced no apparent benefit for the participants and other studies have actually harmed participants during the research endeavor (Markens et al., 2002). Therefore, it is common for individuals to be hesitant to engage in the research process. Another barrier to participant involvement is a lack of perceived need or perceived beneficial outcome.

Even though many researchers have faced barriers during CBPR, they have still been successful because they have created strategies to overcome the barriers. Rao et al. (2004) suggest involving university students in CBPR efforts to engage community participation and aid in capacity building. Involving students in this process increases the complexity, but it can also equalize the field between researcher and community member. Community members often possess valuable knowledge about their community and wisdom from life experiences from which university students can learn. When this student-learning concept is introduced to community partners, the community members move from being the studied to the teachers. Because the students (and researchers) are learning from the community members, it alleviates some of the pressure and assuages some of the fears of the community members (Rao et al., 2004).

Use of the Delphi Technique in CBPR

The Delphi technique, developed by the Rand Corporation in the 1950s, is a widely used qualitative research method that is particularly useful in CBPR-based research because it allows researchers to gain input from key informants about complex community issues (Ali, 2005; Benarie, 1988; Woudenberg, 1991). The technique is considered a valid approach for guiding participants to a point of consensus about problems and/or potential solutions to complex issues (Ali, 2005; Cho, Jeong, & Kim, 1991). The process involves the implementation of a sequential series of questionnaire rounds in which the resulting responses from each questionnaire are summarized and used to develop the questionnaire for the subsequent round (Ali, 2005; Masser, & Foley, 1987).

Woudenberg (1991) suggested that two to ten rounds could be considered an appropriate number of Delphi rounds, with the exact number needed depending on the complexity of the targeted issue and the degree to which group conformity of responses is required. However, because groups can begin to feel increasingly pressured to conform as the number of rounds increases, Ali (2005) suggested using a smaller number of rounds (two to three) and adopting majority voting as an alternative in subsequent rounds. Majority voting on summarized themes that emerge from group responses allows individual respondents to express agreement or disagreement with emerging themes. This alternative approach has been called a “policy Delphi” (Ali, p. 719) and has been proven a valid approach to generating a general consensus with individually-stated arguments for or against grouped themes (Ali, 2005; Turoff & Hiltz, 1996).

The Church as a CBPR Channel

The church can play an important role in helping overcome some of the aforementioned barriers to CBPR. Churches provide a sense of community and trust, which can provide an opportunity for a new researcher to join this community of trust. Churches often provide various programs or services such as social services, primary prevention, and health prevention programs. In order for a church-based program to be effective, it is important that there is a healthy relationship between health professionals, researchers, pastors, ministers, and church members. The health professional or researcher can be effective as a consultant to the group, pastors and ministers often act as gatekeepers to the community and are advocates for the program, and church members can be trained to lead the health promotion effort to serve fellow members and the community (Sutherland, Hale, & Harris, 1995). Training church members increases the

sustainability of the program. The more the church members invest in the program, the more likely they will be to receive the benefits and continue with the program until they receive those benefits. The pastors of a church often act as gatekeepers because church members and community members trust and respect the pastor and his or her position (Markens et al., 2002).

Pastors and other church leaders often play a crucial role in the successful implementation of a community program (Markens et al., 2002). It is interesting to note that Voorhees et al. (1996) found that denominational teachings and beliefs can influence the degree of behavior change the participant experiences. This study found that the Baptist denomination apparently had a greater propensity for healthy behavior change as they were more likely to negatively sanction an unhealthy behavior such as smoking as a sin. Voorhees et al. (1996) found that the church and its messages have a vital role in health promotion efforts and behavior change.

Markens et al. (2002) remind researchers to stay receptive to the community when planning church-based health programs because some factors that can lead to a successful program can also lead to the program's demise. For example, if the researcher is able to gain the trust of the pastor, this can open the door to gaining the trust of the entire congregation; however, if the pastor does not respect or trust the research, this may lead to a shut, locked, and dead bolted door for the researcher. This is why it is important to be culturally sensitive as an outside researcher when approaching new communities.

The church is able to provide more than just a place of worship. It can provide a safe atmosphere for learning; an environment where respect can both be given and received from community members, church members, researchers, and pastors. Every partner plays an important role with faith-based health promotion efforts, but the pastor

and other well-respected church leaders play the most significant roles by acting as gatekeepers for the researcher to gain access into the community.

International Health

As the world becomes more globally connected, it is common for countries to help others in time of war, need, or addressing health disparities. The health of one country is often affected by the benevolence of another. According to Pang (2003), foreign aid is most effective and empowering when the recipient actively participates in the aid effort. Various organizations attempt to link nations together through addressing the health disparities. Some of these organizations include the United Nations (UN), World Health Organization (WHO), and World Bank. This abundance of organizations that address international health issues coupled with a recent proliferation of both intergovernmental organizations and private-sector players in the health field shows an increased awareness of international health (Taylor, 2002). International health research is becoming more prevalent as the world becomes more globalized. Therefore, it is important to remember that international research should promote scientific excellence, self-determination, autonomy, ownership, and equity of all partners (Pang, 2003).

International research allows for similar challenges experienced in a local research endeavor; however the complexity is increased with language and cultural barriers. A researcher must try to learn the cultural nuances, which is why CBPR is an appropriate international research approach. Input from gatekeepers and other community members can provide insight into a new culture. However, it is important for researchers to have a good understanding of the language or utilize a translator in order to communicate appropriately.

Back translation is one way to overcome a language barrier on written documents. Back translation is a process where the original version (in this case English) of a document is translated into another language (Portuguese) by one translator. Another translator takes the recently translated (Portuguese) version of the document and translates it back into the original language (English). The researcher then compares the back translated version of the document, and if the content and context of the document is intact, the translation is considered valid. However, if the validity of the document was lost in translation, the entire process must start again with two new translators to reduce bias (Brislin, 1980). This can be a simple process if done correctly the first time, or it can be a time intensive, expensive process if several attempts must be made to keep the validity of the document.

Another way to address underserved populations is through the use of a well established research tool. The Center for Disease Control (CDC) established the Behavioral Risk Factor Surveillance Survey (BRFSS) in 1984 and since its inception; the BRFSS has grown to become the largest telephone health survey in the world. The BRFSS is a state-wide health survey system established to collect data on risky health behaviors, prevention techniques, and access to health care as it relates to major disease and injury. Individuals utilize the BRFSS to detect rising health disparities, establish and evaluate health objectives, and create and assess programs and policies relating to health (CDC, 2007). Although no known implementation of the BRFSS exists in Brazil, the CDC is currently working with Brazilian officials to create a Brazilian equivalent of the BRFSS (CDC, 2007). The BRFSS is commonly used in United States territories (such as Guam and Puerto Rico), which encourages the notion that international use is appropriate.

Approximately twenty independent research studies have been conducted to examine the reliability and validity of the BRFSS (CDC, 2007). A study conducted by Nelson et al. (2001) determined that most of the core questions of the BRFSS were at least moderately valid and reliable, with many items reaching high levels of reliability and validity. Stein, Lederman, and Shea (1993) determined that the BRFSS's reliability coefficients were generally above 0.70. Therefore, researchers have concluded that the BRFSS is an appropriate measure for observation and research (Nelson, Holtzman, Bolen, Stanwyck, & Mack, 2001; Nelson, Powell-Griner, Town, & Kovar, 2003; Stein et al., 1993).

Brazil

The Federative Republic of Brazil has the fifth largest population worldwide and is the largest Latin American country with an estimated population of 188,883,000 in 2006 (PAHO, 2006; USAID, 2006a; WHO, 2005). Brazil has an area that is roughly 3.3 million square miles and shares borders with all the South American countries except Ecuador and Chile.

It is important to understand the structure of the Brazilian health system to better understand the way healthcare is distributed in the country. Brazil has an equal, horizontal three branch structure. There is the national (federal), state (regional), and local (município). All are equal, which means that there are no federal mandates to the local level except for a basic legal framework (Atkinson, Cohn, Ducci, & Gideon, 2005).

There are many disparities within this large country. The population is not proportionately distributed across the land area and there are social, medical, and socioeconomic inequalities based on an individual's skin color and gender (PAHO, 1998).

One in three Brazilians (roughly 53 million people) lives below the international poverty line (USAID, 2005). Brazil's estimated per capita income in 1999 was US \$4271 (PAHO, 2007). According to PAHO (1998), health inequalities are considered the "leading health problems" in the Americas.

Healthcare Reform

Brazil has recently undergone healthcare reform stemming from a new governmental constitution established in 1988. Brazil has a dichotomized health care system that is similar to the United States' in that it contains both a private sector for wealthier individuals and public health services for individuals who cannot afford medical insurance. Prior to 1988, the Brazilian government implemented a social security model of healthcare that allowed only formal workers the ability to obtain medical insurance (Elias & Cohn, 2003). The new constitution made access to healthcare the state's responsibility and a universal right for all Brazilians, regardless of their working status.

Another component of the reform of 1988 led to the decentralization of the Brazilian healthcare system. Article 198 of the new constitution called for a Unified Health System (Sistema Unica de Saude [SUS]) that decentralized health services and created a regionalized network of healthcare. Article 199 of the Constitution allowed private practice to continue, but called the private practice (Complementary Medical Care System [SSAM]) to play a complimentary role to the SUS. Even with the reform in both healthcare structure and delivery of care; the poor still place a great burden on the government. This heavy burden reduces the government's ability to provide quality health services and creates further healthcare problems (Elias & Cohn, 2003).

Health Needs in Brazil

The health care reform has aided in addressing some of the health disparities however, there are still many health needs in Brazil. Mortality rates have been declining in recent decades, which may be due to the reduction of deaths in children under five years of age (24.0% to 9.8% between 1980 and 1994). Brazil has a crude death rate of 6.5 per 1,000 of the population, and an average of 1,238,900 annual deaths in 2006. There has been a 1.3% annual population growth in 2006 with 84.7% of the population living in urban areas. Life expectancy at birth is at an estimated 71.6 years total, 67.8 years for men and 75.5 years for women (PAHO, 2006) with trends showing an increase in the sixty and older population (PAHO, 2007).

High social and environmental needs reveal a need for reform. According to PAHO (2006), 89.2% of the population over 15 years of age is literate and the gross national income in 2004 is roughly \$3,000 (US \$ per capita) with 7.5% of the population falling below international poverty line. The majority of the population is living in urban areas with improved sources of drinking water (96%) and sanitation facilities (83%); however, the vast majority of individuals living in rural settings are still lacking these improvements with only 58% and 35% improvements respectively in these rural areas (PAHO, 2006).

These disparities continue to cause mortality and morbidity in the country. PAHO data from 1998 indicates that 15% of all deaths were attributed to ill-defined causes. However, the four leading causes of death (and their mortality rate per 100,000 population) for defined deaths in 2002 (adjusted by age) include: diseases of the circulatory system (233.1), malignant neoplasms (109.8), external causes (82.5), and communicable diseases (72.4; PAHO, 2007).

Mortality and Morbidity

High incidence and prevalence of communicable diseases is a factor for many underdeveloped countries, but noncommunicable or chronic diseases are more revealing of a developed country. Brazil has high incidence of both communicable and noncommunicable diseases, which is why it is fitting that Brazil is labeled a “developing country.” The health status of Brazil is typical of a developing nation. For example, malnutrition, especially childhood malnutrition is decreasing; however, in 1996 the average prevalence of malnutrition for children under five years of age was 5.7%. In 1989 there were two malnourished children for every one obese child. Obesity trends are currently on the rise as obesity prevalence has increased in all age groups, both sexes, all regions, and incomes levels (PAHO, 2007).

Increases in obesity often lead to increases in other major diseases such as diabetes, cancer and cardiovascular issues. Diabetes accounted for 31,000 deaths in 1999, which was 3.4% of total mortality that year (PAHO, 2007), and in 2002, the mortality rate from diabetes mellitus was 27.6 per 100,000 of the population (PAHO, 2007).

An analysis of cardiovascular mortality from 1990-1994 indicates that 33.9% of all deaths during this 5-year period were due to cardiovascular diseases. Cardiovascular disease was the leading cause of death in the early-to-mid nineties (PAHO, 1998) and mortality rates from 2002 for diseases of the circulatory system is 204.1 per 100,000 of the population (PAHO, 2007). The estimated mortality rate for ischemic heart disease was 61.7 per 100,000 population and cerebrovascular disease was 66.6 in 2002 (PAHO, 2007).

In 2002, the second leading cause of death in Brazil was malignant neoplasms. The estimated mortality rate from neoplasms, adjusted by age, is 111.2 per 100,000 of the population. The estimated mortality rates of various types of cancer in 2002 include digestive organs and peritoneum (31), breast - female (13.2), lung, trachea, and bronchi (11.7), and uterus (10.4) cancer (PAHO, 2007). Data from 1997 contains more guided estimates of the mortality rates in cancer. It is estimated that lung cancer accounted for 11,950 deaths, closely followed by stomach cancer with 11,150 deaths, followed by deaths due to breast cancer (6,780), cervical cancer (5,760), colon and rectal cancer (5,440), and prostate cancer (4,690). The high rate of cancer may be due to the estimated 30 million Brazilians who smoke (PAHO, 1998) since tobacco use increases the risk for most cancers. Morbidity rates from 2002 associated with malignant neoplasms include incidence rates (per 100,000 of the population) unknown incidence for lung and stomach, female breast (46), cervix, uteri (23.4) cancer (PAHO, 2007).

The third leading cause of death is external causes. External causes and mortality rate (per 100,000 population) include homicide (31), transportation incidents (20.3), unintentional injury excluding transport incidents (15.1), suicide (4.8), and violence (PAHO, 1998; 2007).

A study (PAHO, 1998) conducted in 1990-1991 looked at the mental health of the Brazilian people. In a holistic approach to health, it is important to look beyond the physical health of an individual and look at the entire individual. This study of the distribution of mental disorders in the Brazilian population indicated that Neurotic disorders, especially anxiety and phobias, were most frequent with prevalence rates ranging from 7.6% to 17.6% in three major cities. Drug use is also an increasing issue,

especially in Brazilian youth. Alcoholism coupled with drug use comprised 20% of hospitalizations related to mental disorders in 1995 (PAHO, 1998a).

Brazil is considered a developing country and is still plagued with a heavy incidence of communicable disease. Communicable diseases were the third leading cause of death in 2002 (PAHO, 2007). Communicable diseases differ from chronic diseases in that they typically have an acute onset and are spread from person to person, or vector to person.

The Amazon region accounted for more than 99% of the 444,049 cases of Malaria in 1996. And in 2004, there was an estimated 459,333 cases of Malaria, so this is still a problem in the region. Tuberculosis incidence was 29 per 100,000 inhabitants in 1995, but in 2003, that rose to 44.2 per 100,000. Between 1993 – 1996, there were 102 cases of yellow fever reported in seven different states (PAHO, 1998), however, by 2004, there were only 5 reported cases of the disease (PAHO, 2007). Dengue incidence was increasing in the country with more than 175,000 cases reported in 1996, however, almost a decade later, in 2004, there were 112,928 reported cases of dengue.

There have been other reductions in communicable diseases; 1989 marks the last reported case of Poliomyelitis in Brazil and measles incidence has dramatically decreased in Brazil since 1992 with the introduction of the measles vaccine (PAHO, 1998). In 2004, there were no confirmed cases of measles in Brazil, whereas, there were 37 in the United States for the same year. A cholera epidemic in the early 1990's has been reduced to about 900 confirmed cases in 1996 and only 21 cases in 2004 (PAHO, 1998; 2007). Prevalence of leprosy or Hansen's disease was only 6.8 per 10,000, with 39,792 new cases diagnosed in 1996; however, in 2004 the prevalence was at 30,110 cases.

There were 103,262 AIDS cases that have been reported as of February 1997, and by 2003, the AIDS incidence was 177.8 per 1,000,000 population. Sexually transmitted infections (STI) remain a problem in Brazil with 504,219 cases reported between 1987 and 1996. The top four infections account for over 95% of STI in Brazil, they include nongonococcal urethritis (28.5%), venereal syphilis (28.3%), gonorrhea (27.7%), and condyloma acuminata (11.3%).

And lastly, meningitis and viral hepatitis are still common in Brazil (PAHO, 1998). Because Brazil is still considered a developing country, communicable diseases often spread quickly resulting in higher levels of preventable morbidity and mortality.

Brazilian Agencies and Organizations

There are various organizations and collaborations that conduct health promotion efforts throughout Brazil. Many organizations have aided with efforts in Brazil to alleviate health disparities and burdens within the country. The following is not an exhaustive list of organizations in Brazil, but rather an overview of several organizations some of which are well-known and well-respected in Brazil and world-wide.

The PAHO is a branch of the World Health Organization (WHO) that focuses on Central and South America. PAHO's mission is to "lead strategic collaborative efforts among member countries and other partners to promote equity in health, to combat disease, and to improve the quality of, and lengthen, the lives of the people of the Americas (PAHO, 2002)." PAHO is a leader in health promotion efforts in Brazil and is often found forming partnerships with other well-known, well-respected organizations.

United States Agency for International Development (USAID, <http://www.USAID.gov>) is an independent agency that "provides economic, development

and humanitarian assistance around the world in support of the foreign policy goals of the United States” (<http://www.USAID.gov>). Currently USAID has requested a budget of \$13,985,000 for 2007 to address the five tactical focus areas in Brazil: environment, energy, assistance to disadvantaged youth, health, and economic growth (USAID, 2006). All of these areas affect the health of the community, directly or indirectly.

The World Bank (<http://www.worldbank.org>) is not a typical bank, but rather is comprised of two institutions, International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), owned by member countries. The World Bank’s focus is to offer a “source of financial and technical assistance to developing countries around the world” (<http://www.worldbank.org>). This is carried out by the two institutions within the World Bank playing supportive roles. Both institutions provide grants, reduced interest loans, and no interest credit to deserving developing countries for use in improving their health, infrastructure, education, communications, and many other well-deserving projects. The IBRD provides these services to middle-income countries and poor countries who are creditworthy, whereas, the IDA aids the poorest countries in the world.

Another organization that provides monies to needy countries is the Inter-American Development Bank (IDB, <http://www.iadb.org>). The IDB was founded to “contribute to the acceleration of the process of economic and social development of the regional developing member countries, individually and collectively” (<http://www.iadb.org>). Since its inception almost fifty years ago, the IDB continues to strive to meet this objective through various activities and operations in its members countries in Latin America and the Caribbean.

The Food and Agriculture Organization (FAO, <http://www.fao.org>) of the United Nations is an international leader in addressing and defeating hunger. FAO serves as an impartial forum where all nations, developing or developed, are able to equitably negotiate agreements and discuss policy. FAO provides information and trains developing countries on how to best update and expand practices relating to agriculture, forestry, and fisheries. Improving these techniques helps ensure improved nutrition for the population as well as economic increases. FAO provides most of its attention to rural areas that house most of the poor and hungry people in the world. FAO's activities are broken into four main aspects, provide information to needed areas, distribute policy knowledge, offer a neutral gathering area for nations, and bringing expertise to the field (<http://www.fao.org>).

The Latin American Network Information Center (LANIC, <http://www.lanic.utexas.edu>) is a web-based resource provided on the server of University of Texas in Austin, Texas. LANIC has been created to provide "Latin American users with access to academic databases and information services throughout the Internet, and to provide Latin Americans around the world with access to information on and from Latin America" (<http://www.lanic.utexas.edu>).

United Nations Children's Fund (UNICEF, <http://www.unicef.org>) is a strong force created to collaborate with others to overcome barriers children face such as poverty, violence, illness, and discrimination. Those at UNICEF believe that through addressing children's issues, the cause of humanity may be furthered. The mission of UNICEF is to involve various individuals in the creation of a protective environment for children, so not one child is exposed to abuse, violence or exploitation. UNICEF upholds the Convention on the Rights of the Child and are a part of the Global Movement for

Children. The Global Movement for Children is a broad coalition created to improve the life of every child (<http://www.unicef.org>). UNICEF programs include promoting at least basic education for females, childhood immunizations, proper nourishment, and HIV/AIDS prevention.

Brazilian Health Promotion Programs

Brazil has a strong local capacity for action; however, there is often a lack of awareness of health issues among Brazilians (Atkinson et al., 2005). Health promotion is an effective way to address this issue. As previously presented, Brazil has many health disparities and CBPR provides an appropriate approach to address these concerns. Health promotion has been defined as a process of empowering an individual to gain control over improving his or her health (WHO, 1986). Researchers have utilized various approaches to address health issues in Brazil. The following section provides insight into various health promotion efforts and research projects that have been and are currently being conducted in Brazil.

Women and infant health. Bhutta, Darmstadt, Hasan and Haws (2005) conducted an extensive review of perinatal and neonatal community-based interventions in developing countries. These researchers found several community-based research projects targeting Brazilian communities. A WHO Collaborative Study Team (2000) and Victora et al. (1987) examined the positive effects of breastfeeding compared to mixed or formula feeding and infants' risk for dying from diarrhea or respiratory infection in non-breast fed infants compared to breastfed infants. Lutter et al. (1997) determined that an active breastfeeding program in an urban hospital setting was effective in increasing the duration of exclusive breastfeeding (median duration was 75 days with intervention

compared to 22 days with control). Janowitz, Bailey, Dominik, and Araujo (1988) collected data from a random sample of women ($n = 1961$) who had delivered within a one year period to compare survival rates of infants from deliveries by family members, traditional birthing assistants, and in hospitals. Researchers determined that infant survival rate of first deliveries in a hospital was four times that of a first delivery in a home (Bhutta et al., 2005).

A cervical cancer screening program originated in the city of Campinas in 1968 while the health care system in Brazil was centralized and inadequately organized. The program began with a centralized, university-based laboratory where women with abnormal Pap tests were referred for further screening, treatment and education of their diagnosis. This has evolved to a decentralized model with outpatient clinics throughout the community. Zeferino et al. (2006) describe the experiences of this program in three districts of Campinas and the surrounding region of Sao Paulo State, Brazil. The decentralization of cervical cancer screening activities has increased the efficiency and capability of municipalities' to provide appropriate services to women in the community. Since the program's inception, women have received diagnosis and treatment for abnormal Pap tests from the public health system. There are 88 municipalities who are capable of primary screenings, of which 51 are equipped with at least further screening procedures (e.g. colposcopy, a follow-up screening for the health care professional to look at abnormalities in the cervix area that may lead to a biopsy of the abnormal cells); some of these clinics are also able to provide more advanced procedures (e.g. cold knife conization and hysterectomy) with eight clinics that can provide at least partial tertiary medical treatment for women with invasive cervical cancer (Zeferino et al., 2006).

Children and adolescent health. There are five main UNICEF projects in Brazil that address various child health issues. One such program is the Municipal Seal of Approval. This initiative was created to identify local municipalities that have strong child right policies and actions. This Seal of Approval has been expanded to assess indicators of health, education, and access to welfare services. Another program is the Early Childhood Development (ECD) that increases the family's ability to contribute and build public demand for earlier, higher quality stimulation of children. Third, UNICEF has a program called Education for Inclusion which encourages a guaranteed right for children (ages 7-14 years) to attend school, participate in learning opportunities outside the classroom, and develop citizenship skills. The Adolescent Citizenship program is another UNICEF program that attempts to improve access to quality secondary education, responsive health services, and stimulating interactive communication for adolescents. This program also has an opportunity for youth who did not complete school to have a "second-chance" at schooling. Lastly, UNICEF has initiated the Special Protection and Monitoring program that supports protecting children and adolescents against child labor, domestic violence, and sexual exploitation. This program also addresses family coping strategies to and prevention of HIV/AIDS (UNICEF, n.d.).

Environmental health. In addition to the broader programs that will be mentioned that encompass environmental health along with other efforts, there are some programs that specifically focus on environmental health in Brazil. There have been proactive efforts by city planners in Curitiba, Brazil to reduce automobile use and increase public transportation in the city. These efforts have proven successful at reducing

environmental health harms (e.g. air pollution) and efficiently transporting residents to their desired locations (Willett et al., 2006).

Nutrition and physical activity. Another health promotion effort in Brazil includes Agita Sao Paulo. Agita Brazil is the Brazilian Ministry of Health's national, comprehensive physical activity campaign that was launched in 1996 to increase awareness of the benefits of physical activity. This exercise promotion effort appears successful at raising awareness and possibly raising activity level in Brazilians. Matsudo et al. (2002) examined the effectiveness of Agita. They found that after four years, 55.7% of those surveyed had heard of the program, 37% knew Agita's purpose, and those who knew its purpose were more likely to engage in activity (Matsudo et al., 2002). Agita is also closely linked to a national diet and exercise health promotion effort (Coitinho, Monterio, & Popkin, 2002, Willet et al., 2006).

Infectious diseases. PAHO commissioned the BBC World Service Trust to implement a national radio and television campaign to raise awareness about leprosy or Hansen's disease. This campaign was planned and implemented by a collaboration of the Brazilian Ministry of Health, two non-governmental organizations (NGO) (MORHAN and Pastoral da Criança), PAHO/WHO, and Brazil's major broadcasters (Globo, SBT, Rede TV!, and Bandeirantes). The WHO provided funding for the project and the BBC World Service Trust managed the month-long television and radio campaign that ran in early 2003. The campaign was broadcast over 7000 times nationally on television and more than 2800 radio stations throughout Brazil were given the leprosy awareness message (Frost, 2003).

The National Council of Municipal Health Secretaries (Conselho Nacional de Secretarios Municipais de Saude [CONASEMS]), is a NGO that initiated a collaboration with the Ministry of Health, the PAHO/WHO, and the Movement for Reintegrating Hansen's Disease Patients (MORHAN) in 1998 to create a task force address leprosy issues within Brazil. Experts from each of the aforementioned organizations comprise this task force that has a mission to expedite the elimination of leprosy from Brazil. Since it was founded, this task force has helped improve coverage of leprosy services, secure where leprosy services will be available in the local health system, and de-stigmatize leprosy (Andrade & Virmond, 2007; Frost, 2003).

Some of the state and local activities of this taskforce include creating and assessing materials to be used for educating the community on their health, building capacity of healthcare staff and healers through trainings, conducting meetings where eradicating leprosy was discussed with informal community health providers, providing technical support to promoting the decentralization of leprosy services, and establishing a phone service called TeleHansen that provides information about local leprosy services, answers questions about leprosy, and provides other services and education relating to leprosy (Andrade & Virmond, 2007).

Comprehensive health promotion programs. Atkinson et al. (2005) conducted a study that examined several health promotion and prevention activities in Chile and Brazil. In this study, the authors differentiated between activities that were service-based, community-based, intersectoral, and implemented by other agencies in two rural and two urban cities. The service-based activities in the rural regions include vaccinations, educational videos at health facilities, and prenatal care. In a community-

based, rural setting, there were community health workers, family health teams, basic health posts with general health education, focuses on maternal, child, and adolescent health, and some environmental monitoring (chlorine tablets were distributed). Through the collaboration of several sectors in the rural areas, sanitation kits were distributed by social workers, dental health campaigns and programs were implemented in the schools, and local radio stations broadcast health programs. Several agencies worked within the rural cities to address health issues. An agency, Prefecture, raised awareness through radio broadcasts addressing sanitation and water infrastructure projects. A theater group, External, addressed health promotion issues in the region. And lastly, FNS, a parastatal organization, implemented epidemiological surveillance and monitoring in the rural areas (Atkinson et al., 2005).

The urban regions also received activities that were service-based, community-based, and intersectoral. These activities included vaccinations, prenatal care, Pap smear exams, hypertension and diabetes programs, health lectures, and a project (Projeto Casulo) focused on high risk pregnancies and infants. Community-based activities included campaigns for cervical cancer, promoting positive environmental health habits, blood pressure, and vaccinations. Other urban, community-based activities included promotions for the elderly, AIDS awareness, condom distribution during the carnival celebration, family health, and community health programs. The intersectoral activities included chlorine tablet distribution for home-treatment, independent water quality monitoring, water and drainage distribution and pricing to provide aid the poorest, dental care programs focusing on school children and babies, litter cleanup, and recycling promotion in the community (Atkinson et al., 2005).

Individuals at USAID are conducting a comprehensive health project in Brazil, USAID/Brazil. The main focuses of this project include the environment, energy, community and individual's health, needs of poor youth, and the economy. Environmentally, USAID/Brazil is attempting to protect Brazil's environment and distinctive biodiversity. This is also encouraged through the promotion of renewable, cleaner energy sources to reduce greenhouse gas emissions. This program also addresses and promotes health behaviors to decrease communicable diseases such as the sexual transmission of HIV/AIDS, and tuberculosis. USAID will support Brazilian NGOs to implement health promotion programs utilizing social marketing to increase condom use to reduce HIV/AIDS transmission within vulnerable populations. This program will also support research that assesses multi-drug resistance and co-morbidity of tuberculosis and HIV/AIDS (USAID, 2006).

Another component of the USAID/Brazil project includes eliminating trafficking, increasing technology-based and life skills training, and providing job opportunities for poor Brazilian youth. Economically, USAID/Brazil attempts to spur economic growth through reducing economic inequity by the promotion of free trade, the development of small to moderate business ventures, and the promotion the national Zero Hunger program (USAID, 2006).

Community health. Healthy Municipalities and Communities Movement is a PAHO initiative focusing on fortifying and implementing health promotion activities within a specific region. This initiative combines activities from public health, education, and community development. The Healthy Municipalities and Communities Movement

attempts to create healthy public policy, maintain healthy environments, and promote healthy lifestyles (PAHO, n.d.).

Brazil does not have an official Healthy Municipality network or policy implemented, however several cities including Campinas, Santos, Curitiba, Sao Paulo and Fortaleza have labeled themselves healthy municipalities. There are roughly 5,000 health officers in the municipalities who are associated with the NGO National Council of Municipal Health Secretaries (Conselho Nacional de Secretarios Municipais de Saude [CONASEMS]) that represents the National Association of Municipal Health Officials. CONSASEMS is actively promoting the Healthy Municipality Movement in Brazil. Several Brazilian cities have participated in various Healthy Municipality activities (Valencia, n.d.).

Campinas is an internationally recognized member of the Healthy Municipalities movement. In 1996, Campinas won the World Health Day best project prize for the exceptional plan of action, as well as, first place in the national urban transportation contest for a program that drastically reduced vehicle crashes in the city. The municipality is an international model of community mobilization, participation, and involving various sectors of the community to promote health programs. Campinas has a wide collection of health services which comprises the Municipal Health Network. This Network includes healthcare centers, a pathology laboratory, polyclinics, psychosocial assistance centers, reference centers, and mobile healthcare units. Campinas implemented an administrative improvement process which resulted in decentralizing health services, integrating city policies, increasing participation in recognizing community needs, and enhancing public service responses to community needs (Valencia, n.d.).

Santos is another Healthy Municipality in Brazil. The Integrated Family and Children Program of Santos has been significantly praised and was chosen to be presented at the Second Conference of Human Settlement Habitat II. This program's objective is to incorporate health, education, culture, and sports into activities to profit children in Santos. There are intersectoral collaborations between the local government, NGOs, and local businesses. Some of the activities of the Integrated Family and Children Program of Santos include new mother's breast-feeding groups, a program that provided high-risk infants direct care with medical students, and medical attention to high-risk women during pregnancy. Interventions focused on child prostitution, street children, high-risk families, adolescents, newborns, and individuals living in inferior housing (Valencia, n.d.).

There are other Healthy Municipality Projects around Brazil. UNICEF is joining forces with the National Council of Municipal Health Secretariats to create the Children's Friend Program in seven municipalities of Brazil. After assessing the needs of the community, various projects are being implemented around Brazil such as a birth data registry, children and adolescent (ages 6 – 16 years) mental health services, oral health promotion for children and adolescents (ages 2 – 14 years), and health promotion for children during school vacations (Valencia, n.d.).

Rio de Janeiro is also implementing a comprehensive School Health Program. This program facilitates intersectoral relationships between health and education sectors, as well as, health providers and service users. This comprehensive school health program attempts to address primary health care, development, and schooling needs of adolescents and school-aged children; create a preparation program to encourage human resources specifically education and health, learning and development, and community

participation; and amplify the exposure of and dedication to the program through federal, regional and municipal agencies, specifically health and education (Valencia, n.d.).

Federal government programs. The Brazilian government has been working at the local and national level to address health disparities in the country. A study conducted by Coitinho et al. (2002) describes three areas (legislation, communication, and capacity building) where the national government has attempted to address emerging physical activity and nutrition needs.

The government has passed legislation that now mandates nutrition labeling on packaged, raw, and unpackaged foods. The labeling must list calorie, protein, carbohydrate, total fats, saturated fats, cholesterol, calcium, iron, sodium, and dietary fiber content in a standardized, simple table. This same legislation addresses regulating the nutritional and health claims of foods and the direct advertising of food to children. An evaluation of the progress of this legislative effort has found that consumers desire this nutrition information. The public apparently prefers media relating to information addressing food and nutrition. Therefore, commercial media has engaged in the health promotion process by providing time and or space in various venues (newspapers, televisions, and magazines) for public service announcements regarding food and nutrition (Coitinho et al., 2002).

The government has also passed legislation to promote healthy diets in schools. The federal government provides funds with strict regulations to municipal authorities or directly to schools. These strict regulations include that at least 70% of the program's money must be spent on fresh fruits, vegetables, and minimally processed foods. It also mandates that these foods should be purchased through local vendors if possible. The

government is attempting to provide resources for local cooperatives and farmers to be able to provide fresh produce that is ready for use by the school system (e.g. vegetables that are washed and cut). The annual budget for this project is roughly US \$500 million for the 5561 municipalities in Brazil (Coitinho et al., 2002).

The government has also undertaken information dissemination and communication activities. The federal government has created a step-by-step routine for healthy eating to effectively communicate healthy food guidelines. Most food guidelines have roughly 10 messages that express the main topics to participants; however, researchers realized that ten messages at one time is equivalent to no messages received. Therefore, the individuals at the federal government created a step-by-step message approach that they felt would be more effective. The public is encouraged to pick one of the ten messages and make it a personal or family goal to accomplish. Once this first goal is achieved, the individual or family is encouraged to pick another message and make it the next goal to accomplish. Researchers believe this approach may create opportunity for the individual or family to positively change more than one habit at once even inadvertently. The researchers also realized a need to combine physical activity messages with the healthy eating ones. Therefore, the 'step-by-step route to healthy eating' includes two messages about physical activity (participate in at least 30 minutes of activity a day and you can participate in this activity anywhere) that is also expressed through Agita (Coitinho et al., 2002).

The government realized that just because Brazilians have the knowledge of what foods are best to consume, this does not necessarily translate into healthy shopping habits. The Ministry of Health and the University of Campinas designed a software program called 'Shop Smart – the best buy' in attempts to overcome this barrier of

turning knowledge into practice. The software is available at supermarkets in Brazil and advises consumers on how to purchase the healthiest foods on their specific budget (Coitinho et al., 2002).

Lastly, Coitinho et al. (2002) addressed the issue of capacity building for schoolteachers and health workers in nutrition promotion in Brazil. The federal government attempts to build the capacity of school teachers through various media approaches. A special television channel was established for schoolteachers to aid in training on various topics. Four, ten-minute videos were broadcast every two months on this television channel that included messages appropriate for school-aged children and entertainment on issues such as obesity, malnutrition, physical activity, health, food, culture, and food safety. A Brazilian magazine specifically targeting schoolteachers, *Nova Escola*, participated in this media campaign by creating informative centerfold posters on health related information (Coitinho et al., 2002).

In addition to schoolteachers, healthcare workers were provided ways to increase their ability to advise clients on proper diet and exercise across the lifespan. Guidelines and manuals were produced that addressed these specific issues. The 'Brazilian Regional Foods' is a manual that identifies indigenous edible plants and provides micronutrient contents of these foods. Diet and physical activity protocol were provided to health workers specifically for addressing diabetic and hypertensive patients. These diet and exercise protocols have been disseminated to roughly 40,000 primary health care professionals in Brazil as of 2002 (Coitinho et al., 2002).

Brazil's national government (<http://www.brasil.gov.br/ingles>) has created other programs that address regional disparities, social insertion, employment, and health. A public policy called Zero Hunger (Fome Zero) attempts to eradicate social exclusion and

hunger from 11.2 million economically disadvantaged families in Brazil. Zero Hunger attempts to increase social inclusion through improving access to education and health, establishing jobs and income policies, and encouraging implementation of sustainable development programs.

In order to expand the outreach, the Federal Government has collaborated with state and local governments, NGOs, private companies, religious institutions, and trade unions. Zero Hunger acts as a hub for other programs that address issues such as adequate food and nutrition, citizen income and education, emergency actions, and structuring programs. These programs include Family Farming Program for Purchasing Foodstuffs, Building of Wells in Semi-Arid Region, Literate Brazil program, development of credit for technical assistance and insurance programs for harvest for family farmers, and the distribution of nutritional education, education on behaviors that reduce food wastage, and the free distribution of certificates for civil registration. Zero Hunger also includes smaller actions such as food basket distribution to specific needy populations; income transfer programs; and entrepreneurial endeavors (e.g. building of restaurants, food banks, etc.) have been encouraged to promote economic growth (Brazilian Government, 2005).

Another program created by the Federal Government is the Family Bonus (Bolsa Familia) program, which is an income transfer program of Zero Hunger. Family Bonus was launched in 2003 when various, currently instated income programs (Food Allowance, School Bursary, Food Card and Gas Allowance) were combined to create one program with two main goals. These two goals include combating misery and social exclusion and fostering freedom of poor families (Brazilian Government, 2005).

The Family Bonus program provides financial, health, food, education and social assistance to poor families. The Family Bonus program has other complementary programs such as School Bonus (Bolsa Escola) which further aids needy families in attempts to overcome poverty. In order to qualify for the Family Bonus program, families must meet the poverty requirement, keep school-aged children and adolescents in school, maintain proper vaccinations, and utilize pre-natal examinations, to name a few. The Family Bonus has helped unify the horizontal government (Federal, state, and municipal) as each branch has united to fight against disparities. This collaboration has allowed for improvement of the Unified Register. The Unified Register helps reduce superimposition of benefits and is a useful tool for planning public policies (Brazilian Government, 2005).

Another Federal program for Brazilians is the First Job program. This program aids Brazilians in finding decent job opportunities for youth (ages 16 -24) with a higher priority to low-income and low-schooling levels, in addition to a per capita family income of up to half a minimum wage. The program provides financial incentives to employers who hire the youths, youth are provided with vocational training and education. Some aspects of the program include: Social Youth Consortiums, Voluntary Civil Service, Young Entrepreneur project and Citizen Soldier project (Brazilian Government, 2005).

Due to the horizontal nature of Brazil's government, the local governmental activities often complement the federal government's efforts, however, the local efforts are autonomous. It is difficult to document all of the local efforts and therefore an exhaustive evaluation of local efforts is difficult, however, Coitinho et al. (2002) describe two innovative locally initiated community-based programs in the city of Rio de Janeiro,

Brazil. *Healthy Streets* is a municipal law passed in 1998 that allows for traffic to be interrupted at specific times during the day and/or night where public security is provided to provide a conducive environment for physical activity. Another innovative health effort is the promotion of healthy cooking in the city's first class restaurants. Healthy meal guidelines were created by professionals from municipal health authorities and the National Cancer Institute from the Ministry of Health. The short-term goal is to have the restaurants have at least one item on their menu meeting this criteria, and long-term to have most of the menu meeting these guidelines (Coitinho et al., 2002).

Faith-based programs. There are also some faith-based organizations based in Brazil that are addressing health needs of Brazilians, however there is limited research describing or evaluating such programs. One program is Oasis Brazil that is based in Sao Paulo. Oasis Brazil is one component of an international organization called Oasis. This faith-based organization approaches health in a holistic way as they seek to demonstrate active Christian faith that is meeting people's intellectual, emotional, physical and spiritual needs. Oasis Brazil specifically works with underserved populations in urban settings. Oasis Brazil is currently working on a project called Casa da Alegria (House of Joy). This project's main goal is to "strengthen children and families in suburban slum communities in order that the children have a chance to develop to their full potential" (<http://www.oasisbr.org>). This goal is achieved through a holistic development of children in a Christian environment and a "safe space" (<http://www.oasisbr.org>). A safe space is often hard to find for these poverty stricken children and families; however, this faith-based organization solicits itself as a safe place for these children to be able to grow and develop.

Spirituality, Religiosity, and Spiritual Wellbeing

Holistic health is often defined in six categories: physical, mental (psychological or emotional), intellectual, environmental, social, and spiritual. Historically, spiritual topics were taboo and rarely discussed at great lengths, let alone researched; however, times are changing. In recent decades, there has been an upsurge of quantitative research addressing this previously taboo topic (Larson & Larson, 2003).

Many use spirituality and religion synonymously; however there is much debate that this is incorrect (Lee & Newberg, 2005). Ross (1995) defines spirituality in terms of three main areas: meaning and purpose, the will to live, and belief and faith in self, others, and God. The spiritual dimension is also described as striving for purpose and meaning in existence, searching for some greater power or God, motivation to hope for something greater (Ross, 1995). Another definition of spirituality is an individual's journey to finding the answer to questions regarding life, meaning and his or her relationship to the revered, which may or may not lead to an organized set of rituals. Religion is another concept that is hard to concretely define because of its multidimensional nature.

There are few scales that measure religion comprehensively, however, various scales measure different aspects of religion, most commonly religious involvement, religious coping, intrinsic or extrinsic religious motivation (Ellison, Boardman, Williams, & Jackson, 2001). Religion has been defined by Moreira-Almeida et al. (2006) as a systematic method of values, beliefs, exercises, ceremonies, and symbols designed to facilitate intimacy with the revered (God, higher power, or ultimate truth/reality).

Another concept that is related to, yet different from, both spirituality and religiosity is spiritual wellbeing. Moberg (1971) has described spiritual wellbeing as a

two-fold concept that has both a horizontal and vertical dimension. The horizontal aspect of spiritual wellbeing addresses the relationship of the individual to others, purpose in life, and life satisfaction; whereas, the vertical aspect involves an individual's relationship with God. Ellison (1983) explains how spiritual wellbeing differs from spiritual health as he states (p. 332),

Rather it [*spiritual wellbeing*] arises from an underlying state of spiritual health and is an expression of it, much like the color of one's complexion and pulse rate are expressions of good health. Spiritual wellbeing measures may then be seen more like a stethoscope than like the heart itself.

Spiritual Climate of Brazil

A holistic approach to health creates a need to look beyond the physical needs and into spiritual needs as well. In order to best assess the spiritual needs of Brazilians, it is important to first understand the spiritual climate of Brazil. Brazil is quite unique as there is a strong history of spiritism coupled with a large Catholic following. The spiritual diversity is profound in Brazil as is exemplified in the breakdown of religious affiliations of the population. Nearly all major religions or religious organizations are represented in the country. Data from the 2000 census and the Brazilian Institute for Geography and Statistics (IGBE) determined that Brazilians identified themselves as either Roman Catholic, Protestant, Buddhist and other oriental religions, Shintoism, Muslims, spiritism, adherents of indigenous traditions, Hindus, African and syncretistic religions, Jewish, Mormons, and some identified themselves as nonreligious (USDS, 2005). The diversity of religion is interesting and worthy of further research to determine how religion affects the health of Brazilians.

Spirituality, Religiosity, Spiritual Wellbeing, and Health Outcomes

When reviewing literature on spirituality and religiosity and their relationship with health, it is important to realize the numerous studies measure different variables at various levels of complexities (Larson & Larson, 2003). This may create some variance in reported outcomes; however, there appear to be several trends in regard to spirituality or religiosity and holistic health outcomes and lifestyle or behavior choices. There is little doubt that religion and spirituality play an important role in many peoples' health and lives (Lee & Newberg, 2005).

Several studies have shown a strong link between religious people and mental health. Myers and Diener (1995) suggest a strong relationship between religious individuals and a happier, more satisfied life than nonreligious individuals (Cohen, 2002). A review of approximately one hundred studies conducted, both published and unpublished, revealed that most studies reported a positive association between various measures of religiosity and measures of joy, fulfillment, contentment, pleasure, happiness, wellbeing, hope and optimism, and other related experiences (Cohen, 2002; Koenig, McCullough, & Larson, 2001; Lee & Newberg, 2005). There is a positive correlation with religion and remission of depression in some denominations, a negative relationship between suicide and religion (Lee & Newberg, 2005).

This strong link between religion and health transcends beyond mental health to physical health as well. There appears to be a relationship between increased religious involvement and a decrease in morbidity and mortality (Ball, Armistead, & Austin, 2003; Brown, 2000; Kark et al., 1996; Kune, Kune, & Watson, 1993; McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000; McCullough & Larson, 1999; Oman, Kurata, Strawbridge, & Cohen, 2002). There is also an increase in life expectancy by up to seven

years (Helm, Hays, Flint, Koenig, & Blazer, 2000; Hummer, Rogers, Nam, & Ellison, 1999; Oman & Reed, 1998; Strawbridge, Cohen, Shema, & Kaplan, 1997).

Some studies suggest that religious and spiritual involvement also affects health behaviors such as exercise, sexuality, alcohol, and illicit drug use. Church attendance correlates positively with regular exercise in some Utah residents (Merrill & Thygeson, 2001). Religiosity correlates with more open discussions about sexual risks and ways to avoid high-risk sexual contact (McCree, Wingood, DiClemente, Davies, & Harrington, 2003). Other measures of religion have shown positive associations with fewer sexual partners outside of a romantic relationship, proper birth control use, and a better understanding of HIV or pregnancy risks from unprotected intercourse (Miller & Gur, 2002). Studies have shown that religious individuals in both the United States and Latin America are less likely to use illicit drugs or alcohol than nonreligious individuals. These studies also suggest that if a religious individual does use, he or she is more likely to use moderately. However, there is some thought that religion may be the effect of drug or alcohol use rather than the cause (Chen, Dormitzer, Bejarano, & Anthony, 2004; Lee & Newberg, 2005). Religiosity also affects health behaviors through specific denomination affiliations. Some denominations encourage or provide health promotion or health behavior enhancement programs such as cholesterol or diabetes screenings, and blood drives (Heath et al., 1999; Koenig et al., 1998; Stewart, 2001; Zaleski & Schiaffino, 2000).

The many positive effects religion plays on health are established in the literature; however, in some cases religion and spirituality may negatively impact health. There are some strict religious beliefs or practices that prevent devote followers from participating in certain health-care interventions such as contraception or transfusions (Donahue, 1985;

Lee & Newberg, 2005). Poorer health outcomes can be linked to spiritual distress. Manipulation through the misuse of spirituality/religion is associated with mental health harm (Larson & Larson, 2003). Therefore, it is important to utilize valid and reliable methods to reduce bias and variance in the data.

Spiritual Wellbeing Research

Based on Ellison's (1983) description of spiritual wellbeing, it seems reasonable that this construct could be used to examine the degree to which a person's state of spiritual wellbeing is associated with health status and behaviors. Spiritual wellbeing has been found to be directly related to multiple wellbeing indicators such as positive self-concept, finding meaning and purpose in life, high assertiveness and low aggressiveness, good physical health, and good emotional adjustment. Inverse relationships between spiritual wellbeing and dissatisfaction with life, emotional maladjustment, and ill health indicators have also been detected (Brinkman, 1989; Brinkman, & Bufford, 1990; Moody, 1989).

One instrument that has been widely used in the United States to measure spiritual wellbeing is the Spiritual Wellbeing Scale (SWBS; Genia, 2001). Ellison and Paloutzain (1982) developed the SWBS in the early 1980s to measure this concept of spiritual wellbeing (Ellison, 1983). The SWBS is a 20-item, self report instrument consisting of two 10-item subscales; the Religious Wellbeing subscale (RWBS) and Existential Wellbeing subscale (EWBS). The score for the SWBS ranges from 20-120 as it is based on a six point-likert scale with response items "strongly disagree", "moderately disagree", "disagree", "agree", "moderately disagree", and "strongly agree". The RWBS consists of 10-items that assess the vertical dimension of spiritual wellbeing, and the

individual's relationship to God. The EWBS consists of 10-items assessing the horizontal dimension of spiritual wellbeing which includes the individual's sense of purpose in and satisfaction with life. Each subscale ranges from 10-60.

SWBS developers originally constructed the scale with good face validity (Bufford, Paloutzian, & Ellison, 1991). Researchers from one study conducted a factor analysis that revealed the SWBS items loaded on two factors. Every RWBS item loaded on the first factor, and then most of the other items (EWBS) loaded on the second factor. The extraneous EWBS factors also clustered together but did not reach significance (determined by an eigenvalue greater than 1.0; Ellison, 1983; Ledbetter, Smith, Fischer, Vosler-Hunter, & Chew, 1991; Bufford, Paloutzian, & Ellison, 1991).

Various researchers have examined the reliability of the SWBS and its subscales. Studies examining test-retest reliability have used various time intervals: one, four, six, and ten weeks. Paloutzain and Ellison (1982) reported test-retest reliability coefficients after one week as .93 (SWBS), .96 (RWBS), and .86 (EWBS). Test-retest coefficients were the similar at four- and ten-week retest intervals for the SWBS (.99), RWBS (.99), and EWBS (.98). Brinkman (1989) also reported reasonably high coefficients at a six-week retest interval for the SWBS (.82), RWBS (.88), and EWBS (.73). Internal consistency scores (coefficient alpha) have revealed that the scale has adequate reliability as well. Seven samples looked at the coefficient alpha to assess internal consistency on the SWBS. The coefficient alpha ranged from .89 to .99 for the SWBS; from .82 to .94 for the RWBS; and from .78 to .85 for the EWBS (Bufford, et al, 1991).

Since its inception, use of the SWBS in research has been widespread. Bufford, Paloutzian, and Ellison (1991) compiled a report of SWBS norms measured in various populations. Reported mean scores of religious groups (pastors, seminarians, and church

members) include SWBS scores ranging from 82.81 (Unitarian) to 109.88 (Assembly of God) depending on religious affiliation; RWBS scores range from 34.10 (Unitarian; Mueller, 1987) to 56.73 (Assembly of God); and EWBS scores range from 46.67 (Ethical Christian) to 53.15 (Assembly of God; Durham, 1986). The mean scores of college students include SWBS scores ranging from 70.47 (Non-Christian) to 104.26 (Evangelical), RWBS scores ranging from 29.65 (Non-Christian) to 53.70 (Evangelical), and EWBS scores ranging from 41.55 (Non-Christian) to 49.54 (Evangelical; Paloutzian & Ellison, 1979).

The mean scores of counseling patients include SWBS scores ranging from 77.77 (inpatient eating disorders) to 86.45 (outpatient counselees), RWBS scores range from 38.92 (outpatient eating disorders) to 47.36 (outpatients counselees; Frantz, 1988), EWBS scores ranging from 35.77 (inpatient eating disorders) to 40.44 (outpatient eating disorders; Sherman, 1987). According to Agnor (1986), there was a distinct difference between nonreligious and Christian sociopathic prison inmate mean spiritual wellbeing scores with the Christian inmates having higher mean spiritual wellbeing scores (SWBS, RWBS, EWBS). Caregivers for terminally ill hospice patients had a mean SWBS of 93.91, RWBS of 48.00, and EWBS of 46.34. The mean scores for medical outpatients SWBS was 99.89, RWBS was 51.50, and EWBS was 48.50.

A research summary compiled by Ellison and Smith (1991) describes research conducted between 1982 and 1990 that utilized the SWBS. This research includes physical wellbeing, adjustments to physical illness, health care, psychological wellbeing, relational wellbeing, and religious variables measures. The results from the physical wellbeing studies included a positive correlation with self-ratings of health with higher ratings in the SWBS and EWBS. A higher score in SWBS and EWBS was also found for

individuals who are closer to their ideal body weight (Hawkins & Larson, 1984).

Hawkins (1988) found a negative correlation between spiritual wellbeing and blood pressure. DeCrans (1990) found a positive relationship between a rural elderly sample's perceived health and spiritual wellbeing.

The SWBS has been found to have good reliability and appears to be a valid measure of health and general wellbeing. Therefore, the use of this tool in church-based intervention research would likely be a useful approach to addressing spiritual health components among church members. Ellison and Smith (1991) suggested that the SWBS could be utilized as an inexpensive tool for church leaders, pastors, or counselors to minister to the congregation or the community while assessing general spiritual wellbeing. Ellison and Smith also suggested SWBS use within a church context to assess spiritual wellbeing among the entire population or in specific subgroups of the church. Although there are English and Spanish versions of the SWBS, no documented literature was found by the author of this thesis that suggests international research has been conducted with the SWBS, including use in Brazil.

Summary

The literature review shows the various, abstract concepts that will be addressed by this paper. As this chapter discussed, health issues are prevalent in Brazil and there are strong national and local capacities to address these issues, however, there appears to be a lack of knowledge or involvement by the community. Therefore, a community-based participatory approach seems as though it could provide promise to assess and address health status and disparities including sensitive topics such as spirituality.

Through utilizing a CBPR approach in a Brazilian church setting, participants will feel more comfortable and empowered throughout the study.

CHAPTER THREE

Materials and Methods

This chapter contains a description of methods used to pilot a survey instrument in a convenience sample of 66 adult Brazilian church members (survey participants) in the summer of 2006. It also contains a description of Delphi methods used in a qualitative study that involved six key informants (Delphi participants) who partnered with the researchers in the 2006 pilot.

Participants

Participants in this study consisted of two groups that are described below. These two groups include a convenience sample of Brazilian church members who completed a pilot instrument in the summer of 2006 (survey participants) and a group of key informants (Delphi participants) who partnered with the researchers to implement the 2006 pilot.

Survey Pilot Participants

The convenience sample for this study consisted of 66 adults (age eighteen or older) who were members of Brazilian Baptist churches in two geographical regions of Brazil: Porto Velho, Rondonia (northwest interior) and Anchieta, Espirito Santo (southeast coast). These participants were recruited through a local Baptist seminary in Porto Velho (through which invitations were extended to local Baptist churches) and a leading Baptist church in Anchieta. Members of these churches self-selected to participate in a one-time data collection event. All survey participants signed informed

consent statements in compliance with the Human Subjects Guidelines of Baylor University Internal Review Board for the Protection of Human Subjects in Research. Anonymity and confidentiality were assured through signed consent forms and were protected by not assigning names to individual surveys and by grouping responses into aggregate data.

Delphi Participants

Six key informants (2 Brazilians, 4 Americans) who partnered with the research team and who possessed some degree of familiarity with the research project and/or the Brazilian communities of interest were invited to participate in a Delphi study. This group of six individuals consisted of three community-based partners or key informants from each of the two geographic regions in which the survey was piloted. In each region, the three participants included one leader of local a Brazilian Baptist church, an American healthcare project partner, and a leader of the faith-based partnering organization who helped implement the survey pilot in that region. All six participants were adults over the age of 18.

The six participants were invited to participate through an emailed invitation that provided a brief overview of the study purpose and methods, a list of the planned interview questions, and a copy of the informed consent form. These individuals were informed that the study was designed to measure their perceptions about health needs in their community, the capacity of local churches to address those needs, and the efficacy and impact of the 2006 survey pilot. The participants were informed that the study process would include two rounds of questions, with the first round conducted via a

telephone interview and the second round implemented through an emailed questionnaire that would be developed based on information derived from Round One interviews.

The participants were informed that qualitative techniques for grouping responses into emerging themes would be used for data reporting, and that no participant names would be reported or identified with individual responses. All six participants agreed to participate and submit a signed consent form and the Round One telephone interview appointments were scheduled.

Study Sites

The study site for the 2006 survey pilot involved two communities in Brazil. The site for the Delphi study was on Baylor campus for the telephone interviews (Round One) and via the internet for the follow-up questionnaires (Round Two). More details about these sites are described below.

Survey Pilot Site

The researchers partnered with local church leaders to conduct the study within their specific facilities. In the northwest region, the researchers utilized a seminary (Instituto Batista Lonnie Doyle) to conduct a health promotion event to train church leaders to further conduct health promotion efforts in their respective churches. In the southeast, a local church was utilized to conduct a health promotion event for the entire church where both church members attended a health promotion event and participated in the study.

Delphi Study Site

All moderately scheduled interviews (Round One of the Delphi study) were conducted by phone in a Baylor professor's office who is also a member of the research team. A speaker phone and a digital recorder were used in the office to conduct and record each oral interview. The follow-up questionnaires (Round Two) were conducted via the researchers' personal email account.

Study Design

This study was designed to match the framework of CBPR principles as described by Minkler and Wallerstein (2003). In particular, four CBPR principles were adopted in that the research team:

- Shared decision-making control with the community partners about implementation methods,
- Involved community partners as much as possible in the actual data collection process,
- Integrated the research activities into a community program that would be viewed as beneficial to the community,
- Sought feedback from community partners about the research process and outcomes.

From within this community-based paradigm, the study was designed to entail a cross-sectional analysis of data collected through a survey that was piloted in 2006 and a qualitative analysis (Delphi technique) of key information perceptions regarding the efficacy and impact of the survey pilot event.

Survey Pilot Study Design

The survey was designed to bring awareness to the community both individually and collectively. It is a tool that can be used by trained community members to do face-to-face interviews with other community members; however, due to the restraints of the sample size and the setting, all participants self-administered the survey. The researchers were part of a research team that partnered with community members to develop church-based health promotion programs that aided the implementation of this study. This methodology contributed to the CBPR approach to this study.

The independent or predictor variables of the pilot survey will be current health status, two measures of health-related quality of life (HRQOL): mental and physical unhealthy days, gender, age, and spiritual wellbeing (including RWBS, and EWBS). The dependent or criterion variable includes total self-reported personal health problems experienced in the past year.

Delphi Study Design

The Delphi technique (Ali, 2005) was used to measure key informant perceptions about health needs in their community, the capacity of local churches to address those needs, and the efficacy and impact of the 2006 survey pilot. An additional intention of this process was to further develop trust and a sense of partnership between the research team and the key informants by asking for feedback and involving them in the decision-making processes related to on-going research efforts. The Delphi design included two rounds of data collection: a moderately scheduled telephone interview (Round One) followed by a questionnaire (Round Two). Details about the data collection methods used in each round are provided in a subsequent section.

The qualitative, moderately scheduled telephone interviews provided researchers with data concerning key informants' perceptions about needs and capacities within the community and how the efforts of the pilot survey influenced building this capacity. Emerging themes were identified, recorded, and reported; however due to the qualitative nature of this portion of the study, no independent or dependent variables exist.

Data Collection

Two separate sets of data collected from two different population samples were obtained for this study. First, data were collected from survey participants who participated in the 2006 survey pilot. Then, data were collected via a Delphi study involving six key informants (Delphi participants). The data collection methods used for each sample are described below.

Survey Pilot Data Collection

Survey participants were recruited through two health promotion/data collection events, one in the northwest and one in the southeast region. Both events were sponsored in collaboration with the research team and local community partners (a seminary and church) to attract local church members to attend a 1-day health promotion/data collection event.

Prior to participation, adult attendees who volunteered to complete the health assessment survey were provided an opportunity to learn the purpose and procedures of the study and to read or listen to an oral version of the survey. Also, participants signed a consent form describing the procedures and risks involved with study participation.

After the participants completed the consent form, the researchers utilized a translator to overview and describe each section of the survey. Participants then self-

administered the survey with the option of having the questions read orally by a bilingual member of the research team. Most participants completed the survey within approximately 25 minutes.

Delphi Study Data Collection

Data for the Delphi study were collected through a moderately scheduled interview guide (Round One) and an emailed follow-up questionnaire (Round Two). Specific methods used for both processes are described below.

Round One: Moderately scheduled interview data collection. The qualitative, moderately scheduled interviews of six key informants followed the delineated protocol as described by Gilmore and Campbell (2005). The researcher identified six key informants to be recruited as a purposive sample (Green & Lewis, 1986) for these moderately scheduled interviews. The researcher sent an English or Portuguese-version (Appendix B) of an email message to key informants that described the purpose and planned methodology of the moderately scheduled interviews. Next, the researcher emailed a language-specific informed consent form (Appendix C) and asked the key informant to return a signed copy signifying his or her consent. The researcher scheduled a time when the key informant, both researchers, and (if needed) the translator would be able to participate in a 25-minute guided telephone interview.

Each telephone interview was conducted by the research team, which consisted of the author of this thesis (Researcher 1) and her research advisor (Researcher 2), a health intervention specialist with training and experience in qualitative research methods. Researcher 1 began each telephone interview with a brief description of the interview purpose and methods and obtained verbal consent from the key informant to participate

in the interview. The interview consisted of six core questions (Appendix B) with further probing questions used as needed to obtain more thorough information. The researchers utilized the services of a trained and experienced translator who translated bi-directionally (from English to Portuguese and from Portuguese to English) throughout one interview. Each interview was recorded (with the knowledge and consent of the participant), transcribed, and then evaluated for comparative and contradictory themes.

The interview transcripts generated through the moderately scheduled interviews were analyzed using qualitative techniques that are described under *Data Analyses* (subsequent section). The resulting themes and subthemes that emerged were then used to create a questionnaire for Round Two of the Delphi study.

Round Two: Follow-up questionnaires. Ali's (2005) alternate "policy Delphi" approach was then applied to obtain participant feedback regarding the emerging themes and subthemes that resulted from Round One. To accomplish this, the themes and subthemes were disseminated to the key informants via a questionnaire on which they were asked to indicate agreement or disagreement with each subtheme statement.

This follow-up questionnaire was emailed to each participant. Three participants chose to print out the questionnaire, complete it by hand, and return the completed hard-copy version to the researchers. Three participants completed their questionnaires and return them electronically.

Instrumentation

This section includes a description of a survey instrument used in the 2006 survey pilot (Appendix A). It also includes a description of two instruments used in the Delphi study (Appendix B). Those include the interview guide used in the moderately scheduled

telephone interviews (Round One) and the follow-up questionnaire (Round Two); copies of these three instruments are provided in the Appendices.

Survey Pilot Instrument

The researchers collected data via a self-administered survey containing two parts that were divided into 12 subsections (Appendix A). Part I of the survey contained *Health Program Interest and Health Risk Assessment* items presented in a checklist format. Part II of the survey contained *Health Needs Assessment* items that measured the respondent's perceived health status, reported health behaviors, and spiritual wellbeing. Collectively, these survey items allowed the researchers to measure self-reported health program interests and resource needs, personal health history, family history of health problems, current health status, and health care access, self-reported nutrition habits, exercise, weight control behaviors, and spiritual wellbeing. Neighborhood or geographic location and demographic measures of age, gender, and church program involvement were also collected via the survey.

Prior to this data collection event, the instrument had been used by researchers in studies (Doyle, Lanning, & Walton, 2005) conducted in the United States. In 2005, Dr. Eva Doyle subjected the instrument to back translation to establish a culturally comparable Portuguese language version for use in Brazil. She also pilot tested this Portuguese-language version through qualitative interviews for readability. Interview participants recommended some word changes that were implemented prior to its use in the 2006 pilot study. More detailed descriptions of each instrument component are provided in the following sections.

Part I: Interest and Risk Assessment (Sections 1 – 3). In *Section 1: Program Interests and Needs* (Appendix A), the participant was asked to identify programmatic interests that could potentially be offered by local churches in the future. The participant responded to the prompt “Check all classes or activity programs listed below that you'd be interested in.” There were 46 possible response choices as described by six topic headings: *Handling Health Problems, Protecting My Health, Recreation and Exercise, Marriage and Family Matters, Learning How To . . . , and Spiritual Needs*. Six of the 46 possible responses allowed respondents an opportunity to provide additional information under an “other” section in each of the aforementioned topics.

In *Section 2: Health Problems during Past Year* and *Section 3: Family History of Health Problems* (Appendix A), the participant was asked to identify personal and family health problems. In Section 2, the respondent was prompted to “check any health problems you have had during the past year,” followed by a checklist of 23 common health problems in Brazil including communicable and non-communicable diseases. In Section 3, the participant was prompted to “check any health problems that are a part of your family history,” followed by the same 23 item checklist of health problems. In these sections, the participant was also allowed an opportunity to provide additional ailments under an “other” section due to the non-exhaustive nature of the 23 item checklist.

Part II: Health Needs Assessment (Sections 4 – 12). Part II of the survey contained measures of health risk indicators (Sections 4-9) and belief in God and spiritual wellbeing (Sections 10-11). It also included demographic questions (Section 12) designed for use in group comparison. The CDC's Behavior Risk Factor Surveillance Survey (BRFSS; CDC, 2003; 2004), a widely accepted measure of health risk indicators

(Nelson et al., 2003; Nelson et al., 2001; Stein et al., 1993); Paloutzian and Ellison's Spiritual Wellbeing Scale, a widely used instrument in the study of psychology and religion (Genia, 2001), that has a strong ($r = .89 - .94$) test-retest reliability (Ellison, 1983); and researcher-constructed questions about belief in God and demographics were used in Part II. More details about each section will follow.

In *Section 4: Current Health Status* and *Section 5: Healthy Days* (Appendix A), were three items from the 2004 BRFSS that measured the participant's perceived health status (BRFSS item 1.1) and the number of unhealthy physical days (2.1) and unhealthy mental days (2.1) experienced by the participant in the past month. In the health status item (Section 4 of the pilot survey), the participant was asked one question, "Would you say that in general your health is -" with the following response choices: "Excellent", "Very Good", "Good", "Fair", "Poor", or "Don't know."

For the remaining two items (Section 5), the participant was prompted "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good" and "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good." The participant was asked to name the number of days (range: 0-30) in response to each prompt. Though the subsection title on the survey instrument refers to these items as "Healthy Days," the actual values recorded and analyzed for these variables reflect the number of unhealthy physical and mental days. Thus, the term "unhealthy days" is used hereafter.

Though all three items are brief and used as independent measures, a number of researchers have established their reliability and validity (Ford, Moriarty, Zack, Mokdad,

& Chapman, 2001; Nelson et al., 2001). The perceived health status item (Section 4 of pilot survey) has been established as a consistent measure for health status within one year after the initial interview (Ford et al., 2001; κ value range: 0.42 – 0.47), comparable in reliability to the general health status question of the Medical Outcomes Study 36-item Short Form (SF-36; Nelson et al., 2001; Intra-class Correlation [ICC] = .87), and a valid predictor of mortality and health service and a viable alternate measure for chronic health conditions (Ford et al., 2001; Nelson et al., 2001).

Nelson et al. (2001) determined that the reliability is unknown for the *Unhealthy Days* items (Section 5 of pilot survey), and that these items ranged from low to moderate validity (0.35 to 0.55) depending on the level of reported impairment. However, stronger item validity was established when differentiating between individuals with good health and serious impairments. These items were included due to the exploratory nature of the survey pilot in Brazil.

In *Section 6: Health Care Access* (Appendix A), the survey consisted of items from the 2004 BRFSS that helped identify the type of health care available to the participant (BRFSS items 3.1 & 3.2) and cost barriers to healthcare (3.3). Brazil has a dichotomized health care system, consisting of both a governmental and private sector, that is similar to the United States (Elias & Cohn, 2003) thus, the response choices used on the Portuguese version mirrored that of the BRFSS items used in the United States. The participant was asked to respond “Yes”, “No”, or “Don’t know” to the first question, “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?”; “Yes, only one”, “More than one”, “No”, or “Don’t know” to the next question “Do you have one person you think of as your personal doctor or health care provider?”; and “Yes”, “No”, or “Don’t know” to

the third question, “Was there a time in the past 12 months when you needed to see a doctor but could not because of the cost?”

These measures used in the Brazilian survey have been found to have varying levels of validity and reliability. Health insurance status reliability rates are unknown, but the validity appears to be high (Nelson et al., 2001) with a positive predictive value of 98% in one study (Nelson, Thompson, Davenport, & Penaloza, 2000) and 86.9% and 85.8 % in another study (Battelle Memorial Institute, 1999). The reliability of the source of the health insurance item is unknown (Nelson et al., 2001), and the validity of these data was low in one study as respondents had difficulties identifying the source of their insurance (Nelson et al., 2000). Reliability data of cost as a barrier to medical care is unknown, however indirect insurance status and income data suggests that this BRFSS item contains at least moderate validity (Nelson et al., 2001). As with other BRFSS items, these items were included as part of the exploratory nature of this pilot study.

In *Section 7: Fruits and Vegetables* (Appendix A), the survey participant identified the frequency with which he or she regularly consumed various foods from six food frequency questionnaire items. These items corresponded to 2003 BRFSS Section 7, items 7.1 – 7.6. In these items, the participant was prompted with the statements, “These next questions are about the foods you usually eat or drink. Please tell me how often you eat or drink each one, for example, twice a week, three times a month, and so forth. Remember, I am only interested in the foods you eat. Include all foods you eat, both at home and away from home.” Response options allowed the participant to mark a specific number within a time-oriented category (i.e., “__ per day”, “__ per week”, “__ per month”, “__ per year”) or indicate “Never” or “Don’t know” to the following questions, “How often do you drink fruit juices such as orange, grapefruit, or tomato?”;

“Not counting juice, how often do you eat fruit?”; “How often do you eat green salad?”; “How often do you eat potatoes not including French fries, fried potatoes, or potato chips?”; “How often do you eat carrots?”; “Not counting carrots, potatoes, or salad, how many servings of vegetables do you usually eat? (Example: A serving of vegetables at both lunch and dinner would be two servings.)” According to a study conducted by Nelson et al. (2001) these BRFSS food frequency questionnaire questions have moderate reliability and validity.

In *Section 8: Exercise or Physical Activity* (Appendix A), the participant responded to a 2004 BRFSS item (4.1) that measured the leisure physical activity of the participants. Participants responded either “Yes”, “No”, or “Don’t know” to the prompt, “During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?” Test-retest reliability for this item has been established by Stein et al. (1993) as moderately consistent over time for a total group of 210 participants ($\kappa = .57$) and for White ($\kappa = .59$), Black ($\kappa = .50$), and Hispanic ($\kappa = .63$) subgroups and has been established as having moderate validity (Nelson et al., 2001).

In *Section 9: Weight Control* (Appendix A), the participant responded to a set of three 2003 BRFSS items (8.1, 8.2, and 8.5) that measure weight control behaviors. The participant was first asked, “Are you now trying to lose weight?” with response options of “Yes”, “No”, or “Don’t know” (if “yes” was chosen, the participant was prompted to skip the next question about trying to gain weight). In the second question, the participant was asked, “Are you now trying to gain weight?” with responses of “Yes”, “No”, or “Don’t Know.” In the third and final weight loss item, the participant was asked to choose a response of: “Yes, lose weight”, “Yes, gain weight”, “Yes, maintain weight”,

“No”, or “Don’t know” to the prompt: “In the past 12 months, has a doctor, nurse or other health professional given you advice about your weight?”

Few reliability and validity studies have been conducted to test the weight control BRFSS items. However, three research teams examined the reliability of the “trying to lose weight” construct and found it to be high (range of κ : 0.65 – 0.72; Bowlin, Morrill, Nafziger, Lewis, & Pearson, 1996; Shea, Stein, Lantigua, & Basch, 1991; Stein et al., 1993), while validity for this measure is unknown. The other two BRFSS weight control items used in this study do not currently have reliability and validity measures, and were included due to the exploratory pilot approach of this study.

In *Section 10: Belief in God* (Appendix A), the survey participant responded to two items to determine if he or she believed in God or a higher power. Respondents were prompted to respond “Yes”, “No”, or “Don’t know” to the first item, “Do you believe in God?” If the participant responded with a “Yes,” he or she was prompted to skip the next item about “belief in a higher power.” However, if the response about “belief in God” was “No” or “Don’t know”, the participant was asked, “If you do not believe in God, do you believe in a higher power of some kind?” with the same response choices, “Yes”, “No”, or “Don’t know.” These two items were designed to establish a baseline understanding of how to interpret responses to *Section 11: Spiritual Wellbeing*.

In *Section 11: Spiritual Wellbeing* (Appendix A), the participant was prompted to respond to items of the Spiritual Wellbeing Scale (Ellison, 1983). The Spiritual Wellbeing Scale measures perceived quality of life and life satisfaction within the context of two subscales: religious wellbeing subscale (RWBS; odd numbered items) and existential wellbeing subscale (EWBS; even numbered items). In this section, the participant responded to the prompt, “These next set of questions ask you about your

thoughts and feelings about life, God, and yourself. For each statement, choose 1 of the 6 response choices to show how much you agree or disagree with that statement.”

Respondents then marked one response per question on a six point likert scale with response options: “I agree strongly”, “I agree moderately”, “I agree a little”, “I disagree strongly”, “I disagree moderately”, and “I disagree a little”.

The range of scores on the Spiritual Wellbeing Scale is 20 – 120 with a lower score indicating a lower spiritual wellbeing. However, these scores can be dichotomized into two additional scores, a score for RWBS (score range of 10 – 60) and one for EWBS (score range of 10 – 60). Internal consistency measures (alpha coefficients) for the total scale (0.89 – 0.94), in addition to the RWBS (0.82 – 0.94) and EWBS (0.78 – 0.86) have been reportedly high. Test-retest reliability for the SWBS (0.89 – 0.94), RWBS (0.82 – 0.94), and EWBS (0.78 – 0.86) had also been satisfactory (Ellison, 1983).

In *Section 12: Demographics* (Appendix A), the participant responded to eight items designed to identify personal demographic information to be used for subgroup comparisons. The respondent was first prompted, “I am regularly involved in the following activities (check all that apply)” followed by responses: “Church/faith-based activities”, “Community/civic activities”, “Full/part-time employment”, “My children’s/spouse’s activities”, “Sports or recreational activities”, and “Other”. The respondent was then prompted, “My gender is” followed by responses “Female” or “Male”. Lastly, the respondent was prompted, “My age is” followed by responses grouped by category, 1 = “under 20 years of age”, 2 = “20 – 29 years of age”, 3 = “30 – 39 years of age”, 4 = “40 – 49 years of age”, 5 = “50 – 59 years of age”, 6 = “60 – 69 years of age”, 7 = “70 years of age or more”.

Delphi Study Instruments

Two instruments were used to conduct the Delphi study. A moderately scheduled qualitative interview guide was used in the Round One telephone interviews. A follow-up questionnaire was used in Round Two to assess group feedback related to Round One results. Both instruments are described below.

Round One: Moderately scheduled, qualitative interview guide. The interview guide in Appendix B was used by the research team to conduct the moderately scheduled telephone interviews (Delphi study, Round One). The design of the guide was based on interview formats and techniques that are commonly used by qualitative researchers (Gilmore & Campbell, 2005; Trochim, 2001). The moderately scheduled interviews consisted of six core questions that lead to further discussion and probing questions facilitated by the research team. Key informants who participated in the Delphi study will subsequently be referred to as “Delphi participants” for clarity. The research team asked Delphi participants the following core questions via the telephone interview:

1. What do you see are the major health needs in your local community?
2. What are local churches doing to address these and other health issues?
3. What other organizations, activities or partnerships could be created to further address these issues?
4. How well equipped do you think the local church is to address important health issues?
5. If you recall, back in June 2006, some University students in collaboration with Drs. Doyle had church members fill out questionnaires asking about health program interests, health status, and spirituality. What were your impressions and experiences with this survey method?
6. How did this study address the assessment of pertinent health issues for your community?

These interview questions were also translated into Portuguese for use in interviewing Brazilian participants. All interviews were recorded and transcribed into qualitative data sets for analysis. One interview was conducted with the help of a translator; however, only the English portions of this interview were transcribed so all transcripts were analyzed in English.

Round Two: Follow-up questionnaire. As previously stated, the results of Round One of the Delphi study were used to create a follow-up questionnaire for Round Two. The follow-up questionnaire contained a separate table for each emerging theme. Each theme-specific table contained a list of related subthemes that had also emerged from Round One. Each subtheme was listed on a separate row of the table with two adjoining columns labeled “agree” and “disagree.” Instructions were provided in the questionnaire for respondents to place an “X” in the “agree” or “disagree” column beside each subtheme statement. At the bottom of the table was a “comments” box in which the participant could choose to enter written comments about the theme and subthemes. An actual description of all themes and subthemes is provided in the results chapter for Round One of the Delphi study.

Data Analysis

Data analyses for this study were implemented using two sets of data. A data set generated through the 2006 survey pilot was analyzed and interpreted to address Research Questions 1-3. A qualitative analysis of Delphi participant responses to an interview (Round One) and follow-up questionnaire (Round Two) was used to address Research Questions 4-6. Details about these analyses are provided below.

Analysis of Survey Pilot Responses

Not all data were analyzed from the pilot survey. Due to the inconsistencies of responses by participants and the high volume of missing data, *Section 7: Fruits and Vegetables*, was not analyzed for the purpose of this thesis. Also, because some survey participants did not indicate a response to each item of the SWBS, the researcher only included the completed survey in the data set if at least 70% of the 20 scale items were marked. If a survey participant did not respond to some items on the survey, but met the 70% complete criteria, the researcher determined the mean of the current SWBS item scores and then multiplied this mean by 20 (the total number of items in the scale) to adjust for the missing responses. The same approach was taken for each of the subscales; the researcher kept the participant's responses with at least 70% of the items answered; determined the mean for the subscale responses and then multiplied this by 10 (the total number of items in the subscale). Data from the surveys of 5 of the 66 participants were discarded because too many data were missing. This approach to adjust for missing data on the SWBS was utilized by Basset et al. (1991); however, Basset et al. was more stringent in that a 90% complete response was needed in order for the scale to be retained.

Descriptive statistics including the mean and standard deviation were computed for all variables measured using an interval or ratio level scale. Descriptive statistics including the mode were computed for variables measured using ordinal, interval, and ratio level scales. Frequencies were computed for nominal scale variables including respondents' program interests, personal health problems experienced in the past year, family history of health problems, and other survey health behavior variables.

Frequencies were computed on “yes” responses to health behavior variables with “yes”/“no” response choices from the survey (*Belief in God, Attempting Weight Maintenance, Physical Activity, Health Care Coverage, Attempting Weight Loss, Afford Health Care, and Belief in Higher Power*). One sample t-tests were used to determine if there were significant mean differences between American normative data and data from this Brazilian sample of the spiritual wellbeing of Baptist church members (Ledbetter et al., 1991).

Pearson-product moment correlations were used to determine if significant ($p < .05$) relationships existed between spiritual wellbeing (including SWBS, RWBS, and EWBS scores) and quality of life variables (*Current Health Status, HRQOL Mental and Physical Unhealthy Days*); and if relationships existed between spiritual wellbeing and total personal health problems. Pearson-product moment correlations were also used to determine if significant ($p < .05$) relationships existed between the 18 survey variables and spiritual wellbeing (including SWBS, RWBS, and EWBS scores), gender, and age.

A regression analysis was implemented to further examine relationships between quality of life variables (*Current Health Status, HRQOL - Mental and Physical Unhealthy Days*) and spiritual wellbeing scores (including RWBS, and EWBS scores); and *Total Personal Health Problems* and spiritual wellbeing (including SWBS, RWBS, and EWBS scores) while accounting for age and gender. For this analysis, total personal health problems constituted the criterion variable, and *Current Health Status, HRQOL - Mental and Physical Unhealthy Days, gender, age, RWBS, and EWBS* constituted predictor variables. For this analysis, predictor variables were entered into the regression equation simultaneously.

Analysis of Delphi Responses

Methods used to analyze the data collected through telephone interviews (Round One) and follow-up questionnaires (Round Two) are described below. This two-step approach to identifying emerging themes from data collected in one round and, then, analyzing feedback responses from the same group about those emerging themes in the next round, is commonly referred to as the Delphi technique (Gilmore & Campbell, 2005)

Round One: Analysis of moderately scheduled interview responses. The interview transcripts generated through the moderately scheduled interviews of the six key informants were analyzed using qualitative techniques. The research team (Researcher 1 and 2) independently analyzed the transcripts in search of recurring or emerging themes (Gilmore & Campbell, 2005). To accomplish this, the two researchers first worked independently of each other to examine each respondent transcript and identify primary themes that emerged from the data. The six primary questions used in the interview were used as a general framework of core concepts for this moderately selective coding process. Selective coding is systematically categorizing qualitative data with respect to pre-established core concepts (Trochim, 2001).

The two members of the research team first worked independently of each other and analyzed each respondent's transcript to identify primary themes that emerged from the data. The two researchers then compared these results to identify common and dissimilar findings. There were strong consistencies between researchers' identified themes with few discrepancies. Noted inconsistencies included one additional health problem ("stomach issues") listed only by Researcher 1; Researcher 1 categorized an

already established governmental partnership with a local church as an example within the future activities to address community needs (from interview question #3), whereas Researcher 1 had this categorized in what local churches were currently doing (from interview question #2); and differences in response coding in relation to interview questions 5 (*What were your impressions of the Summer 2006 efforts?*) and 6 (*How well did the 2006 study/other activities address health issues?*). Researcher 2 had also created two additional coding categories (*other recommendations* and *other comments*) whereas Researcher 1 had only created one additional coding category (*other*). The emerging themes identified by the researchers were then placed into one of six categories that were mostly guided by the six interview questions. Question #5 and #6 were highly related and, in some cases, redundant; therefore, the researchers merged the responses to both questions into one representative theme. A sixth theme category was then created to reflect additional participant comments regarding additional considerations related to partnership development. Subthemes were then developed by the researchers through discussion and back references to the data for supporting examples. A description of these resulting themes is provided in the following *Results* chapter.

Round Two: Analysis of Follow-up Questionnaire Responses. A frequency count of “agree” and “disagree” responses, as well as a count of participants who did not mark a response, was computed for each subtheme statement listed on the questionnaire. These frequencies were then compiled and analyzed to identify points of consensus and disagreement for individual subthemes.

To facilitate response interpretations within context, individual responses were coded (P1 – P6) to match each participant’s interview transcript and demographic data.

Additional comments added by individual participants were also coded for matching and interpretation purposes.

The researchers reported the total group frequency and individual participant response for each subtheme. Response interpretations were made in light of any additional comments written by individual participants, and self-reported levels of experience with their profession, the Brazilian community, and the research study. These responses were examined and interpreted within the broader context of the individual interviews and grouped emerging themes of Round One.

CHAPTER FOUR

Results

The purpose of this study was to examine Brazilian church members' health status, self-reported health behaviors, and interest in church-based health promotion programs. This chapter contains a description of results from the pilot survey and the qualitative Delphi portion of the study. Tables 1-22 are provided where appropriate for quick reference.

Survey Pilot Findings

With respect to the pilot survey, data analyses will be presented in the following sequence: a) Descriptive statistics for demographic data of participants, b) descriptive statistics for independent and dependent variables, c) results of one sample t-tests comparing sample means to known normative sample means, and d) correlation and multiple regression analyses.

Demographic Data of Participants

Sixty-six Brazilian male ($n = 25$) and female ($n = 41$) church members participated in this study ($N = 66$; $n = 30$ northwest region; $n = 36$ southeast region). An outline of participant age can be found in Table 1. The mode age category of the sample was 20-29 years (41.8% of the sample).

Table 1

Self-reported Age of Survey Participants

Age	Frequency			Percent (%)
	Male	Female	Total	Total
18 – 19 years	0	4	4	6.0
20 – 29 years	13	15	28	41.8
30 – 39 years	9	9	18	26.9
40 – 49 years	2	6	8	11.9
50 – 59 years	1	6	7	10.4
60 – 69 years	0	1	1	1.5

Participants were asked to indicate whether or not they were regularly involved in six different activities or responsibilities (participants were allowed to indicate more than one option). The activities queried and percentage of respondents indicating involvement were as follows - “Church or faith-based activities” (77.6%), “Sports or recreational activities” (50.7%), “Full- or part-time employment” (47.8%), “Community or civic activities” (32.8%), “My Children’s or Spouse’s activities” (31.3%), and “Other activities” (7.5%). Table 2 further describes the percentages of respondents reporting participation in these activities by gender.

Table 2

Frequencies of Participant Responsibilities and Activities

Responsibility/Activity	Frequency			Percent (%)
	Male	Female	Total	Total
Church or faith-based activities	21	31	52	77.6
Sports/Recreational	18	16	34	50.7
Full- or part-time employment	14	18	32	47.8
Community or civic activities	8	14	22	32.8
My Children’s or Spouse’s activities	6	15	21	31.3
Other activities	2	3	5	7.5

Descriptive Data

Descriptive statistics including the mean and standard deviation were computed for all variables measured using an interval or ratio level scale. As described in Table 3, participants averaged 1.22 ($SD = 1.19$, $n = 66$) total personal health problems, 3.28 ($SD = 3.22$, $n = 66$) total family history health problems, 3.24 ($SD = 5.58$, $n = 55$) HRQOL physically unhealthy days (per month), and 8.78 ($SD = 8.44$, $n = 58$) HRQOL mental unhealthy days (per month).

Table 3

Descriptive Statistics (Mean, SD, Mode, and Sample Size) for Survey Variables

Survey Variable	Mean	SD	Mode (% Responded)	<i>n</i>
Total Personal Health Problems	1.22	1.191	1 (40.3%)	66
Total Family History Health Problems	3.28	3.223	1 (20.9%)	66
Current Health Status	--	--	“Good” (46.8%)	63
HRQOL – Physical Days	3.24	5.578	0 (44.4%)	55
HRQOL – Mental Days	8.78	8.442	0 (21.1%)	58
Health Care Coverage	--	--	“No” (60.6%)	63
Doctor Care	--	--	“No” (63.1%)	66
Afford Healthcare	--	--	“No” (75.0%)	65
Physical Activity	--	--	“Yes” (63.1%)	66
Attempting Weight Loss	--	--	“No” (71.2%)	66
Attempting Weight Maintenance	--	--	“Yes” (63.1%)	66
Doctor Advice to Control Weight	--	--	“No” (55.4%)	66
Belief in God	--	--	“Yes” (100%)	66
Belief in Higher Power	--	--	--	7
Total SWBS scores	105.15	8.943	110 (10.4%)	61
Total RWBS score	54.46	3.589	55 (40.3%)	61
Total EWBS score	50.73	6.994	55 (11.9%)	61

The sample’s spiritual wellbeing was assessed using the SWBS and its subscales (RWBS and EWBS) as outlined by Tables 3 and 4. The mean SWBS score for total participants was 105.15 ($SD = 8.94$, $n = 61$), male mean was 103.42 ($SD = 7.99$, $n = 23$), and female mean was 106.2 ($SD = 9.42$, $n = 38$); the mean RWBS score for total

participants was 54.46 ($SD = 3.59, n = 61$), male mean was 53.80 ($SD = 3.62, n = 23$), female mean was 54.86 ($SD = 3.56, n = 38$); and the mean EWBS score for total participants was 50.73 ($SD = 6.99, n = 61$), male mean was 49.66 ($SD = 6.39, n = 23$), female mean was 51.38 ($SD = 7.34, n = 38$).

Table 4

Spiritual Wellbeing Scores Divided by Gender

Spiritual Wellbeing	Mean ($\pm SD$)		
	Male	Female	Total
SWBS Score	103.42 (± 7.99)	106.2 (± 9.42)	105.15 (± 8.94)
RWBS Score	53.80 (± 3.62)	54.86 (± 3.56)	54.46 (± 3.59)
EWBS Score	49.66 (± 6.39)	51.38 (± 7.34)	50.73 (± 6.99)

Tables 5 - 10 contain a complete listing of all response frequencies on program interests divided by category: *Handling Health Problems* (Table 5), *Protecting My Health* (Table 6), *Recreation and Exercise* (Table 7), *Marriage and Family Matters* (Table 8), *Learning How To. . .* (Table 9), *Spiritual Needs* (Table 10). The top three *Handling Health Problems* program interests (Table 5) included depression/anxiety (59.1% of sample), drug and alcohol abuse (37.8%), and diabetes (33.3%). The top four *Protecting My Health* program interests (Table 6) included managing stress (53.0%), first aid (43.9%), nutrition and eating (42.4%), and weight loss (42.4%). The top three *Recreation and Exercise* program interests (Table 7) included, walking or jogging (59.1%), swimming (28.8%), and exercise classes (27.2%). The top four *Marriage and Family Matters* program interests (Table 8) included marriage relationships (53.0%), parenting adolescents (46.9%), taking care of older parents (40.9%), and parenting children (39.4%). The top three *Learning How To. . .* program interests (Table 9) included take care of money (47.0%), find a job (37.9%), and read (13.6%). The top

three *Spiritual Needs* program interests (Table 10) included special prayer (48.5%), Bible study (33.3%), and spiritual counseling (33.3%).

Table 5

Frequency of Respondent's Handling Health Problems Program Interests

Handling Health Problems	Frequency			Percent (%)
	Male	Female	Total	Total
Depression/Anxiety	14	25	39	59.1
Drug/Alcohol Abuse	8	17	25	37.8
Diabetes	8	14	22	33.3
High Blood Pressure	11	10	21	31.8
Cancer	5	16	21	31.8
High Cholesterol	6	15	21	31.8
Heart Disease	6	11	17	25.8
AIDS	2	13	15	22.7
Eating Disorders	1	13	14	21.2
Stroke	2	8	10	15.1
Hearing Problems	1	5	6	9.1
Others	0	2	2	3.0

Table 6

Frequency of Respondent's Protecting My Health Program Interests

Protecting My Health	Frequency			Percent (%)
	Male	Female	Total	Total
Managing Stress	12	23	35	53.0
First Aid	8	21	29	43.9
Nutrition/Eating	10	18	28	42.4
Weight Loss	5	23	28	42.4
Dental Care	8	13	21	31.8
Stop Smoking	7	8	15	22.7
CPR	6	7	13	19.7
Safety Injuries	4	8	12	18.1
Others	0	2	2	3.0

Table 7

Frequency of Respondent's Recreation and Exercise Program Interests

Recreation and Exercise	Frequency			Percent (%)
	Male	Female	Total	Total
Walking or Jogging	14	25	39	59.1
Swimming	7	12	19	28.8
Exercise Classes	5	13	18	27.2
Soccer	9	4	13	19.7
Weight Lifting	8	5	13	19.7
Volleyball	3	8	11	16.7
Other Activities	5	2	7	10.6
Tennis	2	4	6	9.1
Basketball	3	1	4	6.1

Table 8

Frequency of Respondent's Marriage and Family Matters Program Interests

Marriage and Family Matters	Frequency			Percent (%)
	Male	Female	Total	Total
Marriage Relationship	13	21	35	53.0
Parenting Adolescents	9	21	31	46.9
Taking Care of Older Parents	10	17	27	40.9
Parenting Children	8	17	26	39.4
Being a Widow	3	11	14	21.2
Other Family Matters	0	6	6	9.1

Table 9

Frequency of Respondent's Learning How To . . . Program Interests

Learning How To . . .	Frequency			Percent (%)
	Male	Female	Total	Total
Take Care of Money	11	19	31	47.0
Find A Job	6	18	25	37.9
Read	2	7	9	13.6
Other Skill	4	2	6	9.1

Table 10

Frequency of Respondent's Spiritual Needs Program Interests

Spiritual Needs	Frequency			Percent (%)
	Male	Female	Total	Total
Special Prayer	9	23	32	48.5
Bible Study	7	15	22	33.3
Spiritual Counseling	8	14	22	33.3
Discipleship	5	13	18	27.2
Visit from Church member or Pastor	2	6	8	12.1
Other	3	5	8	12.1

Frequencies were also computed for personal health problems experienced in the past year (Table 11) to provide a description of the current health status of the responding sample. The top three personal health problems included pneumonia/influenza (20.9%), vision problems (19.4%), and depression/anxiety (17.9%). For a complete description of all the frequencies of personal health problems experienced in the past year and divided by gender, please refer to Table 11.

Frequencies were computed for self-reported family history of health problems (Table 12). Respondents identified the top four family history health problems as being high blood pressure (40.3%), diabetes (37.3%), vision problems (31.3%), and pneumonia/influenza (26.9%). Please refer to Table 12 for a more detailed explanation of family history of health problems.

Frequencies were computed on “yes” responses to health behavior variables with “yes”/“no” response choices from the survey (Table 13). One hundred percent (100%) of respondents agreed that they believe in God, 62.7% are attempting to maintain their current weight, 62.7% of participants have participated in physical activity in the past month, 38.8% have healthcare coverage (governmental or private), 28.4% are attempting to lose weight, 23.9% have been unable to see a doctor in the past year because of cost,

and 10.4% believe in a higher power. For a more detailed account of the frequencies of health survey variables with possible “yes” or “no” responses, please refer to Table 13.

Modes were computed to examine the most frequent responses to questions regarding participants’ health behaviors (Table 14) on the survey. The majority (61.2%) of participants do not have one doctor they think of as their primary doctor, 55.2% of participants have not received advice from a healthcare professional about controlling their weight, and 44.8% of participants described their personal health status as “Good.” Please refer to Table 14 for a complete breakdown of these item’s modes by gender.

Table 11

Frequency of Self-Reported Personal Health Problems Experienced in the Past Year

Heath Problems	Frequency			Percent (%)
	Male	Female	Total	Total
Pneumonia/Influenza	7	7	14	21.1
Vision Problems	2	11	13	19.7
Depression/Anxiety	4	8	12	18.1
High Blood Pressure	5	2	7	10.6
Eating Disorder	1	6	7	10.6
Dengue Fever	1	5	6	9.1
Other	3	3	6	9.1
High Cholesterol	1	3	4	6.1
Diabetes	0	3	3	4.5
Hearing Problems	1	2	3	4.5
Heart Disease	1	2	3	4.5
Dysentery	0	2	2	3.0
Malaria	1	0	1	1.5
Bronchitis	0	0	0	0.0
Cancer	0	0	0	0.0
Cholera	0	0	0	0.0
Drug/Alcohol Abuse	0	0	0	0.0
Emphysema	0	0	0	0.0
Hepatitis A/B/C	0	0	0	0.0
HIV/AIDS	0	0	0	0.0
Meningitis	0	0	0	0.0
Stroke	0	0	0	0.0
Tuberculosis	0	0	0	0.0
Yellow Fever	0	0	0	0.0

Table 12

Frequency of Self-Reported Family History Health Problems

Health Problem	Frequency			Percent (%)
	Male	Female	Total	Total
High Blood Pressure	11	16	27	40.9
Diabetes	9	16	25	37.9
Vision Problems	7	14	21	31.8
Pneumonia/Influenza	5	13	18	27.2
Cancer	5	12	17	25.8
High Cholesterol	4	13	17	25.8
Depression/Anxiety	2	14	16	24.2
Drug /Alcohol Abuse	5	10	15	22.7
Dengue Fever	2	8	10	15.1
Stroke	2	8	10	15.1
Bronchitis	3	5	8	12.1
Heart Disease	2	6	8	12.1
Eating Disorder	1	5	6	9.1
Hepatitis A/B/C	1	4	5	7.6
Hearing Problems	1	3	4	6.1
Malaria	1	3	4	6.1
Tuberculosis	0	3	3	4.5
Meningitis	0	2	2	3.0
Other	0	2	2	3.0
Emphysema	0	1	1	1.5
Cholera	0	0	0	0.0
Dysentery	0	0	0	0.0
HIV/AIDS	0	0	0	0.0
Yellow Fever	0	0	0	0.0

Table 13

Frequency of Respondents Who Answered "Yes" to Survey Health Behavior Variables

Health Behavior Variable	Frequency			Percent (%)
	Male	Female	Total	Total
Belief in God	25	41	66	100.0
Attempting Weight Maintenance	15	26	41	62.1
Physical Activity	19	22	41	62.1
Health Care Coverage	6	20	26	39.3
Attempting Weight Loss	4	15	19	28.8
Afford Healthcare	5	10	15	22.7
Belief in Higher Power	3	4	7	10.6

Table 14

Modes of Respondent's Health Behavior Variables

Health Behavior Variable	Mode		
	Male	Female	Total (Percent)
Doctor Care	"No"	"No"	"No" (61.2%)
Doctor Advice to Control Weight	"No"	"No"	"No" (55.2%)
Current Health Status	"Good"	"Good"	"Good" (44.8%)

One Sample T-tests

One sample t-tests were used to determine if there were significant mean differences between American normative data and data from this Brazilian sample of Baptist church members. There was no significant difference between total SWBS score in the collected Brazilian sample ($M = 105.15$) and an American Baptist population ($\mu = 105.02$) as described by Ledbetter et al. (1991), $t(60) = .118$, $p = .906$. There was also no significant difference between the RWBS between the Brazilian sample mean, $M = 54.48$, and an American Baptist population, $\mu = 53.91$, $t(60) = 1.195$, $p = .237$. However, there was a significant difference $t(60) = 3.220$, $p = .002$ between the EWBS score means. Brazilian Baptist church members had a higher mean of 50.73 compared to American Baptist church members who had a mean of 47.85 (Ledbetter et al., 1991).

Correlations and T-tests

Pearson-product moment correlations were used to determine if significant ($p < .05$) relationships existed between quality of life variables (*Current Health Status*, *HRQOL Mental and Physical Unhealthy Days*) and spiritual wellbeing (including SWBS, RWBS, and EWBS scores). Table 15 contains a correlation matrix with the aforementioned variables. Five significant relationships were identified, *SWBS* score and *HRQOL Mental Unhealthy Days*, $r = -.292$, $p = .032$; *EWBS* score and *HRQOL Mental*

Table 15

Quality of Life Variables and Total Spiritual Wellbeing Scores

Measure	Health Status		HR-QOL Mental		HR-QOL Physical		SWBS score		RWBS score		EWBS score	
	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value
Health Status	1.000	-	0.030	.828	-0.274	.052	-0.015	.909	-0.132	.328	0.049	.718
HR-QOL Mental			1.000	-	0.223	.113	-0.292*	.032	-0.038	.784	-0.345*	.011
HR-QOL Physical					1.000	-	0.044	.760	-0.003	.984	0.056	.695
SWBS Score							1.000	-	0.674*	.000	0.926*	.000
RWBS Score									1.000	-	0.347*	.006
EWBS Score											1.000	-

* denotes significant score (p < .05)

Unhealthy Days, $r = -.345$, $p = .011$; *SWBS* score and *RWBS* score, $r = .674$, $p = .000$; *SWBS* score and *EWBS* score, $r = .926$, $p = .000$; and *RWBS* score and *EWBS* score, $r = .347$, $p = .006$. No other significant relationships were identified.

Pearson-product moment correlations were also used to determine if significant ($p < .05$) relationships existed between total personal health problems and dimensions of spiritual wellbeing (including *SWBS*, *RWBS* and *EWBS* scores). No significant relationships were found between total personal health problems and scores of spiritual wellbeing (Refer to Table 16).

Table 16

Correlations for Total Health Problems and Spiritual Wellbeing Scores

Survey Variables	SWBS score		RWBS score		EWBS score	
	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value	<i>r</i>	<i>P</i> -value
Total Health Problems	-0.101	0.439	-0.084	0.518	-0.090	0.492

Additional correlations were run to examine relationships between the total *SWBS* score and 18 variables described in the survey (Table 17). Similar analyses were conducted to examine relationships between survey variables and *SWBS* subscales (*RWBS* [Table18] and *EWBS* [Table 19]). Finally, correlations were computed to determine relationships between age and the survey variables (Table 20), and independent t-tests were computed to determine gender differences between several survey variables (Table 21).

Concerning correlations between *SWBS* score and the variables of the survey (Table 17), three significant relationships were found - between *HRQOL Mental Unhealthy Days* and *SWBS*, $r = -.292$, $p = .032$; *RWBS* and *SWBS*, $r = .674$, $p = .000$;

and EWBS and SWBS, $r = .926$, $p = .000$. No other significant relationships were found between the SWBS score and survey variables.

Table 17

Correlations between SWBS Score and Survey Variables

Survey Variables	SWBS score		
	<i>r</i>	<i>P</i> -value	<i>n</i>
Total Personal Health Problems	-.101	.439	61
Total Family History Health Problems	-.280	.829	61
Current Health Status	-.015	.909	57
HRQOL – Physical Days	.044	.760	51
HRQOL – Mental Days	-.292*	.032	54
Health Care Coverage	-.010	.938	61
Doctor Care	.018	.894	60
Afford Healthcare	-.096	.474	58
Physical Activity	.050	.702	60
Attempting Weight Loss	.014	.913	61
Attempting Weight Maintenance	-.015	.912	59
Doctor Advice to Control Weight	.196	.134	60
RWBS Score	.674*	.000	61
EWBS Score	.926*	.000	61
Gender	-.152	.242	61
Age	.172	.185	61

Note. Females were assigned a 0 and males were assigned a 1 for correlations.

* denotes significant score ($p < .05$)

Concerning correlations between RWBS score and survey variables (Table 18), two significant relationships were found between the RWBS score and the SWBS score $r = .674$, $p = .000$; and EWBS score $r = .347$, $p = .006$. No other significant relationships were found between the RWBS score and survey variables.

Regarding correlations between the EWBS score and survey variables (Table 19), three significant relationships were found one of which has already been reported (between HRQOL mental unhealthy days and EWBS). The two significant relationships were between the EWBS score and the SWBS score $r = .936$, $p = .000$; and the RWBS

score $r = .347, p = .006$. No other significant relationships were found between the EWBS score and survey variables.

Table 18

Correlations between RWBS Score and Survey Variables

Survey Variables	RWBS score		
	<i>r</i>	<i>P</i> -value	<i>n</i>
Total Personal Health Problems	-.084	.518	61
Total Family History Health Problems	.209	.107	61
Current Health Status	-.132	.328	57
HRQOL – Physical Days	-.003	.984	51
HRQOL – Mental Days	-.038	.784	54
Health Care Coverage	-.009	.947	61
Doctor Care	-.021	.872	60
Afford Healthcare	-.001	.994	58
Physical Activity	.119	.366	60
Attempting Weight Loss	-.105	.422	61
Attempting Weight Maintenance	.101	.446	59
Doctor Advice to Control Weight	.135	.302	60
SWBS Score	.674*	.000	61
EWBS Score	.347*	.006	61
Gender	-.144	.267	61
Age	.039	.763	61

Note. Females were assigned a 0 and males were assigned a 1 for correlations.

* denotes significant score ($p < .05$)

Table 19

Correlations between EWBS Score and Survey Variables

Survey Variables	EWBS score		
	<i>r</i>	<i>P</i> -value	<i>n</i>
Total Personal Health Problems	-.090	.492	61
Total Family History Health Problems	-.145	.265	61
Current Health Status	.049	.718	57
HRQOL – Physical Days	.056	.695	51
HRQOL – Mental Days	-.345*	.011	54
Health Care Coverage	-.005	.972	61
Doctor Care	.037	.777	60
Afford Healthcare	-.114	.396	58
Physical Activity	.005	.967	60
Attempting Weight Loss	.075	.567	61
Attempting Weight Maintenance	-.062	.639	59
Doctor Advice to Control Weight	.172	.188	60
SWBS Score	.926*	.000	61
RWBS Score	.347*	.006	61
Gender	-.120	.357	61
Age	.196	.130	61

Note. Females were assigned a 0 and males were assigned a 1 for correlations.
* denotes significant score ($p < .05$)

Four significant relationships were found between age and current health status $r = -.263, p = .039$; mentally unhealthy days per month $r = -.300, p = .023$; healthcare coverage $r = -.252, p = .041$; and care by a consistent doctor $r = -.310, p = .012$. No other significant relationships were found between age and survey variables (Table 20).

Independent t-tests were conducted to examine relationships between males and females on several survey variables (Table 21). No significant differences were determined between males and females on of the following survey variables: total personal health problems, total family history of health problems, HRQOL physically unhealthy days, HRQOL mentally unhealthy days, SWBS score, RWBS score, and EWBS score.

Table 20

Correlations between Age and Survey Variables

Survey Variables	Age		
	<i>r</i>	<i>P</i> -value	<i>n</i>
Total Personal Health Problems	.094	.452	66
Total Family History Health Problems	-.068	.589	66
Current Health Status	-.263*	.039	62
HRQOL – Physical Days	.063	.651	54
HRQOL – Mental Days	-.300*	.023	57
Health Care Coverage	-.252*	.041	66
Doctor Care	-.310*	.012	65
Afford Healthcare	.141	.269	63
Physical Activity	.047	.711	65
Attempting Weight Loss	-.063	.615	66
Attempting Weight Maintenance	.007	.958	64
Doctor Advice to Control Weight	-.127	.313	65
SWBS Score	.172	.185	61
RWBS Score	.039	.763	61
EWBS Score	.196	.130	61
Gender	-.131	.293	66

Note. Females were assigned a 0 and males were assigned a 1 for correlations.

* denotes significant score ($p < .05$)

Table 21

Gender Differences on Survey Variables (Independent T-tests)

Survey Variables	Male <i>M</i>	Female <i>M</i>	<i>df</i>	<i>t</i>	<i>P</i> -Value
Total Personal Health Problems	1.08	1.32	64	0.776	.440
Total Family History Health Problems	2.44	3.85	64	1.749	.085
HRQOL – Physical Days	2.23	4.03	52	1.165	.250
HRQOL – Mental Days	6.77	10.29	55	1.550	.127
SWBS Score	103.42	106.20	59	1.181	.242
RWBS Score	53.80	54.86	59	1.121	.267
EWBS Score	49.66	51.38	59	0.928	.357

Regression Analysis

A regression analysis was run to further examine relationships between quality of life variables (*Current Health Status, HRQOL - Mental and Physical Unhealthy Days*), spiritual wellbeing scores (including SWBS, RWBS, and EWBS scores), and total personal health problems and spiritual wellbeing (including SWBS, RWBS, and EWBS scores) while accounting for age and gender. For this analysis, total personal health problems constituted the criterion variable, and current health status, HRQOL - mental and physical unhealthy days, gender, age, RWBS, and EWBS constituted predictor variables. For this analysis, predictor variables were entered into the regression equation simultaneously. The overall model failed to reach significance, $F(7, 42) = 1.023, p > .05, R^2 = .146, \text{Adjusted } R^2 = .003$.

Qualitative Delphi Technique

Demographic descriptions of the six Delphi technique participants who participated in both rounds of the technique are described below. Results from Round One, the telephone interviews, are then summarized, followed by a summary of results from Round Two, the emailed follow-up questionnaires, are then reported.

Participant Demographics

Six Brazilian ($n = 2$) and American ($n = 4$) key informants who partnered with the research team participated in a telephone interview designed to measure their perceptions about health needs in their community, the capacity of local churches to address those needs, and the efficacy and impact of the 2006 survey pilot. This group of six individuals (interview participants) consisted of three community-based partners from each of the two geographic regions in which the survey was piloted. In each region, the group of

three invited key informants included one leader of local Brazilian Baptist churches, an American healthcare project partner, and a leader of the faith-based partnering organization who helped implement the survey pilot in that region. At least one Brazilian key informant from each geographic region also aided in the 2006 survey participant.

All six participants were adults over the age of 18 (age range: 40 – 54 years). Experience in the participants' professions ranged from 4 years to more than 20 years, and the participant's experience with Brazilian communities ranged from less than one year to more than 20 years. Participant 1 was a 51 year old female American leader of a faith-based partnering organization with 4 years of experience in this profession, and 4 years experience working with Brazilian communities. Participant 2 was a 54 year old female American healthcare professional with more than 20 years experience in the profession and between 15 - 19 years experience with Brazilian communities. Participant 3 was a 50 year old female American healthcare professional with more than 20 years experience in the profession, and less than one year experience with Brazilian communities. Participant 4 was a 49 year old female Brazilian leader of a local church with more than 20 years of experience in this profession and more than 20 years experience working with Brazilian populations. Participant 5 was a 53 year old male American leader of a faith-based partnering organization with 10 - 14 years experience and more than 20 years or more experience with Brazilian communities. Participant 6 was a 40 year old Brazilian church leader with 15-19 years of experience in this profession and more than 20 years experience with Brazilian populations.

Round One: Telephone Interview Findings

Six recurring or emerging themes resulted from the moderately scheduled telephone interviews and reviewer analyses. These six themes include: a) primary community health needs, b) current efforts of local churches, c) future organizational partnerships and activities, d) capacity of the local churches, e) suggested approaches to research and community partnerships, f) issues to consider. Figures 1 and 2 illustrate these six themes and the subthemes associated with each. Each theme and subtheme set is described below.

Theme 1: Primary community health needs. Responses that supported this theme were largely made in response to the first interview question, “What do you see are the major health needs in your local Brazilian community?” Three common subthemes were identified; the first subtheme was *Low healthcare access, population influx, and unemployment have created various health problems for Brazilians.* Participant 1 (P1) stated, “I mean one major factor in all that is unemployment, which gives people enough time to get involved in drugs and alcohol often times and to escape from things through that.” Selected comments from other participants that also supported this subtheme are listed below.

Accessibility . . . I see there’s a lack of communication or a lack of accessibility much like we see in our own country [*United States*]. There are things out there, there are programs out there, but people don’t know about them. People don’t know how to access them (P2).

I remember distinctly thinking that the healthcare workers [*in local clinics*] . . . didn’t seem particularly busy. In a healthcare setting like that in the United States, you would have seen people falling over themselves trying to see the next patient, the next patient, the next patient . . . perhaps we just happened to hit them at a really, really, really quiet time or people weren’t interested in being seen right then, but it seemed like . . . I don’t know if people are afraid to go, I don’t know if

Table 22

Emerging Themes 1-4 with Subthemes

Theme 1: Primary community health needs

- *Subtheme 1.* Low healthcare access, population influx, and unemployment have created various health problems for Brazilians.
 - *Subtheme 2.* Poverty and lack of healthcare contribute to high levels of malnutrition, alcohol and drug abuse, poor hygiene, and other basic health needs.
 - *Subtheme 3.* Sanitation, sewage, and clean water supplies continue to cause preventable health problems such as skin and stomach illnesses, and water- and insect-borne diseases.
-

Theme 2: Current efforts of local churches

- *Subtheme 1.* Most churches assist with individualized cases, but few churches are currently actively involved in community health promotion.
 - *Subtheme 2.* The church appears to not focus on community health issues, but rather on individual's spiritual needs.
 - *Subtheme 3.* The church is an untapped resource for addressing health needs in the community.
-

Theme 3. Future organizational partnerships and activities

- *Subtheme 1.* Partnerships could be created between local municipalities (public health departments), universities, government entities, schools and churches.
 - *Subtheme 2.* Churches could join government sponsored health education activities that are currently in progress.
 - *Subtheme 3.* Continued partnership with Baylor University is important to help facilitate program sustainability through a "train-the-trainer" model.
 - *Subtheme 4.* Combine medical services with health education efforts to reach a broader scope of people and to meet their needs.
 - *Subtheme 5.* Community health fairs/social service events and church-based education efforts, combined with family health services, would be ideal.
-

Theme 4. Capacity of the local churches

- *Subtheme 1.* Most churches have the capacity to provide health promotion and health education ministries that equip people with knowledge and skills to live in healthy ways.
 - *Subtheme 2.* However, the ability to become involved in health care will differ from church to church.
 - *Subtheme 3.* Influencing factors can include church vision, motivation, finances, professional skills, and partnership mechanisms.
 - *Subtheme 4.* Many churches are unaware of their capacity to promote health.
 - *Subtheme 5.* The church is equipped to serve as a facilitator or host that links the community to health organizations and other partnering groups.
-

there is an access problem, or if they don't get the service that they need is not there. I don't know! (P3).

I really don't think, compared to other Brazilian cities our size, that our services are bad, but comparing this to the ideal or what it could be, we still have a long way to go . . . [An] ...influx of new people has created new demands on many services including those that have to do with health services . . . maintaining good health services with this increase will be very challenging (P6).

Subtheme 2 for Theme 1 was *Poverty and lack of healthcare contribute to high levels of malnutrition, alcohol and drug abuse, poor hygiene, and other basic health needs*. The following quotes further illustrate group perspectives on this theme:

Yes there are some good health programs in [community name] . . . state-of-the-art hospital . . . however, the basic hygiene; basic health needs are very evident. And I see there's a lack of communication or a lack of accessibility . . . there are programs out there, but people don't know about them. People don't know how to access them . . . Healthcare in [community name] seemed inexpensive compared to American standards, but to a Brazilian it is just all a very expensive process (P2).

The people groups that I . . . have lived and worked among, the health issues I think are somewhat from a lack of knowledge of hygiene and the other part is from poverty and malnutrition, from just not having enough to eat, not having the right things to eat. I don't know which comes first . . . I kind of think the not having the right things to eat comes as the heavy issue (P4).

Subtheme 3 was *Sanitation, sewage, and clean water supplies continue to cause preventable health problems such as skin and stomach illnesses, and water- and insect-borne diseases*. Participant 6 explained that, "one of the big problems is how we handle waste, our waste . . . sanitary, sewage system is precarious and not completely servicing all areas of the community." Participant 5 elaborated:

Probably . . . better water sanitation because it seems to me that a lot of the stomach and skin problems that the poor neighborhoods have due to poor water conditions. It's not good sanitary water conditions. I don't know if that is a health need . . . Well, and what comes with that . . . you know there are insects that are around bad water. It may be sewer and sanitation along with that . . . where bad water is gotten rid of and good water is actually good. So, maybe I need to kind of put that sidebar to that.

One participant named a health issue that was not mentioned by other participants. Participant 3 identified men's health issues (such as prostate screening) as a potential health problem in the local community. As can be noted in her quote below, this decision was based upon a comment heard from a Brazilian healthcare worker:

I remember her [*a Brazilian healthcare worker*] talking about prostate screening and some other kinds of things like that, that were more men's issues. And I remember thinking that particularly in that culture it probably is a harder thing for Brazilian men to say, oh yeah, I want to talk about prostate screening.

Theme 2: Current efforts of local churches. Most of the participants responses that supported Theme 2 were solicited by the interview question, "What are local churches doing to address these and other health issues?" Three common subthemes emerged in relation to this theme. The first subtheme was *Most churches assist with individualized cases, but few churches are currently actively involved in community health promotion.* In relation to this, Participant 1 stated, "I am not sure how many churches down there are doing that kind of thing [*educational after school promotion programs for children*]." The following quotes further illustrate group perspectives on this subtheme:

I don't think that they [*local churches*] have seen themselves in that role [*addressing community health needs*] before . . . because they weren't doctors or nurses or that they didn't see that they had a role. I think that because of your program there, they now are seeing that more (P2).

Some of them have like special health days and they will bring in volunteers such as nursing or dental population. Like usually the dental students will volunteer and come in and give people . . . like one day free service, for like the kids getting their teeth cleaned, or teaching them how to brush, how to floss, people registering . . . nurses registering blood pressure and things like that. People that cut hair will come in and give haircuts and whatever . . . you know, offering those kinds of services that are . . . easy to be done . . . that are possible to be done in a day. Sometimes they can recruit doctors that will offer services for a morning. So, sometimes a few, this isn't an ongoing or heavily done thing, but on occasion these things do happen and or have been happening to over the last two or maybe

three years in that the municipalities have been promoting these kinds of things . . . but for the churches . . . it's not a heavily, let's see, well accomplished . . . history, something that is very evolved (P4).

Well, I'm afraid they are not doing much. You know, I think individually families may try to help and take care of their own. But overall, as far as a community health approach, I don't think they are doing much. Part of that is just due to the economics of being able to do something like that . . . it's just difficult You do have some . . . like the Leprosy hospital is run in partnership with the Catholic church and the Brazilian government. So, in communities you may have posters up showing if you have this, this, and this, you need to come get checked because you may have Hansen's disease which we know is Leprosy. They also may have if you have this, this, and this, you may have Dengue Fever so there are some posters around, but again, most all health is associated in a socialized system with a government entity. It is difficult to have private healthcare with very large outgoing promotions and, you know, trying to get people into the healthcare clinics usually it is word of mouth when we do a local health clinic with a local church (P5).

To be perfectly frank, I don't think the churches have tackled this problem in any effective way. We sometimes deal with individuals on a case-by-case bases, but in terms of a program or something organized that the churches, either that my church or any other church, I don't think there are really any programs designed to meet the health needs (P6).

The second subtheme for Theme 2 was *The church appears to not focus on community health issues, but rather on individual's spiritual needs*. The following quotes further illustrate group perspectives on this subtheme:

I don't . . . my perception and again, this is very, very rudimentary . . . my perception was that this [*community health needs*] is not something that the local churches have addressed at all. And, I don't think it is just Brazilian. I think the church here in the US also have not looked at the whole, more holistic view of the individual. We tend to treat just the spiritual part . . . and my perception is that the Brazilian church is similar to that and they have not made many steps either to reach out in a more physical and if you want to say a practical way . . . as the church, we are very concerned about the spiritual, but people are drawn . . . when they see that you are concerned about them in ways in other than just the spiritual. And frankly, people have to eat and they don't have healthcare and they don't have dental insurance and can't buy eye glasses. And, when you are able to provide some of those services, then they are interested in hearing more about what you have to say (P3).

I would say that the majority of the local churches are . . . if you put it on a scale of poor, fair, good, and excellent. I would say the majority are in a fair status . . .

maybe I exaggerated, maybe between fair and good . . . okay, let's give it a good. No, not for reaching out though, just for keeping standards for the way they sanction it would be good, but to the community – how equipped? That would only be fair (P4).

The final subtheme for Theme 2 was *The church is an untapped resource for addressing health needs in the community*. The following quotes further illustrate group perspectives on this subtheme:

They [*local churches*] have a great potential for ministering to the health needs They have nurses, like this layperson who isn't a nurse, but she had vast experience working with children, handing down recipes from her mother and grandmother on teas and different things to make and do and I see that as an untapped resource Where you all did the program, you really opened the eyes of the people to say, we can minister, we can reach out, we can do something about this with just some very basic things. You don't have to have, you know, a state of the art clinic or equipment . . . basic hygiene, how do you get colds, what do you do about it? Hand washing techniques, teas, home remedies that are very effective (P2).

I think there is a strong potential, but we have never had or currently lack any way of tapping into that potential. We don't have any program or any mechanism for . . . although the church is a potential source of help. There is not a way to tap into it (P6).

Theme 3: Future organizational partnerships and activities. Responses that contributed to the emergence of Theme 3 were predominantly prompted by the question, “What other organizations, activities, and partnerships could be created to further address these health issues?” Five subthemes were identified; the first subtheme was *Partnerships could be created between local municipalities (public health departments), universities, government entities, schools and churches*. The following quotes illustrate group perspectives on this subtheme:

It could work [*churches partnering with municipalities*], if not the municipality, at least the universities . . . partnerships like the Baylor health education would be important to being done with local health organizations rather I should say through a local university through maybe even a local health department (P4).

Projects like we are beginning to see and are developing with Baylor . . . has potential . . . On the other hand . . . churches internally can seek out contacts and collaborations with public health organization or public health services on their own . . . in some respects for the very basic health needs, the public health service works reasonably well especially within the established part of town, the core of town. So, the church would need to position itself to expand and not duplicate those basic services. But, I think there is an opportunity for the church to continue . . . One local potential is one of the big mining industries – San Marcos enterprises – one of the big employers in the region has been very open to developing partnerships that meet social needs. For example, they made a partnership with the Baptist convention a few years ago to help provide some support for sailors who were coming into port. Sailors arrive at port with a variety of needs including legal needs and health needs and social needs. There has been an ongoing partnership that San Marcos has helped provide funding for. So that is one potential partner (P6).

Subtheme 2 was *Churches could join government sponsored health education activities that are currently in progress*. One participant stated the following.

Well, as far as [*partnerships with the*] Brazilian government, I think that could be done For example at the Indian village . . . the government nurses were there . . . doing Malaria screening and they were doing different screenings and they were very open and we had open discussion about what we were doing there and what they were doing there. And, they really wanted some kind of partnership, you know, can you come in and help us. In fact, the dentist, I keep going back to the dental health in the Indian village because that was a major issue in the village. The dentist said I will give my chair, I will give all my equipment, I will provide all that if you will just bring a dentist down to help me. So, I think that the government, Brazilian government is open to some of that especially back in the indigenous areas where healthcare is even more precarious than in [*community name*] (P2).

The third subtheme theme was *Continued partnership with Baylor University is important to help facilitate program sustainability through a ‘train-the-trainer’ model*.

The following quotes illustrate group perspectives on this subtheme:

Doing a lot of what you all did and I think that there needs to be a core group taught your program, your manual, that is excellent, and that that then, they could be the teachers. You all go and equip the teachers and then they go in and equip the local churches. Because I don’t think, you know, that we can’t send enough people down there to do a class every six month or every four months, or whatever is needed to keep the local church equipped and on top of things (P2).

They [*public health professionals with whom we met*] were very, very interested in perhaps partnering with a group like the group from Baylor to come and do some health education and health fairs and I think that kind of thing, a health fair would be really good . . . where we did different little stations and each of the students used different piece of knowledge that they had to do a free little demonstration, whether it was taking the BP or . . . giving the classes on how to control diarrhea. I think those kinds of things in each area may be different, but I think a health fair (P3).

Subtheme 4 was *Combine medical services with health education efforts to reach a broader scope of people and to meet their needs*. One participant provided an extensive statement about this topic that serves as an example of common group perspectives:

[*Baylor partnering with local health organizations or universities would provide*] access to the people who use the health on a great scale would be more . . . you would have greater access and . . . and it would probably, you know, it would be a broad access, because the municipality won't go beyond that . . . the skirts of the city limits into the regional area around . . . I think that the best way . . . to do it is when you can tie in the broadest types of helps possible into one event. You know, if there is local or foreign, but even local volunteers of doctors or dentist who will go with them, go with the Baylor team to . . . or a local team or whatever and offer educational activities, recreational activities like you did last year. I thought the kids at the games and the different exercises that were done really were [*good*]. Drugs and alcohol on the body, on a person's life and for educational activities were very important and very effective and you might get a broader access if the activity was put together with some volunteer services that were happening at the same time. You could get the whole family out, you know and so these educational and recreational education could be done and at the same time to the side professionals could be tending to different needs and it would be an all around thing and your basic preventive goal could be reached because you might have more people listening especially more adults that would be catching onto what the children are learning . . . that they would be on the same page (P4).

The fifth and final identified subtheme was *Community health fairs/social service events and church-based education efforts, combined with family health services, would be ideal*. The following quotes illustrate group perspectives on this subtheme:

Church-based education program, a short-term education program that could pull people in and give them the blood pressure and diabetes education and the . . . and just the general wellness education that apparently is not at all part of that culture down there (P1).

Yes, I believe there is a potential for this kind of collaboration. We've never explored it in the past and maybe what is lacking is an incentive or an initiative or something to stimulate this kind of partnership . . . One of the dreams I have had and my church has had is to develop some sort of . . . a chaplaincy program or some sort of social service ministry. This would be a place where people who don't have access to services could come, but not necessarily restricted to health needs there are lots of social needs – stress management, psychological needs, and a number of social - fabric of society type issues that could be addressed among them of course, health, (P6).

Theme 4: Capacity of the local churches. Most interview comments that supported Theme 4 were prompted by the question, “How well equipped do you think the local church is to address important health issues?” Five subthemes were identified for this theme. Subtheme 1 was *Most churches have the capacity to provide health promotion and health education ministries that equip people with knowledge and skills to live in healthy ways.* Though most participants expressed through the course of their interviews general agreement about this subtheme, two participants expressed particularly strong support:

I mean, I think that would be easy enough to be taught . . . for church members to do as the Baylor in Brazil project has a goal of trying to get churches involved in that kind of thing [*assessing community health needs*]. I think that will be a win-win for both sides (P1).

I think they [*the churches*] are very well equipped [*to address community health needs*]. As I mentioned earlier about the nurses, there . . . is a vast . . . a good core group of Christian doctors in [*community name*]. The hospital itself is owned in part by these Christian doctors. And, I think that they are well equipped, they just don't know it (P2).

Well, I think that because of your program there, they see that they do have a role For example, . . . I went to the Indian village . . . one of the nurses that went with us and one of the cooks that went [*from the community where the Baylor group was working*]. At the Indian village they were saying could you send us an updraft machine? And, I looked at them and said an Updraft machine? What do you need an updraft machine for? Well, we get colds for our...during the cold season . . . it would be good to administer medication and to help open airways and all this thing . . . and the nurse, the Brazilian nurse and her friend who was not a nurse, turned to each other and said they don't need an updraft machine, they

need to know how to make teas and they need to learn . . . figure out why they are getting colds. They don't need something to take care of the colds, they need the preventive part. So, they had decided that they were going to write up a booklet or instructions on how to make different teas, different home remedies for colds, for some general everyday illnesses . . . I think that in that church in particular [*where you group was working*] . . . I think it is [*church name*] in [*community name*] (P2).

One participant was a bit more skeptical about church capacity. Participant 3 stated, "I think it's not something they've thought about it. How well equipped they are I would probably say not very. I think it is something they have not given much thought to" (P3).

Subtheme 2 under Theme 4 (*capacity of local churches*) was *The ability to become involved in health care will differ from church to church*. This was a common theme across interviews. Some sample statements are provided below.

The churches, it depends on who they have available in their congregation and how much access they have to recruiting other volunteers from other churches. This is not always an accessible thing for a lot of the churches . . . It depends a lot on who is in the congregation (P4).

Well . . . it would depend on the leadership of the church. You know, some of them feel unequipped to try to provide health education and prepare in the sense that they don't feel equipped (P5).

I think there is a strong potential, but we have never had or currently lack any way of tapping into that potential. We don't have any program or any mechanism for . . . although the church is a potential source of help. There is not a way to tap into it (P6).

The third subtheme, *Influencing factors can include church vision, motivation, finances, professional skills, and partnership mechanisms*, was also widely supported through interview responses. Some quotes are provided below.

I think they are probably equipped, but not motivated . . . they certainly have people educated enough and they could do this kind of teaching . . . I just don't think they have ever seen it as a priority or I guess seen that it's good for both sides (P1).

They have a great potential for ministering to the health needs . . . They have nurses, like this layperson who isn't a nurse, but she had vast experience working with children, hand me down recipes from her mother and grandmother on teas and different things to make and do and I see that as an untapped resource (P2).

You know, some of them [*church leaders*] feel unequipped to try to provide health education and prepare in the sense that they don't feel equipped. And part of it is a mindset. I know I am harping on everybody who waits on the government to do something. That is one reason we find so many gaps in the system. It's because, you know, if you aren't dying, you won't get any help. And then there are gaps on just general everyday healthcare. So, I don't know how you change the mindset of many, many years of that's how we take care of health around here (P5).

The fourth subtheme, *Many churches are unaware of their capacity to promote health*, was discussed by several participants. Participant 2 explained this by saying, "I think that they are well equipped [*to address important health issues*], they just don't know it." Participant 5 stated, "You know, some of them [*church leaders*] feel unequipped to try to provide health education and prepare in the sense that they don't *feel* [*emphasis added*] equipped."

The fifth and final subtheme, *the church is equipped to serve as a facilitator or host that links the community to health organizations and other partnering groups*, emerged as a common theme from several participants. Two participants in particular illustrated this point:

Well, you would certainly use those people, because those people are the leaders and those people know the areas, and they know the traditions and they know how things work and you don't want to step on anybody because the way things work here and just I mean and we assume the, you know, the language is such a funny thing . . . the culture is just such an important part and you're not going to know that, but those people in the churches are going to know that. And, they are going to be able to keep you from walking into a mess (P3).

But to be clear, the role of the church will be a role of a facilitator. The church will not be equipped to deliver those health services, and medical services per say. The role of the church will need to be of a partner or of a facilitator in terms of health services (P6).

Theme 5: Suggested approaches to research and community partnerships.

Responses to two final interview questions (“What were your impressions and experiences with this survey method?” and “How did this study address the assessment of pertinent health issues for your community? Do you think the questionnaire used in this

Table 22

Emerging Themes 5-6 with Subthemes

Theme 5. Suggested approaches to research and community partnerships

- *Subtheme 1.* The Baylor team and the research project were well received in the community.
- *Subtheme 2.* The project served as a valuable mechanism for involving lay volunteers in community efforts and partnerships.
- *Subtheme 3.* Survey participants expressed satisfaction and a sense of empowerment in being asked about their health.
- *Subtheme 4.* The questionnaire generally increased health awareness among survey participants.
- *Subtheme 5.* The survey contains a broad array of good questions that provoked thought. However, follow-up surveys and programs that focus more specifically on identified health problems are needed.
- *Subtheme 6.* Verbal interviews would provide more “gut level” responses.
- *Subtheme 7.* The grassroots effort (working with local churches and local public health agencies) is an effective way to address community needs.
- *Subtheme 8.* Community involvement led by dynamic personalities who are committed to the cause will be important for implementation and sustainability.
- *Subtheme 9.* Making changes in the community is more important than research.
- *Subtheme 10.* The key to making these community changes is building strong relationships and partnerships within the community.
- *Subtheme 11.* Strong community relationships will enhance the quality of research data that is collected.
- *Subtheme 12.* Making a difference in the community should be central to future efforts with “research” used only as a mechanism to improve lives.

Theme 6: Additional issues to consider

- *Subtheme 1.* Churches should partner with public health entities to provide services out in local communities.
 - *Subtheme 2.* Churches should not simply give handouts, but rather focus on education and empowerment.
 - *Subtheme 3.* Churches should realize their moral responsibility to help meet community needs.
-

study is a good assessment of the health needs in your community?") prompted in-depth responses that related to both the research and partnership-building aspects of the work conducted by the research team over a 4-week period. Agreement across the two transcript reviewers resulted in the development of one unified theme to reflect these connections: *Suggested approaches to research and community partnerships*. Twelve common subthemes were identified.

Subtheme 1 was *The Baylor team and the research project were well received in the community*. This widely supported subtheme is illustrated in the following participant statements:

I was very impressed with all four of the students . . . how they stepped up and were very well trained and very eager and very um . . . articulate in English at least. To be able to describe what they were familiar with and nobody is going to be familiar with everything and so they . . . I was very impressed with how each one of you stepped up and took a part and I just thought for those couple of hours or whatever we did was good and I think that kind of thing is well received (P3).

But, I was so encouraged to see your [*Baylor students' in the Baylor in Brazil study abroad program*] passion and your vision and you know you are all at different places and you are all looking at it from different perspectives that all have a passion for education and you are fun and you are vivacious and that is contagious and people are interested in that (P3).

I thought especially as we went out on missions or went into the smaller communities that don't have as much access to health. I thought what you did with the health fairs and things was very impressive and very good for the people, I mean every year as we do those final day things and find out the incredible health needs within these communities it just floors me (P1).

I am just grateful from a personal standpoint having spent a lot of my life in Brazil – that Baylor is interested in not just doing something broad, but something very specific, something very on track for the [*community name*] (P5).

Subtheme 2, *The project served as a valuable mechanism for involving lay volunteers in community efforts and partnerships*, is reflective of a large variety of

statements made across interviews. The following quotes further illustrate group perspectives on this subtheme:

Where you all did the program, you really opened the eyes of the people to say, we can minister, we can reach out, we can do something about this with just some very basic things. You don't have to have, you know, a state of the art clinic or equipment, you don't need an updraft machine to the Indian village, basic hygiene, how do you get colds, what do you do about it? Hand washing techniques, teas, home remedies that are very effective (P2).

It is really a win-win situation for Baylor students, Baylor campus, and Baylor reputation and it is win-win situation for churches and families in Brazil to get some better awareness of their health situation what they can do that helps (P5).

A third subtheme was *Survey participants expressed satisfaction and a sense of empowerment in being asked about their health*. Participant 2 expressed her perception about how the survey was received when she stated, "the response of the people seemed to be positive. I did not hear any complaining about having to do the survey. I think they saw it as something positive." The following quotes further illustrate group perspectives on this subtheme:

One of the ladies was talking about, young mother that was in your class, that brought her husband to meet us, and she was telling him about the different places she had been and that she had been in your class and then she was telling him about having a survey done and like I said, she didn't say oh this was a . . . they made us do this . . . it was like oh and I got to do this . . . you know, it was like an opportunity for her. And wanted to know what I thought, know what I thought was important and I think you validated their ownership of the problem or the need or whatever, by really asking them what they thought and spending time working on them with that. That's what I saw from her (P2).

Actually I don't recall very much following the questionnaire. There really wasn't much time for people to comment on it. There wasn't a period of questions about it. One of the senses I took away from having participated is that I thought it was probably something that could be generalized to other people . . . it was like opening a fan . . . it provided a broader horizon for seeing that there are some aspects of health that don't really require a huge amount of technical knowledge or information and that relatively small changes in day-to-day life could have significant impacts. For me it was a new way of looking at things . . . and I felt confident that that was probably a general response (P6).

A fourth subtheme was *The questionnaire generally increased health awareness among survey participants*. Several participants made positive statements about the questionnaire in general. Two participants offered the following positive comments.

I thought the questions were very good . . . But I did think that the types of questions were good and they provoked thought and provoked the person to come to a particular thing because they have to make a decision about what they are going to do about their condition (P4).

I thought it [*the questionnaire*] was very interesting especially because it was very broad. It actually had questions about a broad array of topics, not strictly . . . directly health related . . . And, of course, we had never had experience within the church context any questions or research related to our opinions of health and I thought that was valuable (P6).

Though positive comments were generally made about the survey across participant interviews, another emerging subtheme (Subtheme 5) provided additional insight about the instrument: *The survey contains a broad array of good questions that provoked thought. However, follow-up surveys and programs that focus more specifically on identified health problems are needed*. Sample comments are provided below.

One of the things I don't really recall, item-for-item how the questionnaire went, but my recollection was it was relatively general in many areas. So, one thing you may consider following up with more detailed questions in some areas that seem to be high need or areas that Baylor wishes to focus their efforts on, so that you would have more detailed information on those areas of health, (P6).

Okay, one thing I would say about the survey and when you do a survey. I think you need to be broad up to a point and then very quickly, very quickly you need to get really focused on two, one, two or three health issues and then educate on that. Because you can get so broad, that well, that doesn't apply to me, so I'm not interested . . . oh, that applies to my neighbor down the street. Well, address the really core health issues in the survey and then develop a plan of attack on how you are going to address that. Education-wise, in practicality how are you going to address, in reality how you going to address it, how you going to fund it, who you are going to partner with . . . whether it is the government, a church, a municipality, a school, or all those (P5).

Um . . . as I think about it . . . I thought the questions were good they provoked thought, they made the person consider what they were going to do about the issues, but one thing that you might want to hit on is the nutritional aspect to test people's knowledge because of the malnourishment problem. People, when they have a little bit of money, what do they do with it in order to eat (P4).

Subtheme 6, *Verbal interviews would provide more 'gut level' responses*, provided additional suggestions for further consideration about how best to collect the data. The quote from Participant 4, provided below, provides clarification about the value of verbal/oral interviews.

If there was a verbal interview you would get a lot more answers from people. Because you could do it on the street, you could do it among those who were attending the event . . . and you would . . . not be doing with only those who attend the seminar. And, so your answers would show the picture of the community if you could do it verbally, not excluding the written one only adding to the possibility that you could record . . . you could even have one recorder asking the questions and the other recorder recording the answers. You know . . . the series of each person's answers. But, I guess that would be very expensive because there are very many questions, so I don't know how practical that is. But, I was thinking that a lot of street people won't answer forms because some are illiterate and some are afraid to commit themselves in writing (P4).

Subtheme 7, *The grassroots effort (working with local churches and local public health agencies) is an effective way to address community needs*, was another highly supported perspective. The following comments from Participants 2 and 4 illustrate the common opinion that the research team should continue to work with local groups at a grassroots level.

Well, I think it is a beginning. And, I want to see it continue. And I think that we found, I think it's a gold mine . . . to be able to assess and go in and I think you all . . . I don't know exactly how to say this, but it is like you started at the grassroots and you worked up the opposite way. Instead of going in with the doctors and nurses and . . . Do you understand what I am saying? (P2).

I think that if you could work with the local church or a local school or local community leaders and give smaller bites of the community to participate and get to the core of the issue. But how do you do that? You have to generate interest and have somebody fund it. Healthcare takes money and health education doesn't take as much money, but it requires a certain amount of it. So, smaller bites . . .

you know, it's the old story of the star fish . . . you can't get them all back into the ocean, but it sure helps that one that goes in. And when we go into the community and work with the local pastor and their church leaders, we can affect many families and then . . . the whole community (P5).

The eighth identified subtheme was *Community involvement led by dynamic personalities who are committed to the cause will be important for implementation and sustainability*. The perception that leadership motivation and key personalities would be essential to on-going partnerships is illustrated in the following quotes.

It is motivation . . . you have to stimulate, okay, look we are going to be proactive here . . . you guys can help yourselves. We have 40-year old women who are fatter than hogs here; we can do something about that. Obviously you don't go in and say it like that, but someone that has a dynamic personality is able to do that, well not everyone has a dynamic personality but always those types of things are helpful in getting people interested. Well, you know, if heart disease is a big problem, or whatever the situation is . . . part of it is know how, but part of it is old fashion want to (P5).

It really, really was because first of all, we saw your passion for what you are doing and if I can encourage you in anything, I would encourage you to be passionate about what you are doing and if you are not, get out of it because we have plenty of people who ooze along at a slugs pace. But, I was so encouraged to see your passion and your vision and you know you are all at different places and you are all looking at it from different perspectives that all have a passion for education and you are fun and you are vivacious and that is contagious and people are interested in that (P3).

People move, people – their priorities change, and some of it is a leader in that church right now and really gung ho and on fire to do this work, you know, next year, may not be the one who is on fire and ready to do it. So, there needs to be something there that you all . . . if you need to go in and work with the local churches then I think you need a group there that are the administ . . . well, I don't want to say the administration, but are the teachers, they have the knowledge, they have the resources that they can – much like we do with CPR classes (P2).

Subtheme 9, *Making changes in the community is more important than research*, was particularly highlighted by Participant 1. She stated, “I would hope that [*health promotion in the community*] would be the goal, actually rather than the research. As the

minister and the minister's heart, you know I would rather you make a difference in the community (P1).”

The tenth subtheme was *The key to making these community changes is building strong relationships and partnerships within the community*. Several participants emphasized this concept throughout their interviews. The following quotes further illustrate group perspectives on this subtheme:

It takes an attitude as you enter [*the community*] of wanting to be involved in the people down there because they are so open to becoming involved with you even though you don't speak their language or you only barely speak their language that it is very easy to establish relationships And, it is so easy to establish . . . relationships that can continue. I have established relationships that continue over email for several years. I mean that's another way that the students who are not down there. It is so easy now to continue those relationships that can be ongoing and can tie into the church down there just through email . . . just some thoughts (P1).

I just really thought that you guys did a good job last summer. And you worked hard on what you brought. And my wish is that more kids get exposed to the different help that you bring. And that is something that churches can't readily cook up because there is that stigma in the community about coming to a church type of thing, you know, still. Even though that is not 100% and it is not always a problem, it can be and usually with foreigners around they tend to come out of curiosity and more kids tend to come, but that is not always the case (P4).

Well, I think continuing the Baylor in Brazil partnership would be vital. I think teams going down continuing to train the Brazilian church members and really making it a long term partnership. I know at the Indian village in particular they are very interested in dental care. That is a big health issue at the Indian village is dental health . . . and Baylor has a dental school. I can see Baylor as being very key to addressing health issues in places like [*community name*] . . . with all its different programs (P2).

Subtheme 11 was *Strong community relationships will enhance the quality of research data that is collected*. Participant 2 explained this reciprocal relationship between community relationship building and data validation:

But I felt like it really touched the heart of the people and they, in turn, were very open with you and I think what they told you in this study and the assessments you did, are what is going on in [*community name*] (P2).

The final subtheme was *Making a difference in the community should be central to future efforts with “research” used only as a mechanism to improve lives*. Again, Participant 1 best illustrated the important of prioritizing the community above the research process with the following statement.

Research is all well and good, but relationships and, as I understand what y’all are after, health education . . . you kind of have the relationship to get the education down there. I mean . . . it can be so ongoing and so beneficial for that area. So, I would encourage you two to work to build relationships that stay long term with folks down there that you want to see this happen . . . I would hope that [*health promotion*] would be the goal, actually rather than the research. As the minister and the minister’s heart, you know I would rather you make a difference in the community (P1).

Theme 6: Additional issues to consider. Some concepts and perspectives emerged from the six in-depth interviews that did not specifically match the other five themes and that could best be described by the researchers as “additional issues to consider” for ongoing research partnerships in the community of interest. Within this theme, three subthemes were identified. The first subtheme was *Churches should partner with public health entities to provide services out in local communities*. Most participants mentioned local public health entities as a viable partner in future efforts. Participant 3 provided the following perspective.

What I think that we have to begin to do more and more work is think outside the church and begin to incorporate and of course use the church as a springboard and one thing I was really impressed with and I don’t know how well it really, really works, but I was very impressed when we visited the little clinics and the different neighborhoods and you know, they each had, they basically had something like a social worker that was responsible for “x” number of families and you know I wondered if you could use a survey type like that, if you could partner up with one of those . . . I wonder if you would get a different perspective from people in the community or maybe it’s the same thing (P3).

Subtheme 2 was *Churches should not simply give handouts, but rather focus on education and empowerment*. In a description of the potential danger of becoming

known in the community as simply a place where people can go to receive a handout, Participant 2 provided the following example.

I think one thing that would be a caution. I can remember what we used to call the Rancho R-A-N-C-H-O Program. And that is where there was food that was actually sent to churches for distribution. And a lot of evangelical churches got involved in this and suddenly we had this phenomenon of the Rancho Christian [*in that people*] were only coming to church as long as the food was being handed out . . . as long as you focus on education and . . . the church doesn't become a handout place, certainly there can be toys and things for the children . . . activities . . . prizes . . . well, kind of like at the Indian village. They are so used to the government going in and giving them things that their first question to us . . . the children was what did you bring us? And so, I think that needs to be . . . on a back burner and doesn't need to be the focus, be what draws the people there (P2).

The third and final subtheme was *Churches should realize their moral responsibility to help meet community needs*. Though several participants alluded to the responsibilities of local churches to address the needs of their communities, Participant 5 summed this perspective with the following comment.

In helping church leaders understand that there is a . . . not a moral obligation, but a moral responsibility to be at least involved in it. You don't have to be the solution to everything, but you can be an instrument to be God's work (P5).

Round Two: Follow-Up Questionnaire

Results of Round Two of the Delphi technique are illustrated in a 5-page table in Appendix B (See *Follow-Up Questionnaire Results*). Reported below are the resulting vote tallies and additional comments provided by participants on the questionnaire form.

Theme 1: Primary community health needs. All six participants marked "agree" for each of the three subtheme statements. Participant 3 wrote in the "comments" box beneath the theme and subthemes, "I recall seeing posters on the wall at one of the clinics (I think it was the one where we stood and talked for so long -where they told us about having neighborhoods broken up into pods) - where I saw posters warning of Yellow

Fever and Leprosy. Also anything that is carried by mosquitoes.” In reference to Subtheme 2 (*Poverty and lack of healthcare contribute to high levels of malnutrition, alcohol and drug abuse, poor hygiene, and other basic health needs*) and Subtheme 3 (*Sanitation, sewage, and clean water supplies continue to cause preventable health problems such as skin and stomach illnesses, and water- and insect-borne diseases*), Participant 4 wrote, “#2 & 3 don’t see health issues as priority over spiritual issues, but certainly addressing health needs opens a door to spiritual issues.” Participants 1, 2, 5, and 6 inserted no written comments for Theme 1 and its related subthemes.

Theme 2: Current efforts of local churches. All six participants marked “agree” with each of the three subthemes for this theme. Only one participant included a comment for this section on the questionnaire. Participant 3 wrote, “The Brazilian church is a single focused unit that is focused on the spiritual.”

Theme 3: Future organizational partnerships and activities. The number of participants who marked “agree” differed across the five subthemes associated with Theme 3. For Subtheme 1 (*Partnerships could be created between local municipalities [public health departments], universities, government entities, schools and churches*), all but Participant 1 marked “agree.” In the comment box, Participant 1 wrote, “Don’t know if #1 could happen.”

For Subtheme 2 (*Churches could join government sponsored health education activities that are currently in progress*) and for Subtheme 5 (*Community health fairs/social service events and church-based education efforts, combined with family health services, would be ideal*), all but Participant 3 marked “agree.” Participant 3 marked a “?” in the “disagree” column for Subtheme 2 and did not mark a response for

Subtheme 5. In the comment box, Participant 3 wrote, “I don't have strong feeling about # 2 and # 5.” Participant 4 provided additional insight related to Subtheme 2 with the statement, “[*for Subtheme*] #2 the word ‘join’ is questionable [at least to my Portuguese brain . . .] but churches can seek to be participant since volunteers are welcome usually.”

All six participants marked “agree” in relation to Subtheme 3 (*Continued partnership with Baylor University is important to help facilitate program sustainability through a “train-the-trainer” model*) and Subtheme 4 (*Combine medical services with health education efforts to reach a broader scope of people and to meet their needs*). In reference to Subtheme 3, Participant 3 also added the comment, “I think they need to see someone do this (#3) in order to see how it could work.”

Participant 2 provided a general comment about future organizational partnerships and activities (Theme 3): “If medical services are not readily available, this should not deter the health education effort. Medical services are a ‘bonus’ and not a requirement for effective health education.” Participants 5 and 6 provided no written comments in this section.

Theme 4: Capacity of the local churches. As with Theme 3, the number of participants who marked “agree” differed across the five subthemes associated with Theme 4. For Subtheme 1 (*Most churches have the capacity to provide health promotion and health education ministries that equip people with knowledge and skills to live in healthy ways.*), three participants (P2, P4, P6) marked “agree,” two participants (P1, P5), marked “disagree,” and one participant (P3) did not mark a response. In relation to this subtheme, one participant who marked “disagree” wrote in, “Some churches have the capacity, but maybe not the knowledge and leading about the importance of these issues.

Not without education (Yes - the capacity).” The other participant who marked “disagree” (P5) inserted no written comment.

All six participants marked “agree” for Subtheme 2 (*However, the ability to become involved in health care will differ from church to church*) and Subtheme 4 (*Many churches are unaware of their capacity to promote health*). All but Participant 3, who did not mark a response, marked “agree” for Subtheme 3 (*Influencing factors can include church vision, motivation, finances, professional skills, and partnership mechanisms*).

For Subtheme 5 (*The church is equipped to serve as a facilitator or host that links the community to health organizations and other partnering groups*), three participants (P2, P4, P5) marked “agree,” one participant (P6), marked “disagree,” and two participants (P1, P3) did not mark a response. Beside this statement, Participant 1 wrote “don’t know.” Participant 3, who left three subtheme statements unmarked, provided the following as an explanation, “I only saw the [*community name*] church so I am unsure of the other questions.”

Participants 2 and 4 provided additional comments in relation to the theme and subthemes for this section. Participant 4 noted, “This does depend a bit on the communities surrounding the church; if it is a more affluent community the “access” to the ones needing help is very limited.” Participant 2 wrote, “Greatest challenge is making churches aware of their potential. If you can get them to “buy into” the project, the potential is limitless!!”

Theme 5: Suggested approaches to research and community partnerships. The majority of the six participants (at least four) marked “agree” for 11 of the 12 subtheme statements for Theme 5. For subtheme 2 (*The project served as a valuable mechanism*

for involving lay volunteers in community efforts and partnerships) Participant 1 marked “disagree” and participants 3 and 4 did not mark a response.

At least two participants did not mark a response for Subthemes 3, 5, 8, and 10. Participant 4 did not mark a response to Subtheme 8 (*Community involvement led by dynamic personalities who are committed to the cause will be important for implementation and sustainability*) and Subtheme 10 (*The key to making these community changes is building strong relationships and partnerships within the community*), and provided no written comment or explanation. Participant 1 did not mark a response to Subtheme 3 (*Survey participants expressed satisfaction and a sense of empowerment in being asked about their health*) or Subtheme 5 (*The survey contains a broad array of good questions that provoked thought. However, follow-up surveys and programs that focus more specifically on identified health problems are needed*), but wrote “N/A” or “not applicable” beside each subtheme (which is consistent with initial interview statements about not knowing as much about the actual survey process). Participant 3, who did not mark a response for nine subtheme statements, explained this choice with the following statement:

I only heard about the survey and did not observe any of this process . . . however the questions I did answer are my "gut" feeling when observing the Brazilian church members I don't know how familiar the Brazilian community is to the whole idea of survey gathering (P3, Appendix B).

Theme 6: Additional issues to consider. All six participants marked “agree” with each of the three subthemes for this theme (Subtheme 1: *Churches should partner with public health entities to provide services out in local communities*, Subtheme 2: *Churches should not simply give handouts, but rather focus on education and empowerment*, Subtheme 3: *Churches should realize their moral responsibility to help meet community*

needs). Three participants also provided additional comments. Participant 1 simply stated “Education should be partnered with meeting medical needs.” Participant 2 noted,

Again, public health entities are great partners, but in areas where these are not available, churches should not wait on them. Churches may well be the only source of health education in a community. Churches can be the leaders and then public health entities can come in and partner with the churches. These churches can be the catalyst for public health (organized government help) to come into a community (P2, Appendix B)

Participant 4 also noted,

It is likely a church can go to a municipal health department and ask them come give a public health presentation or service of some type. (Our church hosted a dengue fever education seminar presented by FUNASA depart.) Doing that could give continuity and sustainability (P4, Appendix B).

CHAPTER FIVE

Discussion

Included in this chapter is a discussion of study results. Some methodological issues that may limit interpretation are discussed first. This is followed by a discussion of findings within the context of the six research questions addressed through the pilot survey (questions 1-3) and the Delphi study (questions 4-6). Study conclusions, and recommendations for future research are also presented.

Limitations in Interpretation

As with any research project, some limitations to data interpretation for this study may have been introduced during the data collection procedures; however, the researcher attempted to reduce bias as much as possible. Described in the following sections are some potential limitations to interpretation of findings from the pilot survey and the Delphi study.

Limitations to Survey Pilot

The survey that was used for the pilot study was originally designed for face-to-face interviews. However, due to time and space constraints introduced in this community-based research setting, the researcher was forced to implement the survey as a self-administered instrument. The research team identified one source of confusion in particular on the instrument, *Section 7: Fruits and Vegetables*. In this section, the original intent was for a trained interviewer to ask the participant an open-ended question about the intake frequency of specific foods (Example: *How often do you drink fruit*

juices?). The interviewer was to listen to the response and then write in the number (of times) per specific time period (*per day*, *per week*, *per month*, *per year*). This format confused some participants in the self-administration approach. Some participants skipped this section while others entered numbers in more than one time period option. For this reason, data collected through this survey section was eliminated from the study.

Data interpretation was also limited by the relatively small sample size of participants in both geographical regions of the country. These small numbers may have thwarted detection of real effects that could have existed in the actual population.

Despite these two methodological limitations, valuable information emerged from this initial pilot survey that will be discussed in subsequent sections in relation to the research questions of this study. Additionally, the majority of participants in the Delphi study reported positive outcomes (increased health awareness and a heightened sense of empowerment among pilot survey participants). The data collected from the Delphi portion of the study provided strong validation for the community health needs and interests detected in the survey responses. Through this Delphi technique, the researchers learned that the survey participants responded well to the instrument in spite of its limitations.

Limitations to Delphi Technique (Rounds One and Two)

The researchers perceived that all participants were honest and forthright in their responses during both rounds. Due to the moderately scheduled nature of the telephone interviews (Delphi, Round One), all participants were asked the same core questions with

some variations in follow-up questions if a participant's responses moved the conversation in a different, but thematically similar direction.

Two participants interviewed via cellular phones; one with minimal static that did not impede the interview and the other with poor reception that led to a dropped call. The researchers were able to re-establish connection with the participant when the telephone call dropped and the participant did not seem bothered by the technological difficulty. During another interview, an experienced translator was used to bi-directionally translate between English-speaking researchers and a Portuguese-speaking Delphi participant; however, this interview went very smoothly and was well received by researchers, the translator, and the participant.

Two rounds in the Delphi technique are considered sufficient (Woudenberg, 1991), and a low number of rounds is recommended when the goal is to explore differing opinions rather than to reach full consensus (Ali, 2005; Turoff & Hiltz, 1996). However, at least one additional round may have led to more detailed perspectives from Delphi participants. An additional probe to determine why some participants disagreed or did not respond to researcher-identified themes and subthemes on the Round Two follow-up questionnaire may have been helpful. Yet, the additional written comments provided by some participants on the follow-up questionnaire, coupled with the ability to consider Round Two responses within the context of Round One in-depth interviews, proved valuable.

Discussion of Findings

Provided below is a discussion of study findings as they related to the six research questions. The findings from the pilot study data are used to address Research Questions

1-3. Results of the Delphi study results are discussion in relation to Research Questions 3-6.

Research Question 1: What self-reported health behaviors and health status indicators were evident among the survey participants?

The program participants, overall, appeared to be fairly healthy. The average survey participant had experienced just over one (1.22) personal health problem with less than 21% of participants marking the three most frequently cited health problems (pneumonia/influenza, vision problems, depression/anxiety). The participants, on average, experienced 3.24 days per month in which their physical health was not good and 8.78 days per month in which their mental health was not good. The higher number of mentally unhealthy days supports the data that suggests depression is one of the top personal health problems experienced by participants.

Though no participant reported having personally been diagnosed with cancer in the past year, this health problem was one of the leading identified family history health problem on the survey and is a leading national killer according to PAHO (2007). Diseases of the circulatory system, the first leading cause of death in Brazil (PAHO, 2007), were somewhat evident through personal problems (in the past year) and family history health problems which included some aspects of this disease: high blood pressure and high cholesterol. Despite the high incidence of malaria in the Amazon region where Brazil is located (PAHO, 1998), only one participant reported having contracted the disease in the past year.

Regarding access to healthcare, the majority of participants said they did not have any healthcare coverage, including health insurance, prepaid plans, or government plans; the majority of participants also said they did not have one person they considered a

personal doctor or healthcare provider; but the majority also said that cost was not a barrier to seeing a doctor in the past 12 months. This finding serves as an indicator that cost may not be a barrier to healthcare despite low numbers of participants with healthcare coverage or a consistent healthcare professional. This may warrant future research into possible barriers or influencing factors for healthcare access.

The spiritual health status of this population appeared to be relatively high with good reason. Because the sample for this pilot survey study included Brazilian church members, the fact that 100% of the sample indicated they believed in God was expected. However, this large affirmative response rate could be suggestive of response bias because church members are surrounded by peers who may “judge” them if they mark “no” to the item.

There may have been some confusion with the item that directly followed the question that asked participants if they believed in God. If participants answered “Yes” to the question (item 10.1) Do you believe in God?, they were prompted to “Skip to 11.1,” which was the first question of the SWBS. However, seven participants did not skip item 10.2 which asked “If you do not believe in God, do you believe in a higher power of some kind?” This may indicate confusion about the survey or a small subsection of the sample population may possess theological beliefs that differ from the sample norm. In Brazil, a strong history of spiritism that is sometimes integrated into mainstream religions (such as Catholicism) may account for the dual item responses by some participants. Future research may be warranted to further explore religious beliefs of church members in Brazil.

An examination of the frequency distributions of the three spiritual wellbeing scores (SWBS, RWBS, and EWBS), revealed notable differences. As can be noted in the

histograms in Figures 1-3, the SWBS (Figure 1), EWBS (Figure 2), and RWBS (Figure 3) were all leptokurtic. However, though the SWBS and EWBS score distributions were negatively skewed, the RWBS histogram reveals little variance in score distribution.

Because respondents were a Christian sample, this may explain the clustering of higher scores indicated by the negative skewing of the histograms. However, the frequency distribution for the RWBS (Figure 2) appears to have less variance than the other two distributions which may be indicative of the concept that it measures.

Religious wellbeing is the concept of an individual's relationship to God which includes rules and rituals associated with religion; this is a rigid concept. The EWBS measures a more ambiguous concept, existential wellbeing, which is an individual's relationship with others, a sense of purpose and life satisfaction. Existential wellbeing is a less rigid and less concrete variable; therefore, it may elicit more variance or a more skewed response pattern than RWBS due to the ambiguity of existential wellbeing.

The leptokurtic nature of the SWBS scores mirrors the leptokurtic portions of its two subscales. The mode for both RWBS (with 40.3% of the population) and EWBS (11.9%) was 55, which accounts for the mode of 110 in the SWBS scores (10.4%). The percent of the population that accounts for the mode score again identifies the difference in variance between the scale and subscales scores. This leptokurtosis may be caused by survey participants methodically choosing the same response for similar scale items. For example, if several survey participants marked "moderately agree" on almost all of the RWBS items, there would be an increase in the frequency of the same RWBS scores.

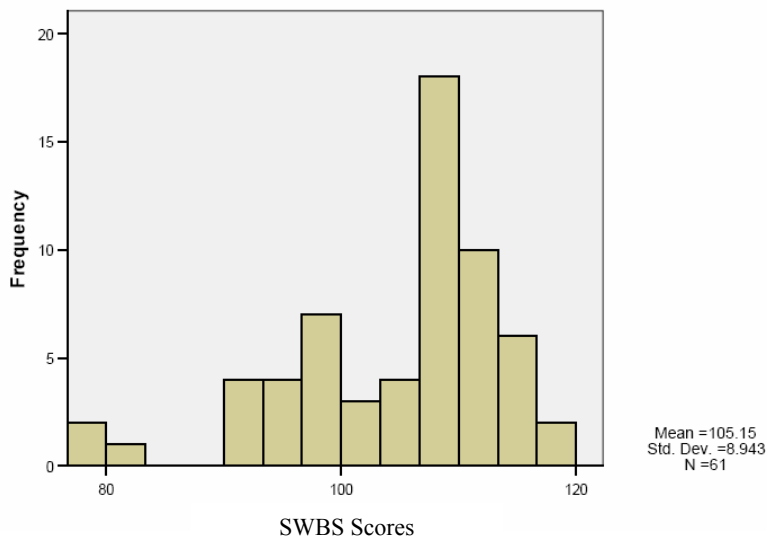


Figure 1. Histogram of SWBS Scores of Survey Participants

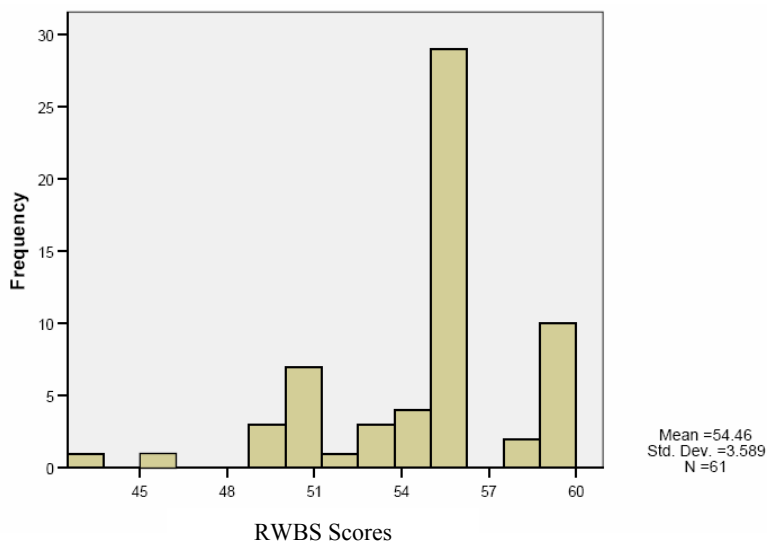


Figure 2. Histogram of RWBS Scores of Survey Participants

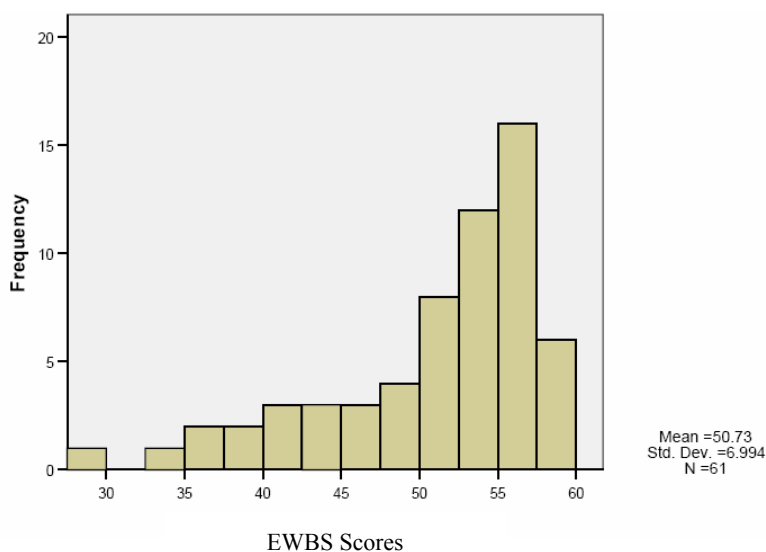


Figure 3. Histogram of EWBS Scores of Survey Participants

Research Question 2: What potential health promotion programs interested the survey participants?

There were strong consistencies across survey items that related to depression/anxiety. The survey participants indicated a high total mean of mentally unhealthy days per month, depression/anxiety was a leading personal health problem indicated by participants, and depression/anxiety was the highest *Handling Health Problems* program interests of participants. It appears as though depression/anxiety is a frequently occurring problem among the Brazilian church members surveyed.

In order to understand the patterns of participant's program interests, it is important to look into each program interest subcategories and at the highest and lowest scoring program interests. Depression/anxiety, drug/alcohol abuse, diabetes, and high blood pressure were the most population health topics under the category of *Handling Health Problems*. The programs of least interest for this subsection included eating disorders, stroke, and hearing problems.

The most common *Protecting My Health* program interests included managing stress, first aid, nutrition/eating, and weight loss. The least common responses included stop smoking, CPR, safety injuries, and others. Stress is often a precursor or cause of depression/anxiety, which is interesting to note the high frequency of interest in stress management programs.

The most frequent responses to *Recreation and Exercise* program interests were walking or jogging, swimming and exercise classes. The programs in which participant's were least interested included volleyball, other activities, tennis, and basketball. These findings are consistent with the general increase in recent decades in exercise and aerobic fitness among Brazilians, including federal programs such as Agita (Matsudo et al, 2002).

The mode of *Marriage and Family Matters* program interests was marriage relationship, the next leading program interests included parenting adolescents, taking care of older parents and parenting children. The lowest frequencies included being a widow and other. The majority of survey respondents were between the ages of 20 - 39 years; a prime age range for individuals to start concerning themselves with marriage relationships and parenting.

There were only four program interest options under *Learning How To . . .* programs. The most common of these program interests included taking care of money and finding a job. The least common program interests included reading. These findings are consistent with the large portion of the sample that did not have healthcare coverage or a consistent doctor. As previously mentioned, this lack of healthcare coverage is often due to a lack of employment, which appears to be supported by these program interest findings.

The mode of *Spiritual Needs* program interests was special prayer; the other leading program interests included Bible Study, and spiritual counseling. The lowest frequency of program interests included discipleship, visit from church member or pastor, and other. The most frequent interests were in programs that focus more on the RWBS because two of the top three program interests include religious rituals of prayer and Bible study. This may support the finding of the leptokurtic nature of RWBS scores of survey participants.

Research Question 3: What was the relationship between spiritual wellbeing, self-reported health behavior, and self-reported health status among the survey participants?

According to the survey data, there was a statistically significant but moderately weak negative relationship ($r = -.292$) between spiritual wellbeing (total SWBS score) and the number of mental unhealthy days per month. As mental unhealthy days increased, spiritual wellbeing decreased. It could also be stated that, as a person's mentally unhealthy days per month decreased, his or her spiritual wellbeing increased. The literature seems to support this relationship. Two studies have found a negative relationship between SWBS and depression (Ellison & Smith, 1991; Fehring, Brennan, & Keller, 1987). The SWBS has also been found to be inversely related to stress (Olsen & Stewart, 1990) and positively related to self-esteem (Paloutzian & Ellison, 1982) and hope (Carson, Soeken, & Grimm, 1988; Herth, 1989; Kohlbry, 1986; Miller & Powers, 1988). Fehring et al. (1987) determined that depression resulting from life change is mediated by a person's sense of spiritual wellbeing. Further research would be desired to determine causality between spiritual wellbeing and mental health indicators.

There was also a statistically significant but moderately weak, negative relationship ($r = -.345$) between existential wellbeing (measured by the EWBS) and

mental unhealthy days per month. Yet, there was not a significant relationship between religious wellbeing (measured by the other subscale, RWBS) and mental health. One plausible explanation for this difference lies in the differing aspects of spiritual wellbeing that each subscale measures.

The EWBS measures the horizontal dimension of spiritual wellbeing; an individual's relationship to others, purpose in life and life satisfaction without reference to God. Social interaction and a strong sense of life purpose (a spirituality component) have been positively linked to mental health, perceived life satisfaction, and quality of life (Cohen, 2002; Koenig, McCullough, & Larson, 2001; Lee & Newberg, 2005; Myers & Diener, 1995). The negative correlation between mental unhealthy days and existential wellbeing is consistent with these other research findings. Because Brazilians are culturally very friendly and social, this detected relationship may be interpreted as indicating a potential link between an individual's horizontal or existential spiritual wellbeing (EWBS) and HRQOL mental unhealthy days in this population.

The fact that no statistically significant relationship between the RWBS mean score and mentally unhealthy days was also somewhat consistent with findings from other research studies. The RWBS measures the vertical dimension of spiritual wellbeing; an individual's relationship with God. One challenge in measuring this vertical dimension lies in the fact that a wide variety of human perspectives exist about the specific scope, nature, and potential of this "God-human" relationship. In addition, views about the relationship as it relates to one's personal health status, both physical and mental, is also a highly controversial subject in some communities. Thus, it seems reasonable that the association between the RWBS scores (this God-human relationship)

and mentally unhealthy days would vary to the extent that no significant correlation could be detected.

There was a moderate, positive relationship ($r = .674$) between the SWBS and the RWBS scores; and a strong, positive relationship ($r = .926$) between the SWBS and the EWBS scores. However, though each subscale was moderately to highly associate with the total scale, there was only a relatively weak but positive ($r = .347$) relationship detected between the RWBS and EWBS. These detected relationships were expected because each subscale is designed to measure a distinctly different dimension of spiritual wellbeing, thus suggesting that each individual subscale is needed to measure the broader scope of total spiritual wellbeing.

No significant relationships were found between total personal health problems and the three spiritual wellbeing scores. This lack of relationships may be due to the small sample size which may warrant further research. Another reason for a lack of significance in the correlation may be because the list of personal health problems contained a combination of chronic and communicable diseases, some diseases were life threatening while others were relatively common and curable. Therefore, future research may be needed to take into account the type and severity of the disease and that relationship with spiritual wellbeing.

The researcher did not find any statistically significant differences in SBWS scores by gender or by age in this pilot survey. This finding of no relationship is consistent with the findings of Bufford (1984) who suggested that age and gender are not related to SWBS. However, there are several studies that suggest age and gender do affect SWBS (Frantz, 1988; Jang, 1987; Sherman, 1987). Therefore, a larger sample size

would probably be needed to further assess whether or not age and gender affect SWBS scores.

Some significant but relatively weak relationships were detected between age and each of several survey variables. First, a weak, negative relationship ($r = -.263$) between age and current health status was detected. The implication of this may be that, as an individual gets older, his or her perceived health status is reduced. This seems plausible because health problem frequency and severity often increase with age.

There was another weak, negative relationship ($r = -.300$) between age and mental unhealthy days. As age increased, so did the number of mentally unhealthy days per month. This also makes sense and is supported by the literature (NIH, 2007). As individuals age, they are often isolated due to poor personal physical conditions, deaths of loved ones, and reduced ability to participate in daily living activities. Even before individuals reach an age where they are so isolated, the stressors of life changes that occur with age can also lead to mentally unhealthy days.

There were also weak, negative relationships between age and healthcare coverage ($r = -.252$) and age and doctor care ($r = -.310$). As age increased in this sample, the likelihood of having access to healthcare coverage or the regular care of a doctor decreased. This age-related association could be, in part, attributed to low healthcare coverage for individuals who do not work and the fact that older individuals are less likely to be employed.

The regression analysis that was implemented to further examined relationships between quality of life variables (*Current Health Status*, *HRQOL - Mental and Physical Unhealthy Days*) and spiritual wellbeing scores (including RWBS, and EWBS scores); and *Total Personal Health Problems* and *Spiritual Wellbeing* while accounting for age

and gender produced inconclusive results. The overall model failed to reach significance which was not unexpected due to the small size of the sample and the large quantity of variables. A larger sample size or a reduction of variables in future studies would be needed to more effectively examine these potential relationships.

One significant finding resulted from one sample t-tests the researcher implemented to compare the mean spiritual wellbeing scores (SWBS, RWBS, and EWBS) of an American Baptist sample (Ledbetter et al., 1991) and the sample of Brazilian Baptist participants in this study. According to test results, the mean score for existential wellbeing (EWBS) was significantly different between the American sample and the Brazilian study sample, with the Brazilians having a higher mean score than Americans.

Cultural differences between Americans and Brazilians may account for this difference. Americans, culturally, tend to be more individualistic; whereas, Brazilians tend to be more collective (Watson et al., 2000). Individual members of collective cultures tend to be more interdependent and socially connected to others than do members of an individualist culture. This may explain the higher mean EWBS score among Brazilians because the EWBS score measured the horizontal relationship of an individual with others.

Research Questions 4: What are the interview participants' perceptions about the major health needs of their community?

There were strong consistencies across the Delphi participants' responses concerning major health needs within their community. As is true in impoverished areas worldwide (Basch, 1999), unemployment, lack of adequate water supplies, and faulty or nonexistent sanitation and sewage services tend to create or exacerbate major health

needs in the community of interest. The mix of water- and insect-borne diseases and chronic conditions (e.g., cancer, high blood pressure) that are exacerbated by behavioral choices (drug and alcohol abuse, poor eating habits), are consistent with primary health concerns for Brazil that have been highlighted by international health leaders (PAHO, 2007).

The summary of major needs identified by Delphi participants supported and complemented the information derived from pilot survey participants. The Delphi results provided a more detailed explanation of what is needed and why. For example, the pilot survey participants indicated that drug and alcohol abuse was one of the major family history health problems, and many participants were interested in programs addressing this topic. The Delphi participants also reported this problem as a major health need in the community, and explained that unemployment was a primary contributor to the problem.

In some instances, differences existed between major problems highlighted by the Delphi participants and pilot survey responses. For instance, though depression/anxiety was indicated by pilot survey participants as one of the top personal health issues experienced in the past year and played a prominent role in reported family health histories and program interests, not one Delphi participant identified it as a major health need in the community. This is not uncommon for mental health to be overlooked as a major health need of the community; especially if someone does not have a holistic view on health. If an individual views health as merely the physical aspect of the person or with a medical model perspective of administering healthcare, this could cause him or her to overlook the psychological health of an individual.

In addition to common themes already reported, one outlying response was provided by a single participant that was not supported or mentioned by other participants. P3 stated that she believed men's health issues, including Prostate screening and other preventive health issues, were lacking and thus a major health need in Brazil. This outlying identified theme may be based on inexperience working in this population as she was the participant with the least amount of experience working in the Brazilian communities (less than one year).

Research Questions 5: What are the interview participants' perceptions about the capacity of local churches to address community health needs?

Though most of the Delphi participants expressed certainty in the general capacity of churches to promote health in their local communities; perceptions differed across participants in terms of the true feasibility of what churches could accomplish. Three of the six participants expressed strong confidence in the ability of churches to develop volunteer-led health promotion and health education programs. They cited examples of instances in which they had witnessed lay volunteers expressing a new awareness of their health promotion abilities in neighboring Indian villages and through the community health fairs implemented by the research team. They also cited education, knowledge about practical living, and familiarity with community languages and cultures as important and existing capacity factors. However, though the remaining three participants also supported the belief that churches were capable, their comments were more cautious. One participant stated,

The churches, it depends on who they have available in their congregation and how much access they have to recruiting other volunteers from other churches. This is not always an accessible thing for a lot of the churches It depends a lot on who is in the congregation (P4).

Another participant (P5) with similar misgivings about church capacity or vision for promoting community health explained that “most all health is associated in a socialized system with a government entity” in Brazil. He elaborated with the following explanation:

Well . . . it would depend on the leadership of the church. You know, some of them feel unequipped to try to provide health education and prepare in the sense that they don't feel equipped. And part of it is a mindset. I know I am harping on everybody who waits on the government to do something. That is one reason we find so many gaps in the system. It's because, you know, if you aren't dying, you won't get any help. And then there are gaps on just general everyday healthcare. So, I don't know how you change the mindset of many, many years of that's how we take care of health around here (P5).

These and other patterns of response drew the researchers to conclude that the Delphi participants did not collectively adhere to a single perspective of what constitutes community capacity. Differences in participant perspectives and, therefore, their responses, about the capacity of local churches appeared to be associated with their personal criteria for identifying capacity. Some appeared to judge levels of capacity in terms of whether local churches already possessed needed skills, knowledge, motivation, structure, and other commonly recognized capacity components (CDC, 1997; Johnson, Hays, Center, & Daley, 2004). Other participants appeared to view capacity as potential based on attributes rather than on components that must already be in place. The concept of existing attributes or raw potential (such as a willingness to brainstorm new ideas) serving as a yardstick for capacity is also evident in the literature (Goodman et al., 1998; Hodges & Videto, 2005; Vancouver Health Authority, 2006). Though some participants seemed to be reluctant to agree that the church was equipped because they thought capacity meant that the church must be ready at that very moment to meet these demands;

rather than understand that capacity can entail the potential of the church to use the resources it may already have or outsource for services that are needed.

Another observation that emerged regarding participant perceptions about church capacity related to apparent differences in their understanding of what constitutes health and health promotion. The research team noted a tendency of Delphi participants whose responses reflected a more holistic view of health to state that local churches did have the capacity to address health needs in the community. On the other hand participants who predominantly equated health promotion to administering physical healthcare, were unsure about the definition of health, or lacked experience working in Brazilian communities were more likely to suggest that the church was not equipped or did not have the capacities needed to address health needs. Despite these differences, the Delphi participants were in overall agreement that local churches do have potential to address the needs of the community as long as some conditional factors are in place such as adequate training or education and financial support. Participant 2 (Appendix B) had great insight as she stated, the “greatest challenge is making churches aware of their potential. If you can get them to ‘buy into’ the project, the potential is limitless!!”

Barriers (or influencing factors) often prevent full potential from being realized. This is true with a church understanding its role in health promotion. Often, the church leaders simply do not understand or misunderstand what is involved in creating and implementing a health promotion ministry or they lack the motivation or vision to accomplish it. Understanding what health entails or how it is defined can be confusing. A health promotion ministry does not require medical services be provided to church or community members; but rather simply meeting the needs of the community through community health fairs, social service events, and church-based education.

One example of the common confusion was illustrated by the quote below from one of the Delphi participants:

As you all know, I am not a health specialist, so perhaps I am not the best person to answer questions about what might be done [*to address community needs through the church*]. But, the church has been . . . I have seen several things that could indirectly affect or contribute to health. For example, physical education and recreation . . . we have a number of members in our church who are involved in this area professionally and so that is an area that, *perhaps is not the core of a health program* [*emphasis added*], is related to health and is something else that could be sponsored or promoted (P6).

This participant misunderstood what health was, which would obviously create a barrier to successfully establishing a church-based health promotion ministry. Emphasis was added to a phrase in P6's response because it is interesting to note that P6 did not understand that physical education and recreation could be the core of a health program. If an individual experiences confusion over what health promotion is or could be, then there is little hope that it will be accomplished unless this individual correctly understands health promotion. P5 discusses another barrier, a lack of motivation to address health issues, caused by a mindset brought on by a socialized healthcare system,

Part of it [*a church's lack of capacity to address health issues*] is a mindset. I know I am harping on everybody who waits on the government to do something. That is one reason we find so many gaps in the system. It's because, you know, if you aren't dying, you won't get any help. And then there are gaps on just general everyday healthcare. So, I don't know how you change the mindset of many, many years of that's how we take care of health around here.

One participant expressed her opinion on the church's role in addressing health issues in Round Two of the Delphi technique. She made a great point that churches "should not wait" on the government to address health issues. She elaborated in the following quote,

Public health entities are great partners, but in areas where these are not available, churches should not wait on them. Churches may well be the only source of health education in a community. Churches can be the leaders and then public health entities can come in and partner with the churches. These churches can be

the catalyst for public health (organized government help) to come into a community (P2, Appendix B).

This truly is a challenge for church leaders to lead their congregations to shift from a paradigm that says the government will take care of me to how can we, as a church, take care of the community. P2 encouraged the church that it is the congregation's responsibility to act as an advocate for addressing the health needs of the community.

Another participant stated it in a different way, while saying the same thing,

Helping church leaders understand that there is a . . . not a moral obligation, but a moral responsibility to be at least involved in it [*meeting community needs*]. You don't have to be the solution to everything, but you can be an instrument to be God's work (P5).

Research Question 6: What are the interview participants' perceptions about the efficacy and impact of the 2006 pilot study?

Based on the Delphi participant input, observable impacts of the pilot study were evident. Most participants stated that the survey helped empower the pilot study participants to take charge of their own lives and their own health. Delphi Participant 6, a Brazilian pastor in a local community, illustrated this broad group perspective as he shared his thoughts about the pilot survey and how he thought his congregation (other survey participants) received the survey. He said,

Having participated in that [*the pilot survey*] and I think it was probably something that could be generalized to other people [*who participated in the survey*] . . . is that the questionnaire opened . . . it was like opening a fan . . . it provided a broader horizon for seeing that there are some aspects of health that don't really require a huge amount of technical knowledge or information and that relatively small changes in day-to-day life could have significant impacts. For me it was a new way of looking at things . . . and I feel confident that that was probably a general response [*from participants*].

When this same participant was asked about his definition of health, he revealed how this study changed his view of health. The following quote supports this idea:

Actually that is a great question! And until you came last year, had I been asked that question I probably would have answered it strictly in terms of physical wellbeing . . . how I felt and whether or not I was sick. Following participating with you, it seems as though I have a much broader definition of health that includes not only the physical health but the mental and social and emotional side of health.

Another participant (P2) described the excitement she observed in a female community participant who completed the survey and, then, went home and got her husband so he could see what she had been doing. P2 retells the story,

Then she [*pilot survey participant*] was telling him [*her husband*] about having a survey done and like I said, she didn't say oh this was a . . . they made us do this . . . it was like oh and I got to do this . . . you know, it was like an opportunity for her . . . and I think you validated their [*pilot survey participants*] ownership of the problem or the need or whatever, by really asking them what they thought . . . that's what I saw from her.

Although the survey appeared to be well received, some of the participants offered suggestions on how to conduct a survey that should be considered in future research efforts with this community of interest. These suggestions included the need to follow this generalized survey with a more detailed assessment of specific health issues, and to quickly follow assessment efforts with specific interventions that are of particular interest to the community. Participant 5 best summarized these recommendations with the following:

One thing I would say about the survey and when you do a survey. I think you need to be broad up to a point and then very quickly, very quickly you need to get really focused on . . . one, two or three health issues and then educate on that. Because you can get so broad, that . . . well, that doesn't apply to me, so I'm not interested . . . oh, that applies to my neighbor down the street. Well, address the really core health issues in the survey and then develop a plan of attack on how you are going to address that. Education-wise, in practicality how are you going to address it, in reality how you going to address it, how are you going to fund it, who you are going to partner with . . . whether it is the government, a church, a municipality, a school, or all those.

Another suggestion by Delphi participants was to implement a verbal component to the survey to provide more “gut level responses” (P2) which they felt may provide more comprehensive data by including individuals who were illiterate or “afraid to commit themselves in writing” (P4). Participant 4 went on to say that, “I did think that the types of questions were good and they provoked thought and provoked the person to . . . make a decision about what they are going to do about their [*health*] condition.” This idea of verbal interviews to conduct the survey was the original intention of the researcher team, however, due to the constraints of the setting in which the survey was conducted, as well as, time constraints of working with a community partner, the survey that was created for a face-to-face interviews was distributed for self-administration.

Another source of encouragement and suggestion from participants focused on the idea of a grassroots effort for the pilot survey. A grassroots framework for community research was an underlying theme that was strongly supported by participants. One participant (P2) stated, “I think it’s a gold mine . . . I don’t know exactly how to say this, but it’s like you started at the grassroots and worked up the opposite way instead of going in with the doctors and nurses.” She went on to further explain that it was as though this project, “started with the little man and the churches . . . they felt like they were the most important thing; and they were . . . I felt like it really touched the heart of the people.” The researchers hoped to empower participants through the survey pilot. Another participant further explained the idea of addressing health needs from a grassroots level, working with individuals within the community as opposed to working with large bureaucracies,

I’m not a bureaucrat, so I am not crazy about hooking up with big bureaucracies. I think that if you could work with the local church or a local school or local community leaders and give smaller bites of the community to participate and get

to the core of the issue. But how do you do that? You have to generate interest and have somebody fund it. Healthcare takes money and health education doesn't take as much money, but it requires a certain amount of it. So, smaller bites . . . you know, it's the old story of the star fish . . . you can't get them all back into the ocean, but it sure helps that one that goes in. And when we go into the community and work with the local pastor and their church leaders, we can affect many families and then . . . you are affecting the whole community.

As this participant explained, grassroots efforts work well through partnerships within a community. The concept of “grassroots efforts” is a highly acceptable and widely understood approach to community health in which community health educators work predominantly with local community members to initiate health promotion efforts rather than beginning those efforts through a more structured “top down” government-based approach (Doyle & Ward, 2001; McKenzie & Smeltzer, 2001). This approach to research has been proven effective in historically underserved communities where trust of outsiders is low and self-directed community actions are desired (Minkler, 2004). The responses from the participants in this study strongly validated the research team's efforts to use a CBPR-based approach to developing community partnerships.

There is an ongoing conversation in the CBPR literature in which community researchers discuss the need for balance in a community in accomplishing both research outcomes and community benefits (Minkler & Wallerstein, 2003). This idea of balance was also apparent within the Delphi participant's responses. Participant 1 frankly stated,

Research is all well and good, but relationships and, as I understand what y'all are after, health education . . . you kind of have the relationship to get the education down there. I mean . . . it can be so ongoing and so beneficial for that area. So, I would encourage you two to work to build relationships that stay long term with folks down there that you want to see this happen. Well, I would hope that would be the goal, actually rather than the research. As the minister and the minister's heart, you know I would rather you make a difference in the community.

P1 proclaimed a little personal bias towards this thought when she explained, as a minister, she preferred that the researchers prioritize community impact over collecting

data. However, in a follow-up response (Round Two) to a subtheme statement that community partnerships/relationships should be more important than research, P2 commented, “Although I agree with [*this subtheme statement*], I also see the vital importance of research - without the research to identify needs, abilities and possible solutions, change will be random and ‘haphazard’” (Appendix B). In this comment, P2 seemed to imply that the community will actually benefit from the research endeavors if there is a healthy balance.

Not only was the pilot survey well received within the community, but the entire project was well received among Delphi participants who were all key informants within their respective regions. For example, after Participant 6 stated that more detailed information on community health needs may be beneficial to both the local community and “Baylor,” Researcher 2 informed Participant 6 that this suggested action was the planned next step in the research process. Upon hearing this, the participant exclaimed, “That would be a blessing to us.”

This feeling of gratitude was evident in responses from most of the Delphi participants. Gratitude for what this study and the partnerships meant to them personally and for the community was a common theme. Participant 3 said that it was, “an encouragement to my husband and I personally and I just want to thank you for letting us be a part of it.” Participant 2 stated several times, “I would like to see this continue . . . I just want to see y’all continue.” P2 also suggested that the researchers visit her community where she currently resides to do what was done in Brazil. One of the benefits of a CBPR approach to research is the empowerment of all participants, including the researchers.

Conclusions

The design of this thesis study was based on the CBPR principles outlined by Minkler and Wallerstein (2003). The research team specifically attempted to share decision-making control about research activity, actively engage community partners in various aspects of the study, integrate the study into the development of health promotion efforts that would benefit the community, and obtain feedback from community partners about the research process and outcomes.

To a large extent, all aspects of this broad study purpose were accomplished. The survey was piloted as part of initial partnership-building steps with local church leaders who expressed interest in developing church-based community health promotion programs. The data collection events occurred as part of a series of church-based health promotion presentations and health fairs that benefited church members and the surrounding community. The follow-up Delphi study solicited input from community partners about the impact of the study and how to improve research and programming efforts in the next partnered phase. These broad, CBPR-based study outcomes are expected to positively contribute to future plans for on-going research and capacity-building efforts for health promotion in and through Brazilian churches.

In addition to these broad, CBPR-based outcomes, a number of conclusions can be made based on results of the pilot survey and the Delphi technique utilized in this thesis study. Though the Brazilian church members who participated in the pilot survey appeared to be relatively healthy; it appears as though critical health issues driven by environmental health factors, lack of healthcare access, and low levels of health education exist among medically underserved members of the surrounding communities.

Mental health issues related to depression and anxiety may be a priority health problem in the community.

The higher spiritual wellbeing scores found among female participants in comparison to male participant scores is consistent with other research studies in which gender groups were compared. The mean scores on total spiritual wellbeing and religious wellbeing were similar to those of an American Baptist sample. However, the Brazilian participants' existential wellbeing was significantly higher than that of the American group. This finding suggests a need for further research into various cultural aspects which may influence spiritual wellbeing. The significant but weak relationships detected between mental unhealthy days, spiritual wellbeing, age, current health status, and health care coverage and access give rise to a need for further research among larger sample sizes to more accurately explore these potential relationships.

The findings from the Delphi portion of this study validated community interest in developing health promotion efforts to address community health needs, not just the needs within the church. Because Delphi participants differed in their perceptions about what constitutes capacity, their opinions differed about whether or not the church was currently capable of addressing health needs within the community. However, all Delphi participants thought there was potential in the church if needed education, training, and other types of support were provided.

The pilot survey was well received by the community and helped “open a fan” (P6) of awareness and empowerment for pilot survey participants. Suggested changes to the survey process included an added verbal interview component to increase the scope of understanding, influence, and investment in specific, ongoing relationships within the community to aid in research efforts. Overall the Delphi participants and the research

team felt as though this pilot research study was a worthwhile effort in building relationships while assessing the needs of the community with the hopes of addressing these needs through programs, education and building the capacity of local institutions, specifically the church.

Future Research Recommendations

It is clear that further research would be beneficial in the area of faith-based CBPR and connections between spiritual wellbeing and health. Due to the abstract nature of CBPR and spirituality research, further, more specific research would be valuable. Some specific recommendations follow.

Future research is warranted to further explore a link between personal health problems and spiritual wellbeing. Personal health problems could be separated in categories or weighted based on the type and the severity of the health problem. This would aid in determining if there was a relationship between health problems and spirituality or spiritual wellbeing.

Another avenue for future research may be in examining depression/anxiety among Christian populations in Brazil or other locations. A future study could address perceptions about depression/anxiety among church members compared to individuals who do not go to church. This further examination into mental illness among Brazilians could include other mental illnesses such as bipolar disorder, schizophrenia, post-partum depression, as well as, distinguishing between depression and anxiety.

Future research that compares health behavior variables between an American and Brazilian sample would also be a worthwhile venture. This future study could compare relationships between spirituality and health in the different samples or explore if and

how religious or theological beliefs affect health. Future research could also be done to further explore the relationship of HRQOL mental unhealthy days and spiritual wellbeing to possibly determine causality.

Future research addressing faith-based CBPR approaches could also be beneficial. One suggestion for future studies is a more in-depth study into perceptions and knowledge about community capacity; what capacity means and how to can be accomplished. Research could be done to determine if raising awareness of individuals about capacity building within the community empowers them to effectively address the needs within their communities. Empowered individuals are the ones who start the grassroots efforts drawing on partnerships within their communities to create lasting, positive health changes.

APPENDICES

APPENDIX A
Survey Pilot Instruments

HEALTH MINISTRY NEEDS ASSESSMENT SURVEY

I. We care about you and your family and want to know how we can make a difference in your life! Please answer these questions, but don't sign your name. We only want to know what people in our church and community need to live healthy, joyful lives! We are here to help.

PART I: Check as many answers as you need to for each question.

Section 1: Program Interests and Needs		
<i>1.1-1.46 Check all classes or activity programs listed below that you'd be interested in. These could be classes or special programs that our church may be able to offer in the future.</i>		
<p><u>Handling Health Problems:</u></p> <p>___ High blood pressure¹ ___ Diabetes² ___ High cholesterol³ ___ Cancer⁴ ___ AIDS⁵ ___ Hearing problems⁶ ___ Heart disease⁷ ___ Stroke⁸ ___ Depression/anxiety⁹ ___ Drug or alcohol abuse¹⁰ ___ Eating disorders¹¹ ___ Others¹² _____</p>	<p><u>Protecting My Health:</u></p> <p>___ CPR¹³ ___ First aid¹⁴ ___ Dental care¹⁵ ___ Nutrition/eating¹⁶ ___ Stop smoking¹⁷ ___ Weight loss¹⁸ ___ Safety/injuries¹⁹ ___ Managing stress²⁰ ___ Others²¹ _____</p>	<p><u>Recreation and Exercise:</u></p> <p>___ Walk/jogging²² ___ Exercise class²³ ___ Yoga²⁴ ___ Weight Lifting²⁵ ___ Swimming²⁶ ___ Basketball²⁷ ___ Volleyball²⁸ ___ Soccer²⁹ ___ Tennis³⁰ ___ Others³¹ _____</p>
<p><u>Marriage and Family Matters:</u></p> <p>___ Being a widow³¹ ___ Marriage relationship³² ___ Parenting children³³ ___ Parenting adolescents³⁴ ___ Taking care of older parents³⁵ ___ Other family matters³⁶</p>	<p><u>Learning how to . . .</u></p> <p>___ Read³⁷ ___ Take care of money³⁸ ___ Find a job³⁹ ___ Other skill⁴⁰ _____</p>	<p><u>Spiritual Needs:</u></p> <p>___ Special prayer⁴¹ ___ Bible study⁴² ___ Visit from a church member or pastor⁴³ ___ Spiritual counseling⁴⁴ ___ Discipleship⁴⁵ ___ Other spiritual needs⁴⁶ _____</p>

Section 2: Health Problems During Past Year

Check any health problems you have had *during the past year*:

- | | | |
|--|--|--|
| <input type="checkbox"/> Emphysema ¹ | <input type="checkbox"/> High blood pressure ⁹ | <input type="checkbox"/> Drug or alcohol abuse ¹⁷ |
| <input type="checkbox"/> Heart disease ² | <input type="checkbox"/> Pneumonia/influenza ¹⁰ | <input type="checkbox"/> Eating disorder ¹⁸ |
| <input type="checkbox"/> Stroke ³ | <input type="checkbox"/> Hearing problems ¹¹ | <input type="checkbox"/> HIV/AIDS ¹⁹ |
| <input type="checkbox"/> Diabetes ⁴ | <input type="checkbox"/> Vision problems ¹² | <input type="checkbox"/> Cancer ²⁰ |
| <input type="checkbox"/> High cholesterol ⁵ | <input type="checkbox"/> Depression/anxiety ¹³ | <input type="checkbox"/> Dysentery ²¹ |
| <input type="checkbox"/> Yellow fever ⁶ | <input type="checkbox"/> Dengue fever ¹⁴ | <input type="checkbox"/> Meningitis ²² |
| <input type="checkbox"/> Tuberculosis ⁷ | <input type="checkbox"/> Malaria ¹⁵ | <input type="checkbox"/> Bronchitis ²³ |
| <input type="checkbox"/> Cholera ⁸ | <input type="checkbox"/> Hepatitis (A, B, C) ¹⁶ | <input type="checkbox"/> Other ²⁴ _____ |

Section 3: Family History of Health Problems

Check any health problems that are a part of your family history:

- | | | |
|--|--|--|
| <input type="checkbox"/> Emphysema ¹ | <input type="checkbox"/> High blood pressure ⁹ | <input type="checkbox"/> Drug or alcohol abuse ¹⁷ |
| <input type="checkbox"/> Heart disease ² | <input type="checkbox"/> Pneumonia/influenza ¹⁰ | <input type="checkbox"/> Eating disorder ¹⁸ |
| <input type="checkbox"/> Stroke ³ | <input type="checkbox"/> Hearing problems ¹¹ | <input type="checkbox"/> HIV/AIDS ¹⁹ |
| <input type="checkbox"/> Diabetes ⁴ | <input type="checkbox"/> Vision problems ¹² | <input type="checkbox"/> Cancer ²⁰ |
| <input type="checkbox"/> High cholesterol ⁵ | <input type="checkbox"/> Depression/anxiety ¹³ | <input type="checkbox"/> Dysentery ²¹ |
| <input type="checkbox"/> Yellow fever ⁶ | <input type="checkbox"/> Dengue fever ¹⁴ | <input type="checkbox"/> Meningitis ²² |
| <input type="checkbox"/> Tuberculosis ⁷ | <input type="checkbox"/> Malaria ¹⁵ | <input type="checkbox"/> Bronchitis ²³ |
| <input type="checkbox"/> Cholera ⁸ | <input type="checkbox"/> Hepatitis (A, B, C) ¹⁶ | <input type="checkbox"/> Other ²⁴ _____ |

PART II: Mark only the one response for each question.

Section 4: Current Health Status

4.1 Would you say that in general your health is—

- Excellent (5)
 Very good (4)
 Good (3)
 Fair (2)
 Poor (1)
- Don't know(77)
 Don't want to answer(88)

Section 5: Healthy Days — Health-Related Quality of Life - (Enter number or 77 or 88)

- 5.1 Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

Number of days: _____ (*can be zero*)

___ Don't know. (77)

___ Don't want to answer. (88)

- 5.2 Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

Number of days: _____ (*can be zero*)

___ Don't know. (77)

___ Don't want to answer. (88)

Section 6: Health Care Access

- 6.1 Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

___ Yes (1)

___ No (2)

___ Don't know. (77)

___ Don't want to answer. (88)

- 6.2 Do you have one person you think of as your personal doctor or health care provider?

___ Yes, only one (1)

___ More than one (2)

___ No (3)

___ Don't know. (77)

___ Don't want to answer. (88)

- 6.3 Was there a time in the past 12 months when you needed to see a doctor but could not because of the cost?

___ Yes (1)

___ No (2)

___ Don't know. (77)

___ Don't want to answer. (88)

Section 7: Fruits and Vegetables – (Enter the number or 66, 77, or 88)

These next questions are about the foods you usually eat or drink. Please tell me how often you eat or drink each one, for example, twice a week, three times a month, and so forth. Remember, I am only interested in the foods you eat. Include all foods you eat, both at home and away from home.

7.1 How often do you drink fruit juices such as orange, grapefruit, or tomato?

Number per day: _____

Number per week: _____

Number per month: _____

Number per year: _____

Don't drink fruit juices. **(66)**

Don't know. **(77)**

Don't want to answer. **(88)**

7.2 Not counting juice, how often do you eat fruit?

Number per day: _____

Number per week: _____

Number per month: _____

Number per year: _____

Don't eat fruit. **(66)**

Don't know. **(77)**

Don't want to answer. **(88)**

7.3 How often do you eat green salad?
(Write in number on only one of 1-4 or circle 66, 77, or 88)

Number per day: _____

Number per week: _____

Number per month: _____

Number per year: _____

Don't eat green salad. **(66)**

Don't know. **(77)**

Don't want to answer. **(88)**

7.4 How often do you eat potatoes not including french fries, fried potatoes, or potato chips?

Number per day: _____

Number per week: _____

Number per month: _____

Number per year: _____

Don't eat potatoes. **(66)**

Don't know. **(77)**

Don't want to answer. **(88)**

7.5 How often do you eat carrots?

Number per day: _____
 Number per week: _____
 Number per month: _____
 Number per year: _____

Don't eat carrots. (**66**)
 Don't know. (**77**)
 Don't want to answer. (**88**)

7.6 Not counting carrots, potatoes, or salad, how many servings of vegetables do you usually eat? (Example: A serving of vegetables at both lunch and dinner would be two servings.)

Number per day: _____
 Number per week: _____
 Number per month: _____
 Number per year: _____

Don't eat vegetables. (**66**)
 Don't know. (**77**)
 Don't want to answer. (**88**)

Section 8: Exercise or Physical Activity

8.1 During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

Yes (**1**)
 No (**2**)
 Don't know. (**77**)
 Don't want to answer (**88**)

Section 9: Weight Control

9.1 Are you now trying to lose weight?

Yes (Skip to 9.3) (**1**)
 No (**2**)
 Don't know. (**77**)
 Don't want to answer (**88**)

9.2 Are you now trying to maintain your current weight, that is, to keep from gaining weight?

Yes (**1**)
 No (**2**)
 Don't know. (**77**)
 Don't want to answer (**88**)

9.3 In the past 12 months, has a doctor, nurse or other health professional given you advice about your weight?

- Yes, lose weight (1)
 Yes, gain weight(2)
 Yes, maintain current weight(3)
 No (4)
 Don't know. (77)
 Don't want to answer(88)

Section 10: Belief in God

10.1 Do you believe in God?

- Yes (Skip to 11.1) (1)
 No (2)
 Don't know. (77)
 Don't want to answer (88)

10.2 If you do not believe in God, do you in a higher power of some kind?

- Yes (1)
 No (2)
 Don't know. (77)
 Don't want to answer(88)

Section 11: Spiritual Wellbeing

These next set of questions ask you about your thoughts and feelings about life, God, and yourself. For each statement, choose 1 of the 6 response choices to show how much you agree or disagree with that statement.

Statement	Check only one response. <i>(Note differences in number assignments for data entry)</i>	
11.1 I don't find much satisfaction in private prayer with God.	I agree: <input type="checkbox"/> strongly. (1) <input type="checkbox"/> moderately. (2) <input type="checkbox"/> a little. (3)	I disagree: <input type="checkbox"/> strongly. (6) <input type="checkbox"/> moderately. (5) <input type="checkbox"/> a little. (4)
11.2 I don't know who I am, where I came from, or where I'm going.	I agree: <input type="checkbox"/> strongly. (1) <input type="checkbox"/> moderately. (2) <input type="checkbox"/> a little. (3)	I disagree: <input type="checkbox"/> strongly. (6) <input type="checkbox"/> moderately. (5) <input type="checkbox"/> a little. (4)
11.3 I believe that God loves me and cares about me.	I agree: <input type="checkbox"/> strongly. (6) <input type="checkbox"/> moderately. (5) <input type="checkbox"/> a little. (4)	I disagree: <input type="checkbox"/> strongly. (1) <input type="checkbox"/> moderately. (2) <input type="checkbox"/> a little. (3)

(Section 11: Spiritual Wellbeing)

Statement	Check only one response.	
11.4 I feel that life is a positive experience.	<i>I agree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)	<i>I disagree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)
11.5 I believe that God is impersonal and not interested in my daily situations.	<i>I agree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)	<i>I disagree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)
11.6 I feel unsettled about my future	<i>I agree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)	<i>I disagree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)
11.7 I have a personally meaningful relationship with God.	<i>I agree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)	<i>I disagree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)
11.8 I feel very fulfilled and satisfied with life.	<i>I agree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)	<i>I disagree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)
11.9 I don't get much personal strength and support from my God.	<i>I agree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)	<i>I disagree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)
11.10 I feel a sense of well-being about the direction my life is headed in.	<i>I agree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)	<i>I disagree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)
11.11 I believe that God is concerned about my problems.	<i>I agree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)	<i>I disagree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)
11.12 I don't enjoy much about life.	<i>I agree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)	<i>I disagree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)
11.13 I don't have a personally satisfying relationship with God.	<i>I agree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)	<i>I disagree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)
11.14 I feel good about my future.	<i>I agree:</i> ___ <i>strongly.</i> (6) ___ <i>moderately.</i> (5) ___ <i>a little.</i> (4)	<i>I disagree:</i> ___ <i>strongly.</i> (1) ___ <i>moderately.</i> (2) ___ <i>a little.</i> (3)

(Section 11: Spiritual Wellbeing)

Statement	Check only one response.	
11.15 My relationship with God helps me not to feel lonely.	<i>I agree:</i> ___strongly. (6) ___moderately. (5) ___a little. (4)	<i>I disagree:</i> ___strongly. (1) ___moderately. (2) ___a little. (3)
11.16 I feel that life is full of conflict and unhappiness.	<i>I agree:</i> ___strongly. (1) ___moderately. (2) ___a little. (3)	<i>I disagree:</i> ___strongly. (6) ___moderately. (5) ___a little. (4)
11.17 I feel most fulfilled when I'm in close communion with God.	<i>I agree:</i> ___strongly. (6) ___moderately. (5) ___a little. (4)	<i>I disagree:</i> ___strongly. (1) ___moderately. (2) ___a little. (3)
11.18 Life doesn't have much meaning.	<i>I agree:</i> ___strongly. (1) ___moderately. (2) ___a little. (3)	<i>I disagree:</i> ___strongly. (6) ___moderately. (5) ___a little. (4)
11.19 My relationship with God contributes to my sense of well-being.	<i>I agree:</i> ___strongly. (6) ___moderately. (5) ___a little. (4)	<i>I disagree:</i> ___strongly. (1) ___moderately. (2) ___a little. (3)
11.20 I believe there is some real purpose for my life.	<i>I agree:</i> ___strongly. (6) ___moderately. (5) ___a little. (4)	<i>I disagree:</i> ___strongly. (1) ___moderately. (2) ___a little. (3)

Section 12: Responsibilities and Demographics

12.1-12.6 I am regularly involved in the following activities (check all that apply):
<input type="checkbox"/> church/faith-based activities ¹ <input type="checkbox"/> my children's/spouse's activities ⁴ <input type="checkbox"/> community/civic activities ² <input type="checkbox"/> sports or recreational activities ⁵ <input type="checkbox"/> full/part-time employment ³ <input type="checkbox"/> Other ⁶ _____

12.7 My gender is:

___female(0)
___male(1)

12.8 My age is

___under 20 years of age(1)
___20-29 years of age(2)
___30-39 years of age(3)
___40-49 years of age(4)
___50-59 years of age(5)
___60-69 years of age(6)
___70 years of age or more(7)

MINISTÉRIO PARA PROMOVER SAÚDE AVALIAÇÃO DE NECESSIDADES

Nossa igreja tem grande interesse em você e sua família. Queremos descobrir como podemos fazer uma diferença positiva em sua vida com relação a sua saúde física! Por favor responda as seguintes perguntas, mas não assine seu nome. Só queremos descobrir o que falta para as pessoas de nossa igreja e de nossa comunidade viver vidas saudáveis e cheias de alegria! Nós estamos aqui para ajudar.

PARTE I: Marque tudo que precisa para cada pergunta.

Seção 1. Descobrindo suas necessidades e seus interesses		
Marque abaixo os cursos ou atividades em que você teria interesse em participar. Estes poderiam ser cursos, palestras ou programas especiais que nossa igreja poderia oferecer no futuro.		
<p><u>Como resolver problemas de saúde</u></p> <p><input type="checkbox"/> Pressão alta de sangue¹</p> <p><input type="checkbox"/> Diabetes²</p> <p><input type="checkbox"/> Colesterol alto³</p> <p><input type="checkbox"/> Câncer⁴</p> <p><input type="checkbox"/> Aids/HIV⁵</p> <p><input type="checkbox"/> Problemas de audição⁶</p> <p><input type="checkbox"/> Ataque/problema cardíaco⁷</p> <p><input type="checkbox"/> Derrame cerebral⁸</p> <p><input type="checkbox"/> Depressão / ansiedade⁹</p> <p><input type="checkbox"/> Abuso de álcool/drogas¹⁰</p> <p><input type="checkbox"/> Problemas digestivos¹¹</p> <p><input type="checkbox"/> Outro problema¹² _____</p>	<p><u>Como proteger minha saúde</u></p> <p><input type="checkbox"/> RCP Ressucitação Cardio Pulmona¹³</p> <p><input type="checkbox"/> Primeiros socorros¹⁴</p> <p><input type="checkbox"/> Cuidado dental¹⁵</p> <p><input type="checkbox"/> Nutrição¹⁶</p> <p><input type="checkbox"/> Parar de fumar¹⁷</p> <p><input type="checkbox"/> Perda de peso¹⁸</p> <p><input type="checkbox"/> Ferimentos e fraturas¹⁹</p> <p><input type="checkbox"/> Aliviar estresse²⁰</p> <p><input type="checkbox"/> Outro assuntos²¹ _____</p>	<p><u>Recreação e exercício</u></p> <p><input type="checkbox"/> Exercícios aeróbicos como correr ou caminhar²²</p> <p><input type="checkbox"/> Classe de exercícios²³</p> <p><input type="checkbox"/> Treino de pesos²⁴</p> <p><input type="checkbox"/> Natação²⁵</p> <p><input type="checkbox"/> Basketbol²⁶</p> <p><input type="checkbox"/> Voleibol²⁷</p> <p><input type="checkbox"/> Futebol²⁸</p> <p><input type="checkbox"/> Tênis²⁹</p> <p><input type="checkbox"/> Outra atividade³⁰ _____</p>
<p><u>Assuntos de família</u></p> <p><input type="checkbox"/> Vida de viúva³¹</p> <p><input type="checkbox"/> Relação matrimonial³²</p> <p><input type="checkbox"/> Apoio aos pais de crianças³³</p> <p><input type="checkbox"/> Apoio aos pais de adolescentes³⁴</p> <p><input type="checkbox"/> Cuidando aos pais envelhecidos³⁵</p> <p><input type="checkbox"/> Outro assunto de família³⁶</p>	<p><u>Quero aprender . . .</u></p> <p><input type="checkbox"/> a ler³⁷</p> <p><input type="checkbox"/> melhor uso de meu dinheiro³⁸</p> <p><input type="checkbox"/> como conseguir um melhor emprego³⁹</p> <p><input type="checkbox"/> outra habilidade⁴⁰ _____</p>	<p><u>Necessidades espirituais</u></p> <p><input type="checkbox"/> Oração⁴¹</p> <p><input type="checkbox"/> Estudo Bíblico⁴²</p> <p><input type="checkbox"/> Visita de um membro ou pastor de uma igreja⁴³</p> <p><input type="checkbox"/> Conselho sobre assuntos espirituais⁴⁴</p> <p><input type="checkbox"/> ser discipulado na vida Cristã⁴⁵</p> <p><input type="checkbox"/> Outra necessidade espiritual⁴⁶</p>

Seção 2. Identificação de problemas sofrido durante este último ano

Marque qualquer problema de saúde que você sofreu durante o ano que passou:

- | | | |
|--|--|---|
| <input type="checkbox"/> Enfisema ¹ | <input type="checkbox"/> Pressão alta de sangue ⁹ | <input type="checkbox"/> Abuso de álcool/drogas ¹⁷ |
| <input type="checkbox"/> Ataque/problema cardíaco ² | <input type="checkbox"/> Gripe/Pneumonia ¹⁰ | <input type="checkbox"/> Problemas digestivos ¹⁸ |
| <input type="checkbox"/> Derrame ³ | <input type="checkbox"/> Problemas de audição ¹¹ | <input type="checkbox"/> Aids/HIV ¹⁹ |
| <input type="checkbox"/> Diabetes ⁴ | <input type="checkbox"/> Problemas de visão ¹² | <input type="checkbox"/> Câncer ²⁰ |
| <input type="checkbox"/> Colesterol alto ⁵ | <input type="checkbox"/> Depressão /ansiedade ¹³ | <input type="checkbox"/> Disenterias ²¹ |
| <input type="checkbox"/> Febre Amarela ⁶ | <input type="checkbox"/> Dengue ¹⁴ | <input type="checkbox"/> Meningite ²² |
| <input type="checkbox"/> Tuberculose ⁷ | <input type="checkbox"/> Malaria ¹⁵ | <input type="checkbox"/> Bronquite ²³ |
| <input type="checkbox"/> Cólera ⁸ | <input type="checkbox"/> Hepatite (A, B, C) ¹⁶ | <input type="checkbox"/> Outros ²⁴ : _____ |

Seção 3. História familiar de problemas de saúde

Marque qualquer problema de saúde sofrido por seus familiares (Pai, mãe, tio, tia, etc)

- | | | |
|--|---|---|
| <input type="checkbox"/> Enfisema ¹ | <input type="checkbox"/> Pressão alta de sangue | <input type="checkbox"/> Abuso de álcool/drogas ¹⁷ |
| <input type="checkbox"/> Ataque/problema cardíaco ² | <input type="checkbox"/> Gripe/Pneumonia ¹⁰ | <input type="checkbox"/> Problemas digestivos ¹⁸ |
| <input type="checkbox"/> Derrame ³ | <input type="checkbox"/> Problemas de audição ¹¹ | <input type="checkbox"/> Aids/HIV ¹⁹ |
| <input type="checkbox"/> Diabetes ⁴ | <input type="checkbox"/> Problemas de visão ¹² | <input type="checkbox"/> Câncer ²⁰ |
| <input type="checkbox"/> Colesterol alto ⁵ | <input type="checkbox"/> Depressão /ansiedade ¹³ | <input type="checkbox"/> Disenterias ²¹ |
| <input type="checkbox"/> Febre Amarela ⁶ | <input type="checkbox"/> Dengue ¹⁴ | <input type="checkbox"/> Meningite ²² |
| <input type="checkbox"/> Tuberculose ⁷ | <input type="checkbox"/> Malaria ¹⁵ | <input type="checkbox"/> Bronquite ²³ |
| <input type="checkbox"/> Cólera ⁸ | <input type="checkbox"/> Hepatite (A, B, C) ¹⁶ | <input type="checkbox"/> Outros ²⁴ : _____ |

PARTE II: Marque somente uma resposta para cada pergunta.

Seção 4. Como vai de saúde agora?

4.1 Você diria que em geral sua saúde atual é.

- Excelente (5)
 Muito bom (4)
 Bom (3)
 Mais ou menos(2)
 Mal(1)
- Não sei(77)
 Não quero responder(88)

Seção 5: Qualidade de vida relacionada à saúde

- 5.1 Pense agora em sua saúde física incluindo doenças ou ferimentos.
Nos últimos 30 dias, quantos dias você diria que sua saúde física estava mal?

Número de dias: _____ (pode ser zero)

___ Não sei (77)

___ Não quero responder (88)

- 5.2 Pensando agora em sua saúde emocional que inclui estresse, tensão, depressão, e outros problemas emocionais. Nos últimos 30 dias, quantos dias você diria que sua saúde emocional estava mal?

Número de dias: _____ (pode ser zero)

___ Não sei (77)

___ Não quero responder (88)

Seção 6: Acesso a cuidados médico

- 6.1 Você tem algum plano de assistência à saúde ou seguros médico particular?

___ Sim (1)

___ Não (2)

___ Não sei (77)

___ Não quero responder (88)

- 6.2 Você tem uma pessoa que você considera seu médico pessoal ou seu provedor de cuidados médicos?

___ Sim, somente uma pessoa (1)

___ Mais que uma (2)

___ Não (3)

___ Não sei (77)

___ Não quero responder (88)

- 6.3 Durante os últimos 12 meses você teve necessidade de procurar um médico mas não pôde por causa do alto custo?

___ Sim (1)

___ Não (2)

___ Não sei (77)

___ Não quero responder (88)

Seção 7. Frutas e legumes

Estas próximas perguntas são sobre as comidas e bebidas que você normalmente come ou bebe. Por favor diga com que frequência você come ou bebe cada item. Por exemplo, duas vezes por semana, três vezes por mês, e assim por diante. Lembre-se, só estou interessado na sua alimentação pessoal. Inclua toda alimentação que você come, seja em casa ou fora de casa.

7.2 Com que frequência bebe você sucos de fruta.

(Complete somente uma.)

Número por dia: _____

Número por semana: _____

Número por mês: _____

Número por ano: _____

Não bebo sucos de fruta. **(66)**

Não sei. **(77)**

Não quero responder. **(88)**

7.2 Tirando fora os sucos, com que frequência você come frutas?

Número por dia: _____

Número por semana: _____

Número por mês: _____

Número por ano: _____

Não como fruta. **(66)**

Não sei. **(77)**

Não quero responder. **(88)**

7.3 Com que frequência come você come salada de alface?

Número por dia: _____

Número por semana: _____

Número por mês: _____

Número por ano: _____

Não como salada. **(66)**

Não sei. **(77)**

Não quero responder. **(88)**

7.4 Tirando fora fritas e salgadinhos, com que frequência você come batatas?

Número por dia: _____

Número por semana: _____

Número por mês: _____

Número por ano: _____

Não como batatas. **(66)**

Não sei. **(77)**

Não quero responder. **(88)**

- 7.5 Com que frequência você come cenouras?
 Número por dia: _____
 Número por semana: _____
 Número por mês: _____
 Número por ano: _____
 Não como cenouras. (66)
 Não sei. (77)
 Não quero responder. (88)
- 7.6 Tirando fora cenouras, batatas, e saladas de alface, quantas porções de outros legumes você normalmente come? (Exemplo: Uma porção de legumes ao almoço e outro no jantar seria duas porções por dia.)
 Número por dia: _____
 Número por semana: _____
 Número por mês: _____
 Número por ano: _____
 Não como outros legumes. (66)
 Não sei. (77)
 Não quero responder. (88)

Seção 8. Exercícios e atividades físicas

- 8.1 Durante o último mês, você participou de qualquer lazer que incluiu atividades físicas ou exercícios como correr, cooper, calistenias, futebol, jardinagem, ou caminhadas?
 Sim (1)
 Não (2)
 Não sei (77)
 Não quero responder (88)

Seção 9. Controle de peso

- 9.1 Você está de regime para perder peso?
 Sim (1)
 Não (2)
 Não sei (77)
 Não quero responder (88)
- 9.2 Você está tentando manter seu peso atual (ou seja, evitar ganhar peso)?
 Sim (1)
 Não (2)
 Não sei (77)
 Não quero responder (88)

9.3 Durante os últimos 12 meses, algum profissional de saúde (médico, enfermeira, etc) lhe deu algum conselho sobre seu peso?

- Sim, recomendou perder peso (1)
 Sim, recomendou ganhar peso (2)
 Sim, recomendou manter meu peso atual (3)
 Não (4)
 Não sei (77)
 Não quero responder (88)

Seção 10. Opinião sobre Deus

10.3 Você acredita em Deus?

- Sim (siga para Seção 11) – (1)
 Não (2)
 Não sei (77)
 Não quero responder (88)

10.4 Se não crer em Deus, você acredita em algum tipo de ser poderoso?

- Sim (1)
 Não (2)
 Não sei (77)
 Não quero responder (88)

Seção 11. Como vai sua saúde espiritual?

As próximas perguntas procuram entender suas opiniões e ideias sobre a vida, Deus, e você mesmo. Para cada declaração, escolha entre as 6 respostas para indicar o quanto você concorda ou discorda daquela declaração.

Declaração	Marque somente uma resposta.	
11.1 Não sinto muita satisfação quando oro a Deus.	Eu concordo: <input type="checkbox"/> fortemente.(1) <input type="checkbox"/> moderadamente.(2) <input type="checkbox"/> um pouco.(3)	Eu discordo: <input type="checkbox"/> fortemente.(6) <input type="checkbox"/> moderadamente.(2) <input type="checkbox"/> um pouco.(4)
11.2 Não sei quem sou, de onde vim, nem para onde vou.	Eu concordo: <input type="checkbox"/> fortemente.(1) <input type="checkbox"/> moderadamente.(2) <input type="checkbox"/> um pouco.(3)	Eu discordo: <input type="checkbox"/> fortemente.(6) <input type="checkbox"/> moderadamente.(2) <input type="checkbox"/> um pouco.(4)
11.3 Creio que Deus me ama e cuida de mim.	<i>Eu concordo:</i> <input type="checkbox"/> fortemente.(6) <input type="checkbox"/> moderadamente.(5) <input type="checkbox"/> um pouco.(4)	<i>Eu discordo:</i> <input type="checkbox"/> fortemente.(1) <input type="checkbox"/> moderadamente.(2) <input type="checkbox"/> um pouco.(3)
11.4 Creio que a vida é uma experiência positiva.	<i>Eu concordo:</i> <input type="checkbox"/> fortemente.(6) <input type="checkbox"/> moderadamente.(5) <input type="checkbox"/> um pouco.(4)	<i>Eu discordo:</i> <input type="checkbox"/> fortemente.(1) <input type="checkbox"/> moderadamente.(2) <input type="checkbox"/> um pouco.(3)

(Seção 11. Como vai sua saúde espiritual?)

11.5	Acredito que Deus é um ser bastante impessoal e que tem pouco interessa em meus problemas.	Eu concordo: ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)	Eu discordo: ___ fortemente.(6) ___ moderadamente.(2) ___ um pouco.(4)
11.6	Me preocupo muito sobre meu futuro.	Eu concordo: ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)	Eu discordo: ___ fortemente.(6) ___ moderadamente.(2) ___ um pouco.(4)
11.7	Eu tenho uma relação significativa com Deus.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>
11.8	Me sinto realizado e satisfeito com minha vida.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>
11.9	Deus não me da força nem apóio.	Eu concordo: ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)	Eu discordo: ___ fortemente.(6) ___ moderadamente.(2) ___ um pouco.(4)
11.10	Sinto um senso de bem-estar sobre a atual direção de minha vida.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>
11.11	Creio que Deus se preocupa com meus problemas.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>
11.12	Sinto pouca alegria em minha vida.	Eu concordo: ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)	Eu discordo: ___ fortemente.(6) ___ moderadamente.(2) ___ um pouco.(4)
11.13	Eu não tenho uma relação pessoal com Deus que me satisfaz.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>
11.14	Sinto confiança sobre meu futuro.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>
11.15	Minha relação com Deus me ajuda a não sentir só.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) <i>um pouco.(4)</i>	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) <i>um pouco.(3)</i>

(Seção 11. Como vai sua saúde espiritual?)

11.16	Acho que a vida é cheia de tristeza e conflito.	Eu concordo: ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)	Eu discordo: ___ fortemente.(6) ___ moderadamente.(2) ___ um pouco.(4)
11.17	Me sinto mais satisfeito quando estou em comunhão íntima com Deus.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) ___ um pouco.(4)	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)
11.18	Creio que a vida tem pouco significado.	Eu concordo: ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)	Eu discordo: ___ fortemente.(6) ___ moderadamente.(2) ___ um pouco.(4)
11.19	Minha relação com Deus contribui a meu senso de bem-estar.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) ___ um pouco.(4)	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)
11.20	Eu acredito que minha vida tem propósito.	<i>Eu concordo:</i> ___ fortemente.(6) ___ moderadamente.(5) ___ um pouco.(4)	<i>Eu discordo:</i> ___ fortemente.(1) ___ moderadamente.(2) ___ um pouco.(3)

Seção 12: Responsabilidades e Demographicas

12.1-12.6 Participo das seguintes atividades (marque todos com que você normalmente participa):	
___ Atividades na minha igreja ¹	___ Atividades de meus fillos(as) ou de meu esposo(a) ⁴
___ Atividades cívicas ou de minha comunidade ²	___ Esportes ou outras atividades recreativas ⁵
___ Emprego ³	___ Outras atividades ⁶ _____

12.7 Meu gênero é:

___ feminino (1)
___ masculino(2)

12.8 Minha idade é

___ menos de 20 anos de idade(1)
___ 20-29 anos de idade(2)
___ 30-39 anos de idade(3)
___ 40-49 anos de idade(4)
___ 50-59 anos de idade(5)
___ 60-69 anos de idade(6)
___ 70 anos de idade ou mais(7)

APPENDIX B

Delphi Study Instruments (Delphi Rounds One & Two)

Recruitment Email to Key Informants
Delphi Technique Round One Instrument

I hope this email finds you well. I am writing you today to ask a favor. As you may remember, while I was in Brazil with the Baylor in Brazil 2006 team, I had local church members fill out a survey for my thesis. Well, now I want to do a follow-up interview of several key informants to gain more information about the community in which we worked for use in my thesis.

The purpose of this interview is to get more information about *your community*/the community where we worked last summer. This interview will provide a more thorough perspective into how to better this research project for future years. I will be able to collect follow-up information in addition to keeping you involved in the research process.

This interview process will be the same for everyone who participates. Confidentiality is of utmost importance. When I report the data, no names will be associated with any of the responses. In order to best utilize the information from these interviews, with your permission, I would like to record our conversation so I can later transcribe it.

As to the interview, I will ask you a series of six core questions where I may ask further probing questions to provide more information. However, I want you to know that there are no wrong answers! You will not be graded on this...the right answer is the one that you give me! Also, please do not tell me what you think I want to hear, tell me what you truly think. An answer of "I do not know" is also acceptable.

(For Brazilian Participants) As you may realize, we will need the use of a translator. Thankfully Dr. Robert Doyle has agreed to serve in that role during the interview process. We will use a speaker phone so that you can hear both of us and we can both hear you during the interview.

Here is a list of the questions I will be asking during the interview if you decide to participate:

1. What do you see are the major health needs in your/the local/Brazilian community of Anchieta/Porto Velho?
2. What are local churches doing to address these and other health issues?
3. What other organizations? Activities? Partnerships? Could be created to further address these issues?
4. How well equipped do you think the local church is to address important health issues?
5. If you recall, back in June 2006, some University students in collaboration with Drs. Eva and Robert Doyle had church members fill out questionnaires asking about health program interests, health status, and spirituality. What were your impressions and experiences with this survey method?
6. How did this study address the assessment of pertinent health issues for your community? (Do you think the questionnaire used in this study is a good assessment of the health needs in your community?)

When I compile the data, I will be using it in my thesis. The interview transcripts generated through these telephone interviews will be analyzed using qualitative techniques. Dr. Doyle and I will independently analyze recurring or emerging themes from the interviews. Dr. Doyle and I will then compare results to identify common and dissimilar findings. A list of these themes (identified as common to both researchers and unique to one researcher) will then be disseminated to you for further input (agreement or disagreement) with each common response theme identified by the researchers. These researcher-identified themes and your follow-up agreements/disagreements to those emerging themes will be reported as part of this study and, in keeping with the CBPR principles, disseminated to all community partners.

I have also attached an informed consent that further describes the research process and any risk involved. If you agree to participate in the interview process, I will need a signed copy of the informed consent form. You can fax or mail me a copy of the signed consent form at the following address:

Meg Davis
Address [deleted for privacy]

Fax #: [deleted for privacy]

Please let me know if you are interested in participating in this interview process or if you would like more information about it. Email is probably the best way to reach me or feel free to call my cell phone [number deleted for privacy]. I would like to schedule these interviews in the next few weeks, if at all possible as I am trying to graduate in August.☺

Thank you for your time. I hope to talk with you soon!!!

Thank you,
Meg Davis

Alo, meu nome é Meg Davis. Eu espero que este e-mail lhe encontre bem. Eu estou lhe escrevendo hoje para pedir um enorme favor. Você talvez lembra que quando estive no Brasil em junho de 2006 com o group de academicos em educação saúde de Baylor, varios membros de igrejas locais preencheram uma pequena pesquisa que faz parte de minha tese. Bem, agora eu quero fazer uma breve entrevista com varias pessoas informadas para obter mais informação sobre as comunidades onde nós trabalhamos. Essa informação vai me ajudar terminar minha tese de mestrado em educação saúde.

Photo of
Researcher
[deleted for
privacy]

O propósito da entrevista é adquirir mais informações sobre sua comunidade ou seja, as comunidades onde nós trabalhamos em junho de 2006 passado. Em junho de 2006 eu viajei com Dra. Eva Doyle para as comunidades de Porto Velho, Rondonia, e Anchieta, Espirito Santo. A entrevista me dara uma perspectiva mais completa e ajudara melhorar outros projetos de pesquisa da Dra. Eva no Brasil durante anos futuros. Eu quero coleccionar informação para completar minha tese, mais tambem quero providenciar para você informação sobre os resultados de minha pesquisa.

O processo de entrevista será o mesmo para todos que participarem. Quero esclarecer que toda informação que você providenciar sera guardado de maneira confidencial. Neste tipo de pesquisa, confidência é de importância extrema. Quando eu fizer resumos dos dados, nenhum nome será associado com qualquer resposta. Quer dizer, suas respostas seram parte de um resumo geral, mais de maneira nenhuma sera associado com você pessoalmente. Para facilitar a entrevista, com sua permissão, que eu gostaria de gravar nossa conversa. Assim eu posso estudar a informação com mais cuidado e transcrever a entrevista.

A entrevista sera feito da seguinte maneira. Eu farei seis perguntas principais e possivelmente outras perguntas mais aprofundadas podem surgir. Porém, quero que você saiba que não há nenhuma resposta errada! A resposta certa é sua resposta! Afinal de contas, estarei perguntando sua opinião. Também, por favor não responda o que você pensa que eu quero ouvir, preciso saber o que você verdadeiramente pensa. A resposta "eu não sei" também é totalmente aceitável.

Os participantes brasileiros entendem que precisarei usar um tradutor- afinal de contas, meu Português ainda não melhorou muito! O Dr. Roberto Doyle concordou em me ajudar como tradutor durante o processo de entrevista. Usaremos um telefone falante de forma que você podera ouvir ambos nós e nós tambem poderemos lhe ouvir durante a entrevista.

Aqui esta a lista das perguntas principais que eu farei durante a entrevista. Espero que você vai concordar de participar:

- 1) O que você vê como as necessidades de saúde principais de Anchieta, ES ou Porto Velho, RO?

- 2) O que estão fazendo as igrejas de sua comunidade para tratar destas e outras necessidades de saúde?
- 3) Que outras organizações, atividades, ou parcerias poderiam ser criadas para tratar destas necessidades de saúde?
- 4) Você acha que a igreja local está equipada para tratar de assuntos de saúde importantes?
- 5) Se você lembra, em junho de 2006, alguns acadêmicos universitários visitaram o Brasil com Dra. Eva e Dr. Roberto Doyle. Nesta ocasião, vários membros de igreja preencheram questionários que perguntava sobre programas de saúde que lhes interessavam, o estado de sua saúde física, e sobre sua própria espiritualidade. Se você participou, quais foram suas impressões e experiências com respeito a este método de pesquisa?
- 6) Você acha que o questionário utilizado fez boa avaliação das necessidades de saúde principais de sua comunidade?

A informação dos questionários e destas entrevistas serão utilizados em minha tese. Os resultados serão analisados usando técnicas qualitativas de estatística próprias para análise de entrevistas. Dra. Eva e eu analisaremos os dados independentemente para esclarecer os temas mais importantes que surgirem durante todas as entrevistas. Em seguida, eu e Dra. Eva compararemos nossos resultados. Uma lista dos temas identificados (aqueles identificados pelas duas investigadoras, como também aqueles identificados por somente uma ou outra) será disseminada para todos os participantes da entrevista para pedir sua opinião. Você terá oportunidade de concordar ou discordar com cada tema identificado pelos investigadores. Os temas identificados e sua opinião a respeito deste tema farão parte do estudo e, de acordo com os princípios do estudo, serão disseminados a todos os que participarem das entrevistas.

Gostaria muito de saber se você está disposto a participar desta entrevista. Espero que sim! Eu gostaria de fazer estas entrevistas durante o mês de maio, já que estou tentando concluir minha tese e me formar em agosto. Eu liguei por telefone durante um horário que for conveniente para você. Por favor, responda por e-mail e mande uma cópia para Dra. Eva (Eva_Doyle@baylor.edu). Ela e Dr. Roberto vão me ajudar com todas as traduções.

Desde já, obrigada por tudo. Eu espero falar logo com você!!!

Obrigada,
Meg Davis

Moderately Scheduled Telephone Interview Guide
Delphi Technique Round One Instrument

Interviewer:

Hello! How are you doing today? Thank you for agreeing to talk with me today. As I said in my email, the purpose of this interview is for me to get more information about your community/the community where we worked last summer. This interview will provide a more thorough perspective into how to better this research project. I will be able to collect follow-up information in addition to keeping you involved.

This interview process will be the same for everyone who participates. Confidentiality is of utmost importance. When I report the data, no names will be associated with any of the responses. I will ask you a series of six core questions where I may ask further, probing questions to provide more information. Let me stop and say now, there are no wrong answers! You will not be graded on this! Also, do not tell me what you think I want to hear, tell me what you truly think. An answer of “I do not know” is also acceptable.

If needing a translator: As you can tell, we are using the services of Dr. Robert Doyle, a trained and experienced translator, who will translate for us during this interview.

In order to best utilize the information from these interviews, with your permission, I would like to record our conversation so I can later transcribe it.

Do you have any questions?

May I record our conversation today?

If respondent replies with “yes” . . .

Interviewer starts the recorder

Having received your permission, I have now started the recording device. For the purpose of this recording . . . After hearing the purpose and procedure to the interviews, do you agree to participate in this interview today?

If respondent replies with “yes” . . .

Wonderful! Do you have any questions before we begin the interview? Also, if you have any questions, comments, or concerns as we are going through this interview, please let me know.

As I said, this interview will consist of six core questions, but before we begin those, will you please tell me your role in the research process? Are you a Brazilian pastor, American nurse, or a program coordinator/leader from an American church?

7. What do you see are the major health needs in your/the local/Brazilian community of Anchieta/Porto Velho?
8. What are local churches doing to address these and other health issues?
 - a. Different denominations (Methodist, Assemblies of God, Catholic, etc.)?
 - b. Various efforts (soup kitchens, shelter for homeless, etc.)
9. What other organizations? Activities? Partnerships? Could be created to further address these issues?
 - a. Governmental collaborations/projects?
 - b. Churches?
10. How well equipped do you think the local church is to address important health issues?
11. If you recall, back in June 2006, some University students in collaboration with Drs. Eva and Robert Doyle had church members fill out questionnaires asking about health program interests, health status, and spirituality. What were your impressions and experiences with this survey method?
 - a. What could be improved?
 - b. What was beneficial?
 - c. Did people talk about it? If so, what did they say?
12. How did this study address the assessment of pertinent health issues for your community?

That is it! I have finished asking all of my questions. Do you have any questions, comments, or concerns for me?

Interviewer, give participant time to ask questions/talk

When I compile the data, I will be using it in my thesis. The interview transcripts generated through the moderately scheduled interviews will be analyzed using qualitative techniques. Dr. Doyle and I will independently analyze recurring or emerging themes from the interviews. Dr. Doyle and I will then compare results to identify common and dissimilar findings. A list of these themes (identified as common to both researchers and unique to one researcher) will then be disseminated to you for further input (agreement or disagreement) with each common response theme identified by the researchers. These researcher-identified themes and your follow-up agreements/disagreements to those emerging themes will be reported as part of this study and, in keeping with the CBPR principles, disseminated to all community partners.

Thank you very much for your time today! I really appreciate you taking the time to talk with me about Brazil. If there is nothing further from you, I will turn the recorder off.

Interviewer now stops the recorder

Follow-Up Questionnaire Results
Round Two Delphi Instrument and Compiled Results

Question #1: What do you see are the major health needs in [*community name*]?

	Group Responses	Agree	Disagree	DNR
1	Low healthcare access, population influx, and unemployment have created various health problems for Brazilians.	P1, P2, P3, P4, P5, P6		
2	Poverty and lack of healthcare contribute to high levels of malnutrition, alcohol and drug abuse, poor hygiene, and other basic health needs.	P1, P2, P3, P4, P5, P6		
3	Sanitation, sewage, and clean water supplies continue to cause preventable health problems such as skin and stomach illnesses, and water- and insect-borne diseases.	P1, P2, P3, P4, P5, P6		
<p>Comments:</p> <p>P3 - I recall seeing posters on the wall at one of the clinics (I think it was the one where we stood and talked for so long -where they told us about having neighborhoods broken up into pods) - where I saw posters warning of Yellow Fever and Leprosy. Also anything that is carried by mosquitoes.</p> <p>P4 - #2 & 3 don't see health issues as priority over spiritual issues, but certainly addressing health needs opens a door to spiritual issues.</p> <p>P1, P2, P5, P6 - No Comment</p>				

Question #2: What are local churches doing to address these and other health issues?

	Group Responses	Agree	Disagree	DNR
1	Most churches assist with individualized cases, but few churches are currently actively involved in community health promotion.	P1, P2, P3, P4, P5, P6		
2	The church appears to not focus on community health issues, but rather on individual's spiritual needs.	P1, P2, P3, P4, P5, P6		
3	The church is an untapped resource for addressing health needs in the community.	P1, P2, P3, P4, P5, P6		
<p>Comments:</p> <p>P3 - The Brazilian church is a single focused unit that is focused on the spiritual.</p> <p>P1, P2, P4, P5, P6 - No Comment</p>				

Question #3: What other organizations? Activities? Partnerships? Could be created to further address these issues?

	Group Responses	Agree	Disagree	DNR
1	Partnerships could be created between local municipalities (public health departments), universities, government entities, schools and churches.	P2, P3, P4, P5, P6		P1*
2	Churches could join government sponsored health education activities that are currently in progress.	P1, P2, P4, P5, P6	P3(?)	
3	Continued partnership with Baylor University is important to help facilitate program sustainability through a “train-the-trainer” model.	P1, P2, P3, P4, P5, P6		
4	Combine medical services with health education efforts to reach a broader scope of people and to meet their needs.	P1, P2, P3, P4, P5, P6		
5	Community health fairs/social service events and church-based education efforts, combined with family health services, would be ideal.	P1, P2, P4, P5, P6		P3
<p>Comments:</p> <p>*P1 - Don't know if #1 could happen</p> <p>P2 - If medical services are not readily available, this should not deter the health education effort. Medical services are a “bonus” and not a requirement for effective health education.</p> <p>P3 - I don't have strong feeling about # 2 and # 5 I think they need to see someone do this (#3) in order to see how it could work.</p> <p>P4 - #2 the word ‘join’ is questionable (at least to my Portuguese brain . . .) but churches can seek to be participant since volunteers are welcome usually.</p> <p>P5, P6 - No Comment</p>				

Question #4: How well equipped do you think the local church is to address important health issues?

	Group Responses	Agree	Disagree	DNR
1	Most churches have the capacity to provide health promotion and health education ministries that equip people with knowledge and skills to live in healthy ways.	P2, P4, P6	P1*, P5	P3
2	However, the ability to become involved in health care will differ from church to church.	P1, P2, P3, P4, P5, P6		
3	Influencing factors can include church vision, motivation, finances, professional skills, and partnership mechanisms.	P1, P2, P4, P5, P6		P3
4	Many churches are unaware of their capacity to promote health.	P1, P2, P3, P4, P5, P6		
5	The church is equipped to serve as a facilitator or host that links the community to health organizations and other partnering groups.	P2, P4, P5	P6	P3, P1**
<p>Comments:</p> <p>P1 - Some churches have the capacity, but maybe not the knowledge and leading about the importance of these issues. *Not without education (Yes - the capacity) **Don't know</p> <p>P2 - Greatest challenge is making churches aware of their potential. If you can get them to "buy into" the project, the potential is limitless!!</p> <p>P3- I only saw the [community name] church so I am unsure of the other questions.</p> <p>P4 - This does depend a bit on the communities surrounding the church; if it is a more affluent community the "access" to the ones needing help is very limited.</p> <p>P5, P6 - No Comment</p>				

Below are questions 5 and 6, which researchers merged due to responses being highly related.

Question #5: If you recall, back in June 2006, some University students in collaboration with Drs. Eva and Robert Doyle had church members fill out questionnaires asking about health program interests, health status, and spirituality. What were your impressions and experiences with this survey method?

Question #6: How did this study address the assessment of pertinent health issues for your community? (Do you think the questionnaire used in this study is a good assessment of the health needs in your community?)

	Group Responses	Agree	Disagree	DNR
1	The Baylor team and the research project were well received in the community.	P1, P2, P4, P5, P6		P3
2	The project served as a valuable mechanism for involving lay volunteers in community efforts and partnerships.	P2, P5, P6	P1	P3, P4
3	Survey participants expressed satisfaction and a sense of empowerment in being asked about their health.	P2, P4, P5, P6		P1*, P3
4	The questionnaire generally increased health awareness among survey participants.	P1, P2, P4, P5, P6		P3
5	The survey contains a broad array of good questions that provoked thought. However, follow-up surveys and programs that focus more specifically on identified health problems are needed.	P2, P4, P5, P6		P1*, P3
6	Verbal interviews would provide more “gut level” responses.	P1, P2, P3, P4, P5, P6		
7	The grassroots effort (working with local churches and local public health agencies) is an effective way to address community needs.	P1, P2, P4, P5, P6		P3
8	Community involvement led by dynamic personalities who are committed to the cause will be important for implementation and sustainability.	P1, P2, P5, P6		P3, P4
9	Making changes in the community is more important than research.	P1, P2, P4, P5, P6		P3
10	The key to making these community changes is building strong relationships and partnerships within the community.	P1, P2, P5, P6		P3, P4
11	Strong community relationships will enhance the quality of research data that is collected.	P1, P2, P3, P4, P5, P6		
12	Making a difference in the community should be central to future efforts with “research” used only as a mechanism to improve lives.	P1, P2, P3, P4, P5, P6		
<p>Comments:</p> <p>P1 (*N/A), P4, P5, P6 - No Comment</p> <p>P2 - #9 & 12 - Although I agree with these statements, I also see the vital importance of research - without the research to identify needs, abilities and possible solutions, change will be random and “haphazard.”</p> <p>P3 - I only heard about the survey and did not observe any of this process . . . however the questions I did answer are my "gut" feeling when observing the Brazilian church members . . . I don't know how familiar the Brazilian community is to the whole idea of survey gathering.</p>				

Additional Recommendations and Comments from Interview Respondents.

	Group Responses	Agree	Disagree	DNR
1	Churches should partner with public health entities to provide services out in local communities.	P1, P2, P3, P4, P5, P6		
2	Churches should not simply give handouts, but rather focus on education and empowerment.	P1, P2, P3, P4, P5, P6		
3	Churches should realize their moral responsibility to help meet community needs.	P1, P2, P3, P4, P5, P6		
<p>Comments:</p> <p>P1 - Education should be partnered with meeting medical needs.</p> <p>P2 - #1 - Again, public health entities are great partners, but in areas where these are not available, churches should not wait on them. Churches may well be the only source of health education in a community. Churches can be the leaders and then public health entities can come in and partner with the churches. These churches can be the catalyst for public health (organized government help) to come into a community.</p> <p>P4 - #1 it is likely a church can go to a municipal health depart. and ask them come give a public health presentation or service of some type. (Our church hosted a dengue fever education seminar presented by FUNASA depart.) doing that could give continuity and sustainability</p> <p>P3, P5, P6 - No Comment</p>				

APPENDIX C

Informed Consent Form

CBPR: Pilot of a Faith-Based Health Assessment Instrument in Brazil
Informed Consent Form for Face-to-Face Interviews

Who we are and how to contact us

We are researchers who want to learn about your health and healthy living habits, and your thoughts about God and spiritual things. We hope to use this information to help create ways to promote healthy living in your community. We will also report our findings to local church groups who are interested in your health and spiritual well being. If you have questions about this study, or would like a copy of this form, please contact: Dr. Eva Doyle, Dept. of HHPR, Baylor University, One Bear Place 97313, Waco, TX, 76798-7313, EUA; PH: (254) 710-4023, Eva_Doyle@baylor.edu. For more information about your rights as a participant, please contact Dr. Matthew Stanford, Chair, Baylor University IRB, One Bear Place #97334, Waco, TX, 76798-7334, EUA; PH: 254-710-2961 or 254-710-2811, FAX: 254-710-6759.

We're asking you to answer some questions.

It will take about 20 minutes. The questions are about your health and healthy living habits, and your thoughts about spiritual things. A team member will ask questions and mark your answers on paper. **You can skip questions you don't like or stop at any time.** Nothing bad will happen to you if you do that. We will not tell anyone about your choice to quit or about your answers.

We have a gift for you.

If you choose to answer the questions, we want to give you a gift of a first aid kit for your home. You can keep this gift even if you skip or stop answering questions.

No one will see your name

Please sign your name at the bottom of this paper to show that you are willing to do this. We will keep this signed paper in a locked cabinet in our office. We will not show it to anyone.

Your name will not be put with your answers!

The team member who asks the questions will NOT write your name on your answer sheet. The answers will be kept in a different box from the one that holds this signed paper. That way, no one will know that it was you who gave us these answers.

Some possible risks to you

You may feel uncomfortable answering some questions. If you do, tell your interviewer to skip them. We have asked your community leaders to help us find interviewers that you can trust. They will not ask your name or write it down anywhere. So, the chances of any person knowing what your answers are will be very small.

What will we do with your answers?

We will group the answers together that we get from every person. We will report the group's answers with no names attached. We will use those answers to help promote healthy living in your community.

Will you sign?

If you are willing to answer the questions, please sign your name below and enter today's date. By signing this form, you are also saying that you are at least 18 years old.

_____ **my name (please print legibly)**

_____ **my signature**

_____ **date**

CBPR: Piloto de um Instrumento de Estudo sobre Saúde Baseada na Fé, no Brasil
Formulário de Consentimento para Entrevista em Pessoa

Quem somos nós e como entrar em contacto conosco

Somos pesquisadores que desejamos saber sobre a sua saúde, seus hábitos saudáveis de vida e seus pensamentos a respeito de Deus e de assuntos espirituais. Pretendemos utilizar esta informação para desenvolver meios de promoção de um modo de vida saudável na sua comunidade. Relataremos também os resultados encontrados para grupos de uma igreja local, que estão interessados em sua saúde e no seu bem-estar espiritual. Se você tiver alguma pergunta sobre este estudo, ou se gostaria de obter uma cópia deste formulário, por gentileza contate: Dra. Eva Doyle, Depto. de HHRP, Baylor University, One Bear Place 97313, Waco, TX, 76798-7313, EUA; Fone: (254) 710-4023; endereço de e-mail: Eva_Doyle@baylor.edu. Para obter maiores informações sobre os seus direitos como participante, contate o Dr. Matthew Stanford, Chair, Baylor University IRB, One Bear Place #97334, Waco, TX, 76798-7334, EUA; Fone: (254) 710-2961 ou (254) 710-2811, Fax: (254) 710-6759.

Estamos solicitando que você responda algumas perguntas.

A entrevista deverá durar cerca de 20 minutos. As perguntas são relativas à sua saúde, hábitos saudáveis de vida, e os seus pensamentos a respeito de coisas espirituais. Um membro do nosso grupo fará as perguntas e anotará as suas respostas em uma folha de papel. **Você poderá pular perguntas de que não goste ou mesmo parar de responder, a qualquer tempo.** Nada de mal irá acontecer se você fizer isso. Não mencionaremos a ninguém se você resolver desistir, nem sobre o teor das suas respostas.

Nós temos um presente para você.

Se você aceitar responder ao questionário, receberá como brinde um kit de primeiros socorros para a sua casa. Você poderá ficar com este presente, mesmo que resolva não responder a certas perguntas ou decida parar de responder às perguntas.

Ninguém terá acesso ao seu nome

Assine o seu nome no final deste formulário, a fim de confirmar que você está disposto(a) a fazer isso. Arquivaremos este formulário em um armário fechado em nosso escritório. O formulário assinado por você não será mostrado a quem quer que seja.

O seu nome não será anexado às suas respostas!

O membro do nosso grupo que lhe fizer as perguntas NÃO escreverá o seu nome no formulário das respostas. As respostas serão mantidas em uma caixa separada daquela que contém o seu formulário assinado. Deste modo, ninguém ficará sabendo que foi você que nos deu estas respostas.

Alguns possíveis riscos em que você poderá incorrer

Você pode não se sentir à vontade em responder à algumas das perguntas. Se isso acontecer, diga ao seu(sua) entrevistador(a) para pular sobre elas. Nós solicitamos a líderes da sua comunidade a nos ajudar a encontrar entrevistadores em quem você pudesse confiar. Eles não perguntarão o seu nome nem irão escrevê-lo em lugar algum. Por isso, a possibilidade de alguma pessoa descobrir quais foram as suas respostas é muito pequena.

O que iremos fazer com as suas respostas?

Juntaremos com as outras as respostas que obtivermos de cada pessoa. Relataremos as respostas do grupo todo, sem estarem ligadas com nomes. Utilizaremos as respostas para ajudar a promover uma vida saudável em sua comunidade.

Você quer assinar?

Se você estiver de acordo em responder as perguntas, por gentileza escreva abaixo o seu nome em letra de imprensa, assine ao lado e coloque a data de hoje. Ao assinar este formulário, você está nos declarando também que é maior do que 18 anos de idade.

Nome em letra de imprensa

Assinatura

Data

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