SPIRITUAL WELL BEING, STRESS, AND COPING IN
NEVER SMOKING, EX-SMOKING, AND CURRENT SMOKING
AFRICAN AMERICAN WOMEN

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Dissertation

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ABSTRACT

The purpose of this study was to explore relationships among spiritual well-being, perceived stress, and coping in female African Americans with consideration to their smoking status. African American women, compared to all other groups, experience significantly more negative health outcomes in the leading causes of death related to cigarette smoking. In spite of the health outcomes, African American women are less likely to stop smoking than Caucasian women, and they worry about managing stress if they do. Because smoking, an activity cited by smokers as a stress reducer, is subject to personal control, smoking cessation is a target in health care prevention and promotion interventions. Spiritual well-being has been identified as an important resource for coping with stress for African American women. In this cross-sectional, descriptive study, spiritual well-being was measured using the Spiritual Well-being Scale; perceived stress was measured by the Perceived Stress Scale; and coping was measured by the Ways of Coping Questionnaire. The convenience sample of 125 community-dwelling African American women from included 25 current smokers, 42 ex-smokers, 58 and never smokers. Most women in the study were unmarried or widowed attended college, had a yearly income of $30,000 or more, and had health insurance coverage.

Significant relationships were found between the study variables in all subjects using Pearson Product Moment Correlations. Participants who reported
higher levels of perceived stress were more likely to report greater use of Positive Problem Solving, Wishful Diversions, and External Social Support coping. A multivariate analysis of covariance was used to statistically control for the pre-existing differences among the three smoking groups on age, yearly income, marital status, education and incentive status. Never smokers reported higher levels of spiritual well-being compared to ex-smokers and current smokers, while current smokers utilized more External Social Support coping strategies compared to ex-smokers and never smokers. Results of multiple regression analysis showed that in African American women in this sample, spiritual well-being moderated the effect of perceived stress on coping, indicating that coping behavior was influenced by spiritual well-being when stress was experienced. Recommendations for future research and implications for nursing practice are discussed.
DEDICATION

This dissertation is dedicated to my parents, Edwin J. (deceased) and Helen A. Franklin. I love you both for giving me a spiritual foundation established in the knowledge of Jesus Christ. Thank you for the knowledge that I could do anything!

“I can do all things through Christ who strengthens me” (Philippians 4:13 New King James Version).
ACKNOWLEDGEMENTS

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I extend a special thank you to my dissertation committee: Each committee member shared their expertise and wisdom generously. Your thoughtful insights and constructive feedback were greatly appreciated and enabled me to grow as a scholar. Thank you for knowing where I wanted to go and helping me get there. You are my role models. Dr. Diana Biordi, I offer my appreciation for guiding me toward northeast Ohio and the JPDN program. The encouragement I received from you will always be cherished. Dr. Harriet Coeling, your quiet strength is inspiring. Dr. Richard Steiner, you gave me confidence. Finally to Dr. Chris Wynd, I express special gratitude and appreciation. Your “marching orders” kept me on track. Thank you for listening and caring during your varied roles in this process, including my first dissertation committee chair, advisor, instructor, mentor, and committee member, yet above all, I treasure you for being my dear friend.
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To my dear friends: Charlene Calabrese, Leatha Ross, Jackie Ross, and Sarah Griffin: Thank you for listening, for your stories, and for sharing your spiritual gifts, but above all, for the laughs.

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Above all else, I thank and praise my Lord and Savior Jesus Christ for everything (Ephesians 5:20).
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CHAPTER I
INTRODUCTION

Each year 45,000 African Americans in the United States die from preventable smoking-related diseases (United States Department of Health Human Services [USDHHS], 1998). In African American women, preventable smoking related diseases include the three leading causes of death, i.e., coronary artery disease, lung cancer, and stroke (Ahluwalia, 1996). Although in recent years there has been a downward trend among African American women starting to smoke, today more African American women than ever before smoke or have tried smoking sometime in their lifetime, placing their health and lives at risk (Eck, Logan, Kleges, & Slawson, 1997). The single most important action for improving the health of all smokers, including African-American women, is smoking cessation (Benowitz, 2002).

In spite of the risks associated with smoking, African American women are less likely to quit smoking than are Caucasian women (Hestick, Perrino, Rhodes, & Syndor, 2001), reporting that they worry about not being able to cope with stress if they stop smoking (Cooley & Jennings-Dozier, 1998; Manfredi, Lacey, Warneckje, & Buis, 1992). Nurses and other health care professionals are in strategic positions to help female African American smokers cease smoking by helping them find alternative, effective coping behaviors and associated resources. However, little is known about the variables
that may affect smoking behavior in this population. The completed research was designed to investigate a selected factor, particularly spiritual well-being, that was posited as a coping resource that may influence smoking cessation in African-American women.

Spirituality, as contrasted to religiosity, is a basic component of African American society and is particularly salient in the culture of African American women. Spiritual well-being, sometimes used synonymously with spirituality (Ellison, 1983, Ellison & Paloutzian, 1982), is, in this research, conceived as flowing from spirituality and has been conceptualized as the way one relates to a higher power and a state of mind (Bannerjee & Pyles, 2004). In this study, therefore, spiritual well-being is not a specific religious behavior, but rather a state of mind and/or a relationship with a higher being. While behaviors can flow from this state of mind, e.g., praying aloud, in this study spiritual well-being is operationalized using the Spiritual Well-being Scale (Paloutzian & Ellison, 1982). Ellison (1983) suggested that no definition of spiritual well-being describes its entire meaning to the satisfaction of everyone. Instead he posited that the definition developed by the National Interfaith Coalition on Aging in 1975 was used to develop the Spiritual Well-being Scale. It states “Spiritual well-being is the affirmation of life in a relationship with God, self, community, and environment that nurtures and celebrates wholeness” (p. 331).

Spiritual well-being has been considered a major resource in coping with life events across generations in African Americans (Frame, Williams, & Green, 1999). It is considered a unique source of inner strength, calm, peace, hope, happiness, self-esteem, courage, and comfort for African American women (Bannerjee & Pyles, 2004; Black
1999; Harris-Robinson, 2006; Wright, 2003). Spiritual well-being has provided meaning in life (Mattis, 2002) and has helped African American women cope with such life challenges as stress, chronic and life-threatening illnesses, substance abuse, and racial oppression (Banks-Wallace & Parks, 2004; Bannerjee & Pyles, 2004; Black, 1999; Brady, Peterman, Fitchett, Mo, & Cella, 1999; Brome, Owens, Allen & Veraina, 2000; Dunn & Dawes, 1999; Mattis, 2000, 2002; Phillips, Cohen, Tarzain, 2001; Smith, Phillips, & Price, 2001; Starks & Hughey, 2003; Van Ness, Kasl, & Jones, 2002; Wright, 2003). Further, African American women have used spiritual-focused coping mechanisms to reduce stress (Harrison-Robertson, 2006); spiritual well-being to enhance coping or coping strategies (Pargament, Van Haltsman, & Ensing, 1995; Wallace & Bergeman, 2002); and spiritual well-being as a guide and motivator in health promotion and health decision-making activities (Bacchus & Holley, 2004; Banks-Wallace & Parks, 2004; Boland, 2000; Holt, Lukwago, & Kreuter, 2003).

Statement of Purpose and Hypotheses

The purpose of this study is to explore relationships among spiritual well-being, perceived stress, and coping in female African Americans with consideration to their smoking status.

Research Hypotheses

1. There are significant relationships between the variables of spiritual well-being, perceived stress, and coping in female African Americans.

2. There are significant differences among female African American smokers, ex-smokers, and never smokers on the variables of spiritual well-being, perceived stress, and coping.
The proposed study will add to knowledge about African American women and their use of spiritual well-being as a resource for coping with every day stress because it may be that every day stress is the same perceived stress that drives many African American women to smoke cigarettes. Greater understanding about the relationships among spiritual well-being, perceived stress, coping, and smoking will develop the knowledge base upon which to design new interventions addressing the needs of this population. Smoking cessation programs designed to reduce stress through increased coping skills, including enhanced spiritual well-being, as a resource for coping, may be helpful to the larger population of female African American smokers.

Significance of the Study

Scope of the Problem

Of the leading causes of death, cardio-vascular disease, stroke, and cancer, African Americans have proportionately more deaths than Caucasians, as expressed in death rates, incidences of disease, and five-year survival rates (see Table 1). Smoking exacerbates each of these life threats and is implicated in other conditions which are themselves related to the leading causes of death (e.g., hypertension).

Table 1

<table>
<thead>
<tr>
<th>Leading Causes of Death by Race and Gender</th>
<th>Women</th>
<th>Men</th>
</tr>
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<tbody>
<tr>
<td>African American</td>
<td>Caucasian</td>
<td>African American</td>
</tr>
<tr>
<td>Lung Cancer Incidence *</td>
<td>54.9</td>
<td>52.0</td>
</tr>
<tr>
<td>The five-year lung cancer relative survival rates</td>
<td>14.7%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Cardiovascular Disease*</td>
<td>333.6</td>
<td>238.0</td>
</tr>
<tr>
<td>Stroke*</td>
<td>65.5</td>
<td>47.2</td>
</tr>
<tr>
<td>Hypertension *</td>
<td>40.9</td>
<td>14.5</td>
</tr>
</tbody>
</table>

Note. *per 100,000 persons.  (American Heart Association, 2008; Ries et al., 2007).
Role of Spiritual Well-being

The influence of spiritual well-being in the lives of African American women is multifaceted and multidimensional. In one dimension of life, spiritual well-being and interpersonal relationships with others are a reciprocal pairing in African American women’s culture. That is, spiritual well-being is considered a source of strength and social support derived from women’s relationships with a higher power, family, friends, and others. In return, their relationships strengthen the women’s sense of spiritual well-being. Moreover, spiritual well-being directly and indirectly helps women meet and exceed personal goals (Black, 1999; Mattis, 2000, 2002).

Because of its place in relationship building, personal goals, and motivation, spiritual well-being may contribute to studies of health care in general, and health screening and health promoting behaviors specifically. Spiritual well-being, as a source of support, has been identified in studies of breast cancer, HIV/AIDS, substance abuse, chronic illness, quality of life, and reduction of stress (Brady, Peterman, Fitchett, Mo, & Cella, 1999; Cotton, Levine, Fitzpatrick, Dold, & Taro, 1999; Harrison-Robertson, 2006; Larimore, Parker, & Crowther, 2002; Laubmeier, Zabowski, & Bair, 2004; Narayanasamy, 2002). Spiritual well-being is also noted to influence health and personal decision making when spiritually-based relationships serve as a source of advice and health information (Banks-Wallace & Parks, 2004; Bannerjee & Pyles, 2004; Black, 1999; Dunn & Dawes, 1999; Fryback & Reinert, 1999; Holt, Lukawago, & Kreuter, 2003; Larimore et al., 2002; Simoni, Martone, & Kerwin, 2002; Stolley & Koenig, 1997; Wright, 2003).
Spiritual well-being has been related to both health prevention (screening) and health promotion decisions in African American Women. In health screening, African American women took part in breast cancer screening based on spiritually based beliefs (Phillips, Cohen, & Tarzain, 2001). Spiritual well-being and spiritually based beliefs have been related to health promoting behaviors in African American women (Ashing-Giwa & Gantz, 1997; Black, 1999; Mattis, 2002; Mattis, Taylor, Chatters, 2001; Parks, 1998; Phillips, Cohen, & Tarzain, 2001; Roberson, 1985). Many African American women believe that they are each responsible for taking care of body, mind and spirit, and they view good health as being a unified mind, body and spirit (Black, 1999; Roberson, 1985). Thus, many African American women may participate in healthy behaviors, not only for their personal well being, but also to “glorify God in their bodies” (Black, 1999, p. 128).

Because of a long history of racial discrimination in the United States, African American women may appraise stress and cope differently with health concerns than other racial/ethnic groups (Outlaw, 1993). We know that smoking is an important cause of death in African Americans, yet there remains a dearth of studies examining smoking and smoking cessation, and the relationship of these behaviors to spiritual well-being, perceived stress, and coping in African American women. This study will be one of the first to examine the relationship of spiritual well-being, perceived stress, coping and smoking cessation in African American women.

Conceptual Framework

The Transactional Model of Stress, Appraisal, and Coping (Lazarus & Folkman, 1984) is used in this study as an organizational framework to describe the relationships between spiritual well-being, perceived stress, and coping in African American women.
The framework also provides a culturally competent and culturally sensitive framework for understanding how African American women may respond to stressful situations. Within this model, the individual is afforded a flexible approach for determining what personal or cultural resources are available and desirable to use to deal with stress. The model provides a multidimensional perspective on the concepts of perceived stress and coping and highlights the use of both positive and negative coping strategies. The current study conceptualizes spiritual well-being as a coping resource for African American women because of its motivating and guiding influence on health promotion behaviors as well as its effects on stress reduction.

According to the Transactional Model of Stress, Appraisal, and Coping, the individual interprets meaning in each encounter with their environment. Through primary appraisal, each interaction with the environment is determined to be benign-positive, irrelevant, or stressful. Stressful interactions are further appraised as a harm or loss, a challenge, or a threat. The situation is determined to be stressful when the encounter threatens the personal resources and well being of the individual. To deal with the stressful situation, the person draws upon current personal and social resources to manage the environment or lessen the emotional distress, or a combination of both (Lazarus & Folkman, 1984). In this investigation, it was conjectured that African American women would draw upon the inner resource of spiritual well-being for coping. The outcomes of effective coping involve adaptations to alleviate stress and influence smoking status as reflected in the experiences of current smoking, ex-smoking (past smoking), and never smoking African American women.
Definition of Terms

Conceptual and operational definitions of study concepts as used in this research follow.

_Spiritual well-being_ is defined as the relationships one has with others, nature, universe, and/or a supreme being within or without organized religion and it constitutes the right balance and relationship between self, others, and/or a higher power (Bannerje & Pyles, 2004). Spiritual well-being helps a person find meaning in life, a sense of self worth, and a reason for living (Burkhardt & Solari-Twadell, 2001; Coyle, 2002; Dunn & Dawes, 1999; Mattis, 2002). Spiritual well-being is also defined as the inner resource or personal characteristic valued by African American women that serves as a means to manage psychological and environmental stress using cognitive and behavioral efforts.

_Resources_ are “personal characteristics….valued by an individual that serve as a means of attainment of other personal characteristics, conditions or energies” (Hobfoll & Ford, 2007, p. 562). Lazarus and Folkman (1984) define resources as “something one draws upon, whether they are readily available to the person (e.g., money, tools, people to help, relevant skill) or whether they exist as competencies for finding resources that are needed but not available” (p. 158). As an inner resource, spiritual well-being is operationalized by scores on the Spiritual Well-being Scale (Paloutzian & Ellison, 1982).

_Perceived stress_ is defined as an active engagement of crucial adaptational efforts used to maintain or restore equilibrium between a person and the environment, with interplay and feedback. “Psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p.19).
Perceived stress is operationalized by scores on the Perceived Stress Scale developed by Cohen, Karmack, and Mermelstein (1983) using Lazarus and Folkman’s theory as a guide.

*Coping* involves a person’s struggle to manage psychological and environmental stress using cognitive and behavioral efforts. Lazarus and Folkman assert that problem-focused and emotion-focused coping strategies may be used separately or concurrently by individuals. Problem-focused coping is directed on the inward self or altering the outward environment in an attempt to manage or alter a problem causing distress. Emotion-focused coping is directed at regulating or lessening the emotional distress in response to a problem. Coping is operationalized by scores on scales of the Ways of Coping Questionnaire (Lazarus & Folkman, 1988).

*Cigarette Smoking Status* is defined in three states: current smokers, ex-smokers, and never smokers. Smoking is the action of inhalation through the mouth an incinerating, cylinder-shaped tobacco rolled in paper. The rate of smoking will be measured through self-report as the number of cigarettes smoked per 24-hour period or day. Participants will be classified as (a) current smokers, if they have smoked at least one cigarette per day for the past year; (b) ex-smokers, if they have smoked 10 or more cigarettes any time in their life and do not currently smoke; and (c) never smokers, if they have smoked less than 10 cigarettes at any time in their life or have never smoked at any time in their life.

*African American Women* are defined as American females aged 18 and older who self report African ancestry.
Summary

A statement of purpose, research hypotheses, significance of the study, conceptual framework, and definition of terms of the study has been presented in Chapter I. Previous research has demonstrated that African Americans, compared to other groups, significantly experience disparate negative health outcomes in the leading causes of death. Cigarette smoking is frequently implicated in these causes of death, and further, more African American women are smoking or have tried smoking than ever before. Therefore, smoking cessation is a critical factor in health outcomes, particularly in African Americans. Because smoking, an activity cited by smokers as a stress reducer, is subject to personal control, smoking cessation is a target in health care prevention and promotion interventions.

Today more African American women are smoking or have tried smoking; smoking cessation is an effective action toward improving their health outcomes. The literature indicates that spiritual well-being is important to meaning and purpose in life in African American culture, and is a source of valuable relationships to African American women. Therefore, spiritual well-being could be an important resource for coping with stress for African American women. Spiritual well-being has been related to health, health prevention, and health promoting behaviors in African American women. Using the Transactional Model of Stress, Appraisal, and Coping (Lazarus & Folkman, 1984), this study will be one of the first to explore the relationships among spiritual well-being, perceived stress and coping in African American women and their smoking behaviors.
CHAPTER II
REVIEW OF LITERATURE

Chapter II includes a review of literature regarding spiritual well-being, perceived stress, coping, and smoking cessation in African American women. It is divided into three sections. The first section describes cigarette smoking and smoking cessation in African American women. The second section describes spiritual well-being and its potential utilization as a resource for coping with perceived stress in African American women. In the third section of the chapter, the relationships among spiritual well-being, perceived stress, and coping literature are discussed.

Cigarette Smoking and Cessation in African American Women

Large numbers of African American women experiment with smoking at some point in their lives, and many begin smoking because of easy access to cigarettes from family members who smoke (Eck et al., 1997; Hestick et al., 2001; Manfredi, Lacey, Warnecke, & Petraitis, 1998; Warnecke, Rosenthal, Graham, & Manfredi, 1978). According to Harrell and Gore (1998), low income African American women with little education are three times more likely to smoke, while African American women with more education are less likely to smoke. Compared to Caucasian women, African American women begin smoking at a later age, but smoke fewer cigarettes per day (Ludman, Grothaus, Curry, Graham, & Stout, 2002); nevertheless, the methods of smoking adopted by African American women place them at higher risk for
smoking-related disease. That is, while African American women smoke fewer cigarettes per day, those cigarettes are often higher in nicotine, carbon monoxide, and tar content. Moreover, African-American women tend to take deeper and more frequent puffs or inhalations on each cigarette and retain smoke in the lungs for longer periods (Ahijevych & Gillespie, 1997; Ahijevych, Gillespie, DeMirci, & Jagadeesh, 1996; Ahijevych & Wewers, 1993; Ahluwalia, 1996; Benowitz, 2002; Cooley & Jennings-Dozier, 1998; Eck et al., 1997; Gulick & Escobar-Florez, 1995; Manfredi et al., 1992; Muscat, Richie, & Stillman, 2002; Perez-Stable, Herrera, Jacob, & Benowitz, 1998; Royce, Hymowitz, Corbett, Hartwell, & Orlandi, 1993).

Cotinine is a metabolite of nicotine. African Americans have higher cotinine levels than Caucasians, at least partially because they metabolize nicotine and cotinine more slowly than do Caucasians (Ahijevych & Wewers, 1993; Benowitz, 2002; Carabello et al., 1998; Cooley & Jennings-Dozier, 1998; Perez-Stable, Herrera, Jacob, & Benowitz, 1998; USDHHS, 1998, 2003). Higher cotinine levels may indicate greater addiction to nicotine (Benowitz, 2002; Carabello et al., 1998; USDHHS, 1998). Data show that African American women report a shorter time between waking in the morning and lighting the first cigarette of the day, which suggests that they are more likely to be dependent on nicotine (Ahijevych & Parsley 1999; Benowitz, 2002; Eck et al., 1997; Royce et al., 1993; USDHHS, 1998). Most African American women (90%) also use menthol cigarettes, which may taste better and are perceived to be less irritating than unmentholated cigarettes; yet mentholated cigarettes often promote greater absorption and diffusion of tobacco smoke constituents (Ahjjevych & Wewers, 1993; Benowitz,
Health consequences of smoking are more devastating in African American women. Fewer African-American women with lung cancer survive to five years than Caucasians: the five-year survival rates for African American women diagnosed with lung cancer are lower than in Caucasian women. This finding adds to the evidence of increasing health care disparities among ethnic groups (Ries et al., 2007). When compared to Caucasians, stroke associated with cerebrovascular disease in African Americans is found to be twice as high and coronary artery disease is 26% higher in African American women than in white women. Further, African American women are more likely to have comorbidities and risk factors, such as obesity, hypertension, and diabetes that interact with smoking to promote and complicate cardiovascular disease (Harrell & Gore, 1998; Keil et al., 1993; USDHHS, 1998). The number of cigarettes smoked also relates to higher risk: Manson et al. (1990) found in their study sample of white women that women who consumed one to four cigarettes per day had relative risks of cardiovascular disease that were two to four times greater than never smokers. Given the trends in health disparities, this figure could be expected to be greater for African-Americans.

Smoking cessation is extremely important for improving health of everyone (Benowitz, 2002); however, African American women are less likely to quit cigarette smoking compared to Caucasian women (14% versus 4%, p = .04; Ludman et al., 2002). This may be in part because African American women often do not know where to find help with smoking cessation. Moreover, smoking cessation programs are not always
culturally appropriate in that they do not offer interactive materials at an appropriate
literacy level, and do not offer counseling sessions delivered by ethnicity-matched
counselors (Lillingston, Royce, Novak, Ruvalcaba, & Chlebowski, 1995). These
approaches are shown empirically to be important. Empirical evidence indicates that
African American women were more motivated to quit smoking when they participated
in smoking cessation programs that used culturally sensitive motivational factors, such as
health beliefs, self-control, social support, and primary care provider’s advice to increase
smoking cessation activities (Andrews, Felton, Wewers, Waller, & Tingen, 2007; Cooley
& Jennings-Dozier, 1998; Manfredi et al., 1998; McBride, Pollack, Lyra, Lipkus, Samsa,
& Beplar, 2001).

On the other hand, several obstacles preclude smoking cessation for African-
American women. Stressful environments, isolation, and poor access to primary health
care providers, as well as personal factors, such as smoking for pleasure and stress
release, are frequently cited as barriers to smoking cessation in African American women
(Ahmed & Brown, 1994; McBride et al., 2001). Factors such as educational levels,
perceived risks for developing cancer, and advice to quit offered by health professionals,
do not always promote cessation (Manfredi et al., 1992). And, as reported in several
studies, African American women who smoke more cigarettes (heavy smokers) and those
who smoke purely for pleasure are less likely to have a plan for quitting than African
American women who smoke fewer cigarettes per day ($r = -.26, p \leq .01$) (Lee et al.,
2005; Ludman et al., 2002; Manfredi, Lacey, Warnecke, & Buis, 1992). Importantly,
many African American women worry about not being able to deal with stress if they
quit smoking (Cooley & Jennings-Dozier, 1998; Manfredi et al., 1992).
Strong relationships were found between stress, coping, smoking dependence, and smoking abstinence (Ludman et al., 2002; Matheny & Weatherman, 1998). Highly stressed individuals frequently used smoking as a resource for coping with stress (Ahijevych & Wewers, 1993; Manfredi et al., 1992; Tipton, 2001). In one study, African American women who had high stress from daily hassles were more likely to smoke and less likely to quit smoking than women with fewer hassles (Ahmed & Brown, 1994). Additionally, African American women who reported signs and symptoms of depression were less likely to quit smoking and more likely to smoke a greater number of cigarettes per day (Ludman et al., 2002).

Individuals who reduce their smoking and take control over stress levels experience greater success with smoking cessation and avoid a return to smoking (Ahmed & Brown, 1994; Fava, Ruggerio, & Grimley, 1998; Ludman et al., 2002; Matheny & Weatherman, 1998; McMahon & Jason, 1998). McMahon and Jason found that persons who were able to decrease the stress in their lives had higher smoking cessation success rates when compared to those who reported higher stress levels. Moreover, individuals who believe they have the necessary resources for coping with urges to smoke were often more successful in quitting and avoiding relapse.

Several researchers identified that resources for coping with smoking temptations included a desire to increase well being and avoid smoking-related illnesses, as well as a desire to decrease general stress levels (Matheny & Weatherman, 1998; McMahon & Jason, 1998; Tipton, 2001). Those individuals with higher self-perceived health and wellness were more likely to abstain from smoking (Matheny & Weatherman, 1998; McMahon & Jason, 1998; Tipton, 2001), and persons who utilized active coping
behaviors, such as physical fitness programs, were also more successful with smoking cessation and the temptation to return to smoking after successful smoking cessation (Matheny & Weatherman, 1998; Tipton, 2001).

The above research was conducted primarily with white and some mixed gender samples, and therefore, the relationships among perceived stress, cognitive and behavioral coping skills, and smoking cessation for samples of African American women may be different. Research with only African American women will shed light on the relationships of the above named factors and expand knowledge in this area. It may be that African American women who believe they have the necessary coping resources for handling urges to smoke are more successful in smoking abstinence.

In previous research with a primarily white population, problem-focused coping and emotion-focused coping were discovered to help people quit smoking (McMahon & Jason, 1998). Problem-focused coping included skills directed at eliminating or altering stress when one is tempted to smoke, and emotion-focused coping helped to regulate emotional responses to stress. Participants who used more problem-focused coping strategies and less emotion-focused coping strategies were more successful with smoking cessation (McMahon & Jason, 1998). Moreover, participants with fewer coping resources and greater perceived stress returned to smoking after smoking cessation attempts (Fava et al., 1998).

There is, however, a gap in knowledge about African American women’s use of problem-focused coping and emotion-focused coping behaviors to manage stress and quit smoking. Spiritual well-being may be an inner resource for helping African American women cope with stress in their lives (Banks-Wallace & Parks, 2004; Mattis, 2002; Watt,
This current study, therefore, examines spiritual well-being, perceived stress, and coping in African American women smokers, ex-smokers, and never smokers to gain insight about the role of spiritual well-being in helping women to quit smoking and remain smoke-free. The following section describes previous research investigating spiritual well-being in African American women.

Spiritual Well-being as a Coping Resource for African American Women

Spiritual well-being has been described as central to the lives of African American women and as an essential component of their health and happiness (Black, 1999; Fryback & Reinhart, 1999; Martin & Sachese, 2002; Simoni et al., 2002; Stolley & Koenig, 1997; Wright, 2003). Historians and researchers have conjectured that spiritual well-being has served as a resource for coping with the pain and anger of oppression and has provided hope during difficult and adverse times (Bannerjee & Pyles, 2004; Dunn & Dawes, 1999; Larimore et al., 2002; Wright, 2003). As a personal resource, spiritual well-being has deep historical roots for African Americans. Spiritual well-being may be a major coping resource for many African American women because of the role it played during slavery and later during segregation in helping individuals manage devastating life circumstances.

Spiritual well-being is conceptualized as both a state of mind as well as the way one relates to a higher power (Bannerjee & Pyles, 2004). Through spiritual well-being there is a constant awareness of a higher power (Figueroa, Davis, Baker & Bunch, 2006; Fryback & Reinert, 1999; Starks & Hughey, 2003; Wright, 2003). Some African American women believe that there is a feeling of abandonment when spiritual well-being is missing from life and when there is no relationship with a higher power (Wright,
In Bank-Wallace and Parks’ study of African American women, the women describe spiritual well-being as “a uniquely personalized relationship with God” (Banks-Wallace & Parks, 2004, p.29). God is described as one who creates and sustains all life. Further, trusting in a higher power by being obedient to His/Her principles and precepts, even when these principles and precepts are contrary to traditional church customs, was very important to African American women, who viewed every aspect of life within a spiritual framework (Dunn & Dawes, 1999; Figueroa, Davis, Baker & Bunch, 2006; Martin & Sachese, 2002). African American women believed that spiritual life was extended beyond the death of the body, with death being another phase of life (Banks-Wallace & Parks, 2004). These women believed that they are a part of a divine plan that brings rewards in the present life as well as beyond.

Research demonstrates that African American women pray more often than Caucasian women and participate more frequently in non-organizational and private religious activities. Further, the use of spiritual well-being is often associated with greater social support and coping practices, such as daily prayer, in African American women when compared to their Caucasian counterparts (Boland, 2000; Brome-Owens et al., 2000; Figueroa, Davis, Baker & Bunch, 2006; Simoni et al., 2002).

Spiritual well-being and relationships with a higher power are used to develop a worldview and purpose in life that become resources for coping (Black, 1999; Figueroa, Davis, Baker & Bunch, 2006; Wright, 2003). African American women often believe that their relationships, partnerships, and covenants with a higher power, as well as their knowledge of a higher power’s love and their trust in a higher power, will allow them to cope with many hardships in life (Black, 1999). Further, spiritual well-being affects how
one interacts with family and friends and responds to illnesses and tragedies. A powerful connection is also reported between spiritual well-being and health, with higher spiritual well-being being associated with improved spiritual health and overall health (Holt et al., 2003). Often African American women use prayer to make decisions about health care, and researchers recommend continued investigation into the use of prayer and other spiritual activities to aid health decision making (Banks-Wallace & Parks, 2004; Figueroa, Davis, Baker & Bunch, 2006; Martin & Sachese, 2002).

Spiritual well-being has also been related to demographic characteristics. African American women are more active than African American men in terms of religious pursuits, and married African American women participate in religion more readily than do those who are divorced or widowed (Schnoll, Harlow, & Brower, 2000; Stolley & Koenig, 1997). Holt et al. (2003) found that older women were more spiritual than younger women. However, other researchers have asserted that age does not influence the level of spiritual well-being in African American women (Martin & Sachese, 2002; Stark & Hughey, 2003).

Spiritual Well-being, Perceived Stress, and Coping

Only one study has been found to date that examines spiritual-focused coping and perceived stress in African American women. Harris-Robinson (2006) suggested that African American women use different strategies than other populations to cope with stress. Many of the African American women in Harrison-Robinson’s sample used spiritual-focused coping and cognitive-focused coping as a first response to stress. Spiritual-focused coping is different: it is not cognitive or problem focused, and it is not avoidance or emotional management, like emotional coping. Rather, spiritual-focused
coping “uses faith and the belief of a higher power as a source of personal strength during times of stress….and provides instead a power and purpose that is greater than themselves” (Harris-Robinson, 2006, p.79). Spiritual-focused coping was found to be the most effective in enhancing the individual’s ability to function when faced with unchangeable or uncontrollable situations or high levels of stress (Harris-Robinson, 2006).

Because of the dearth of research examining spiritual well-being, perceived stress, and coping as it relates to smoking behavior in the literature, literature is presented which examines spiritual well-being and other illnesses, to extrapolate to a better understanding of possible relationships between spiritual well-being and coping. Many researchers have examined the relationships between spiritual well-being and illnesses in such areas as breast cancer, HIV/AIDS, and depression in African American and mixed race samples. These studies revealed that the search for meaning and purpose in illness provided individuals with resolution and a measure of peace (Bannerjee & Pyles, 2004; Brady et al., 1999; Cole & Pargament, 1999; Figueroa, Davis, Baker & Bunch, 2006; Holt et al., 2003; Laubmeier et al., 2004; Ludman et al., 2002; Martin & Sachese, 2002; Morgan, Gaston-Johansson & Mock, 2006; Schnoll et al., 2000). One of the most important coping strategies for African American with chronic illness was to connect with a higher power and draw upon their social support networks (Boland, 2000; Brome-Owens et al., 2000; Simoni et al., 2002; Stark & Hughey, 2003).

Brome-Owens et al. (2000) found that African American women who were recovering from drug abuse and who expressed higher levels of spiritual well-being had better self-concepts and more active coping skills than did women with lower levels of
spiritual well-being. Those women with higher levels of spiritual well-being also reported more positive attitudes toward family, increased intellectual orientations, and greater desires for recreational activity than did women with lower levels of spiritual well-being. African American women with a stronger sense of spiritual well-being were also more satisfied with social support networks that included support from parents and extended families.

Brady et al. (1999) reported that, in a sample of mixed races and gender (31% African American), patients with cancer and patients with HIV/AIDS who had higher scores for spiritual well-being, found greater life enjoyment, more contentment with life, additional peace and meaning with life, and better quality of life. Brady et al. also reported higher scores for spiritual well-being were related to reports of less pain and decreased incidence of fatigue. Spiritual well-being was strongly associated with awareness, as well as the ability to use inner resources and strengths to commit to practicing health behaviors (Brady et al., 1999). Since the above research was conducted with mixed ethnic samples, it is unclear whether the findings would hold for unmixed samples and African American women in particular.

In a sample of only African American women, statistically significant moderate to high correlations were found between spiritual well-being and quality of life indicators, i.e. physical, emotional, and functional well being (Morgan, Gaston-Johansson, & Mock 2006). In two all-African-American studies of both genders, spiritual well-being was found to reduce the need for medication in HIV/AIDS patients and in those recovering from substance abuse. African-Americans with HIV and reporting greater spiritual well-being experienced reduced pain and greater cognitive function, social function, and
mental well being than did HIV patients reporting lower levels of spiritual well-being (Coleman, 2003; Wright, 2003). In the sample of African-Americans with substance abuse, higher levels of spiritual well-being were positively correlated with reduced cigarette, alcohol, and illicit drug use (Ritt-Olsen et al., 2004). Similarly, spiritual well-being was correlated to reduced substance abuse, this time in a mixed sample of Hispanics, Caucasians and African-Americans young adolescents and women (Simoni et al., 2002).

Greater spiritual health, which can be thought of as spiritual well-being, adds to the resources for coping with stress. Development of spiritual philosophies assists with acceptance of situations and adaptation to the environment, while creating meaning out of circumstances (Watt, 2003). Conversations with others and with a higher power through prayer provide sources of strength and allow individuals to feel uplifted and hopeful (Bannerjee & Pyles, 2004; Dunn & Dawes, 1999; Larimore et al., 2002; Martin & Sachese, 2002; Narayanasamy, 2002; Rowe & Allen, 2004; Wright, 2003). Spiritual well-being also provides a resource for managing the distress associated with illness (Schnoll et al., 2000).

Individuals of all races who reported higher spiritual well-being also reported better quality of life, a greater fighting spirit, reduced fatalism, and decreased hopelessness and helplessness (Brady et al., 1999; Cotton et al., 1999; Laubmeier et al., 2004; Rowe & Allen, 2004; Tuck, McCain, & Elswick, 2001). Coping behaviors that are an expression of spiritual well-being are prayer, faith, bible study, quiet time, journaling, relaxation, social support, formal religion, positive attitude, and relationships with a higher power (Baldacchino & Draper, 2001; Cotton et al., 1999; Graham, Furr, Flowers,
Kim and Seidlitz (2002) studied chronically ill Korean persons and found that spiritual well-being had a moderating effect that indirectly and independently buffered stress due to illness by increasing a person's positive affect and reducing physical symptoms. The analysis also showed that when controlling for coping rather than stress, spiritual well-being directly reduced negative affect and buffered the effects of stress on physical symptoms. The current investigation has the potential to shed light on these relationships by examining the moderating effect of spiritual well-being on perceived stress and coping behaviors in African American women with consideration to their smoking status.

In summary, in African American samples, a strong sense of spiritual well-being was found to be positively related to coping with pain, providing meaning in life, source of inner peace, health, happiness, hope, and a relationship with a Higher Power. Spiritual well-being in African American samples had an inverse relationship with need for medication for pain and the adverse symptoms of HIV/AIDS, the need for use of cigarettes, alcohol, and illegal drugs, and had a moderating effect on social support, coping with tragedy, coping with illness, overall health, and health decision making. In ethnically mixed samples, a strong sense of spiritual well-being was found to be positively related to better quality of life and peace, and provided hope, and was negatively related to helplessness, fatalism, fatigue and pain associated with chronic illness. And in a Korean sample, spiritual well-being had a moderating effect on stress by increasing positive affect or decreasing physical symptoms of illness.
Summary

Chapter II has presented a review of the significant literature examining cigarette smoking in African American women. More African American women experiment with cigarette smoking at some time in their life and are less likely to quit smoking than Caucasian women. African American women smoke fewer cigarettes per day, but the cigarettes they choose to smoke are higher in disease-causing components that lead to higher mortality and morbidity rates from smoking-related illness. African American women use cigarette smoking to help cope with stress. Further, the empirical evidence suggests that spiritual well-being is an inner resource that helps to increase peace, meaning, and happiness and provides a resource for coping with stress in African American women. As a personal resource and state of mind, spiritual well-being is defined as a unique and personal relationship with a higher power. Behaviors may be used to express inner resources for coping with stress such as prayer, faith, bible study, quiet time, journaling, relaxation, social support, formal religion, and a positive attitude.

There is a dearth of research examining spiritual well-being, perceived stress, and coping in African American women in relationship to smoking cessation. The proposed study is the first to investigate the relationships among spiritual well-being, perceived stress, coping, and smoking status in African American women. Findings from the research have the potential to advance nursing empiric knowledge about spiritual well-being, perceived stress, coping, and smoking cessation in African American women. This study also contributes to nursing knowledge by concentrating on an often overlooked underserved population, African American women.
CHAPTER III

METHODS

Chapter III describes the methods used for examining spiritual well-being, perceived stress, and coping in African American women smokers, ex-smokers, and never smokers. In the first section sample size/power analysis, sampling technique, recruitment, and eligibility criteria are reported. The study instruments are discussed in the next major section. Procedures, including information about data collection and human subjects’ protection, are addressed last.

Sample Size/Power Analysis

A convenience sample of 125 community residing African American female current smokers, ex-smokers, and never smokers were recruited for the study. Sample size determinations were made using the software application of Excel, the R Foundation for Statistical Computing, version 1.8.1. (2003), and DSTPLAN (Brown, et al., 2000). Table 2 shows the sample size and power analysis calculated for each study instrument. Power for multivariate analysis of variance to determine significant differences among the three groups (current smokers, ex-smokers, and never smokers) was established at .95, with a significance criterion equal to .05 and a medium effect size of .40 (Burns & Groves, 1999; Munro, 2000). A medium effect
size is often used to estimate sample size (Hinkle, Wiersma, & Jurs, 1988; Norwood, 2000). Effect size was determined by a calculation of 10 percent of the range of each scale as noted by the Difference to Detect in Table 2. The calculation for effect size was completed by dividing the difference to detect by the standard deviation.

The minimum and maximum scoring ranges are reported for each study scale in Table 2. The range is calculated by subtracting the minimum from the maximum scoring range of each scale. Sample standard deviations were estimated by dividing each scale range by 4 and also by 6 standard deviations from the mean. The estimated mean score difference to be detected as significant for each scale is reported as the difference to detect. The significance criterion is .05, and desired power is reported. Based on this information, the sample size estimates for each scale were calculated at 55 per group. Data collection was terminated after it was determined that statistical significance at the .05 level had been achieved and the researcher was confident that the null hypothesis could be rejected.

Table 2

Power Analysis in Excel: R Foundation for Statistical Computing Version 1.8.1

<table>
<thead>
<tr>
<th>DSTPLAN Analysis</th>
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</thead>
<tbody>
<tr>
<td>Scale</td>
</tr>
<tr>
<td>SWB*</td>
</tr>
<tr>
<td>Perceived Stress</td>
</tr>
<tr>
<td>Coping</td>
</tr>
<tr>
<td>Coping Subscales</td>
</tr>
</tbody>
</table>

Note. SWB* = Spiritual well-being.
Sampling Technique and Recruitment

Every attempt was made to recruit equal numbers of African American women for the three comparison groups: current smokers, ex-smokers, and never smokers. The sample was obtained using a snowball sampling technique based on the assumption that people who are interested in the same topic and share similar characteristics know each other and can help reach persons who may be more difficult to locate using other sampling strategies. African American women, who currently smoke, were smokers in the past, or never smoked, often know other African American women sharing their same situations and characteristics.

Special attention was given to using recruitment strategies that recognize and respect the cultural beliefs and practices of the African Americans. Previous research has documented that African American are less likely to participate in research because of past unethical practices (Savitt, 1982; Shavers-Hornaday & Lynch, 1997). This mistrust is related to a general distrust of the health care delivery system, ineffective recruitment strategies, under representation of minority researchers, and distrust of doctors, nurses, and the medical profession (Savitt, 1982; Shavers-Hornaday & Lynch, 1997). There are several culturally sensitive and appropriate recruitment strategies with documented effectiveness, including strategic use of recruitment location, contacting community leaders, and building relationships. These strategies were used to recruit participants for the study. In addition, this study incorporated the use of incentives to complete sample selection. Incentives have been used in past studies where samples had little motivation, otherwise, to participate.
The sample was recruited from various locations including churches, community centers, beauty salons, sororities, as well as other places where African American women might congregate. The administrator, president, owner, or leader of the organization at each location was provided with a description of the study through an introductory letter, phone call, and/or a face-to-face visit with the researcher. An initial meeting was requested to discuss details regarding the study and data collection, and a second visit was established with the leader's approval to collect data.

After securing the appropriate permission to recruit subjects from various organizations, flyers were posted inviting African American women to participate. African American women who responded and participated in the study were asked if they knew other African American women who met the study criteria and might be interested in participation. The participants were asked to facilitate an introduction between the researcher and prospective volunteers. All meetings between community leaders, participants, and the researcher took place at a mutually agreed upon location to provide for convenience, safety, and confidentiality.

Relationships were established with community members and lay workers to facilitate recruitment from clinics and community service programs. Since the principal investigator was the same race/ethnicity as the studied population, it was anticipated that relationships might be easier to establish and recruitment might be enhanced. However, recruitment remained a challenge. The process of recruiting African American women smokers for research participation was slow (less than one/week). Some researchers have suggested that, even though the principal
investigator is of the same race/ethnicity as the subjects, the investigator may still be viewed as an outsider due to his or her links to the health care and academic settings (Briscoe & Pichert, 1996; Peterson & Sterling, 1999; Porter & Villarruel, 1993; Shavers-Hornaday & Lynch, 1997). To increase participation, one year into data collection, an expression of appreciation (incentive) in the form of a $10 Target gift card was provided to each participant upon completion of the questionnaire booklet and its return to the researcher. As reported in the literature, the addition of the expression of appreciation improved the response rate to this research study (Wineman & Durand, 1992).

Sample Inclusion and Exclusion Criteria

To be eligible for the study, participants had to be African American women who were age 18 or older and living in the State of Ohio. Participants reported one of the following smoking status conditions: (a) current smoker (at least one cigarette per day for the past year), (b) ex-smokers have smoked 10 or more cigarettes anytime in their life and do not currently smoke, or (c) never smoker have smoked less than 10 cigarettes at any time in their life or have never smoked. Participants had to speak and read English at a seventh-grade level in order to complete the study instruments. Reading level of participants was assessed by their ability to properly complete the questionnaire packet. The seventh-grade reading level was selected because it is estimated that one half of the United States population reads lower than or at the ninth-grade level (Doak, Doak, & Root, 1996). Readability of the instruments was determined using the SMOG method developed by McLaughlin (1969) and adapted by Aldridge (2004). All study instruments were at the junior-high reading level.
All persons under the age of 18 were excluded from the study because minors have characteristics that differ sufficiently from adults. For example, the stresses and coping behaviors used by adolescents may be quite different from adult women. Adult African American males were also excluded because African American men experience a lower disparity in smoking-related-disease death compared to African American women. Cigarette smoking has been directly related to lung cancer as its number one cause. While the rates for lung cancer in African American men decrease, the rate of lung cancer is increasing in African American women (American Lung Association, 2006). Additionally fewer African American men have tried smoking than African American women (Eck et al., 1997), and African American men are more likely than African American women to quit smoking (Cooley & Jennings-Dozier, 1998). These characteristics of African American men that differ sufficiently from female adults may confound results.

Other ethnic/racial groups were excluded from this study because of the smoking-related illness and death disparities found in the group of African American women. The five-year survival rate of lung cancer is one fifth higher in white women compared to African American women (Ries et al., 2000). African American women suffer disproportionately more from smoking-related illness and cancers than any other group, with a lung cancer incidence four times greater than Caucasians and almost twice that of African American men (American Cancer Society, 2003; Moon-Howard, 2003). African American women who were incarcerated or institutionalized were excluded from the study due to the uniqueness of the incarceration or institutional experience that could influence perceived stress and coping behaviors.
Instruments

Information about socioeconomic data such as age, education, income, marital status, health insurance, current health status, and smoking behavior was collected using a researcher-designed, demographic questionnaire. Three instruments, the Spiritual Well-being Scale (Paloutzian & Ellison, 1982), Perceived Stress Scale (Cohen et al., 1983), and the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) were used to gather data about spiritual well-being, perceived stress, and coping, respectively, in African American cigarette current smokers, ex-smokers, and never-smokers. These three study instruments are well-described in the literature and have established psychometric properties.

The Spiritual Well-being Scale

The Spiritual Well-being Scale (Paloutzian & Ellison, 1982) is a 20-item instrument used to assess spiritual well-being across religious traditions. The scale uses a 6-point Likert-type scale, with a pencil and paper format. Response options include: 6 = strongly agree, 5 = moderately agree, 4 = agree, 3 = disagree, 2 = moderately disagree, 1 = strongly disagree. The scale has a scoring range of 20 to 120 with a higher score indicating overall higher spiritual well-being. Respondents circle the letter that best corresponds with their choice of each response. Completion of the scale takes approximately 10 minutes. Paloutzian & Ellison (1982) reported a test/retest reliability of .93, and internal consistency was documented by a Cronbach’s alpha coefficient of .89.

The instrument is comprised of two subscales that measure religious well being and existential well being. Each 10-item subscale is analyzed separately as it is
independent of the other subscale. The Religious Well-being subscale measures the relationship one has with a higher power(s). The Existential Well-being subscale measures perceptions of life purpose and satisfaction. Each subscale has a scoring range of 10 to 60 with a higher score indicating higher religious and existential well-being. Internal reliability of the subscales were reported as $\alpha = .96$ for the Religious well-being subscale and $\alpha = .86$ for the Existential well-being subscale (Coleman, 2002; Guinn & Vincent, 2003). Only the total overall spiritual well-being score was used in this research.

*The Perceived Stress Scale*

The Perceived Stress Scale (PSS) was used in this research to measure appraised stress. The scale was developed by Cohen et al. (1983) to assess the current level of experienced stress as well as the degree to which situations in the individual’s life are appraised as stressful. This scale is the most widely used instrument to measure perceived stress (Cohen et al., 1983; Cohen, Kessler, & Gordon, 1995). The 5-point Likert-type scale measures an individual's level of stress in relation to daily events using the following response format: 0 = never, 1 = almost, 2 = sometimes, 3 = fairly often, and 4 = very often. Seven of the scale’s 14 items need to have scores reversed before calculating a total score for perceived stress. Items that need to have scores reversed include 4, 5, 6, 7, 9, 10, and 13. A total score is obtained by summing across all 14 items. The possible range of scores is 0 to 56 with a higher score indicating higher levels of perceived stress (Cohen et al., 1983). The pencil and paper test takes about 10 minutes to complete.
Cohen et al. (1983) assessed the instrument’s test/retest reliability as .85. Internal consistency estimates ranged from .84 to .86. Concurrent validity was determined by comparing the PSS with two standardized scales: a modified version of the College Student Life-Event Scale (CSLES) developed by Levine and Perkins (as cited in Cohen et al., 1983) and the Center for Epidemiology Studies Depression Scale (CES-D) developed by Radloff (1977). The PSS was found to independently perform as well or better in measuring and predicting life events compared to the CLES or CES-D (Cohen et al., 1983).

The Ways of Coping Questionnaire

Coping was measured using the Ways of Coping Questionnaire developed by Lazarus and Folkman (1988) to assess and identify thoughts and actions used by individuals to cope with the stressful encounters in everyday life. The instrument was designed to measure coping processes, not coping dispositions or styles (Folkman & Lazarus, 1988). Emotion-focused coping, thoughts and cognitive efforts directed at changing the meaning of the experiences, and problem-focused coping, actions directed toward changing the individual’s environment, are functions of coping that are used concurrently in nearly every stressful occurrence. The questionnaire is comprised of eight subscales corresponding to the eight processes of coping, including confrontative, distancing, self control, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal. Construct validity has been determined after repeated studies over time have yielded results reflecting the theoretical expectations for the Ways of Coping Questionnaire to
measure both problem-focused and emotion-focused coping functions (Folkman & Lazarus, 1988).

Confrontive coping includes aggressive efforts to alter a situation via hostility and risk-taking. Distancing is the cognitive effort used to detach oneself from or minimize the significance of the situation. Efforts to regulate one’s feelings and actions are described as self-control. Efforts to seek informational, tangible and emotional support are identified as seeking social support. Accepting responsibility is described as the acknowledgement of one’s own role in problem solving. Escape-avoidance involves wishful thinking and efforts to escape or avoid problems. Problem-focused efforts designed to solve problems are the basis of planful problem solving. Positive reappraisal is a religious dimension that describes efforts which emphasize positive meaning and personal growth (Folkman & Lazarus, 1988).

The pencil and paper instrument contains 66 items scored from 0 to 3 (0 = not relevant/not used, 1 = used somewhat, 2 = used quite a bit, 3 = used a great deal). A higher score indicates greater use of the coping behavior. The range of scores and internal reliability coefficient scores for each subscale are reported in Table 3 (Lazarus & Folkman, 1988). As depicted in Table 3, internal consistency estimates ranged form .61 to .79 for the subscales. Because three of the subscales had alpha coefficients less than .70 and because various factor structures have been reported by other researchers (Edwards & O’Neill, 1998; Henderson, Fogel, & Edwards, 2003; Smythe & Yarandi, 1996; Vitaliano, Russo, Carr, Maiuro, & Becker, 1985; Wineman, Durand, & McCullough, 1994), a factor analysis was conducted with the current
sample of African American women to document reliability of coping measures in this population. The scale takes about 10 to 12 minutes to complete.

Table 3

Range of Scores and Reliability for the Original Ways of Coping Questionnaire Subscales (Lazarus & Folkman, 1988)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Range of Scores</th>
<th>Internal Reliability Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confrontive Coping</td>
<td>0 - 18</td>
<td>α = .70</td>
</tr>
<tr>
<td>Distancing</td>
<td>0 - 18</td>
<td>α = .61</td>
</tr>
<tr>
<td>Self-Controlling</td>
<td>0 - 21</td>
<td>α = .70</td>
</tr>
<tr>
<td>Seeking Social Support</td>
<td>0 - 18</td>
<td>α = .76</td>
</tr>
<tr>
<td>Accepting Responsibility</td>
<td>0 - 12</td>
<td>α = .66</td>
</tr>
<tr>
<td>Escape-Avoidance</td>
<td>0 - 24</td>
<td>α = .72</td>
</tr>
<tr>
<td>Planful Problem Solving</td>
<td>0 - 18</td>
<td>α = .68</td>
</tr>
<tr>
<td>Positive Reappraisal</td>
<td>0 - 21</td>
<td>α = .79</td>
</tr>
</tbody>
</table>

Procedures

The study’s principal investigator was an African American nurse with a community health background. She approached prospective women for the study and invited them to participate. Special attention was given to effective recruitment strategies as discussed earlier in this chapter. Individuals were approached and told about the study. Once they expressed an interest in participation, each woman was given a copy of the consent form. Women who declined to participate were sincerely thanked for their attention and time. The researcher tracked the number of women approached and the number actually recruited to participate in the study via field notes. This information was tabulated for subsequent examination of recruitment facilitators and barriers.

Protection of Human Rights

The research was approved for implementation with human subjects by the Institutional Review Board (IRB) at The University of Akron. The participants’ confidentiality was maintained and no codes or identifiers linked responses to subject.
Completed questionnaires were sealed in plain, clean white envelopes and placed in designated, sealed receptacle boxes or large envelopes. African American women understood that participation was entirely voluntary. Participants were advised of their ability to withdraw from the study at anytime without penalty.

Participants were instructed to complete study instruments/questionnaires fully so that there would be no missing data. A private space with a table and chair was provided for completion of surveys. The participants were advised that it would take approximately 25 to 35 minutes to complete the questionnaire booklet. During the last four months of data collection, an incentive was provided to participants when the completed questionnaire booklet was returned to the researcher. The researcher informed the potential participant of the incentive ($10 Target gift card) that would be given to her upon completion of the questionnaire packet during the explanation of the study, and it was also mentioned in the informed consent. There was minimal risk; no more than what would happen in everyday life. Initially, potential participants were somewhat reluctant and unenthusiastic about completing the 66-item Ways of Coping Questionnaire because of its length. Many left items unanswered. However, after implementation of the incentive, there were no problems with retention of subjects once the person decided to participate and the Ways of Coping Questionnaire was thoroughly completed.

Completed questionnaires were stored in a locked file cabinet in a secure office on the campus of The University of Akron to ensure confidentiality. Only the researcher and dissertation chair had access to the completed questionnaires.
Summary

Research methods have been described in this Chapter III. A convenience sample of community dwelling African American women aged 18 years and older was selected as participants. Recruitment of subjects and data collection took place during a 20-month period. Participants were recruited from churches, health conferences, clinics, and other community locations in Ohio. Culturally sensitive strategies and later an incentive were utilized to enhance sample recruitment. A demographic questionnaire was used to collect information about smoking status, age, education, marital status, early income, and health insurance status. Instruments used to collect information on main study variables included the Spiritual Well-being Scale, Perceived Stress Scale, and Ways of Coping Questionnaire. For the most part, these measures had acceptable levels of reliability and validity. The research was approved for implementation with human subjects by the Institutional Review Board at The University of Akron. Culturally sensitive data collection procedures were used to increase participation. Steps were taken to provide for participant anonymity and confidentiality with completed questionnaire packets stored in a secure area on the campus of The University of Akron. Data analysis will be discussed in the next chapter.
CHAPTER IV

RESULTS

The purpose of this study was to explore relationships among spiritual well-being, perceived stress, and coping in female African Americans with consideration to their smoking status. Significant relationships were hypothesized among the variables of spiritual well-being, perceived stress, and coping in these women. Significant differences were predicted among female African American smokers, ex-smokers, and never smokers on the variables of spiritual well-being, perceived stress, and coping. An inverse relationship was expected between coping and perceived stress in smokers, but not in the other study groups. The Spiritual Well-being Scale was used to measure spiritual well-being. Perceived stress was measured by the Perceived Stress Scale and coping by the Ways of Coping Questionnaire. A researcher-designed questionnaire was used to collect data about sociodemographic characteristics such as age, education, income, marital status, health insurance, and smoking behavior. The results presented in this chapter focus on preliminary data analysis, description of participants, data analysis, factor analysis of Ways of Coping Questionnaire, reliability testing, and hypothesis testing.

Preliminary Data Analysis

The Statistical Package for the Social Sciences (SPSS version 14) was used to analyze the data. Each questionnaire packet was comprised of the three scales and a
demographic data questionnaire. This packet included 110 questions. One hundred twenty-five women completed the questionnaire packet. Every effort was taken to review questionnaires as they were returned, and an initial visual inspection of each questionnaire was used to identify completeness. However, due to the nature of some of the public settings it was not always possible to inspect questionnaires immediately. Fourteen participants opted not to complete each section of the questionnaire packet and some left complete scales unanswered. Questionnaires with a high percentage of unanswered items were not entered into the database (n=14). Descriptive statistics including measures of central tendency were computed on all interval and ratio level data. Frequencies and percentages were calculated on all nominal and ordinal level data. Visual inspection of the data was conducted to identify outlying data. Data were statistically evaluated and found to contain 0.01% missing values. Missing data values were handled using listwise deletion.

Description of Participants

The convenience sample was comprised of 125 community dwelling African American women from a Midwestern state. Table 4 presents a descriptive summary of the demographic characteristics of the study participants. The mean age was 51.7 years (range = 22 to 85; standard deviation [SD] =16.20) and consisted of 25 current smokers, 42 ex-smokers, 58 and never smokers. Almost the entire sample was of a protestant religion (98%). The majority of the women were Baptist (64%) and others were of various protestant religions (34%). Most women in the study were unmarried or widowed (54%), had attended college (72%), had a yearly income of $30,000 or more (60%), and had health insurance coverage (87%). Compared to ex-smokers and never smokers,
current smokers were more likely to be single (64%; $\chi^2 = 20.85$, $p = .001$). Current smokers, compared to ex-smokers and never smokers were more likely to have lower socioeconomic status with lower income ($\chi^2 = 17.96$, $p < .001$) and educational levels ($\chi^2 =14.46$, $p = .001$). Only 12% of the current smokers had graduated from college with 52% having a household yearly income under $20,000. The majority of current smokers (56%) were 50 or more pounds overweight.

As depicted in Table 4, significant differences among study groups were found for the demographic variables of age, education, marital status, yearly income, and incentive status. These variables might account for study findings and therefore were statistically controlled when testing hypotheses.

The women in this study were recruited from over 500 African American women who attended various church services, health conferences, and health clinics, or were encountered in the community. One hundred ninety three (193) women were invited to participate in the study. Many women left the services or premises before a personal invitation could be extended. Of the women who were invited to participate, 18 agreed initially but did not return the questionnaire packet. Fourteen (14) others returned incomplete questionnaire packets, and 36 declined to participate. Reasons for lack of participation are listed in Table 5. Three of the most frequently documented reasons included failure to return the questionnaire packet, returning an incomplete questionnaire packet, and simply saying no. No one was deemed ineligible for the study. As noted earlier, the resultant sample included 125 women.
### Table 4

**Differences in Means, Range, and Standard Deviations for Demographic Characteristics and Incentive Status by Study Group (Total Sample N = 125)**

<table>
<thead>
<tr>
<th>Smoking status group</th>
<th>Totals</th>
<th>Current smoker</th>
<th>Ex-smoker</th>
<th>Never smoker</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N =125</td>
<td>n = 25</td>
<td>n = 42</td>
<td>n = 58</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age in years</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>22-85</td>
<td>28-59</td>
<td>25-85</td>
<td>22-82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>51.72</td>
<td>45.32</td>
<td>59.38</td>
<td>48.95</td>
<td>8.4</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SD</td>
<td>16.17</td>
<td>9.86</td>
<td>15.14</td>
<td>17.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequencies</strong></td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
<td></td>
<td>χ² value</td>
<td>p value</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>41 16</td>
<td>39 9</td>
<td>21 16</td>
<td>28</td>
<td>20.85</td>
<td>.008</td>
</tr>
<tr>
<td>Married</td>
<td>46 6</td>
<td>13 15</td>
<td>36 25</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>20 0</td>
<td>0 12</td>
<td>29 8</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>17 3</td>
<td>18 6</td>
<td>14 8</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Educational status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>11 5</td>
<td>20 3</td>
<td>7 3</td>
<td>5</td>
<td>14.46</td>
<td>.001</td>
</tr>
<tr>
<td>Graduated high school</td>
<td>24 8</td>
<td>32 8</td>
<td>19 8</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>46 9</td>
<td>36 19</td>
<td>45 18</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduated college</td>
<td>17 2</td>
<td>8 3</td>
<td>7 12</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post graduate</td>
<td>27 1</td>
<td>4 9</td>
<td>21 17</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Yearly income status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under $9,999</td>
<td>13 10</td>
<td>40 3</td>
<td>8 0</td>
<td>0</td>
<td>17.96</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>$10,000-$19,000</td>
<td>19 3</td>
<td>12 7</td>
<td>18 9</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$20,000-$29,000</td>
<td>16 4</td>
<td>16 6</td>
<td>15 6</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$30,000-$39,000</td>
<td>16 1</td>
<td>4 7</td>
<td>18 8</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$40,000-$49,000</td>
<td>13 4</td>
<td>16 5</td>
<td>13 4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50,000 and over</td>
<td>43 3</td>
<td>12 12</td>
<td>30 28</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health insurance status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insured</td>
<td>109 19</td>
<td>76 38</td>
<td>90 52</td>
<td>91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninsured</td>
<td>15 6</td>
<td>24 4</td>
<td>10 5</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weight status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>χ² value</td>
<td>p value</td>
</tr>
<tr>
<td>50+ lbs overweight</td>
<td>59 14</td>
<td>58 16</td>
<td>38 29</td>
<td>50</td>
<td>2.14</td>
<td>.343</td>
</tr>
<tr>
<td>Not 50+ lbs overweight</td>
<td>63 10</td>
<td>42 24</td>
<td>57 29</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Incentive status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incentive not received</td>
<td>102 7</td>
<td>28 39</td>
<td>93 56</td>
<td>97</td>
<td>60.02</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Incentive received</td>
<td>23 18</td>
<td>72 3</td>
<td>7 2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Researchers have suggested that there are no rules for determining the strength of relationships among variables (Munro, 2000; Polit & Beck, 2004; Shortell, 2001). Therefore, for this study a scale of weak ($r < .30$), moderate ($r = .30-.50$), and strong ($r > .50$) was specified a priori and used to describe the strength of relationships. Statistically significant correlations were marked with an asterisk in tables.

Table 5

<table>
<thead>
<tr>
<th>Reasons for Not Participating in the Study (N = 68, 35.23%)</th>
<th>Number of Persons</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did not return questionnaire packet</td>
<td>18</td>
<td>9.33</td>
</tr>
<tr>
<td>Just smiled and said no</td>
<td>17</td>
<td>8.81</td>
</tr>
<tr>
<td>Returned incomplete questionnaire packet</td>
<td>14</td>
<td>7.25</td>
</tr>
<tr>
<td>“Don’t feel like it”</td>
<td>6</td>
<td>3.11</td>
</tr>
<tr>
<td>Length of Ways of Coping Questionnaire</td>
<td>4</td>
<td>2.07</td>
</tr>
<tr>
<td>Survey too long</td>
<td>3</td>
<td>1.55</td>
</tr>
<tr>
<td>No time to complete questionnaire packet</td>
<td>2</td>
<td>1.04</td>
</tr>
<tr>
<td>“I don’t do surveys/research”</td>
<td>1</td>
<td>0.52</td>
</tr>
<tr>
<td>No show for appointment</td>
<td>1</td>
<td>0.52</td>
</tr>
<tr>
<td>“Too many personal questions”</td>
<td>1</td>
<td>0.52</td>
</tr>
<tr>
<td>Illness</td>
<td>1</td>
<td>0.52</td>
</tr>
</tbody>
</table>

In this study, coping was measured using four types of coping behaviors: Positive Problem Solving, Wishful Diversions, External Social Support, and Distance Escape. This researcher developed these behavior variables from a factor analysis of the original Ways of Coping Questionnaire. Further explanation of the factor analysis procedure, as well as a description of the factors developed for this sample, is discussed later in this chapter. Pearson Product Moment correlations were used to measure relationships between perceived stress, spiritual well-being, coping and age. Statistically significant relationships between the variables follow. A moderate negative correlation between age and perceived stress was revealed ($r = -.32$, $p < .001$). Weak negative correlations were
found between age and External Social Support coping \((r = -0.22, p = 0.02)\) and Distance-Escape coping \((r = -0.20, p = 0.03)\). Older participants were more likely to report lower levels of perceived stress \((r = -0.32, p < 0.001)\), and use less External Social Support coping \((r = -0.22, p = 0.02)\) and Distance-Escape coping \((r = -0.20, p = 0.03)\).

In this next step of preliminary data analysis, pre-existing relationships or differences among study variables were examined. Relationships between demographic characteristics and main study variables measured at the ordinal level were calculated using Spearman rho, and for those measured at the interval or ratio level, the Pearson Product Moment Correlation was used. For nominal and ordinal sociodemographic variables, ANOVA procedures were used to analyze differences in spiritual well-being, perceived stress, and coping among groups determined by marital status, health insurance coverage, and incentive status.

Spearman’s rho was used to examine relationships between education and perceived stress, Wishful Diversions coping, and Distance Escape coping. Women in the study who reported lower educational levels also had higher levels of perceived stress \((r_s = -0.25, p = 0.005)\). They also reported greater use of Wishful Diversion \((r_s = 0.24, p = 0.01)\) and Distance Escape \((r_s = 0.19, p = 0.04)\) coping efforts. Significant relationships were also found between income and spiritual well-being, perceived stress, and Wishful Diversions coping. Study participants with lower income status were more likely to report lower levels of spiritual well-being \((r_s = 0.22, p = 0.02)\), higher levels of perceived stress \((r_s = -0.28, p = 0.002)\), and use Wishful Diversions coping behaviors \((r_s = -0.23, p = 0.02)\).

ANOVA was used to examine differences in spiritual well-being, perceived stress, and coping based on marital status. Significant differences were found for
perceived stress ($F = 4.22, p = .003$) and Wishful Diversion coping ($F = 2.94, p = .024$).
Single participants tended to report higher levels of perceived stress and use Wishful Diversion coping behaviors.

Using independent sample t tests, differences were found for spiritual well-being, perceived stress, and coping between women with and without health insurance coverage. Women in the study with health insurance reported higher levels of spiritual well-being ($t = 2.58, p = .02$), lower levels of perceived stress ($t = -2.45, p = .01$), and less use of Wishful Diversions ($t = -2.28, p = .02$) and Distance Escape coping ($t = -2.82, p = .006$). Differences in means for spiritual well-being, perceived stress, and coping were also found among participants who received or did not receive an incentive to participate in the study. Participants who received an incentive reported lower levels of spiritual well-being ($t = 3.19, p = .002$), higher levels of stress ($t = -3.91, p > .000$), and greater use of Wishful Diversions ($t = -2.92, p = .004$) and External Social Support ($t = -2.20, p = .03$) coping strategies.

Data Analysis

The assumptions for using parametric statistics are discussed next. These assumptions include sample representativeness of the population, distribution normality, and homogeneity of variance. Sample representativeness of the population was promoted by a selection of the sample from various locations and settings in a Midwestern state. While not truly a random sample, the sampling strategy was developed to recruit a diverse group of African American women.

Distribution normality was evaluated with the Kolmogorov-Smirnov test (See Table 6) which revealed that the assumption for normality was met for the Perceived
Stress Scale and Ways of Coping Questionnaire. For the Spiritual Well-being Scale, the assumption for normality was not met. However, since examination of the frequency distribution showed good dispersion of scores and a near normal shape, and since most parametric tests are robust to violations of the normality assumption (Polit, Beck, & Hungler, 2001), a decision was made to use parametric statistics for hypothesis testing.

The Box’s M test of equality of covariance matrices revealed no statistically significant findings ($F(42, 12, 528.7) = 52.94, p = .262$). Therefore, the assumption of homogeneity variance matrices was met. Equality of variances was tested also with Levene’s test (Table 7), confirming the homogeneity of variance assumption.

Table 6

<table>
<thead>
<tr>
<th>Kolmogorov-Smirnov&lt;sup&gt;a&lt;/sup&gt; Tests of Normality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistic</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Perceived Stress</td>
</tr>
<tr>
<td>Spiritual Well-being</td>
</tr>
<tr>
<td>Ways of Coping</td>
</tr>
</tbody>
</table>

Note. <sup>a</sup> Lilliefors Significance Correction  
<sup>b</sup> This is a lower bound of the true significance

Table 7

<table>
<thead>
<tr>
<th>Levene's Test of Equality of Error Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistic</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>Perceived Stress</td>
</tr>
<tr>
<td>Spiritual Well-being</td>
</tr>
<tr>
<td>Ways of Coping</td>
</tr>
</tbody>
</table>

Factor Analysis of the Ways of Coping Questionnaire

The total score of the Ways of Coping Questionnaire measures the total effort of coping, while the eight subscales assess the specific dimension of coping being utilized. Numerous studies have used the eight subscales of Ways of Coping Questionnaire
developed by Lazarus and Folkman (1988) and documented their reliability as discussed previously in Chapter III (See Table 3). However, in other studies with community samples and in studies examining African American women specifically, reliability estimates for the Ways of Coping Questionnaire subscales have been not been sufficient for hypothesis testing (Edwards & O’Neill, 1998; Henderson, Fogel, & Edwards, 2003; Smythe & Yarandi, 1996; Wineman, Durand, & McCullough, 1994). In the present study, several of the subscales also had internal reliability estimates insufficient for hypotheses testing (<.70) (See Table 8). Therefore, an exploratory factor analysis was performed to identify the underlying structure and dimensions of the latent variables in this sample of African American women. Another purpose of this factor analysis was to establish psychometric properties for the latent subscales.

Table 8

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confrontive Coping</td>
<td>.66</td>
</tr>
<tr>
<td>Distancing</td>
<td>.66</td>
</tr>
<tr>
<td>Self-Controlling</td>
<td>.70</td>
</tr>
<tr>
<td>Seeking Social Support</td>
<td>.82</td>
</tr>
<tr>
<td>Accepting Responsibility</td>
<td>.67</td>
</tr>
<tr>
<td>Escape-Avoidance</td>
<td>.77</td>
</tr>
<tr>
<td>Planful Problem Solving</td>
<td>.70</td>
</tr>
<tr>
<td>Positive Reappraisal</td>
<td>.78</td>
</tr>
</tbody>
</table>

The exploratory factor analysis was conducted on the 66 items of the Ways of Coping Questionnaire. A principal factor analysis or principal axis factoring was selected over a principal component analysis for the following reason. While both techniques are used for scale reduction and development, principal factor analysis is used to identify latent dimensions of variables and determine common factor structure (Garson, 2007). Research with small samples (n=100) is appropriate for factor analysis as long as the
communalities are high (MacCullum, Widaman, Zhang, & Hong, 1999; Wuensch, 2006). This study met the criteria for a factor analysis with a Bartlett’s Test of Sphericity ($\chi^2 = 3972.52, p<.0001$) and communalities greater than .6. All initial communalities were high (> .6) and extracted communalities scored above .5.

Results of the factor analysis suggested a four factor structure and a scree plot test indicated a cutoff at four factors (Appendix F). In this research, an eigenvalue of 2.5 was used to determine meaningful factors. Higher eigenvalues (>1) identify factors that accounted for more variance than a single standardized item. Factor loadings with a magnitude of 0.3 or higher were used as the cutoff for salient loadings (Cudeck & O’dell, 1994; Kline, 1994). Items that loaded on more than one factor were excluded from the scale.

The exploratory factor analysis uncovered four unique scales that describe coping in this sample of African American women. These four factors accounted for 34.69 % of the variance in coping behaviors. The first scale included 14 items clustered on problem-focused coping behaviors and described positive plans to directly solve the problem creating stress. These coping behaviors are designed to do something to make the situation better, including analyzing, identifying, and developing solutions to the problem. It explained 10.02% of the variance and was named Positive Problem Solving. Scale two included 11 items that describe the wishful and hopeful thinking and behaviors used to detach oneself from thoughts about the problem causing stress. Behaviors such as dreaming, fantasizing, and hoping for a better time or wishing the problem would go away are coping strategies of the scale. The second scale was called Wishful Diversions Coping and explained 9.16% of the variance. The third scale included 12 items that
describe help-seeking behaviors in the form of information and emotional support. It explained 8.26% of the variance in coping and was named External Social Support Coping. The External Social Support coping subscale is very similar to Lazarus and Folkman’s Seeking Social Support subscale (1988). The items in this scale included all 5 items from the Seeking Social Support subscale developed by Lazarus and Folkman, along with an additional 7 other items from the overall Ways of Coping Questionnaire. Coping strategies comprising this scale include expression of thoughts and feelings in relation to others, especially discussing the situation with a trusted friend or professional.

Scale four included 6 items describing behaviors designed to emotionally and cognitively detach, escape, or avoid the problem causing stress. Efforts designed to minimize, negate, and trivialize the problem comprise this scale, including the use of food, alcohol, drugs, and cigarettes to help oneself feel better. The scale was named Distance-Escape Coping and explained 7.25% of the variance in coping.

A factor analysis was not performed on the Perceived Stress Scale and the Spiritual Well-being Scale. The Perceived Stress Scale measured only one dimension of appraised stress. The Spiritual Well-being Scale measured overall level of spiritual well-being. Analysis was based on the total score rather than the subscale scores because overall spiritual well-being was the focus of this research.

Reliability Testing

Results for scale development and reliability testing for all main study variables are discussed next. The Ways of Coping Questionnaire Subscales (Modified) discussed previously in this chapter, the Spiritual Well-being Scale, and the Perceived Stress Scale were evaluated using Cronbach’s alpha coefficient.
The reliability of the Ways of Coping Subscales (Modified) was evaluated using Cronbach’s alpha coefficient. Alpha coefficients were calculated using the items substantiated by the factor analysis described earlier in this text. Individual scales measuring specific dimensions of coping were determined by adding the items that comprise each factor. Means, standard deviations and ranges for each Ways of Coping subscale (modified) are presented in Table 9. A higher score indicates a higher effort of coping utilized. Items for the Positive Problem Solving Scale included 1, 2, 19, 26, 30, 36, 39, 48, 49, 52, 54, 60, 62, and 63. The Cronbach’s alpha coefficient was .84 for this scale. Wishful Diversions Coping Scale included items 9, 11, 13, 16, 29, 34, 40, 57, 58, 59, and 61. The alpha coefficient was .83 for this scale. External Social Support Coping Scale was comprised of items 3, 7, 8, 17, 18, 22, 25, 28, 31, 32, 42, and 45. The scale had a Cronbach’s alpha coefficient of .82. Distance-Escape Coping Scale included items 5, 21, 33, 41, 44, and 53. The Cronbach’s alpha coefficient was .73 for this scale.

Table 9

<table>
<thead>
<tr>
<th>Scale</th>
<th>Alpha Coefficient</th>
<th>Scale Mean</th>
<th>Standard Deviation</th>
<th>Actual Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Problem Solving</td>
<td>.84</td>
<td>19.80</td>
<td>6.46</td>
<td>1 33</td>
</tr>
<tr>
<td>Wishful Diversions</td>
<td>.83</td>
<td>10.39</td>
<td>6.54</td>
<td>0 28</td>
</tr>
<tr>
<td>External and Social Support Coping</td>
<td>.82</td>
<td>11.26</td>
<td>5.37</td>
<td>0 24</td>
</tr>
<tr>
<td>Distance-Escape Coping</td>
<td>.73</td>
<td>6.44</td>
<td>3.95</td>
<td>0 18</td>
</tr>
</tbody>
</table>
Spiritual Well-being Scale

The total spiritual well-being score was computed by adding the individual scores after negatively worded items were reversed scored (1, 2, 5, 6, 9, 12, 13, 16, and 18). Participants’ scores for the Spiritual Well-being Scale ranged from 67 to 114 (mean = 99.54, SD = 11.98). Scores for the Spiritual Well-being Scale categorized in the following manner: 20-40 low, 40-99 moderate, and 100-120 high (Paloutzian & Ellison, 1982).

The participants had an overall high level of spiritual well-being. The item-total correlation coefficient statistic was used to identify inadequately functioning items that reduced the alpha coefficient score. Scale item 16 did not perform adequately with a negative corrected item-to-total correlation. This item was deleted from the scale to increase the alpha coefficient. The overall Cronbach’s alpha coefficient for the Spiritual Well-being Scale was increase from .84 to .89.

Perceived Stress Scale

The Perceived Stress Scale measured level of appraised stress. Scores for items 4, 5, 6, 7, 9, 10, and 13 were reversed. The overall perceived stress score was calculated by summing all items. The mean score in this sample was 19.28 (SD = 8.03; range = 0-50). A higher score indicated higher levels of perceived stress. Item 12 had a negative corrected item-to-total correlation and was deleted from the scale. The Cronbach’s alpha coefficient was increased from .84 to .86.

Hypothesis Testing

The purpose of this study was to explore relationships among spiritual well-being, perceived stress, and coping in female African Americans with consideration to their
smoking status. Data analysis is presented by study hypotheses. Each hypothesis is restated followed by its respective data analysis.

*Hypothesis I*

Hypothesis I: There are significant relationships among the variables of spiritual well-being, perceived stress, and coping in female African Americans. The first hypothesis tested relationships among main study variables in all subjects regardless of smoking status.

The first research hypothesis was analyzed using Pearson Product Moment correlations. For all subjects, significant relationships were found between the study variables of spiritual well-being, perceived stress, and coping. There were significant relationships between the study variables of perceived stress and Positive Problem Solving coping \( r = .24, p = .01 \), perceived stress and Wishful Diversions \( r = .39, p < .001 \), and perceived stress and External Social Support coping \( r = .29, p = .002 \). Participants who reported higher levels of perceived stress were more likely to report greater use of Positive Problem Solving and Wishful Diversions coping. They were also more likely to report using higher levels of External Social Support coping. Statistically significant weak relationships were found between perceived stress and spiritual well-being \( r = -.28, p < .001 \), spiritual well-being and Wishful Diversions \( r = -.28, p = .003 \), and spiritual well-being and External Social Support coping \( r = -.18, p = .05 \). In all study subjects, those who reported higher levels of spiritual well-being were more likely to report less perceived stress and higher External Social Support coping. Table 10 depicts these relationships.
Table 10

Pearson Product Moment Correlations between Spiritual Well-being, Perceived Stress, and Coping

<table>
<thead>
<tr>
<th></th>
<th>Perceived Stress</th>
<th>Spiritual well-being</th>
<th>Positive Problem Solving</th>
<th>Wishful Diversions</th>
<th>External Social Support</th>
<th>Distance-Escape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Stress</td>
<td>-.28***</td>
<td>.24**</td>
<td>.39***</td>
<td>.29**</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>Spiritual well-being</td>
<td>.02</td>
<td>-.28**</td>
<td>-18*</td>
<td>-.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Problem Solving</td>
<td></td>
<td>.34***</td>
<td>.48***</td>
<td>.31***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wishful Diversions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.29**</td>
<td>.47***</td>
</tr>
<tr>
<td>External Social Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.27**</td>
</tr>
</tbody>
</table>

Note: r = Pearson r. *p ≤ .05 level (2-tailed). **p ≤ .01 level (2-tailed). ***p ≤ .001 level (2-tailed).

The next step in this analysis explored whether there were significant differences for demographic (age, income, and education), health insurance status, and smoking status between women who received incentives and those who did not. Women who received the incentive, compared to those who did not, had a younger mean age (t = 3.07, df = 56.65, p = .003) and less income (χ² = 33.52, p < .001). Respondents with higher mean educational achievements (χ² = 17.11, p = .002) and with health insurance coverage (χ² = 5.20, p = .02) were also among those who did not receive an incentive. Women who had received an incentive were more likely to currently smoke cigarettes (χ² = 60.02, p < .001).

Hypothesis II

There are significant differences between female African American current smokers, ex-smokers, and never smokers on variables of spiritual well-being, perceived stress, and coping.
A multivariate analysis of variance (MANOVA) was used to determine the influence of the independent variable (current smoker, ex-smoker, and never smoker) on the dependent variables (spiritual well-being, perceived stress, and coping). Results of the MANOVA using Wilks Lambda criteria revealed statistically significant differences among the groups (F(6, 92)=1578.83, p<.001). Subsequent univariate comparisons showed significant differences existed among the three groups in perceived stress (F(2,97) = 4.88, p=.01). Significant differences were also found among the three groups in Wishful Diversions coping (F(2,97) = 4.31, p=.02) and Distance Escape coping (F(2,97)=5.56, p=.005). There were no significant differences among the groups in spiritual well-being (F(2,97)=2.34, p=.10), Positive Problem Solving (F(2,97)=2.33, p=.10), or External Social Support coping (F(2, 97)=1.53, p=.22).

The post hoc Scheffé test of pairwise comparisons was used to further examine the statistically significant differences among the three groups of women determined by smoking status. The univariate results showed that current smokers (M = 23.32, SD = 6.51, p = .02) had higher mean perceived stress scores than ex-smokers (M = 17.43, SD = 7.78, p = .02) and never smokers (M = 18.34, SD = 7.38, p = .02). Further, ex-smokers were not significantly different than never smokers (p = 1.0) on perceived stress. Significant differences were found in the use of Wishful Diversions coping behaviors among current smokers, ex-smokers and never smokers. Never smokers (M = 9.70, SD = 6.52, p = .01) were less likely to use Wishful Diversion coping strategies than current smokers (M = 14.32, SD = 7.86, p = .01). There were no significant differences found in the use of Wishful Diversions coping between ex-smokers and current smokers (p = .12) or ex-smokers and never smokers (p = 1.0). Current smokers (M = 7.64,
SD = 4.51, p = .02) scored higher on Distance-Escape Coping behaviors than ex-smokers (M = 4.45, SD = 3.54, p = .02) and never smokers (M = 5.04, SD = 3.83, p = .02). Current smokers were more likely to use Distance-Escape coping than ex-smokers and never smokers. There were no significant differences in mean scores on Distance-Escape Coping between ex-smokers and never smokers (p=1.0).

A multivariate analysis of covariance (MANCOVA) was used to statistically control for pre-existing factors that might influence differences on the dependent variables (spiritual well-being, perceived stress, and coping) among the three groups (current smoker, ex-smoker, and never smoker). Pre-existing differences among the smoking groups existed for several variables: age, yearly income, marital status, education, and incentive status. In this analysis, therefore, age, yearly income, marital status, education, and incentive status were treated as covariates and entered as indicator variables. Smoking status was the independent variable and spiritual well-being, perceived stress, and Positive Problem Solving, Wishful Diversions, External Social Support coping, and Distant Escape coping were the dependent variables.

Results of the MANCOVA using Wilks Lambda criteria showed statistically significant differences among the groups (F(6, 43)=24.45, p<.001). The overall effect after controlling for pre-existing factors was significant showing that pre-existing differences between the groups accounted for some of the previous findings with MANOVA. The MANCOVA showed a statistically significant difference in spiritual well-being among the groups categorized by smoking status (F(49, 48)=1.9, p = .014) that was not found with MANOVA. Univariate comparisons also showed a statistically significant difference in External Social Support coping among the groups defined by
smoking status (F(49, 48) = 1.73, p = .03). Table 11 summarizes the differences between
the MANOVA and MANCOVA findings.

The Transactional Model of Stress, Appraisal, and Coping suggests that stress is
experienced when an event taxes or exceeds the individual’s resources. Therefore, the
next step in the analysis examined if there was an interaction between the inner resource
of spiritual well-being and perceived stress on coping behaviors. This analysis was
computed with only External Social Support coping as the dependent variable because
after controlling for pre-existing factors, the groups differed on only perceived stress and
External Social Support coping.

Results showed that as a set, spiritual well-being, perceived stress, and the
interaction of spiritual well-being and perceived stress explained 13% (F=5.75, p=.001)
of the variance in External Social Support coping. Spiritual well-being alone was
negatively correlated with External Social Support coping (r = -.18, p ≤ .05; see Table
10). However, when adjusting for spiritual well-being and its interaction with perceived
stress, spiritual well-being did not explain significant additional variance in External
Social Support coping (t=1.72, p=.09). But, when adjusting for spiritual well-being,
perceived stress accounted for additional variance in External Social Support coping
(t=2.53, p=.013). Importantly, the interaction of spiritual well-being and perceived stress
explained a significant amount of the variance in External Social Support coping (t= -
2.24, p = .027). One interpretation of this latter finding is that spiritual well-being
moderated the effect of perceived stress on External Social Support coping, suggesting
that spiritual well-being influences coping behavior when the person experiences
perceived stress. Specifically, greater spiritual well-being tends to reduce the use of External Social Support coping under increasing levels of perceived stress.

Table 11

Summary of Significant Findings of the Study

Pre-Existing Differences among the Study Groups for Demographic Variables and Incentive Status

- Age  $F = 8.4$ $p < .001$
- Income  $(\chi^2 = 17.96$ $p < .001)$
- Marital status  $(\chi^2 = 20.85$, $p = .008)$
- Education  $(\chi^2 = 14.46$, $p = .001)$
- Incentive status  $(\chi^2 = 60.02$, $p < .001)$

Hypothesis I
There are significant relationships among the variables of stress, coping, and spiritual well-being in female African Americans.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Pearson Product Moment Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Well-being</td>
<td></td>
</tr>
</tbody>
</table>
  - African American women with higher spiritual well-being were more likely to have lower stress $(r = -.28$, $p < .001)$.
  - African American women with lower spiritual well-being were more likely to use Wishful Diversion Coping $(r = -.2$, $p = .003)$.  
  - African American women with lower spiritual well-being were more likely to use External Social Support coping behaviors $(r = -.18$, $p = .05)$.  
  - African American women with higher perceived stress were more likely to use External Social Support Coping $(r = .29$, $p = .002)$.  
  - African American women with lower perceived stress were more likely to have higher spiritual well-being $(r = -.28$, $p < .001)$. |
| Positive Problem Solving |  
  - African American women with higher perceived stress were more likely to use Positive Problem Solving $(r = .24$, $p = .01)$. |
| Wishful Diversions |  
  - African American women with higher perceived stress were more likely to use Wishful Diversion coping $(r = .39$, $p < .001)$.  
  - African American women with lower spiritual well-being were more likely to use Wishful Diversion coping $(r = -.2$, $p = .003)$. |
| External Social Support |  
  - African American women with higher perceived stress were more likely to use External Social Support coping $(r = .29$, $p = .002)$.  
  - African American women with lower spiritual well-being were more likely toExternal Social Support coping $(r = -.18$, $p = .05)$. |
| Distance Escape | No Significant Findings |
Hypothesis II
There are significant differences between female African American current smokers, ex-smokers, and never smokers on variables of stress, coping, and spiritual well-being

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>MANOVA</th>
<th>MANCOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>Overall effect: there are differences between the three groups of smoking status on stress, coping, and spiritual well-being (F(6, 92) = 1578, p &lt; .001).</td>
<td>Overall effect: there are differences between the three groups of smoking status on stress, coping, and spiritual well-being (F(6, 43) = 24.45, p &lt; .001).</td>
</tr>
<tr>
<td>Current Smokers</td>
<td>More likely to have higher stress than ex-smokers and never smokers (F(2, 97) = 4.88, p = .01).</td>
<td>No Significant Findings</td>
</tr>
<tr>
<td>Spiritual Well-being</td>
<td>No Significant Findings</td>
<td>Never smokers were more likely to have higher spiritual well-being than ex-smokers and current smokers (F(49, 48) = 1.9, p = .014).</td>
</tr>
<tr>
<td>Positive Problem Solving</td>
<td>No Significant Findings</td>
<td>No Significant Findings</td>
</tr>
<tr>
<td>Wishful Diversions</td>
<td>Current smokers were more likely to use Wishful Diversions coping behaviors than never smokers (F(2, 97) = 4.31, p = .01).</td>
<td>No Significant Findings</td>
</tr>
<tr>
<td>External Social Support</td>
<td>No Significant Findings</td>
<td>Current Smokers were more likely to use External Social Support coping behaviors than ex-smokers and never smokers (F(49, 48) = 1.73, p = .03).</td>
</tr>
<tr>
<td>Distance Escape</td>
<td>Current Smokers were more likely to use Distance Escape coping behaviors than ex-smokers and never smokers (F(2, 97) = 5.56, p = .005).</td>
<td>No Significant Findings</td>
</tr>
</tbody>
</table>
Summary of Findings

The purpose of this study was to explore relationships among spiritual well-being, perceived stress, and coping in female African Americans with consideration to their smoking status. The Statistical Package for the Social Sciences was used to analyze data collected from three instruments: Perceived Stress Scale, Spiritual Well-being Scale, and Ways of Coping Questionnaire. Data were statistically and visually examined for completeness. The sample was comprised of 125 educated, mainly protestant, unmarried or widowed community-dwelling African American women aged 22 to 85. Twenty-five (20%) were current smokers, 42 (34%) ex-smokers, and 58 (46%) never smokers. Current smokers, compared to ex-smokers and never smokers, were more likely to be single and have lower income and educational levels. They were also more likely to be overweight. Of the women invited to participate in the study, 68 (35%) refused, withdrew from the study, or did not return the questionnaire booklet.

Pearson Product Moment correlations were used to test relationships between main study variables and age. Older participants were more likely to report lower levels of stress, and less use of External Social Support and Distance-Escape coping. Standard ANOVA techniques and t-tests were used to test differences among main study variables (spiritual well-being, perceived stress, and coping) for participants grouped by demographic characteristics (marital status, education, income) and incentive status. Spearman’s rho was used to test relationships among demographic variables measured at the ordinal level and main study variables. Differences for perceived stress and Wishful Diversion coping were found for groups determined by marital status. Single participants tended to report higher levels of perceived stress and use Wishful Diversion coping
behaviors. Significant differences were found for perceived stress, Wishful Diversions coping and Distance-Escape coping for women of various educational levels. Women in the study who reported lower educational levels also tended to report higher levels of perceived stress and greater use of Wishful Diversion and Distance Escape coping efforts. African American women with lower incomes tended to report lower levels of spiritual well-being and higher levels of perceived stress, and to use Wishful Diversions coping behaviors.

Women in the study with health insurance tended to report higher levels of spiritual well-being, lower levels of perceived stress, and less use of Wishful Diversions and Distance Escape coping efforts. Lower levels of spiritual well-being and greater use of External Social Support coping strategies were reported in African American women who did not receive an incentive to participate in the study.

An exploratory factor analysis was conducted on the Ways of Coping Questionnaire after it was found that internal reliability estimates for its subscales were insufficient for hypothesis testing. Results of the factor analysis suggested a four factor structure. The new factors were named Positive Problem Solving, Wishful Diversions, External Social Support Coping, and Distance-Escape Coping. Scores on the Ways of Coping Questionnaire (Modified) revealed coping efforts while scores on the Perceived Stress Scale showed a moderate level of perceived stress. The Spiritual well-being scale scores documented that this sample had an overall high level of spiritual well-being. The internal consistency of all study scales was evaluated using Cronbach’s alpha. All alpha coefficients were acceptable at > .70.
Assumptions for using parametric statistics of sample representativeness, distribution normality, and homogeneity were met. Using Pearson Product Moment correlations, the first hypothesis tested relationships among spiritual well-being, perceived stress, and coping in the African American women regardless of smoking status. Moderately strong significant relationships were found between the study variables of perceived stress and Positive Problem Solving, perceived stress and Wishful Diversions, and perceived stress and External Social Support coping behaviors. Study participants who reported higher levels of perceived stress were more likely to report utilizing Positive Problem Solving, Wishful Diversions, and External Social Support coping strategies.

Independent sample t-tests were conducted to examine differences between study participants in incentive status. It was found that older African American women with greater income were less likely to have received the incentive. Respondents with higher educational achievements and health insurance coverage were less likely to have received an incentive. African American women who had received an incentive were more likely to currently smoke cigarettes, report higher levels of perceived stress, and report lower levels of spiritual well-being.

Multivariate analysis of variance was used to test the second hypothesis to determine the influence of categories of independent variables (current smoker, ex-smoker, and never smoker) on the dependent variables (spiritual well-being, perceived stress and coping). The Wilks Lambda criteria results revealed statistically significant overall differences among the groups. Multivariate comparisons showed significant differences among the three groups in perceived stress, Wishful Diversion coping, and
Distance Escape coping. The *post hoc* Scheffé test pairwise comparisons showed higher mean scores in Wishful Diversion coping behavior for current smokers over never smokers. Current smokers also had higher mean scores on Distance Escape coping than ex-smokers and never smokers. Women in this study who were current smokers were more likely to use Wishful Diversions and Distance Escape coping behaviors.

A multivariate analysis of covariance was used to statistically control for the pre-existing differences among the three smoking groups on age, yearly income, marital status, education and incentive status. Using Wilks Lambda criteria, significant differences were found among the groups in spiritual well-being and External and Social Support coping. Never smokers reported higher levels of spiritual well-being compared to ex-smokers and current smokers, while current smokers utilized more External Social Support coping strategies compared to ex-smokers and never smokers.

Multiple regression was used to examine the interaction between spiritual well-being and perceived stress on External Social Support coping. In this regression equation, spiritual well-being, perceived stress, and the interaction of spiritual well-being and perceived stress were treated as independent variables, and External Social Support coping was treated as the dependent variable. Results showed that spiritual well-being, perceived stress, and the interaction of spiritual well-being and perceived stress explained 13% of the variance in External Social Support coping. Singly, spiritual well-being did not account for a significant portion of the variance in External Social Support coping, but perceived stress and the interaction of spiritual well-being and perceived stress explained a significant amount of the variance in External Social Support coping. This finding suggests that in African American women in this sample, spiritual well-being
moderated the effect of perceived stress on coping, indicating that coping behavior was influenced by spiritual well-being when stress was experienced.

In the next chapter, discussion and conclusion of the study findings will be presented.
CHAPTER V
DISCUSSION AND CONCLUSIONS

Summary of the Study

The purpose of this research is to explore relationships among spiritual well-being, perceived stress, and coping in current smoking, ex-smoking, and never cigarette smoking female African Americans 18 years and older, using Lazarus and Folkman’s (1984) Transactional Model of Stress, Appraisal, and Coping as an organizational framework. It was predicted that there would be significant relationships overall among the variables of spiritual well-being, perceived stress, and coping; it was also predicted that significant differences would be found among the three sample groups on the variables of spiritual well-being, perceived stress, and coping. For smokers only, an inverse relationship between coping and perceived stress was predicted, i.e., current smokers were predicted to report higher levels of perceived stress and fewer coping behaviors.

Sample. The convenience sample in this study was comprised of 125 African American women from a mid-western state. Their mean age was 51.7 years with a range of 22 to 85 (SD=16.20). The sample included twenty-five (20%) current smokers, 42 (34%) ex-smokers, and 58 (46%) never smokers. Almost the entire sample (98%) was of a protestant religion. A slight majority (54%) were unmarried or widowed, while almost three fourths had attended college. Of the sample, 60% had a
yearly income of over $30,000 and 87% had health insurance. Recruitment of subjects from over 500 African American women took place in churches, health conferences, clinics, and other community locations over a 20-month period. Culturally sensitive strategies and, later, a monetary incentive were used to enhance sample recruitment. Of the approximately 500 women invited to participate in the study, 35% declined to participate, withdrew from the study, or did not return the questionnaire booklet.

**Sampling, Incentive, and Findings.** Because it was so difficult to locate sample subjects, the incentive was introduced later during the recruitment process. In this research, older African American women, or those with higher income, higher educational achievements, and health insurance coverage were more easily recruited and thus, less likely to have received an incentive. African American women who had received an incentive were more likely to be current smokers and report higher levels of perceived stress and report lower levels of spiritual well-being. Participants who received the incentive were recruited from crisis homeless shelters and free health clinics. The latter women may have been experiencing uncommon levels of stress related to their current life situations. In addition, compared to the general community population, women in a homeless shelter or visiting a free clinic are more likely to be younger, with less education, and without health insurance. Consequently, the incentive, although small (a ten dollar Target gift card), may have been more important to the homeless women and those at the free clinic than to the others in the sample.
Incentive status, along with demographics of age, income, education, were statistically controlled, and significant differences were found in the sample on the variables of spiritual well-being, perceived stress, and coping. These findings are discussed in the section related to Hypothesis II.

The increased participation after incorporation of an incentive in the current study suggests that incentives are important for recruiting some African American women into research. Previous research has documented that African Americans are less likely to participate in research because of their concerns about past unethical research practices (Savitt, 1982; Shavers-Hornaday & Lynch, 1997). However, incentives have been shown to increase the response rate in research where the response rate and motivation for participation are low (Singer, Van Hoewyk, Gebler, Raghunathan & McGonagle, 1999). Decisions to become involved in research studies may be influenced toward participation when an incentive is offered (Wineman & Durand, 1992).

In this study, incentives were offered to women whose life options were considerably hampered: those who received the incentive were recruited from crisis homeless shelters and free health clinics. For them, the incentive, small as it was, was apparently a motivator for participation. Therefore, researchers should consider culture, gender, and distribution of the population during the development of recruitment strategies (Sadler et al., 2007). In this study, women who received the incentive were recruited from crisis homeless shelters and free health clinics and may have been experiencing uncommon levels of stress related to their current life situations (Goodman, Saxe, & Harvey, 1991; Thrasher & Mowbray, 1995).
On the one hand, this study was able to be conducted because a sample was derived from a variety of sources. On the other hand, findings in other studies may differ dependent upon where a sample is found. When quite different sites are used to recruit African-American samples, it behooves researchers to statistically control for sites’ samples and possible differences. The African-American population, like other groups, are not homogenous: class and geographic distinctions may create findings that differ and affect subsequent interventions. The findings from this study indicate that smoking interventions related to stress reduction may have to be customized according to the samples from the types of sites from which the data were collected.

**Instruments.** Three standardized instruments were used to measure the main study variables: the Spiritual Well-being Scale (1982), the Perceived Stress Scale (1983), and the Ways of Coping Questionnaire (1988). The Spiritual Well-being Scale is widely used to measure overall spirituality and spiritual well-being. The Perceived Stress Scale is extensively used to assess current level of perceived stress as well as the degree to which situations in the individual’s life are appraised as stressful. The Ways of Coping Questionnaire is a theoretically derived instrument designed to measure coping processes directed toward changing the individual’s environment and managing stress. In addition to these instruments, a researcher-designed questionnaire was used to gather information about age, education, income, marital status, health insurance, and smoking behavior.

Internal reliability estimates for the Perceived Stress Scale and Spiritual Well-being Scale were sufficient for hypothesis testing. However, in this sample, the Cronbach’s alpha coefficients for three of the eight subscales of the Ways of Coping
Questionnaire were low. Low reliability estimates for some subscales have been reported by other researchers in community-based samples (Edwards & O’Neill, 1998; Smythe & Yarandi, 1996; Wineman, Durand, & McCullough, 1994) and in a clinical sample of African American women (Henderson, Fogel, & Edwards, 2003).

African American women in this study performed differently on the Ways of Coping Questionnaire when compared to the original scale which was developed using middle-class white mixed gendered samples (Folkman & Lazarus, 1980). First, in this study, several internal consistency alpha coefficients derived from the African American responses on the original scale were low (<.70) for hypothesis testing, which suggests measurement of more than one characteristic of a single dimension of coping. Henderson, Fogel, and Edwards (2003) measured coping using the Ways of Coping Questionnaire in a group of 86 African American women. These researchers also found that their alpha coefficients were insufficient for hypothesis testing (<.70).

Second, a four factor scale that accounted for about 35% of the variance was supported by this sample, which suggests that African American women in this study used coping strategies that were not measured by the original Ways of Coping scale. Twenty-three items did not load on any factor and were eliminated. The failure of some items of the original Ways of Coping Questionnaire to load on a factor is consistent with the literature. Smyth and Yarandi (1996) developed a three factor scale of the Ways of Coping Questionnaire in a sample of 656 African American women that explained 67% of the total variance. Several items did not load (n=31) in their research as well. However, their three-factor scale was different than those found and used in this study. This inconsistency in scales could be because of
differences in geographic location of study, sampling sites, or sociodemographic factors. Another interpretation is given by Lazarus and Folkman (1984), i.e., coping is situation-specific and depends on each individual’s perceptions. However, if that reductionistic argument is used to explain African-American and Caucasian differences, it moots any possibility of theory building or generalization among types of samples or among groups.

The differences found between the earlier African American studies and this study are not explainable by the findings at this time. Therefore, these findings are unique to this sample of African American women. Socioeconomic status, geographic location, and individual perceptions may influence coping strategies used by African American women and the Ways of Coping Questionnaire may not fully measure coping in this population.

The idea that sampling location, class, and personality may indicate different coping approaches is worth pursuing in future research in African American samples. It may be that other forms of coping influence smoking behavior in African Americans. As a start in this direction, focus groups would be one appropriate method to identify at least some typical coping strategies used by this population. Another approach would be the use of other qualitative research methods to help researchers gather information about the feelings, beliefs, perceptions, and attitudes of African American women related to smoking. Moreover qualitative methods may be most useful in the development of a culturally sensitive analysis of spiritual well-being, perceived stress and coping in African American women. Using qualitative methods, African American women would have the opportunity to discuss what is important to
them and how these variables function in the context of their lives. Not only would qualitative methods provide culturally sensitive insights, but this method is often a precursor to the development or improvement of instrumentation, which in this case, would be more culturally sensitive.

In this study, because of the differences in white and African American sampling, an exploratory factor analysis of Ways of Coping Questionnaire was conducted to determine the latent factor structure for coping behavior in African American women residing in the community. The results supported a four factor structure for the Ways of Coping Questionnaire. However, many items (n = 23) did not fall within these four factors, and in fact, the four factors together accounted for less than 35% of the variance in coping. Nevertheless, the four factors were theoretically meaningful and had acceptable levels of internal reliability (> .70). Eigenvalues and factor loadings were strong for each factor. The emergent scales, which were then used, included Positive Problem Solving, Wishful Diversions, External Social Support, and Distance Escape for the measurement of coping behaviors.

Scale Scores. In this study, the African American women as a group had a mean score on the Perceived Stress Scale that revealed a moderate level of stress. A mean score on the Ways of Coping Questionnaire (modified) indicated an overall coping effort, and a mean score on the Spiritual Well-being Scale indicated a high level of spiritual well-being.

Significant differences were found among subjects in this study on spiritual well-being, perceived stress, and coping behaviors based on demographic
characteristics. Older study participants reported lower levels of perceived stress, and were less likely to use External Social Support and Distance Escape coping. Single participants tended to report higher levels of perceived stress and use Wishful Diversion coping behaviors. Younger and poorer subjects who received an incentive reported higher levels of stress compared to the rest of the sample.

_Hypotheses and Findings._ Hypothesis I tested for the presence of relationships among perceived spiritual well-being, perceived stress, and coping in the African American women regardless of smoking status. Findings indicated that women with lower levels of spiritual well-being were more likely to have higher levels of stress and use Wishful Diversions and External Social Support coping. Aside from spiritual well-being, study participants who reported higher levels of perceived stress were more likely to cope by using External Social Support, Positive Problem Solving, and Wishful Diversions.

Hypothesis II tested the influence of categories of independent variables (current smoker, ex-smoker, and never smoker) on the dependent variables (spiritual well-being, perceived stress and coping). Pre-existing differences among study groups for the demographic variables of age, yearly income, marital status and education, and incentive status were statistically controlled using multivariate analysis of covariance (MANCOVA). Results showed that, compared to the others in the sample, African American women who never smoked had higher levels of spiritual well-being. Current smokers, when compared to the other sample groups, were more likely to use External Social Support coping and have lower levels of spiritual well-being.
Discussion of Findings for Hypothesis I

Results from this study provided partial support for Hypotheses I and II. Hypothesis I tested for the presence of relationships among spiritual well-being, perceived stress, and coping in all subjects regardless of smoking status. Statistically significant weak to moderate relationships among study variables were found and are discussed below.

**Spiritual Well-being and Perceived Stress**

A significant negative relationship was found between spiritual well-being and perceived stress. This finding is consistent with the theoretical relationships proposed by Lazarus and Folkman (1984) as well as the extant literature. Lazarus and Folkman (1984) contend that when evaluating a potentially threatening or challenging situation, personal resources affect whether the situation is described as stressful. In the current research, African American women with higher levels of spiritual well-being reported less stress. Although speculative, it is conceivable that these women drew heavily upon their inner resource of spiritual well-being to effectively manage threatening and challenging situations, and therefore, they were less likely to appraise their situations as stressful.

Wallace and Bergman (2002) theorized that spirituality is not just a coping resource for handling perceived stress, but a resource for survival and inner strength and for building self-concept. Other researchers have found that African American women use spiritual well-being to reduce perceived stress (Harris-Robinson, 2006; Wallace & Bergeman, 2002) and as a common coping method (Banks-Wallace & Parks, 2004; Henderson, Fogl, & Edward, 2003; Jackson & Sears, 1992; Mattis,
2002; Miller, Fleming, Brown-Anderson, 1998; Njoku & Torres-Harding, 2005; Watt, 2003). As a source of inner strength, calm, peace, courage, hope and survival, spiritual well-being appears to be a vital component in the lives of African American women (Bannerjee & Pyles, 2004; Black 1999; Harris-Robinson, 2006; Mattis, 2002; Wright, 2003). In support of previous research, the current investigation suggests that spiritual well-being may have a protective effect by decreasing perceived stress, and possibly decreasing the need to use smoking as a coping behavior.

Perceived Stress and Coping

In this study, subjects who reported higher levels of perceived stress also reported greater use of Positive Problem Solving, Wishful Diversions, and External Social Support coping behaviors. The fact that the African American women in the current research used a variety of coping behaviors when stress was high supports Lazarus and Folkman’s Transactional Model of Stress, Appraisal, and Coping. According to the theory, individuals use a variety of problem- and emotion-focused strategies to reduce and manage stress. Other research (Harris-Robinson, 2006; Lazarus & Folkman, 1984) concurs with this study’s findings that sample participants use more than one coping behavior at the same time or alternate between types of coping depending on the nature of the stress.

In this research, women with higher levels of spiritual well-being were less likely to use Wishful Diversions and External Social Support coping. On the surface, it would appear that these findings are inconsistent with the literature reported by Black (1999), Wright (2003), and Watlington and Murphy (2006). These researchers reported that African American women with high spiritual well-being used diverse
and effective coping behaviors, including interactions with personal family, church family, and supportive friends. The contrasting findings may be related to instrumentation and methods. Watlington and Murphy (2006) used the Daily Spiritual Experience Scale to measure spirituality and the COPE Scale to measure coping behavior. The Spiritual Well-being Scale used in this research assesses spiritual well-being across religious traditions and is unlike the Daily Spiritual Experience Scale used by Watlington and Murphy. The Daily Spiritual Experience Scale measures the spiritual experiences that occur in a person’s daily life (Underwood & Teresi, 2002). The COPE Scale (Carver, Scheier & Weintraub, 1989), which measures the different ways people respond to stress, is different from the Perceived Stress Scale used in this study to assess the current level of experienced stress as well as the degree to which situations in the individual’s life are appraised as stressful.

The other researchers (Black, 1999; Wright, 2003) used qualitative research methods. These researchers indicated that their African American sample had developed a broad social network among like minded spiritually- and religiously-based friends. Part of the sample in the current investigation was drawn from similar networks, but the instrumentation results indicated that their spiritual well-being was the main buffer in stress, rather than their support networks. Whether the previous research delved into such subtleties among spiritually-related networks is not known. However, research in qualitative methods based on this study’s findings should seek such insights. In summary, differences in findings between previous studies and this study may be explained by differences in measurement and method, and future research might be built on in-depth exploration of such differences.
Participants in the current study who reported lower levels of perceived stress were less likely to smoke. This finding is consistent with the majority of the empirical evidence. Researchers have found that, in African American women, higher levels of perceived stress are related to the number of cigarettes smoked per day and time to first cigarette in the morning (Ahijevych & Wewers, 1993; Ahmed & Brown, 1994; Cohen & Williamson, 1988; Ludman, Grothaus, Curry, Graham, Stout, & Lozano 2002; Manfredi, et al. 1992; Matheny & Weatherman, 1998; McMahon & Jason; Tipton, 2001). In contrast, Ahmed and Brown (1994) did not find a relationship between perceived stress and current smoking in African American women. They found that perceived stress, even acute stress, did not make African-American women start smoking, but stress made it more difficult for African Americans to quit smoking.

In this study, subjects who were more likely to smoke also reported greater use of Positive Problem Solving coping behaviors. This finding suggests that individuals who smoke are actively trying to manage challenging situations. McMahon and Jason (1998) found that in a diverse sample with 31% African Americans, utilization of problem- and emotion-focused coping in response to perceived stress increased success with smoking cessation. In fact, respondents in McMahon and Jason’s study who reduced their stress using problem-focused coping were more likely to quit smoking. Their work, and the findings of this study, suggest that smoking cessation programs might be more successful if they considered screening for smokers’ coping methods, and (based on this study) matched
interventions based on problem solving to those smokers who tend to use problem-solving coping.

Discussion of Findings for Hypothesis II

Hypothesis II predicted that there would be significant differences between female African American current smokers, ex-smokers, and never smokers on the variables of spiritual well-being, perceived stress, and coping. More specifically, it was conjectured that African American female smokers would report higher levels of perceived stress and lower levels of coping and spiritual well-being than ex-smokers and never smokers. This hypothesis was partially supported. Significant differences were found among female African American current smokers, ex-smokers, and never smokers on the variables of spiritual well-being, perceived stress, and coping, when controlling for the pre-existing differences for age, yearly income, marital status and education, and in incentive status.

Spiritual Well-being and Smoking

Never smokers had higher levels of spiritual well-being than ex-smokers or current smokers in this study. This finding is consistent with Turner-Musa’s and Lipscomb’s (2007) research examining spiritual well-being and smoking in African American college students. In their research, students with higher levels of spiritual well-being had a lower smoking risk. Bacchus and Holley (2004) posited that the use of spiritual well-being to manage perceived stress may provide protection from the use of alternative negative coping behaviors, such as drinking alcohol or using drugs. Other researchers have concluded that African American women’s spirituality is a significant component in the “trinity of body, mind, and spirit” (Banks-Wallace &
Parks, 2004, p. 31). As such, spiritual well-being has a protective component that facilitates overall optimal physical health though such behaviors as diet and exercise. The current research suggests that spiritual well-being may help African American women avoid using smoking to manage stress.

**Smoking and External Social Support**

Significant differences were found among the three groups in External Social Support Coping. Current smokers were more likely to use external resources in coping behaviors compared to ex-smokers and never smokers. This is consistent with previous literature in which researchers found that, in general, smokers were more external and believed their life events were influenced by others outside themselves (Clarke et al., 1982; Rosenbaum & Argon, 1979; Segall & Wynd, 1990). Similarly, in this study, current smokers tended to draw upon others when seeking support for stress, while never smokers tended to rely on their internal resource of spiritual well-being. This difference in managing stress may also be useful in the design of smoking cessation programs, as well as in the design and instrumentation for future research studies.

It may be that smokers in the current research were actively engaging their external social support network to manage the stress in their lives. This interpretation is consistent with empirical evidence reported in the literature. Nollen, Catley, Davies, Hall, and Ahluwalia (2005) found that African American women used social support coping strategies in a smoking cessation program. Other researchers reported that African American women are more likely than Caucasians to use social support as a form of coping with life challenges such as breast cancer (Henderson, Fogl, &
Edward, 2003). Further, African American women seek information through social networks or “word of mouth” (Matthews, Sellergren, Manfredi, & Williams, 2002). Utilization of the social support network as a coping behavior appears to be particularly beneficial when trying to handle an existing health care problem. However, in the smokers, the use of external supports was one of two methods of coping, assuming smoking was itself a coping mechanism.

*Interaction of Spiritual Well-being and Perceived Stress*

The interaction of spiritual well-being and perceived stress explained a significant amount of the variance in External Social Support coping, indicating that spiritual well-being moderated the effect of perceived stress on External Social Support coping. Specifically, greater spiritual well-being tended to reduce the use of External Social Support coping under increasingly higher levels of perceived stress. This finding suggests that African American women may draw more heavily upon spiritual well-being, as an inner resource for coping, when potentially stressful situations are encounter. Although speculative, this interpretation is consistent with Lazarus and Folkman’s (1984) theory and the research literature. Lazarus and Folkman hypothesized that individuals have personal resources that are latent until a challenging or threatening situation is appraised as taxing or exceeding resources. Stress is only experienced, according to the theory, when personal resources are insufficient. When the stress is perceived, coping behaviors are used to manage or reduce the stress. In a group of older African Americans, Wallace and Bergeman (2002) found that the participants drew upon spiritual well-being in times of perceived stress, racial discrimination, life changing events, and adversity. This
research provides additional evidence confirming the idea that spiritual well-being is an inner resource for African American women that may be held in reserve until stress is perceived. Inner resources or “reserve resources” (Wallace & Bergeman, 2002) are inner attributes of an individual used to cope with perceived stress (Gibson & Parker, 2003; Latha & Yuvaraj, 2007; Wallace & Bergeman, 2002). According to Harris-Robinson (2006) the inner resource of spiritual well-being is the first and most effective asset for dealing with perceived stress in African American women. Harris-Robinson (2006) reported that the African American women use spiritual well-being to go “within for answers” (p. 85) to cope with their high levels of perceived stress.

Spiritual well-being also includes the conceptualization of how an individual relates to a higher power (Bannerjee & Pyles, 2004). The essence of this conceptualization is that the person believes she has a constant relationship with a trusted, loving, and benevolent God who cares about one’s problems, keeps one from feeling lonely, helps one through every life situation, and helps one manage problems (Bannerjee & Pyles, 2004; Black, 1999; Figueroa et al. 2006). This interpretation suggests that the inner resource of spiritual well-being operates in real, continuous, unconscious, and immeasurable ways that influence how African American women perceive threatening and challenging situations. As a result, they tend to perceive these situations as less stressful or not stressful.

Limitations

Several methodological choices may limit interpretations of this study’s findings. Data were cross-sectional. Findings may not hold true over time. Historically, threats to internal validity included data collection being conducted
during a successful statewide political campaign to ban the use of tobacco smoking in all public areas across the state. Because the tobacco smoking ban was successfully passed, many smokers felt stigmatized and ostracized, and thus they might have been less likely to admit to smoking cigarettes. Generalizability from the study is also limited because of its size and type of sample. The small sample size, although adequate for this study, decreases power and limits the ability to generalize findings. The nonprobability sample, selected using convenience and snowballing sampling techniques, further limits generalizability of findings. Generalizability is also threatened by participant self selection, which brings in unknown and unidentifiable differences that may exist between those who volunteer to participate in research and those who do not. Self reported data are another limitation due the reliance on memory, selective recall, and social acceptability of responses by sample participants.

Future Research

The current research study draws attention to spiritual well-being, perceived stress, and coping in African American women who smoke, and it is the only one to date that examines the relationships among these variables in this population. Relationships were found among spiritual well-being, perceived stress, and coping, Additional research is needed to examine how these relationships may predict success in smoking cessation in African American women. Further investigation is also warranted with a larger, representative sample for greater power and generalizability.

The Ways of Coping Questionnaire was developed with a predominately white population (Folkman & Lazarus, 1980). It may be that other forms of coping influence smoking behavior in African Americans. Focus groups would be an
appropriate method to identify typical coping strategies used by this population. Qualitative research methods would help researchers gather information about the feelings, beliefs, perceptions, and attitudes of African American women related to spiritual well-being, perceived stress and coping in an in-depth and culturally sensitive manner. Using qualitative methods, African American women would have the opportunity to discuss what is important to them and how these variables function in the context of their lives.

Racism and discrimination are a reality in the daily lives of African American women that influence how they appraise and cope with stress (Wallace & Bergeman, 2002). Further investigation is warranted to understand how racism and discrimination may interact with or influence perceived stress and coping in the lives of these women. How spiritual well-being relates to racism, discrimination, as well as stress and coping is a rich potential study, as well as research into these factors as they particularly relate to smoking and smoking cessation.

There is a dearth in the literature of research that examines the potential use of spiritual well-being in smoking cessation programs. It was significant in the present study that never-smoking African American women reported higher levels of spiritual well-being compared to current smokers and ex-smokers. Even more significant is the finding that spiritual well-being appears to reduce the use of External Social Support coping under increasingly higher levels of perceived stress. This finding suggests that spiritual well-being, as an inner resource for coping, may come into play, or influence coping behavior, only when the person experiences stress. Therefore, additional research is needed to examine relationships between spiritual well-being and several
factors, including stress, various coping mechanisms, special conditions, and social networks. Utilization of spiritual well-being for smoking cessation in African American women is a particularly appealing approach, given the pervasiveness of spirituality in African-American culture. Discovery in any of these areas of spiritual well-being can only help to further an understanding of the importance of spiritual well-being in enhancing the health of an entire population, but particularly, the African-American population in this country.

Implications for Practice

The findings of this study have implications for nursing practice with African American women of various smoking statuses. It is important for nurses to assess the perceived stress levels of African American women smokers. Current smokers in this study reported higher levels of perceived stress, and according to the literature, African American women use cigarette smoking to reduce perceived stress. However, findings in this research suggest that spiritual well-being may even decrease an individual’s perception of a challenging or threatening situation as stressful. Nurses need to develop more effective and appropriate coping interventions, some of which might include problem solving, and invoking spirituality, to help African American women when they are threatened or challenged. African American women in this study who never smoked reported higher levels of spiritual well-being; therefore, a culturally sensitive intervention designed to incorporate spiritual well-being as a personal resource for smoking cessation would be valuable.

Current smokers in this study were more likely to mobilize social networks of family and friends as well as information from the social network as coping
strategies. Nursing interventions involving the support of family, church members and friends may prove to be successful in helping African American women cease in smoking behaviors. Some suggestions include support groups, friend-to-friend programs, and dissemination of smoking cessation information at places were African American women seek social interactions such as beauty salons and churches.

The African American current smokers were also more likely to be of low socioeconomic status and to be overweight. Nurses and other health professionals should incorporate spiritual well-being as a resource in other areas of health promotion vitally important to African American women such as weight control, exercise programs, and health screenings.

Conclusions

This study examined the relationships among spiritual well-being, perceived stress, and coping in female African American women current smokers, ex-smokers, and never smokers. Findings indicated that African American women current smokers reported higher perceived stress compared to ex-smokers and never smokers. In contrast, never smoking African American women reported higher levels of spiritual well-being and lower levels of stress than ex-smokers and current smokers.

Spiritual well-being, an inner resource, was found to moderate the effect of perceived stress on External Social Support coping, suggesting that spiritual well-being may buffer the person’s perception of stress. When spiritual well-being is high, less perceived stress is reported. Greater spiritual well-being tended to reduce the use of External Support coping within the context of increasing levels of stress.
Current smoking African American women in this study who reported lower levels of spiritual well-being were more likely to use External Social Support coping to manage perceived stress while never smokers were less likely to use External Social Support coping. Never smoking participants were more likely to use inner resources whereas current smoking participants were more likely to use externally focused behaviors. These findings indicate that spiritual well-being may be a protective resource needed for managing stress. As a protective resource, it may be especially helpful in health promotion programs designed to help African American women cope with stress and implement healthy behaviors, including smoking cessation.

Findings should be viewed within the context of study limitations. More research is needed to substantiate these findings and interpretations with a larger sample size. The ways in which African American samples are recruited could benefit from the findings about sampling in this study, including the use of incentives in appropriate African American sites and classes.

Smoking cessation strategies that are designed to increase spiritual well-being may prove useful for African American women. Although little is still known about spiritual well-being, perceived stress, coping and smoking in African American women, this study identifies several directions for future research and provides suggestions for clinical practice. Not only would the health of African American women be benefited by research and clinical practice in spiritual well-being, but the research or its impact could be initiated with African American men, other ethnic and age groups, and the general population. This study is one of the first to begin the
journey into the study of spiritual well-being and smoking in the African American culture.
REFERENCES


Freedman, T. G. (1998). Why don’t they come to Pike Street and ask us?: Black American women’s health concerns. *Social Science Medicine, 47* (7), 941-947.


APPENDIX A

THE UNIVERSITY OF AKRON

PROTECTION OF HUMAN SUBJECTS APPROVAL I

Office of Research Services and Sponsored Programs

November 17, 2005

Wanda Franklin
166 South Portage Path, Apt. 3
Akron, OH 44322

Ms. Franklin:

The University of Akron’s Institutional Review Board for the Protection of Human Subjects (IRB) completed a review of the protocol entitled “Spiritual Well Being: Stress and Coping in African American Female Smokers, Ex-Smokers and Never Smokers.” The IRB application number assigned to this project is 20061110.

The protocol qualified for Expedited Review and was approved on November 17, 2005. The protocol represents minimal risk to subjects and matches the following federal category for expedited review:

7. Research on individual or group characteristics or behavior or research employing survey, interview, test history, those group, program evaluation, human factors evaluation or quality assurance methodologies

This approval is valid until November 17, 2006 or until modifications are proposed to the project protocol, whichever occurs first. In either instance, an Application for Continuing Review must be completed and submitted to the IRB.

Included is the informed consent document, which the IRB has approved for your use in this research. A copy of this form is to be submitted with any application for continuation of this project.

In addition, your request for a waiver of documentation of informed consent, as permitted under 45 CFR 46.117(b), is also approved.

Please note that within one month of the expiration date of this approval, the IRB will forward an annual review reminder notice to you by email, as a courtesy. Nevertheless, it is your responsibility as principal investigator to remember this renewal date of your protocol’s review. Please submit your continuation application at least two weeks prior to the renewal date, to insure the IRB has sufficient time to complete the review.

Please retain this letter for your files. If the research is being conducted for a master’s thesis or doctoral dissertation, you must file a copy of this letter with the thesis or dissertation.

Sincerely,

[Signature]

Jordon H. Whorton
Associate Director

Cc: Christine Wynd, Advisor
    Department Chair
    Phil Allen, IRB Chair

The University of Akron is an Equal Education and Employment Opportunity
APPENDIX B

THE UNIVERSITY OF AKRON

PROTECTION OF HUMAN SUBJECTS APPROVAL II

Office of Research Services and Sponsored Programs
Akron, OH 44325-2102
330.972.1001 Phone
330.972.4031 Fax

October 23, 2006

Wanda Franklin
College of Nursing
The University of Akron
Akron, Ohio 44325-3701
Ms. Franklin:

The University of Akron’s Institutional Review Board for the Protection of Human Subjects (IRB) completed a review of your application for continuing review entitled “Spiritual Well-Being, Stress and Coping in African American Female Smokers, Ex-Smokers and Never Smokers.” The IRB application number assigned to this project is 20051112-2.

The protocol qualified for Expedited Review and was approved on October 20, 2006. The protocol represents minimal risk to subjects and matches the following federal category for expedited review:

(7) Research on individual or group characteristics or behavior or research employing survey, interview, or history, focus group, program evaluation, human factors evaluation or quality assurance methodologies

This approval is valid until November 17, 2007 or until modifications are proposed to the current project protocol, whichever may occur first. In either instance, an Application for Continuing Review must be completed and submitted to the IRB.

Enclosed is the informed consent document, which the IRB has approved for your use in this research. A copy of this form is to be submitted with any application for continuation of this project.

In addition, your request for a waiver of documentation of informed consent, as permitted under 45 CFR 46.117(c), is also approved.

Please note that within one month of the expiration date of this approval, the IRB will forward an annual review reminder notice to you by email, as a courtesy. Nevertheless, please note that it is your responsibility as principal investigator to remember the renewal date of your protocol’s review. If your project is funded, failure to comply with IRB requirements could jeopardize your continued funding. Please submit your continuation application at least two weeks prior to the renewal date, to ensure the IRB has sufficient time to complete the review.

Please retain this letter for your files. If the research is being conducted for a master’s thesis or doctoral dissertation, you must file a copy of this letter with the thesis or dissertation.

Sincerely,

Sharon McWharlar
Interim Director

Cc: Christine J. Voyd, Advisor
    Roseie Moli, IRB Chair

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APPENDIX C

THE UNIVERSITY OF AKRON

PROTECTION OF HUMAN SUBJECTS APPROVAL III

November 14, 2007

Wanda Franklin
College of Nursing
The University of Akron
Akron, Ohio 44325-3701

Ms. Franklin:

The University of Akron’s Institutional Review Board for the Protection of Human Subjects (IRB) processed your Application for Continuing Review of the research project entitled: “Spiritual Well Being, Stress and Coping in African American Female Smokers, Ex Smokers and Never Smokers”.

The IRB application number assigned to this project is 1005103-3

The protocol qualified for Expedited Review and was approved on November 14, 2007. The protocol represents minimal risk to subjects and matches the following federal category for expedited review:

1. Research on individual or group characteristics or behavior or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation or quality assurance methodologies

This approval is valid until November 17, 2008 or until modifications are proposed to the current project protocol, whichever may occur first. In either instance, an Application for Continuing Review must be completed and submitted to the IRB.

Enclosed is the informed consent document, which the IRB has approved for your use in this research. A copy of this form is to be submitted with any application for continuation of this project.

Please note that within one month of the expiration date of this approval, the IRB will forward an annual review reminder notice to you by email, as a courtesy. Nevertheless, please note that it is your responsibility as principal investigator to remember the renewal date of your protocol’s review. If your project is funded, failure to comply with IRB requirements could jeopardize your continued funding. Please submit your continuation application at least two weeks prior to the renewal date, to ensure the IRB has sufficient time to complete the review.

Please retain this letter for your files. If the research is being conducted for a master’s thesis or doctoral dissertation, you must file a copy of this letter with the thesis or dissertation.

Sincerely,

Sharon McWhorter
Associate Director

Cc: Rosalie Hall, IRB Chair

Office of Research Services and Sponsored Programs
Akron, OH 44325-2102
330-972-7666 • 330-972-6281 Fax

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APPENDIX D

THE UNIVERSITY OF AKRON

PROTECTION OF HUMAN SUBJECTS INFORMED CONSENT I

[Informed Consent Form]

[Institutional and Contact Information]

[Study Description]

[Participant Information]

[Consent to Participate]

[Assurances of Confidentiality]

[Risks and Benefits]

[Consent Signature]

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APPENDIX E

THE UNIVERSITY OF AKRON

PROTECTION OF HUMAN SUBJECTS INFORMED CONSENT II

Spiritual Well Being, Stress, and Coping in African American Female Smokers, Ex-smokers, and Never Smokers

INFORMED CONSENT FORM FOR PARTICIPANTS

You are invited to participate in a study being conducted by Wanda J. Frankin, a doctoral student from the College of Nursing, The University of Akron, Akron, OH.

The project focuses on the influence of spiritual well-being on stress and coping in African American female smokers, ex-smokers, and never smokers. This information will help to expand knowledge and provide culturally competent assistance in the development, implementation, and evaluation of smoking cessation in African American women.

If you decide to participate, you will be asked to complete a questionnaire booklet at a convenient time and place for you. It should take about 25 minutes of your time to complete the questionnaire booklet. In addition, you will receive a $10.00 gift card as a token of appreciation for your participation in the study.

Participation in the project is completely voluntary. If at any time you decide that you do not want to participate in the project, you may withdraw. There is no penalty or loss of benefits to you if you refuse or change your mind and do not continue with the study.

Your confidentiality will be protected throughout the study. Your name will not be on any of the questionnaire documents or connected with any answers you may give. All data obtained from you will be kept confidential and will not be viewed by anyone but the researcher and my advisor. All completed questionnaires will be kept in a secure file in a locked office at the College of Nursing at the University of Akron. All findings will be reported in a group as a whole. You will not be identified in any report. A copy of research findings will be made available to you at your request.

The benefits to you would be the opportunity to share your perceptions. Your perceptions will help us have a better understanding of spiritual well being, stress, and coping in African American women of different smoking status. Your participation will offer information that will help healthcare providers provide culturally competent care for African American women.

If you have any questions about the research project, you can call me at 330-972-8654.

This research project has been reviewed and approved by The University of Akron Institutional Review Board for the Protection of Human Subjects. Questions about your rights as a research participant can be directed to Sharon McWhorter, Associate Director, Research Services, at 1-330-972-7660.

Thank you for your participation!

Wanda J. Frankin, PhD(c), MS, RN
The University of Akron, College of Nursing
209 Carroll St. Mary Glidden Hall
Akron, OH 44325-3701
330-972-8654
APPENDIX F

SCREE PLOT OF INITIAL COMMUNALITIES FOR WAYS OF COPING QUESTIONNAIRE

Scree Plot