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# An Examination of the Psychometric Properties of the Spiritual Well-Being Scale in a Sample of African American Women

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An Examination of the Psychometric Properties of the Spiritual Well-Being Scale in a  
Sample of African American Women

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### Dedication

In loving memory of my both mother, Catherine Dugan, who told me “to get as much education as you can because no one can ever take that away from you” and my brother Dennis, who I still miss. In memory of my former husband, John Crecelius, who I know would be very proud were he here.

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## Abstract

This dissertation is an investigation of the psychometric properties of the Spiritual Well-Being Scale (SWBS) (Paloutzian & Ellison) using a sample of African American women recruited from the community. The purpose was to determine the appropriateness of using the SWBS with a sample not included in the earlier norming studies (Ledbetter et al., 1991). The sample consisted of 168 African American women who were parents or guardians of youth attending middle school in a Midwestern urban area. The women completed a survey including demographic information, parent scales, and the SWBS. Construct validity of the SWBS was examined by conducting a confirmatory factor analysis (CFA) with three different models previously proposed; the two-factor model developed by the creators of the SWBS (Paloutzian & Ellison, 1982); a five-factor model (Miller, Fleming & Brown-Anderson, 1998); a three-factor model (Scott, Agresti & Fitchett, 1998). Each of the three models fit the data poorly, therefore, an exploratory factor analysis (EFA) was conducted and resulted in a new three-factor model. The new model was assessed for fit using CFA and model modification was conducted via item deletion until a new 6-item two-factor model (Model D) resulted.

Additionally, Cronbach's alphas were calculated to determine reliability and correlational analyses were conducted to assess for convergent and discriminant validity. While reliability was adequate for the three models tested and the new three-factor model; Model D had much lower reliabilities. The results of the convergent validity analyses demonstrated that parent supervision was related to the various forms of the spiritual well-being measure described in this study. The results of the discriminant validity analyses demonstrated that the SWBS, Model D, and their subscales were not

correlated with the demographic variables. The results indicated that the SWBS may not be a valid instrument to use with a community sample of African American women and demonstrated the need to develop a more culturally appropriate spiritual well-being instrument.



An Examination of the Psychometric Properties of the Spiritual Well-Being Scale in a  
Sample of African American Women

The increasing use of quantitative tools to assist with intervention planning necessitates the use of instruments that possess adequate psychometric properties for the samples under study (Cohen & Swerdlik, 2004; Nunnally & Bernstein, 1994). Over the past 20 years, the Spiritual Well-Being Scale (SWBS; Paloutzian & Ellison, 1991), a 20-item self-report inventory designed to assess spiritual, existential, and religious health, has been widely used across a variety of clinical settings to assist with treatment planning. Underlying its use is the belief that spiritual well-being is a core component of psychological health. Unfortunately, to date a dearth of empirical literature exists documenting the tool's reliability and validity within such settings.

*Spiritual Well-Being*

Paloutzian and Ellison (1982) developed the SWBS as a result of their work during the social indicators movement of the 1960s and 1970s. The scale has two 10-item subscales: the Religious Well-Being Scale (RWBS) and the Existential Well-Being Scale (EWBS). Conceptually, Ellison (1983) recognized that spiritual well-being has a subjective meaning, making it difficult to operationalize, although indicators of the construct might be systematically developed. In that vein, Ellison further suggested that spiritual well-being had both religious and social-psychological components and was an indicator of spiritual health. According to Paloutzian and Ellison (1991), these two components were based on the language used by people and included both belief in God and the nonreligious meaning of spirituality. The religious component referred to one's sense of well-being in relationship to God while the social-psychological component

referred to a sense of satisfaction with life having nothing to do with anything religious.

The RWBS addressed the religious component and was defined as a measure of a person's relationship with his/her "God," whereas the definition of the EWBS was an assessment of an individual's general life satisfaction, independent of religiosity.

The SWBS has been used for both academic and practical purposes in variety of studies conducted in medical settings, colleges and universities, religious institutions, community settings, mental health institutions and substance abuse treatment centers. Samples have ranged from medical professionals such as nurses (Tuck, Wallace, & Pullen, 2001), to immigrants (Kamya, 1997), cancer patients (Fernsler, Klemm, & Miller, 1999) and college students (Rasmussen & Johnson, 1994). Approximately half of the research done with the SWBS was done in the field of nursing and included doctoral dissertations, master's theses, and other research (Paloutzian, 2002). Others have used the instrument as well, as the scale's creators have received over 700 requests in the more than 20 years since its creation (Paloutzian, 2002). Although some have used the SWBS to assess spirituality and spiritual well-being (Brome, Owens, Allen & Vevaina, 2000), others have used the measure to predict another construct (Carson & Green, 1992) or to test a new instrument (Hatch, Burg, Naberhaus, & Hellmich, 1998).

#### *Validity*

Since the creation of the SWBS, several validation studies have been conducted, most of which have employed non-clinical samples. Validation refers to how well an instrument measures what it purports to measure and may be categorized into one of three types: 1) construct, 2) criterion, and 3) content (Nunnally & Bernstein, 1994; Shadish, Cook & Campbell, 2002). Construct validity is the degree to which an instrument's

scores represent the desired construct rather than some other construct (Heppner, Kivlighan, & Wampold, 1999). To establish construct validity researchers must: 1) clearly specify the observable/measurable variables underlying the construct, 2) determine the extent to which the observable variables measure the same thing, 3) conduct studies to discern the extent to which the measurable variables are consistent with best guesses about the construct, and 4) revise the construct description accordingly when appropriate (Nunnally & Bernstein, 1994; Shadish et al., 2002).

The challenge of establishing construct validity is in both understanding the underlying concept represented and assessing the instrument in order to determine if the construct is present (Shadish et al., 2002). Construct validity may be demonstrated through convergent validity (e.g., the measure correlates with different tools that measure the same attribute) or discriminant validity (e.g., the measure does not correlate with different tools that measure conceptually distinct attributes) (Heppner et al., 1999; Nunnally & Bernstein, 1994; Shadish et al., 2002).

Criterion validity involves using an instrument to estimate a criterion behavior that is external to the measurement instrument. It is a judgment about how adequately the score on the instrument can be used to infer an individual's likely standing on the criterion. The criterion is the standard against which the instrument or the instrument's score is judged (Cohen & Swerdlik, 2004; Nunnally & Bernstein, 1994). Concurrent and predictive validity are two types of criterion validity. Concurrent validity provides information on the degree to which the test score is related to the criterion measure obtained at the same time as the test score. Predictive validity provides information about the degree to which the test score predicts some criterion measured in the future.

Content validity refers to how well the full range of behaviors for a given construct is sampled by the measure. In other words, content validity refers to the expressiveness of the instrument of the universe of the behavior it was designed to measure (Cohen & Swerdlik, 2004; Nunnally & Bernstein, 1994).

### *Reliability*

For an instrument to be valid, it must also be reliable. Shadish et al. (2002) advised assessing and reporting reliability for each measure used in a study. An instrument is reliable if it involves measurement without error and reflects true scores so that any variance will be due to differences between individuals in a sample (Heppner et al., 1999). The degree to which an obtained score represents true scores for individuals, therefore, is the reliability. The difference between the true score and the obtained score would be due to error. Researchers determine reliability through several methods including split-half (or odd-even) reliability, test-retest reliability, and parallel (or alternate) forms reliability.

Determining the reliability of an instrument involves an estimate of the true reliability that will vary across samples. Furthermore, both reliability and validity are based on the scores, not the instrument from which the score was obtained. Because of this, reliability and validity estimates are based on the types of participants on whom the psychometric study was carried out. The instrument may be adequate for one type of participant but not adequate for others, meaning that reliability and validity estimates should not be transferred to other types of participants without testing the instrument with the specified types of participants.

*Psychometric Properties of SWBS with African American Women*

It is important for researchers to examine the reliability and validity of an instrument with samples that represent the populations that will use that instrument. Jones (1996) called for the reporting of separate reliability and validity indices for each group that will utilize a given measure to obtain its level of appropriateness for those groups. Several researchers have urged investigators to question whether or not measures normed on middle-class Caucasian populations have the same meaning for ethnic minority groups, especially those from lower socioeconomic levels. According to Padilla and Medina (1996), instruments normed on a majority population cannot be “blindly applied to people of color” (p.3), as that would be a very “Eurocentric” approach to the study of ethnic minorities. Some researchers have expressed concerns about the SWBS and its use with ethnic and racial minorities and religious groups (Miller, Fleming, & Brown-Anderson, 1998). To date, there have been no studies examining the psychometric properties of the SWBS in a sample of African American women recruited from the community where they lived rather than through an organization where they received services or treatment. The purpose of this study was to help fill the gap between the instrument’s use in clinical settings and the scarcity of the reliability and validity documentation in the literature.

This study investigated the psychometric properties of the SWBS with a community sample of African-American women who participated in relationship-based prevention-intervention programs designed to prevent, delay, or decrease their child’s alcohol, tobacco, and other drug (ATOD) usage. The prevention-intervention program included a component that focused on building bonds between youth and their caretakers.

To summarize, the purpose of the present study was to provide information about the psychometric properties of the SWBS when used with African American females. Specifically, the following objectives were addressed: 1) the discernment of the factor structure of the SWBS with an African American female population, 2) the determination of the convergent validity of the SWBS with an African American female population, 3) the determination of the discriminant validity with an African American female population, and 4) the completion of a reliability analysis.

To discern the factor structure of the SWBS with a community sample of African American females, a confirmatory factor analysis was conducted using previously reported factor structures (Ellison, 1983; Paloutzian & Ellison, 1982; Miller, et al., 1998; Scott, Agresti, & Fitchett, 1998). If the confirmatory analyses showed a poor fit to the data, exploratory factor analysis would be used to determine the factor structure for this sample.

To determine convergent validity, correlational analyses were performed on the SWBS with a set of parenting scales (parental attitude toward child's use of ATOD scores, parental involvement with school scores, parental supervision scores, parental curfew scores, and parental attachment to their child scores). Each of these parenting scales was selected for the validity analyses because of prior empirical research suggesting significant relationships among parenting and spirituality.

For example, Brodsky (1999) conducted a qualitative study with African American mothers, all single parents, each having a daughter in either the fourth, fifth, or sixth grade. Parenting was identified as an extremely important role that brought great

satisfaction and the mothers reported that spirituality was an important parenting resource for them (Brodsky).

Hart, McAdams, Hirsch, and Bauer (2001) also found that spirituality was an important part of parenting for African Americans and the communal aspect of African American culture and spirituality was represented by higher levels of religious participation for African American parents compared to European American parents (Hart et. al, 2001). According to Hart et al., parenting and religion were significantly positively related to each other ( $r = .23, p < .05$ ); African Americans were more likely than their European American counterparts to see themselves as role models and sources of wisdom for their children while being more involved with religious institutions and practices.

Poindexter and Linsk (1999) identified both resilience and spirituality as major themes in their study of African American grandmothers who were parenting their grandchildren. Spirituality was reported to be one of the major resources in the lives of these grandmothers. Specifically, these grandmothers were grateful for the blessings in their lives and presented themselves as being strong caretakers because of their spirituality (Poindexter & Linsk, 1999). Thus, positive correlations between any of the parenting scales and the SWBS would provide evidence of convergent validity for the SWBS in this sample.

To determine discriminant validity, analyses were performed utilizing variables that the SWBS was not expected to correlate with, such as income, education, employment status, and marital status. Prior research has shown that the strengths of African American families, such as spirituality, transcend class or other individual

differences (Hurd, Moore, & Rogers, 1995). Accordingly, we did not expect indicators of class such as income, education, or employment to correlate with the SWBS. Finally, to determine the reliability of the SWBS with this sample, the Cronbach's alpha was calculated.

Until now, previous investigations have been insufficient in providing evidence for the psychometric adequacy of the SWBS with samples of specific populations. In studies examining the SWBS there was a notable lack of consistency in reporting demographic information of the participants and of those studies that reported gender and race, less than half reported having African Americans or African American and females in their samples.

#### *Significance of the Study*

Recent studies have shown that the SWBS is a helpful instrument that can be used with African American women and is a promising tool for treatment planning (Brome, et al., 2000; Tanyi & Werner, 2003). This study contributed to the effective utilization of the instrument, as it provided more information about the SWBS and its usefulness with African American female samples. Unless the validity of the SWBS is verified with an African American sample of females, investigators who employ this measure with this ethnic/racial group cannot be certain the results adequately represent the constructs of spirituality of African American females.



## Review of Literature

The literature review begins with a general discussion of the Spiritual Well-Being Scale (SWBS), including its theoretical underpinnings and development. Subsequently, a review of published psychometric studies that have been conducted on the SWBS is presented, followed by a critique of these studies, and a discussion of its use with African-American samples.

### *Development of the Spiritual Well-Being Scale*

The SWBS was developed by Paloutzian and Ellison (1982) within the context of the social indicators movement of the 1960 and 1970. During this movement, researchers used social indicator data (i.e., socio-economic status, education level, housing, crime rates, etc.) to objectively measure the quality of life of large samples of the United States population (Bufford, Paloutzian, & Ellison, 1991). Paloutzian and Ellison (Ellison, 1983; Paloutzian & Ellison, 1982) strongly criticized the use of social indicator data as a sole measure of an individual's quality of life, arguing that such data did not directly capture the essence of a person's well-being, but instead were mere proxy variables. Specifically, if an individual fit a given profile based upon a set of social indicators, a certain quality of life would be inferred, with the person's subjective experience never being considered. Emphasizing the assessment of the quality of the subjective experience of life, rather than tangible or countable goods or events, Paloutzian and Ellison (1991) argued that a person's quality of life also involved his/her experience of it. As an outgrowth of these concerns, they developed the SWBS.

Theoretically, the SWBS is based upon the pioneering work of Moberg (1984) who suggested that spiritual well-being is a multidimensional construct. According to

Moberg and Brusek (1978), spiritual well-being is a two-dimensional construct consisting of a vertical dimension (e.g., an individual's relationship with his/her "God) and a horizontal dimension (e.g., an individual's perception of life's purpose and satisfaction apart from any religious references). Ellison suggested that spiritual well-being includes a social-psychological element as well as a religious element. The religious well-being provides an indicator of the vertical religious element, taking the individual beyond self, upward so to speak, to connect with the higher power, God. The existential well-being provides the indicator of the social-psychological element, so that the individual has a sense of what to do and why, who he or she is, and where he or she belongs when considering definitive concerns. Both religious well-being and existential well-being involve transcendence, moving beyond the self. Metaphorically speaking, the vertical dimension, religious well-being, takes us up to reach the divine while the horizontal dimension, existential well-being, takes us out of our selves to reach toward others and our environment, but still within the plane where we exist. Because individuals function as integrated systems, both dimensions, while partially distinct, also impact each other so that if we are spiritually healthy, we feel fulfilled and purposeful, and we transcend physical suffering that may be experienced (Ellison, 1983).

Building on Moberg's work, Ellison defined spiritual well-being as a non-physical dimension of experience and awareness where we find causes to commit ourselves to that involved an ultimate meaning for life. This non-physical dimension may be influenced by multiple factors such as physical health, emotions, thoughts, and relationships. The SWBS was developed to capture this dimension of experience and awareness and to measure an individual's perception of this non-physical state of well-

being. Empirically, the SWBS provides researchers with an overall measure of a person's perceived spiritual quality of life. Originally piloted on 206 students from three religiously oriented colleges, results from an exploratory factor analysis revealed that the tool was comprised of three factors. For theoretical reasons, the developers retained two, 10-item, oblique factors: Religious Well-Being (RWB) and Existential Well-Being (EWB) (Ellison, 1983; Paloutzian & Ellison, 1982). The RWB factor measures a person's relationship with his/her "God," whereas the EWB factor assesses that person's general life satisfaction, independent of religiosity. The SWBS produces three scores: 1) a total SWBS score, 2) a summed RWB score, and 3) a summed EWB score. Initial test-retest reliability coefficients obtained over 1-10 weeks on 100 students from the University of Idaho were .93 (SWB), .96 (RWB), and .86 (EWB) (Ellison, 1983; Paloutzian & Ellison, 1982, 1991). Cronbach's alphas were: .89 (SWBS), .87 (RWB), and .78 (EWB). Paloutzian and Ellison (1982) reported that the SWBS had strong face validity and that it correlated with other scales in predictable ways. Specifically, SWBS scores positively correlated with social skills scores ( $r = .30$  to  $.40$ ) and self-esteem scores ( $r = .16$  to  $.44$ ), and negatively correlated with loneliness scores ( $r = -.37$  to  $-.55$ ) according to Ellison (1983) who reported these results from studies presented as papers at various conferences. The instruments were not identified.

The following section discusses SWBS validation studies that have been published in peer reviewed journals. Available demographic information from each of the reviewed studies will also be provided in order to establish the prior use of the SWBS with African American women.

*Measurement Issues: Medical Settings*

The majority of the SWBS validation studies have been published using samples from medical settings. All of these studies provided evidence of the tool's construct validity either by demonstrating convergent validity or discriminant validity.

*Medical Professionals*

There were two studies that included medical professionals as the participants, although one of the two studies also included patients as study participants (Hatch, et al., 1998; Tuck, Wallace, et al., 2001). Both studies provided evidence of convergent validity for the SWBS.

Hatch and his colleagues (1998) utilized a combined sample of family practice professionals and family practice patients. Although the sample consisted of 77 participants, only 42 completed both instruments and were used in the convergent validity data analysis. Of the 77 participants, 57% were female, 43% were male and all ranged in age from 21-84 years (mean age of 49.7 years, SD = 17.7 years). Only 32% of the participants had 12 or less years of education while 41.6% had more than 17 years of education. No other demographic information was provided nor were the demographics for the 42 participants used in the convergent validity data analysis separated from the total sample's information. Hatch et al. had participants complete the SWBS and the Spiritual Involvement and Beliefs Scale (SIBS), a measure they developed for use across religious traditions to assess actions and beliefs pertaining to spirituality. Cronbach's alpha was not calculated for the SWBS. The total SWBS scores were related to the SIBS scores ( $r = .80$ ), the Religious Well-Being Scale (RWBS) scores were related to the SIBS

scores ( $r = .75$ ), and the Existential Well-Being Scale (EWBS) scores were related to the SIBS scores ( $r = .77$ ), providing evidence of convergent validity.

Tuck, Wallace, et al. (2001) conducted a study with a sample of parish nurses. The sample consisted of 119 participants, 97.5% of whom were female, 94.6% Caucasian and all ranged in age from 30 – 74 years (mean age of 50.8 years, SD not reported). All of the participants had greater than a high school education with the largest group, 33.9% having a baccalaureate degree. No other demographic information was provided. The participants completed the SWBS and the Spiritual Perspective Scale (SPS; Reed, 1986a, 1986b; 1987), a measure of the extent that an individual holds certain spiritual views and of how the individual engages in spiritually related interactions (Tuck , Wallace et al.). For the sample in this study, the Cronbach's alphas were: total SWBS = .89, RWBS = .83 and EWBS = .87. The SPS was related to the total SWBS ( $r = .36$ ), the RWBS ( $r = .41$ ), and the EWBS ( $r = .27$ ), all providing evidence of convergent validity for the SWBS. All of the previous correlations were statistically significant ( $p < .01$ , actual probabilities not reported).

### *Inpatient Settings*

Only one study conducted within an inpatient medical setting was found. Fehring, Miller and Snow (1997) used a sample of elderly hospitalized cancer patients. The sample consisted of 100 participants, the majority of whom were female (67%), married (52%), and elderly (mean age was 73 years, SD = 6.23). Only 3% of the participants were African American, 4% were Hispanic American, and 93% were Caucasian. No other demographic information was reported. Fehring and his colleagues had participants complete: 1) the SWBS; 2) the revised Intrinsic/Extrinsic Religiosity (I/E-R) measure

(Gorsuch & McPherson, 1989), an instrument measuring two aspects of religious orientation relating to internal integrated motivation or external motivation for status, security or sociability; 3) the Miller Hope Scale (Miller & Powers, 1988) a measure of hope; 4) the Geriatric Depression Scale (GDS; Yesavage, Brink, Rose, & Leirer, 1983) a measure to screen for major depression; 5) the Profile of Mood States (POMS; McNair, Lorr, & Droppleman, 1971), a measure to identify and assess transient fluctuating affective states; and 6) the Symptom Distress Scale (McCorkle & Young, 1978), a measure to assess the patients level of discomfort with their physical symptoms. The measurements were administered by research assistants after consultation with the hospital staff. If the participants were not able to complete all of the scales at one sitting another appointment was scheduled.

Fehring et al. (1997) did not report reliability information for this sample on any of the scales used in the study. Validity analyses resulted in the following statistically significant correlations. The total SWBS was related to the total I/E-R ( $r = .74$ ), the Intrinsic subscale of the I/E-R ( $r = .77$ ), and the Extrinsic subscale of the I/E-R ( $r = .30$ ). The RWBS was related to the total I/E-R ( $r = .76$ ), the Intrinsic subscale of the I/E-R ( $r = .74$ ), and the Extrinsic subscale of the I/E-R ( $r = .37$ ). Finally, the EWBS was related to the total I/E-R ( $r = .64$ ) and the Intrinsic subscale of the I/E-R ( $r = .71$ ). Not significant, as might be expected, the correlation between the EWBS and the Extrinsic subscale of the I/E-R was  $r = .19$  (actual probabilities not reported). A relationship was found between the SWBS and each of the other following variables: the total SWBS and the Miller Hope Scale ( $r = .75$ ), the GDS ( $r = -.52$ ), and the POMS ( $r = -.50$ ); the RWBS and the Miller Hope Scale ( $r = .64$ ), the GDS ( $r = -.43$ ), and the POMS ( $r = -.57$ ); the

EWBS and the Miller Hope Scale ( $r = .79$ ), the GDS ( $r = -.57$ ), and the POMS ( $r = -.57$ ).

All of the previous significant relationships provided evidence of convergent validity for the SWBS and subscales (Fehring, et al.). Actual probabilities were not reported.

Additionally, the lack of a significant correlation between the EWBS and the Extrinsic subscale of the I/E-R provided evidence of discriminant validity for the EWBS.

### *Outpatient Settings*

To date, there have been 12 published validation studies with outpatients being seen by medical professionals for various problems. There were six studies with outpatients having a diagnosis of HIV/AIDS (Carson & Green, 1992; Carson, Soeken, Shanty, & Terry, 1990; Coleman, 2003; 2004; Coleman & Holzemer, 1999; Tuck, McCain, & Elswick, 2001). Two of the outpatient studies were conducted with patients diagnosed with various type of cancer (Fernsler, et al., 1999; Kaczorowski, 1989). The remaining four studies used various samples of medical outpatients (Beery, Baas, Fowler, & Allen, 2002; Cooper-Effa, Blount, Kaslow, Rothenberg, & Eckman, 2001; Landis, 1996; and Tanyi & Werner, 2003). All of these studies provided evidence of the tool's different construct validity.

#### *Patients with HIV or ARC/AIDS.*

Carson, et al. (1990) used a sample of adult males who were diagnosed with HIV, AIDS related complex (ARC), or AIDS in their study. The sample consisted of 65 adult male participants ranging in age from 22 to 70 years (mean age of 35.3 years,  $SD=9.74$ ) although most were between the ages of 20 and 39. Other demographic data were not reported. Each participant completed the SWBS and the Beck Hopelessness Scale (Beck, Weisman, Lester, & Trexler, 1974), an instrument measuring feelings about the future,

future expectations, and loss of motivation (Carson et al.). The alpha coefficients for this study were: total SWBS = .94, RWBS = .92 and EWBS = .93. The total SWBS was related to the Beck Hopelessness Scale ( $r = -.63$ ), the RWBS was related to the Beck Hopelessness Scale ( $r = -.34$ ), and the EWBS was related to the Beck Hopelessness Scale ( $r = -.79$ ), providing evidence of convergent validity (Carson et al.).

Carson and Green (1992) utilized a sample of individuals who had a diagnosis of HIV, ARC, or AIDS. The sample, consisting of 100 participants, was predominantly male (86%), and had a mean age of 37.2 (SD not reported) years. No other demographic data were provided. The participants completed the SWBS and the Personal Views Survey (PVS; Hardiness Institute, Inc., 1985), an instrument measuring hardiness (the existential struggle to derive meaning from a stressful life) and its components of challenge, control, and commitment. For the sample in this study the coefficient alphas were: total SWBS = .92, RWBS = .93 and EWBS = .85. Carson and Green reported significant correlations between the SWBS scales and each of the other measures. The total SWBS was related to the total PVS ( $r = .42$ ), the Challenge subscale ( $r = .20$ ), the Commitment subscale ( $r = .45$ ), and the Control subscale ( $r = .46$ ). The EWBS was related to the total PVS ( $r = .51$ ), Challenge ( $r = .27$ ), Commitment ( $r = .54$ ), and Control ( $r = .53$ ). Finally, the RWBS was related to the total PVS ( $r = .25$ ), Challenge ( $r = .10$ ), Commitment ( $r = .27$ ), and Control ( $r = .29$ ). All of the reported significant correlations provided evidence of convergent validity.

Coleman (2003) employed a sample of African American men and women living with HIV. The sample consisted of 117 participants who were 84% male, 81% single or divorced, and had a mean age of 38 years (SD not reported). Over half, 67.5%, were



supported by disability payments and only 50% had completed at least high school or more. The participants completed the SWBS, the HIV Sign and Symptom Checklist for Persons with HIV Disease (Holzemer, Henry, Reilly, & Slaughter, 1994), a measure of the experience of the signs and symptoms of HIV on the day of data collection, and the Medical Outcome Study-30 (MOS-30; Wu et al., 1991), an instrument measuring functional health status along 10 dimensions: health transitions, physical function, role functioning, social function, cognitive function, pain, mental well-being, energy, health distress, and quality of life.

Cronbach's alphas reported for the sample in this study were: RWBS =.76 and EWBS =.81. The results of the Coleman (2003) study showed the following significant correlations. The EWBS was related to the cognitive functioning subscale of the MOS-30 ( $r = .40$ ), the mental functioning subscale of the MOS-30 ( $r = .41$ ), and the social function subscale of the MOS-30 ( $r = .24$ ). The RWBS was related to the cognitive functioning subscale of the MOS-30 ( $r = .27$ ) and the social functioning subscale of the MOS-30 ( $r = .20$ ). There was also a relationship between EWBS and the HIV Symptom Checklist ( $r = .33$ ). No correlations were reported for the total SWBS scores in this study. All of the previous correlations provided evidence of convergent validity (Coleman, 2003). Evidence of discriminant validity was provided by the nonsignificant correlations between both the EWBS and RWBS scores and the physical functioning subscale of the MOS-30. Thus, this study showed evidence of reliability and validity of the SWBS with a sample primarily composed of African American men.

In a later study, Coleman (2004) reported on a sample of heterosexual African Americans living with HIV or AIDS. The sample consisted of 49 participants, of whom

76% were male, 67.3% had a high school or less education, and the mean age was 41 years (SD not reported). No other demographic data were reported for this sample. The participants completed the SWBS and the Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), an instrument assessing depression symptoms. The Cronbach's alphas for the sample used in this study were: EWBS = .82 and RWBS = .75. The total SWBS scores were not included in any analyses. Although Coleman reported that those scoring higher in both EWBS and RWBS scored lower on depression, indicating evidence of convergent validity, the correlation coefficients were not provided.

Coleman and Holzemer (1999) utilized a sample of African Americans living with HIV. The sample consisted of 117 participants, of whom 79.5% were male, 81.2% were single or divorced, 50.4% had a high school education, 43.6% had some college, and 76% had incomes lower than \$10,000. About 67.5% of the participants were unemployed and on disability. No other demographic data were reported. The participants completed the SWBS and a selection of instruments intended to measure psychological well-being. Psychological well-being was a composite score of the Beck Depression Inventory (BDI; Beck et al., 1961), a measure of symptoms of depression, the Nowotny Hope Scale (NHS; Nowotny, 1989), a measure of the degree of hope of an individual, and the Spielberger State-Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970), a measurement of both the current level of anxiety and stable anxiety characteristics. The Cronbach's alphas for the sample in this study were: RWBS = .76 and EWBS = .81. Correlations were reported between the subscales of the SWBS and the measures of psychological well-being. The EWBS was related to

depression ( $r = -.53$ ), state anxiety ( $r = -.52$ ), trait anxiety ( $r = -.55$ ), and hope ( $r = .66$ ). The RWBS was related to depression ( $r = -.21$ ), state anxiety ( $r = -.22$ ), trait anxiety ( $r = -.24$ ), and hope ( $r = .47$ ). All correlations were significant at  $p < .05$  and provided evidence of convergent validity. Coleman and Holzemer, however, recommended further testing of these instruments in African American samples due to the lack of adequate representation in the normative sample data.

Tuck, McCain, et al. (2001) used a sample of men living with HIV. The sample consisted of 52 participants, 61% African American, 55% single, with a mean age of 39 years (SD not reported). No other demographic data were provided. In addition to the SWBS, the participants completed the following instruments: The Spiritual Health Inventory (SHI; Highfield, 1992), an instrument measuring three factors of spiritual health including self acceptance, relationships, and hope; the Spiritual Perspective Scale (SpS; Reed, 1986a, 1986b; 1987), an instrument measuring the importance of spirituality in one's life and the extent to which one engages in spiritual interactions; the Functional Assessment of HIV Infection Scale (FAHI; Cella, McCain, Peterman, Mo, & Wolen, 1996; McCain, Zeller, Cella, Urbanski, & Novak, 1996), an instrument measuring the quality of life of people with HIV; the Social Provisions Scale (SPS; Cutrona & Russell, 1987), an instrument measuring the components of social support; and the coping subscales of the Dealing With Illness Scale (DIS; McCain & Gramling, 1992), an instrument assessing stress levels and coping patterns; the Mishel Uncertainty in Illness Scale, (MUIS; Mishel, 1984), a measure of uncertainty associated with illness; and the Impact of Events Scale, (IES; Ironson et al., 1990; McCain & Cella, 1995; McCain et al.,

1996; Perry, Fishman, Jacobsberg, & Frances, 1992), a measure of the subjective impact of living with HIV.

The Cronbach's alphas reported for this sample were: total SWBS = .88, RWBS = .88 and EWBS = .75. The results showed several statistically significant correlations between the SWBS subscales and other measures. The EWBS was related to the FAHI ( $r = .53$ ), the SpS ( $r = .45$ ), the IES ( $r = -.36$ ) the MUIS ( $r = -.44$ ), the emotional focused subscale of the DIS ( $r = -.43$ ), the problem focused subscale of the DIS ( $r = .32$ ), the appraisal focused subscale of the DIS ( $r = .44$ ), and the perceived stress subscale of the DIS ( $r = -.35$ ). Additionally, there was a significant relationship (value not reported) between the RWBS and the coping subscales of the DIS, according to Tuck, McCain, et al. (2001). All of the previous correlations provided evidence of convergent validity.

#### *Cancer Patients.*

There have been two studies to date with patients diagnosed with various type of cancer (Fernsler, et al., 1999; Kaczorowski, 1989). Both studies provided evidence of construct validity.

Fernsler et al. (1999) utilized a sample of patients treated for colon, rectal, or anal cancer. The sample consisted of 121 participants, 44% of whom were female, 76% were married, 46% had an income greater than \$60,000 and who ranged in ages from 26 to 82 (mean age of 51.9 years, SD not reported). Other demographic information, such as race/ethnicity, was not provided. Fernsler et al. had participants complete the SWBS and the Demands of Illness Inventory (DOI; Haberman, Woods, & Packward, 1990), a

measurement of individual and family demands attributed to illness. The alpha coefficients reported for this study were: total SWBS = .93, RWBS = .96 and EWSB = .87. Statistically significant correlations were reported between the SWBS scales and other measures. The total SWBS was related to the Physical Symptoms subscale ( $r = -.20$ ), the Monitoring Symptoms subscale ( $r = -.21$ ), and the Treatment Issues subscale ( $r = -.19$ ), all subscales of the DOII. The EWBS was related to the Physical Symptoms subscale ( $r = -.30$ ), the Monitoring Symptoms subscale ( $r = -.36$ ), and the Treatment Issues subscale ( $r = -.30$ ), the Personal Meaning subscale ( $r = -.28$ ), the Family Functioning subscale ( $r = -.29$ ), the Social Relationships subscale ( $r = -.30$ ), and the Self-Image subscale ( $r = -.18$ ). The significant correlations provided evidence of convergent validity. No important relationships were found between the RWBS and the DOII.

In the second study of cancer patients, Kaczorowski (1989) had a sample of adults over the age of 21 years who were diagnosed with several types of cancer. The sample consisted of 114 participants, 73.7% of whom were female with a mean age of 58 years (SD not reported), and 26.3% were male with a mean age of 60 years (SD not reported). All participants ranged in age from 22 to 60 and over, and all were Caucasian, middle or upper middle class and had a mean of 14.7 years of education (SD not reported). Sixty-four percent of the participants were married and the rest were single, widowed, divorced or separated. The participants religious affiliations were: 23.7% Protestant, 52.6% Catholic, 14% Jewish, 6.1% none, and 3.5% other. Kaczorowski had participants complete the SWBS and the State-Trait Anxiety Inventory (Spielberger, 1983). Reliability information was not reported for this sample. The total SWBS was related to

the total score of the State-Trait Anxiety Inventory for the total sample ( $r = -.44$ ), providing evidence of convergent validity. There was no statistically significant relationship between state anxiety and the RWBS. State anxiety was negatively related to EWBS (-.55). Trait anxiety was also negatively correlated with both the EWBS (-.68) and the RWBS (-.20). There was a subgroup of the women was nuns, and as would be expected, both the RWBS and the EWBS scores (scores for nuns not reported) were higher for the nuns than for lay men and women according to Kaczorowski, providing additional evidence of construct validity.

*Outpatients with Other Diagnosis.*

There were four studies that used various other samples of medical outpatients: patients with heart problems (Beery, et al., 2002); sickle cell disease patients (Cooper-Effa, et al., 2001); patients with diabetes mellitus (Landis, 1996); and women with end stage renal disease on hemodialysis (Tanyi & Werner, 2003). All of these studies provided evidence of construct validity for the SWBS.

Beery et al. (2002) examined a sample of patients suffering from heart failure. The sample consisted of 58 participants, 60% male, ranging in age from 22 to 68 years (mean age of 57 years). Only 10% of the sample was African American with the remaining participants being European American. Other demographic data such as income or education were not provided. Beery et al. had the participants complete the SWBS along with: the Relative Importance Survey (RIS; Baas, Beery, Fontana, & Allen, 2001), a measure assessing the importance of selected dimensions of quality of life; the Index of Well-Being (IWB; Campbell, Converse, & Rodgers, 1976), a measurement of global quality of life; the Medical Outcome Survey (MOS) Short Form 36 (Ware, 1996),

a measure to examine health related quality of life for persons with a health problem; and the Minnesota Living With Heart Failure Questionnaire (LHFQ; Rector & Banks, 1996), a measurement of the effects of heart failure on both the emotional and physical life dimensions, with a higher score indicating greater stress and less quality of life.

Internal consistency data for this sample were: EWBS = .83 and RWBS = .90 (total SWBS not reported). Statistically significant correlations were found between the item “importance of fulfilling spiritual needs” of the RIS, and the SWBS, RWBS, and EWBS, .47, .48 and .39, respectively. Additionally, statistically significant correlations were found between the item “need to participate in religious activity” of the RIS, and the SWBS and the RWBS, .34, .40, respectively. Beery and associates also reported statistically significant correlations of .49 between the IWB scores and the total SWBS, .47 with the EWBS, and .45 with the RWBS scores. Additionally, the results showed the following statistically significant correlations with scores on the Minnesota LHFQ: -.47 for total SWBS, -.47 for EWBS, and -.40 for RWBS. All results provide evidence of convergent validity (Beery et al., 2002).

Cooper-Effa et al. (2001) used a sample of African Americans suffering from sickle cell disease. The sample consisted of 71 participants all over the age of 18 (mean age of 35.9 years, SD not reported). Other demographic data were not reported. The participants completed the SWBS and the West Haven-Yale Multidimensional Pain Inventory (Kerns, Turk, & Rudy, 1985), a measurement assessing a patient’s experiences of pain severity, life control, and life interference. Cronbach’s alphas for this sample were: total SWBS = .88. RWBS = .82, and EWBS = .83. The only statistically significant correlation was between the SWBS and life control, with the EWBS playing a greater

role than the RWBS, providing evidence of convergent validity. The adjusted  $R^2$  for life control and the total SWBS = .35, RWBS = .10, and EWBS = .36. The SWBS did not have a relationship with life interference or pain severity. According to Cooper-Effa et al., their study was of practical significance because the role of spirituality had not previously been studied with patients suffering from sickle cell disease in spite of the fact that sickle cell disease is primarily found among African Americans and African Americans typically value religion as an important feature of their daily lives.

Landis (1996) utilized a sample of individuals suffering from diabetes mellitus. The sample consisted of 94 participants, 65% of whom were female, 66% were Caucasian, and all ranged in age from 21–65 years (mean age of 46.2 years,  $SD = 12$ ). About 67% of the sample was married, and 55% of the participants had more than a high school education, with 14% reporting graduate education. The participants completed the SWBS, the Mischel Uncertainty in Illness Scale, Community Form (MUIS-C; Mischel, 1981), a measurement of the degree of uncertainty experienced by nonhospitalized patients regarding their illness; and the Psychological Adjustment to Illness Scale, Self Report (PAIS-SR; Derogatis, 1986; Morrow, Chiarello, & Derogatis, 1978), a measurement of an individual's ability to cope with illness in seven areas: health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment, and psychological distress. The PAIS-SR is scored so that 0 is the most positive response so that the higher the score, the less adjustment to illness. The Cronbach's alphas for this study were: total SWBS = .96, RWBS = .94 and EWBS = .93. The total SWBS was related to the total PAIS-SR



( $r = -.48$ ), healthcare orientation ( $r = -.38$ ), sexual relationships ( $r = -.37$ ), extended family relationships ( $r = -.37$ ), social environment ( $r = -.39$ ), and psychological distress ( $r = -.58$ ). The RWBS was related to the MUIS-C ( $r = -.26$ ), the extended family relationship subscale of the PAIS-SR ( $r = -.22$ ), and the psychological distress subscale of the PAIS-SR ( $r = -.34$ ). In addition, the EWBS was related to the MUIS-C ( $r = -.54$ ), the total PAIS-SR ( $r = -.63$ ), healthcare orientation ( $r = -.50$ ), vocational environment ( $r = -.31$ ), domestic environment ( $r = -.51$ ), sexual relationships ( $r = -.50$ ), extended family relationships ( $r = -.46$ ), social environment ( $r = -.50$ ), and psychological distress ( $r = -.71$ ). All of these correlations provide evidence of convergent validity (Landis, 1996).

Tanyi and Werner (2003) utilized a sample of women all diagnosed with end stage renal disease and receiving hemodialysis. The sample consisted of 65 participants between the ages of 24 and 82 (mean age of 57.5 years,  $SD = 14.77$ ). The mean number of years of education for the participants was 12.67 and the household income ranged from \$4,800 to \$50,000 with an average of \$16,092. The majority of the sample (47.7%) was African American, and 41.5% were Caucasian. Approximately two thirds were never married, were divorced, separated, or widowed while the remaining third was married. Only eight of the women were employed. Tanyi and Werner had the participants complete the SWBS and the PAIS-SR (Derogatis & Derogatis, 1990). For this sample, Cronbach's alphas were: total SWBS = .89, RWBS = .83 and EWBS = .78. Significant correlations were reported between the SWBS scales and the PAIS-SR scales. The total SWBS was related to the total PAIS-SR ( $r = -.30$ ) and psychological distress ( $r = -.36$ ). The RWBS was related to the total PAIS-SR ( $r = -.25$ ). In addition, the EWBS was

related to the total PAIS-SR ( $r = -.32$ ), extended family relationships ( $r = -.26$ ), and psychological distress ( $r = -.43$ ). These correlations provided evidence of convergent validity for the SWBS. Additionally, Tanyi and Werner note that this sample had a greater proportion of African Americans and Baptists than other samples that used both the PAIS-SR and the SWBS.

In summary, there were 15 validation studies published using participants from various medical settings that provided evidence of the SWBS's construct validity: two with medical professional, one with inpatients, and 12 with outpatients. Twelve studies reported evidence of convergent validity (Beery et al., 2002; Carson & Green, 1992; Carson et al., 1990; Coleman, 2004; Coleman & Holzemer, 1999; Cooper-Effa et al., 2001; Fernsler et al., 1999; Hatch, et al., 1998; Landis, 1996; Tanyi & Werner, 2003; Tuck, McCain, et al., 2001; Tuck, Wallace et al., 2001). One study provided evidence of content validity as well as convergent validity (Kaczorowski, 1989). Finally, two studies reported evidence of both convergent and discriminant validity (Coleman, 2003; Fehring et al., 1997). These studies were from a range of medical settings: medical professionals, inpatients, and outpatients. In addition, the participants of these studies experienced a range of medical conditions and diagnoses. Only six of the medical studies reported having African American females in their samples (Beery et al., 2002; Coleman, 2004; Coleman & Holzemer, 1999; Fehring et al., 1997; Tanyi & Werner, 2003; Tuck, McCain et al., 2001;), and one study reported on a sample with African Americans but did not report gender (Cooper-Effa et al., 2001). None of these studies examined the psychometric properties of the SWBS separately by race or by gender. Evidence was not

provided, therefore, for the usefulness of the SWBS with African American women by the studies from the various medical settings.

*Measurement Issues: Colleges and Universities*

Another group of SWBS validation studies has used samples from institutions of higher learning ( $N=10$ ): Four of the studies were in institutions having a religious affiliation (Bassett et al. 1991; Genia, 2001; Hall & Edwards, 2002; Klaassen & McDonald, 2002); the remaining six were within secular colleges and universities or where the affiliation of the institution was not identified (Hawks, Goudy, & Gast, 2003; Leach & Lark, 2003; Miller et al., 1998; Rasmussen & Johnson, 1994; Simington, 1996; Tjeltveit, Fiordalisi & Smith, 1996). All studies reported evidence of construct validity.

*Religious Settings*

Bassett et al. (1991) utilized a sample of students drawn from four religiously affiliated liberal arts colleges. The sample consisted of 242 participants, 59% of whom were female, with a mean age of 19.4 years (SD not reported). The participants were 54% Protestant, 35% Catholic, and 11% other. No other demographic information was reported. Bassett et al. had the participants complete the SWBS, the Spiritual Maturity Index (SMI), a measurement developed by Ellison (1983) to compliment the SWBS by assessing growth in Christian life scores, the Shepard Scale (SS; Bassett et al., 1981), an instrument measuring biblical based characteristics of Christians, and the Religious Status Interview (RSI; Maloney, 1988), an instrument measuring Christian religious functioning. The Cronbach's alphas for the participants of this study were: total

SWBS = .92, EWBS = .85 and RWBS = .94. The results showed the following statistically significant correlations. The total SWBS was related to the SMI ( $r = .41$ ), the SS ( $r = .72$ ), and the RSI ( $r = .71$ ). The RWBS was related to the SMI ( $r = .82$ ), the SS ( $r = .81$ ), and the RSI ( $r = .71$ ). The EWBS was related to the SMI ( $r = .41$ ), the SS ( $r = .36$ ), and the RSI ( $r = .44$ ). These results provided evidence of convergent validity for the SWBS.

Genia (2001) utilized a sample of college students from a variety of religious backgrounds. The sample consisted of 211 students, 69% of whom were female, 81% were white, and the mean age was 22 years (SD not reported). The average participants had also completed three years of college. Their participants were: 34% Catholic, 29% Protestant denominations, 13% Jewish and 24% either religiously unaffiliated or belonged to faiths outside the Judeo-Christian tradition. No other demographic data were provided. Genia had the participants complete religious and psychological measures as well as the 20-item short version of the Marlow-Crowne Social Desirability Scale (Strahan & Gerbasi, 1972), a measure to assess participant's efforts to present themselves in a favorable light. The religious measures included the SWBS, the Allport-Ross Religious Orientation Scale (ROS; Allport & Ross, 1967), a measure of distinct motivations (intrinsic and extrinsic) for being religious, 11 items from the Quest Scale (Batson & Schoenrade, 1991), and the Religious Fundamentalism Scale (RF; Altemeyer & Hunsberger, 1992), a measure to assess a fundamentalistic orientation that was not restricted to Christian beliefs. The items from the Quest Scale were chosen to assess the degree to which individuals are tentative about matters of faith. Additionally, participants were asked to indicate the importance of their faith on a scale of 1 (unimportant) to 4

(very important) and to respond to a question regarding the frequency of attended worship services. The psychological measures included the Beck Depression Inventory (Beck et al., 1961) and the Rosenberg Self-Esteem Scale (Rosenberg, 1965), both measures used to assess mental health distress factors.

Cronbach's alpha reliability coefficients were reported for the RWBS, EWBS and the total SWBS according to religious affiliations: Catholics, .94, .91, and .93, Protestants, .93, .78, and .91, Jewish, .91, .84, and .76, and the non-traditionally religious (not affiliated, or not Jewish or Christian), .93, .84, and .76. Correlations were reported between the SWBS scales and each of the other religious measures and psychological measures. None of the SWBS scores was related to the social desirability scores, indicating discriminant validity. The RWBS was related to intrinsic faith ( $r = .79$ ), fundamentalism ( $r = .63$ ), and worship attendance ( $r = .56$ ), but not related to depression ( $r = -.05$ ) or self esteem ( $r = .01$ ). The EWBS scores were related to intrinsic faith only for the Christian respondents (Catholics  $r = .35$ , Protestants  $r = .43$ ), extrinsic faith only for Protestants ( $r = -.34$ ), worship attendance (.22) and was not related to fundamentalism ( $r = .08$ ). The EWBS scores were also related to lower depression ( $r = -.43$ ) and higher self esteem ( $r = .46$ ) scores. The total SWBS scores were related to intrinsic faith ( $r = .73$ ), fundamentalism ( $r = .52$ ), worship ( $r = .52$ ), lower depression ( $r = -.22$ ) and higher self esteem ( $r = .20$ ). None of the SWBS scores were related to quest.

In addition, in order to assess the tool's factor structure, two principal component factor analyses were performed by Genia (2001), one using a Varimax (orthogonal) rotation, the other using an Oblimin (oblique) rotation. Results for both rotations were similar to those found by Paloutzian and Ellison (1982), with items loading on the

predicted factors and the correlation between the two factors being small. The correlation between the two factors was .28 for the Oblimin rotation but was not reported for the Varimax rotation. Study findings furthermore indicated that ceiling effects for the SWBS were associated with religious affiliation, with Christian participants displaying less variability in their responses than participants from other religious affiliations.

Hall and Edwards (2002) utilized a sample of students from a private Protestant university. The sample consisted of 428 students who were predominantly single, Caucasian men and women undergraduates, and between the ages of 18 and 22 years. No other demographic data were reported. Hall and Edwards had the participants complete the SWBS and the Spiritual Assessment Inventory (SAI) an instrument they created. The SAI addressed two dimensions of spiritual development: 1) Awareness and Realistic Acceptance; and 2) Instability and Disappointment. Cronbach's alpha coefficients were not calculated for the SWBS or its subscales. The RWBW was related to the Awareness and Realistic Acceptance subscale scores of the SAI ( $r = .68$ ) and the Instability and Disappointment subscale scores of the SAI ( $r = -.43$ ). In addition, the EWBS was related to the Awareness and Realistic Acceptance subscale scores of the SAI ( $r = .56$ ) and the Instability and Disappointment subscale scores of the SAI ( $r = -.41$ ). These significant results provided evidence of convergent validity.

Klaassen and McDonald (2002) used a sample of students from a private Evangelical university. The sample consisted of 160 participants, 80% of whom were female and all were between the ages of 18 and 25 years. Participants also had to identify as Christians to participate in the study. No other demographic data were reported. Klaassen and McDonald had the participants complete the SWBS and the following

measures: the Quest (Batson & Schoenrade, 1991); the Personal Meaning Profile (PMP; Wong, 1998), a measure of personal meaning; and the Extended Objective Measure of Ego Identity Status Version 2 (EOMEIS-2; Adams, Bennion, & Hub, 1987), a measure with 4 subscales to assess identity concerns that occur when developing a personal ideology. The internal consistency reliability coefficient was .90 for the SWBS. The SWBS was related to the Quest ( $r = -.23$ ), the PMP (.68), the Achievement subscale of the EOMEIS-2 (.42), the Moratorium subscale of the EOMEIS-2 (-.46) and the Foreclosure subscale of the EOMEIS-2 (.48), all providing evidence of convergent validity.

To summarize, there were four validation studies published using participants who were students attending religious institutions of higher learning. Three of the studies reported evidence of convergent validity (Bassett et al. 1991; Hall & Edwards, 2002; Klaassen & McDonald, 2002). One study reported evidence of both convergent and discriminant validity as well as an assessment of the factor structure of the SWBS (Genia, 2001). Two of the studies did not provide information regarding the race/ethnicity of the participants (Bassett et al. 1991; Klaassen & McDonald, 2002). Of the two remaining studies, one reported that 81% of the participant were White (Genia, 2001), and the other reported that the participants were predominantly Caucasian (Hall & Edwards, 2002). Evidence was not provided on the appropriateness of the SWBS with African American women as none of these studies examined the psychometric properties of the SWBS separately by race or gender.

*Secular or Unidentified College Settings*

Hawks et al. (2003) utilized a sample of college students enrolled in introductory general educational courses. The sample consisted of 216 female participants 84% of whom were single, 88.4% White, and who had a mean age of 22 years ( $SD = 4.2$ ). No other demographic data were reported. Hawks et al. had the participants complete both the SWBS and the Motivation For Eating Scale (MFES; Merrill, 1997), an instrument measuring physical, environmental, and emotional motivations for eating. Cronbach's alpha was not calculated with this sample for the SWBS. The SWBS was related to the MFES emotional subscale score ( $r = -.22$ ), providing evidence of convergent validity. Additionally, Hawks et al. hypothesized there would be no relationship between the total SWBS and environmental and physical subscales of the MFES. Although there was a statistically significant relationship between the total SWBS and the environmental subscale ( $r = -.16$ ), the lack of a statistically significant relationship between the total SWBS and the physical subscale of the MFES ( $-0.06$ ) provided evidence of discriminant validity.

Leach and Lark (2004) used a sample of undergraduate students from a midsize university. The sample consisted of 137 participants, and was 80% female, 55% Caucasian, 41% African American, and ranged in age from 18-38 years old (mean age of 19.86 years,  $SD = 3.05$ ). The participants were 49% Baptist, 19% Catholic, 8% Methodist, 11% other or agnostic/atheist, with the remaining reporting small percentages of several Christian faiths. No other demographic data were provided. Leach and Lark had the participants complete: the SWBS; the Bipolar Adjective Rating Scale (BARS; McCrae & Costa, 1985; 1987), a measure designed to capture five major dimensions of



personality (neuroticism, extraversion, openness, agreeableness, and conscientiousness); the Forgiveness Scale (Mauger et al., 1992), an instrument designed to measure forgiveness of self (FS) and forgiveness of others (FO); and the Spiritual Transcendence Scale (STS; Piedmont, 1999), an instrument consisting of the subscales of universality, prayer fulfillment, and connectedness based on a motivational drive perspective.

The following Cronbach's alphas were reported for this study: total SWBS = .91, RWBS = .75 and EWBS = .72. The SWBS was related to the neuroticism subscale of the BARS ( $r = -.35$ ), the extraversion subscale of the BARS ( $r = .42$ ), the agreeableness subscale of the BARS ( $r = .40$ ), and the conscientiousness subscale of the BARS ( $r = .45$ ), the FS subscale of the Forgiveness Scale ( $r = .31$ ), the FO subscale of the Forgiveness Scale ( $r = .39$ ), the universality subscale of the STS ( $r = .26$ ), the prayer fulfillment subscale of the STS ( $r = .24$ ), and the connectedness subscale of the STS ( $r = .20$ ). The RWBS was related to the neuroticism subscale of the BARS ( $r = -.22$ ), the extraversion subscale of the BARS ( $r = .30$ ), the agreeableness subscale of the BARS ( $r = .37$ ), the conscientiousness subscale of the BARS ( $r = .46$ ), the FO subscale of the Forgiveness Scale ( $r = .30$ ), the universality subscale of the STS ( $r = .30$ ), the prayer fulfillment subscale of the STS ( $r = .56$ ), and the connectedness subscale of the STS ( $r = .32$ ). All of these correlations provided evidence of convergent validity for the RWBS and SWBS scores.

Miller, et al. (1998) utilized a sample of undergraduate and graduate students. The sample consisted of 119 (55%) Caucasian and 97 (45%) African American participants, of whom 64% were female and the mean age was 24.8 years ( $SD = 8.11$ ). Other demographic data were not provided. All participants completed the SWBS. Miller et al.

conducted exploratory factor analysis to determine the construct validity of the SWBS in African American and Caucasian undergraduate and graduate students. Three factors were found for the Caucasian group similar to the factors found by Paloutzian and Ellison (1982). The first factor had exactly the same items as the RWBS and was called religious well-being. The second and third factors contained exactly the same items as the EWBS and were called life satisfaction/purpose and future, respectively. However, five factors (20 items) were found for the African American group, indicating ethnic differences in responses to the scale. The five factors were: connection with God, satisfactions with God and day-to-day living, future/life contentment, personal relationship with God, and meaningfulness. Miller et al. strongly suggested further research with non-student African American groups as that would strengthen the generalizability of the SWBS.

Rasmussen and Johnson (1994) used a sample of undergraduate and graduate psychology students. The sample consisted 208 participants, 64% ( $N=134$ ) of whom were females, 46% ( $N=74$ ) were males, and all ranged in age from 18-62 years (mean age of 25 years,  $SD = 7.6$ ). Only 1% of the sample was African American while 76% were White, 3% were Asian American, 6% were Hispanic, 6% were Native Alaskan, 6% were Native American, and 6% were other. Thirty percent of the participants were freshman, 32% were sophomores, 19% were juniors, 6% were seniors, and 6% were graduates. No other demographic information was provided. Rasmussen and Johnson had the participants complete the SWBS and The Templer Death Anxiety Scale (TDAS; Templer, 1970), an instrument that measures the degree to which the respondent is anxious about and preoccupied with death. Reliability for the instruments with participants in this study was not reported. The results showed a statistically significant

correlation between the EWBS and death anxiety ( $r = -.38$ ), providing evidence of convergent validity. In contrast to their expectations, Rasmussen and Johnson found no evidence of a significant relationship between the RWBS and the TDAS. The total SWBS score was not used in this study.

Simington (1996) utilized a sample of nursing school students. The sample consisted of 300 participants, 90% of whom were female, and 30% were Caucasian. Although other ethnicities were identified (Polynesian 5%, Filipino 19%, Japanese 21%, Chinese 1%, Portuguese 2%, Hispanic 30%, and other 16%), no African Americans participated in this study (Simington). The participant's ages ranged from 19 to 47 years (mean age of 29 years,  $SD = 8$ ). Of the participants, 31% were in their first year, and 18% were in their second year of an associate degree program. There was 1% in the first year, 3% in the second year, 29% in the third year, and 18% were in the fourth year of a baccalaureate degree program. Additionally, 72% were Christians, 7% were Buddhist, 11% were other religions, and 10% had no religious affiliation. Simington had all participants complete the SWBS and the Kogan's Old People Scale (KOPS; Kogan, 1961), an instrument measuring an individual's attitude toward old people. In addition, using random assignment, participants were also given either the Death Anxiety Scale (DAS; Templer, 1970), a measure of one's anxiety about dying, or the Death Depression Scale (DDS; Templer, Lavoie, Chalgujian, & Thomas-Dobson, 1990), a measure of depression specifically related to death and dying. For the sample in this study, the Cronbach's alphas were not reported. Significant correlations were reported between the SWBS and other instruments. The total SWBS was related to the KOPS ( $r = .16$ ) and the DDS ( $r = -.37$ ) providing evidence of convergent validity. Additionally, Simington

reported that there was no relationship between the age of the participants and the total SWBS, providing evidence of discriminant validity for that demographic variable.

Tjeltveit et al. (1996) utilized college students from an introductory psychology course. The sample consisted of 100 participants who were predominantly Caucasian, all under the age of 25, and 47% female. The participants were: 33% Catholic, 12.5% Lutheran, 20% other Christians, 19% Jewish, 5% other religions and 8% no religious affiliation. Other demographic data were not reported. Tjeltveit et al. had the participants complete the SWBS and the Mental Health Values Questionnaire (MHVQ; Tyler, Clark, Olson, Klapp, & Chelona 1983), an instrument measuring values that refer to specific healthy emotional functioning with the following subscales: Self Acceptance, Negative Traits, Achievement, Good Interpersonal Relations, Religious, Affective Control, and Unconventional Reality. Reliability coefficients were not reported for the sample in this study. Total SWBS was related to the Affective Control subscale of the MHVQ ( $r = .26$ ). The RWBS was related to the Negative Traits subscale of the MHVQ ( $r = -.26$ ), the Good Interpersonal Relations subscale of the MHVQ ( $r = .27$ ), and the Religious subscale of the MHVQ ( $r = .20$ ). The EWBS was related to the Affective Control subscale of the MHVQ ( $r = .29$ ). These findings provided evidence of convergent validity. There were no statistically significant relationships found between the SWBS, the RWBS, and the EWBS and the Self Acceptance, Achievement, Untrustworthiness, and Unconventional Reality subscales of the MHVQ suggesting discriminant validity.

In summary, there were 10 validation studies published using participants from colleges and universities that provided evidence of the SWBS's construct validity: seven studies reported evidence of convergent validity (Bassett et al. 1991; Hall & Edwards,

2002; Klaassen & McDonald, 2002; Leach & Lark, 2002; Rasmussen & Johnson, 1994; Simington, 1996; Tjeltveit, et al., 1996); one study reported evidence of both convergent and discriminant validity (Hawks et al., 2003) one study reported evidence of convergent validity and construct validity through a factor analysis (Genia, 2001); and one study reported evidence of construct validity through a factor analysis (Miller et al., 1998). Additionally, Miller et al. compared the factor structures of African American and Caucasian students. Four of the studies took place within institutions having a religious affiliation while the remaining studies were within a secular or non-identified institution. Only three of the college and university student studies reported having African American females in their samples (Leach & Lark, 2002; Miller et al., 1998; Rasmussen & Johnson, 1994). Although the Miller et al. study examined the validity of the SWBS on a sample of African American college students, the original factor structure was not supported. As none of the previous studies specifically examined a community sample of African American females, evidence did not support the usefulness of the SWBS with a this population.

#### *Measurement Issues: Community Settings*

There have been three validation studies within community settings reporting evidence of convergent validity (Hughes & Peake, 2002; Lawler & Younger, 2001; Ruffing-Rahal, 1991). Two of the studies' participants were older adults aged 65 or older (Hughes & Peake; Ruffing-Rahal), and one study involved adults of all ages (Lawler & Younger).

#### *Older Adults.*

Hughes and Peake (2002) used a sample of older adults. The sample consisted of 78 participants between the ages of 65 – 95 years (mean age 75.62 years, SD not reported). The participants were 74% female, 82.1% Caucasian, 14.1% African American, and 60% widowed, divorced or single. Nearly one third, 32% of the participants, reported having a high school education or less, 24% had 1-3 years of college, and 26% had a college degree. Income of the participants ranged from under \$20,000 (38.5%) to over \$50,000 (24.4%), with 35% having an income between \$20,000 to \$49,999. Hughes and Peake had the participants complete: the SWBS; the Geriatric Depression Scale (GDS; Yesavage et al., 1983), a measure of depressive symptoms designed to be used with those 65 years or older; and the Measurement of Personality Development (MPD; Hawley, 1988), an inventory based on Erickson's psychosocial stages of development with subscales that indicate the resolution of generativity vs. stagnation and resolution of integrity vs. despair. Reliability was not reported for the participants in this sample. Total SWBS was related to the GDS ( $r = -.54$ ), the generativity vs. stagnation subscale of the MPD ( $r = .56$ ), and the integrity vs. despair subscale of the MPD ( $r = .50$ ). The RWBS was related to the GDS ( $r = -.42$ ), the Generativity vs. Stagnation subscale of the MPD ( $r = .47$ ), and the Integrity vs. Despair subscale of the MPD ( $r = .44$ ). The EWBS was related to the GDS ( $r = -.56$ ), the Generativity vs. Stagnation subscale of the MPD ( $r = .50$ ), and the Integrity vs. Despair subscale of the MPD ( $r = .56$ ). These scores all provided evidence of convergent validity.

Ruffing-Rahal (1991) utilized a sample of community dwelling adults aged 65 and older. The sample consisted of 118 women and 64 men, 75% of whom were Caucasian and 25% African American, 60% were divorced or widowed and who ranged

in age from 60 to 98 years (mean age of 77 years, SD not reported). Eighty-nine percent of the participants were retired, 4% were caregivers, and 7% worked part-time. The education level of the participants was as follows: 19% 8 years or less, 16% some high school, 33% high school graduates, 16% education beyond high school, 13% baccalaureate degrees, and 3% Graduate/Professional degrees. The sample was 72% Protestant, 20% Catholic, 2% Jewish and 6% with no religious preference. Ruffing-Rahal had the participants complete the SWBS and the Integration Inventory, a newly created qualitative well-being measure based on the premise that well-being is embedded in the experience of daily life and contingent upon integrating several environmental contexts. Reliability was not reported for the SWBS with this sample. The results showed the following correlations: total SWBS and the Integration Inventory ( $r = .52$ ), the EWBS and the Integration Inventory ( $r = .73$ ), and the RWBS and the Integration Inventory ( $r = .31$ ), all providing evidence of convergent validity. Additionally, Ruffing-Rahal noted that the EWBS scores had a stronger relationship with the Integration Inventory than did the RWBS scores.

### *Adults*

Lawler and Younger (2002) utilized a community sample of adults for their study. The sample consisted of 80 participants, of whom 76% were female, 93% were Caucasian, 4% were African American, and all ranged from 27 – 60 years (mean age of 42.2 years, SD not reported). Approximately 55% of the participants were married or in a serious relationship with the remaining being divorced, separated, never married, or no significant relationship. Religious affiliations were: 13.75% identified as none or atheist, 18.75% were Baptist, 16.25% were Methodist, 8.75% were Episcopalian, 2.5% were

Lutheran, 16.25% were other Christians, 1.25% were Mormon, 7.5% were Catholic, and 15% were unclassified or other. Other demographic information was not reported. Lawler and Younger had the participants complete a packet of instruments prior to a lab visit where cardiovascular responses were assessed. Error issues due to fatigue were not addressed. The instrument packets were divided into 3 sections: Stress and Health, Relationships and General Information, and Religion and Spirituality. Included in the Stress and Health section were: Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), a measure of stress experiences in the last month; the RestQ (Kallus, 1995), a measure of an individual's stress-recovery balance; the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS; Cohen & Hoberman, 1983), a measure of chronic illnesses by self report and use of medications, and the Profile of Mood States (McNair, Lorr, & Droppleman, 1992). The Relationships and General Information section contained the Tendency to Give Social Support Scale (TGSS; Piferi, Billington, & Lawler, 2000), a measure of how frequently an individual engages in helping others, an Acts of Forgiveness Scale (AF; Drinnon & Jones, 1999), a measure to assess state forgiveness, and a demographic section. In the Religion and Spirituality section there were: the SWBS; the Stanford Spiritual Experience Scale (SSES; Thorensen, unpublished), a measurement addressing the experience of religion and spirituality; the Spiritual Experience Index (SEI; Genia, 1991), a measurement to assess spiritual maturity in individuals from diverse religions and spiritual beliefs, and the Religious Orientation Survey (ROS; Batson & Schoenrade, 1991), a measurement of the degree to which individuals face complex, existential questions and resist simple answers with three subscales. The intrinsic subscale is a measure of mature commitment to religious ideals



while the extrinsic subscale is a measure of the use of religion as a means to an end. The quest religiosity subscale measures the ability of an individual to openly face complex, existential questions and resist clear-cut standard responses.

No reliability information was provided for the sample in this study. In the Stress and Health group of instruments, the following significant correlations were reported: the EWBS was related to the CHIPS ( $r = .32$ ), the PSS ( $r = .25$ ), the General subscale of the QuestR ( $r = -.50$ ), the Emotional subscale of the QuestR ( $r = -.52$ ), the Social subscale of the QuestR ( $r = -.36$ ), the Conflict subscale of the QuestR ( $r = -.52$ ), the Fatigue subscale of the QuestR ( $r = -.26$ ), the Energy subscale of the QuestR ( $r = -.46$ ), the Somatic subscale of the QuestR ( $r = -.31$ ), the Relax subscale of the QuestR ( $r = .30$ ), and the Sleep subscale of the Quest R ( $r = .40$ ). The RWBS was related to the General subscale of the QuestR ( $r = -.27$ ), the Emotional subscale of the QuestR ( $r = -.36$ ), the Social subscale of the QuestR ( $r = -.31$ ), the Conflict subscale of the QuestR ( $r = -.32$ ), the Energy subscale of the QuestR ( $r = .26$ ), and the Sleep subscale of the Quest R ( $r = .26$ ). Additionally, there were several significant correlations between the SWBS subscales and the POMS subscales. The EWBS was related to vigor ( $r = -.31$ ), anger ( $r = -.36$ ), fatigue-inertia ( $r = -.37$ ), anxiety ( $r = -.41$ ), confusion ( $r = -.44$ ), and depression ( $r = -.60$ ). Higher levels of EWBS were related to lower levels of negative moods. The RWBS was related to depression ( $r = -.33$ ), anger ( $r = -.33$ ), and confusion ( $r = -.35$ ).

The results showed the following statistically significant correlations of the SWBS subscales and measures in the Relationships and General Information section. The only statistically significant relationship for the RWBS was with the Emotional Support subscale of the TGSS ( $r = .27$ ). The EWBS was related to the Stress Relief subscale

( $r = .28$ ), the Emotional Support subscale ( $r = .32$ ), and the Practical subscale of the TGSS ( $r = .26$ ). In addition there was a statistically significant correlation of .38 between the EWBS and the AF.

Lawler and Younger (2000) also reported the following statistically significant correlations of the Religion and Spirituality scales with the SWBS subscales: the RWBS was related to the SSES ( $r = .88$ ), the SEI ( $r = .52$ ), the quest subscale of the ROS ( $r = .28$ ), and the intrinsic subscale of the ROS ( $r = .82$ ). The EWBS was related to the SSES ( $r = .60$ ), the SEI ( $r = .40$ ), the intrinsic subscale of the ROS ( $r = .43$ ), and the extrinsic subscale of the ROS ( $r = .40$ ). All of the reported correlations provided evidence of convergent validity.

In summary, there have been three validation studies within community settings reporting evidence of convergent validity; two of the studies' participants were older adults aged 65 or older (Hughes & Peake, 2002; Ruffing-Rahal, 1991), and one study involved adults of all ages (Lawler & Younger, 2001). All three of the studies have samples consisting of varying percentages of African Americans and females; however, none examined the psychometric properties specifically for their African American participants or by gender. There was no evidence from this group of studies to support the use of the SWBS with a community sample of African American women.

#### *Measurement Issues: Mental Health*

There were two validation studies published with participants from mental health settings: the Scott et al. (1998) study of psychiatric inpatients, and the Brome et al. (2000) study of African American woman in recovery from substance abuse. Both studies reported evidence of construct validity.

### *Psychiatric Inpatient Settings*

Scott, et al. (1998) utilized a sample of psychiatric inpatients to examine the construct validity of the SWBS. The sample consisted of 202 participants, of whom 70% were female, 65% Caucasian, 19% African American, 6% Hispanic American, 3% Native American, with the remaining being other or missing. The age of the participants ranged from 17 to 89 (mean age 42, SD not reported) and marital status was reported as 40% single, 37% married or with a permanent partner, 19% separated or divorced, and 4% were widowed. Religious affiliations were as follows: 38% Catholic, 28% mainline Protestant denominations, 4% evangelical Christian churches, 7% Jewish, 1% other non-Christian religions, 6% Christians, and 15% with no religious affiliation. No other demographic data were reported. All participants completed the SWBS. Reliability information for this sample was not provided. To examine the psychometric properties of the SWBS, Scott et al. (1998) conducted an exploratory factor analysis using an oblique rotation. The analysis generated a three-factor solution, which differed from that originally reported by Paloutzian and Ellison (1982). The factors in this study were labeled "Affiliation" which consisted of 7 items, "Alienation" which consisted of 6 items, and "Dissatisfaction with Life" having 3 items. The evidence reported in this study indicates that further research may be necessary to determine construct validity.

### *Substance Abuse*

Brome, et al. (2000) conducted a study using a sample of African-American women in recovery from substance abuse. The sample consisted of 146 participants who were all mothers of children between the ages of 6 and 14 years. The women ranged in age from 23 to 46 years (mean age of 33.11 years, SD=5.67) and had an average of 5.09

(SD=1.79) members in their family including themselves. Twenty-one percent of the women had an 11<sup>th</sup> grade education and 43% graduated from high school although the level of education ranged from 7 to 18 years of education. Brome et al. had the participants complete the following instruments: the SWBS; the Family Environment Scale (FES; Moos & Moos, 1986) a measure to assess the family environment along relationship (cohesion, expressiveness, and conflict subscales), personal growth (independence, achievement, intellectual/cultural orientation, and moral-ethical behavior subscales), and system maintenance dimensions (organization and control subscales); the Behavioral attributes and Psychosocial Competence Scale (BAPC-S; Tyler, 1978), a measure to assess the individual's approach to coping and problem solving; the Rosenberg Self-Concept Scale (RCS; Rosenberg, 1979), a measure to assess feelings of self-worth; and the Parenting Questionnaire, a modified version of the Pregnancy Research Questionnaire and Postnatal Research Inventory (Schaefer, 1960), a measure to assess the issues faced by parents who have abused alcohol and other drugs and/or are in recovery.

The reliability coefficient of the SWBS was .89 with this sample. Correlations were not reported for this sample. Women with high SWBS scores expressed a more positive self-concept, active coping style, perceptions of family climate, and attitudes towards parenting than women with women with low SWBS scores. Additionally, women in the high spirituality group expressed greater satisfaction with their social support than women in the low spirituality group. Thus, construct validity was demonstrated.

To summarize, there were two validation studies published with participants from mental health settings that provided evidence of construct validity (Brome et al., 2000; Scott et al., 1998). Although only 19% of the Scott et al. study was African American, all of the participants in the Brome et al. study were African American females. Thus, there exists one validity study having African American females, although this was a clinical sample rather than a community sample. Evidence of the appropriateness of the SWBS with a community sample of African American women is not conclusive.

*Measurement Issues: African Immigrants in the United States*

There was one validation study published with a group unique from the other populations: Kanya's (1997) study of the SWBS with immigrants to the United States. Kanya utilized a sample of immigrants from Africa. The sample consisted of 52 participants, who were 58% male, 60% currently single or had never been married, and ranged in age from 17 – 50 years (mean and SD not reported). Most of the sample, 85% were 40 years or younger. The participants were from nine different African countries, with the largest number (44%) coming from Uganda, followed by 25% from Kenya. The majority (85%) gave education as the reason for emigrating. Their time in the United States was under 5 years (37%), 5-10 years (33%), 11-15 years (13%), and 16-20 years (15%). Kanya had the participants complete: the SWBS; the Family Hardiness Index (McCubbin & Thompson, 1991), a measure of the ability to resist stress and to adapt to new situations; the Coping Resources Inventory (CRI; Hammer & Marting, 1987), a measure to assess personal resources for coping with stress in five domains: cognitive, social, emotional, spiritual, and physical; and the Coopersmith Self-Esteem Inventory (Coopersmith, 1967), a measure of self-esteem as indicated by attitudes toward self in

social, academic, family, and personal contexts. Cronbach's alphas for the participants in this study were: EWBS = .59 and RWBS = .90. The results showed the following significant correlation. The SWBS was related to the Family Hardiness Index ( $r = .22$ ), the total CRI ( $r = .32$ ), the spiritual coping subscale of the CRI ( $r = .48$ ), and the Coopersmith Self-Esteem Inventory ( $r = .37$ ). These correlations indicate evidence of convergent validity. Additionally, Kamya also stated that the study provide evidence of what he called cross-cultural validity for the SWBS.

### *Summary*

A total of 31 studies were examined with participants from the following settings: Medical settings (Beery et al., 2002; Carson & Green, 1992; Carson et al., 1990; Coleman, 2003; 2004; Coleman & Holzemer, 1999; Cooper-Effa et al., 2001; Fehring et al., 1997; Fernsler et al., 1999; Hatch, et al., 1998; Kaczorowski, 1989; Landis, 1996; Tanyi & Werner, 2003; Tuck, McCain, et al., 2001; Tuck, Wallace et al., 2001); higher education settings (Bassett et al. 1991; Genia, 2001; Hall & Edwards, 2002; Hawks et al., 2003; Klaassen & McDonald, 2002; Leach & Lark, 2002; Miller et al., 1998; Rasmussen & Johnson, 1994; Simington, 1996; Tjeltveit, et al., 1996); community settings (Hughes & Peake, 2002; Lawler & Younger, 2001; Ruffing-Rahal, 1991); mental health settings (Brome et al., 2000; Scott et al., 1998); and 1 from another setting (Kamya's, 1997). All of these studies provided evidence of the validity of the SWBS. There were 22 studies reporting evidence of convergent validity (Bassett et al. 1991; Beery et al., 2002; Carson & Green, 1992; Carson et al., 1990; Coleman, 2004; Coleman & Holzemer, 1999; Cooper-Effa et al., 2001; Fernsler et al., 1999; Hall & Edwards, 2002; Hatch, et al., 1998; Hughes & Peake, 2002; Klaassen & McDonald, 2002; Landis, 1996; Leach & Lark,

2002; Rasmussen & Johnson, 1994; Ruffing-Rahal, 1991; Simington, 1996; Tanyi & Werner, 2003; Tjeltveit, et al., 1996; Tuck, McCain, et al., 2001; Tuck, Wallace et al., 2001). Three studies reported evidence of both convergent and discriminant validity (Coleman, 2003; Fehring et al., 1997; Hawks, et al., 2003). Additionally, three of the studies reported evidence of construct validity by the use of a factor analysis (FA) (Genia, 2001; Miller et al., 1998; Scott, et al., 1998). Kaczorowski (1989) reported evidence of both content and convergent validity. Brome et al. (2000) reported evidence of construct validity by comparing high and low scores of the SWBS. And finally, Kanya (1997) provided evidence of convergent validity and stated this was also evidence of cross-cultural validity.

There was a notable lack of consistency in reporting demographic information in the studies reviewed for the psychometric properties reported on the SWBS. Of those studies reviewed that reported race/ethnicity, nearly half of the 31 studies (N=14) reported having African Americans in their samples (Beery et al., 2002; Brome et al., 2003; Coleman, 2003; 2004; Coleman and Holzemer, 1999; Cooper-Effa et al., 2001; Fehring et al., 1997; Hughes & Peake, 2002; Leach and Lark, 2002; Miller et al., 1998; Rasmussen & Johnson, 1994; Ruffing-Rahal, 1991; Tanyi & Werner, 2003; Tuck et al., 2001). The percentages of the samples that were African Americans ranged from 1% (Rasmussen & Johnson) to 100% (Brome et al.; Coleman, 2003; 2004; Coleman & Holzemer; Cooper-Effa et al.). The percentages of the samples that had African American participants and also reported on female participants ranged from 24% (Coleman, 2004) to 100% (Brome et al.; Tanyi & Werner). Only Brome et al. reported specifically on the gender of the African American participants as the sample was entirely composed of

female African Americans in recovery from substance abuse. The Miller et al. study reported on the psychometric properties of the African American college students in their sample compared to Caucasians, however, the sample consisted of both male and female participants. Thus, no research has been published to date on the reliability and validity of the SWBS with a community sample of African American women.

### *Critique of Validation Studies*

In spite of the wide use of and support for the SWBS there have been criticisms of the instrument. One concern involves the potential bias of the SWBS for certain religious groups. The test developers (Ellison, 1983) found that “born again” Christians scored significantly higher on the RWBS and the total SWBS than other individuals who stated that they only followed Christianity’s moral teachings (Bufford et al., 1991). Genia (2001) found a more symmetrical distribution among Jewish respondents and ceiling effects with those from Christian backgrounds. In addition, participants from mainstream denominations scored significantly lower on the SWBS than those from evangelical religious groups (Ellison). According to Scott et al. (1998), these results suggested that there might be a bias with the SWBS towards those whose faith was consistent with evangelical Christian traditions. There was a concern expressed with the ceiling effects the total SWBS displayed among evangelical Christian samples compared to the nonreligious (Ledbetter, Smith, Vosler-Hunter, & Fischer, 1991).

Because of the ceiling effects with evangelical Christians, Scott et al. (1998) expressed concerns regarding the results of factor analysis of the SWBS. Data from evangelical Christian samples raised the possibility of the rule of homoscedasticity being violated as factor analytic studies with highly skewed data could produce inconsistent



factor solutions (Bufford et al., 1991). Another concern with the SWBS is the retention of items (not identified) that did not clearly load on one of the factors. The validity of the scale may be compromised because the factors should tap only one construct and should be homogenous (Scott et al.). Ledbetter et al. (1991) performed several confirmatory factor analyses on the SWBS in an attempt to determine if the data better fit a two-factor or one factor solution. They (Ledbetter et al.) failed to confirm either a two-factor or a one-factor solution and suggested that the factor structure of the SWBS was not clear. Scott et al. raised additional concerns about the structure of the SWBS because the creators had difficulty creating a two-factor test and Ledbetter et al. could not confirm the results.

Scott et al. (1998) were also concerned with the factor analysis used to determine the structure of the SWBS. Ellison (1983) used a Varimax rotation with subscales that were correlated in their original analysis. An oblique rotation would have been a more appropriate statistic to use with nonorthogonal variables since the subscales were correlated originally (Hair, Anderson, Tatham, & Black, 1998). In a study with a clinical sample of psychiatric patients, Scott et al. used an oblique rotation in an exploratory factor analysis to determine the number of factors in the SWBS. The results indicated there were three distinct factors for the SWBS. These three factors were “Affiliation”, “Alienation”, and “Dissatisfaction With Life.”

A final concern with the SWBS was expressed by Miller et al. (1998) who noted that the SWBS has been used in numerous studies involving African American participants (Brome et al., 2000; Kim, Heinemann, Bode, Sliwa & King, 2000; Stokes, 1998). In spite of this, the SWBS has not been validated with an African-American

population. In response to this lack of research, Miller et al. conducted exploratory factor analyses on a sample of Caucasian and African American undergraduate and graduate students. The results of the study showed a difference between the Caucasian and African American participants. For the African Americans there were five scale factors that were quite different from the original factors discovered by Paloutzian and Ellison (Ellison, 1983; Paloutzian & Ellison, 1982). Miller et al. suggested the need for replicating this study with larger groups of African Americans and with African Americans who were not students. To date, it appears that no studies have been done conducting a factor analysis with a community sample of African American women.

According to Moberg (1984), developing a valid instrument for measuring spiritual well-being is important. Such an instrument would function as an important diagnostic tool in counseling and could also be used to evaluate the spiritual well-being levels of populations in institutions such as nursing homes. Although validation studies have been conducted in a variety of settings, few studies have focused on minority populations. Several researchers have urged investigators to question whether measures normed on White samples have the same meaning for other racial groups. According to Padilla and Medina (1996), instruments normed on a majority population cannot be “blindly applied to people of color,” (p.#3) which would be a “Eurocentric” approach to the study of ethnic minorities. Jones (1996) called for reporting separate reliability and validity indices for each group that will utilize a given measure to obtain a level of appropriateness for those groups.

Based upon the above mentioned literature review of SWBS psychometric studies published in peer-reviewed journals, the following may be concluded: 1) studies looked

at predominantly Caucasian samples; 2) although studies were conducted across a variety of settings, most were with patients in medical samples; and 3) to date there have been no psychometric studies with a community sample of African American females.

## Methods

### *Participants*

This study culled data from two federally funded longitudinal alcohol, tobacco, and other drugs (ATOD) prevention studies: Project: Youth Connect (PYC) and Mentoring and Family Strengthening (M-FS). Combining African American adult female participants from these two studies resulted in 173 total participants for the present study. After the data were cleaned the usable data set consisted of 168 participants. The ages of the group ranged from 23 to 71 years (age categories ranging from 18-25 to 55 and older). The women were mostly between the ages of 26 and 34 (40.7%, N=68). Over half of the women (55%, N=87) reported a household income under \$15,000. Education ranged from grade school to either college or a trade or technical school after high school with the largest number of participants reporting a high school education (29%, N=49). Almost half of the participants were unemployed (47%, N=78) and single (45%, N=76).

### *Instruments*

In addition to demographic information from each of the two studies, six scales completed by the adults were used in the current study. These instruments were: The Spiritual Well-Being Scale (SWBS), the Parent Involvement with School scale, the Parent Attitude Toward Child (use of ATOD) scale, the Parent Attachment scale, the Parent Supervision scale and the Parent Curfew scale. See the Appendix for copies of all instruments.

### *Demographic Information*

In both studies, demographic questions were incorporated into the instrument completed by the parents/caregivers. Common demographic variables collected included

gender, race/ethnicity, age, education, marital status, employment status and household income.

#### *The Spiritual Well-Being Scale*

The SWBS was an instrument developed by Paloutizan and Ellison (1991) to measure spiritual well-being, an expression of spiritual health. This 20-item scale had two 10-item subscales: the Religious Well-Being Scale (RWBS) and the Existential Well-Being Scale (EWBS) and provided three scores: a total scale score and a score for each of the two subscales. Examples of RWBS items were “I believe that God is concerned about my problems” and “My relationship with God contributes to my sense of well-being”. Examples of EWBS items were “I feel that life is a positive experience” and “I feel good about my future”. Items on each factor were rated on a six-point Likert-type scale (1= *strongly agree* to 6= *strongly disagree*). Approximately half of the items were reverse coded to minimize response sets. Higher scores represented greater well-being.

#### *Parent Involvement with School Scale*

This scale was adopted by the PYC steering committee for the caregiver instrument from a Parenting Survey created by Richard Chase, a member of the steering committee for PYC (EMT Associates, 2002). The scale had seven items with responses coded 1 (*yes*) and 0 (*no*) or not applicable (coded as missing). The root of these seven items was “In the past seven months have you.” Examples of the responses were “attended a parent-teacher conference?” and “attended a play, concert, sporting event, or other school activity?” The scale scores ranged from zero to seven. Reliability was not calculated by the PYC Data Coordinating Center (EMT Associates). No information on validity is available.

*The Parent Attitude Toward (Child) use of ATOD Scale*

This scale also was adopted by the PYC steering committee for the caregiver instrument from the Parenting Survey created by Richard Chase (EMT Associates, 2002). The Likert-type scale had 12 items with responses from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items were: “We have a family rule that using alcohol is not okay for children” and “I have talked with my child about the dangers of using tobacco.” The Cronbach alpha from the cross-site PYC sample was .89 when calculated by the PYC Coordinating Center (EMT Associates).

*The Parent Attachment Scale*

The Parent Attachment Scale was adapted for the caregiver instrument by the PYC Steering committee from an instrument used with youth in a study on the developmental pathways of delinquency, violence, and drug use among youth (EMT Associates, 2002). The items were reworded to make them appropriate for adult rather than youth respondents. This is a Likert-type scale with 11 items and responses from 1 (*almost never*) to 5 (*almost always*). Sample items are: “You really enjoy your child” and “You feel violent toward your child.” D. Huizinga (personal communication, April 12, 2004) verified that the original scale yielded alpha coefficients in the .80 range. The PYC Coordinating Center reported a reliability coefficient of .78 using Cronbach’s alpha with their cross-site sample (EMT Associates).

*The Parent Supervision Scale*

The Parent Supervision Scale was adapted from an instrument used with youth in a study on the developmental pathways of delinquency, violence, and drug use among youth (EMT Associates, 2002). The items were reworded to make them appropriate for

adult rather than youth respondents. There were eight items in this instrument. Three of the items tapped into the parent's knowledge of their child's whereabouts. An example was "In the course of a day, how often would you know where your child is?" with the responses measured on a 5-point Likert-type scale. The responses were worth 1 (*almost never*) to 5 (*almost always*) points. Higher scores indicated greater parental supervision. These three items had a moderate reliability coefficient of .75 (EMT Associates). The remaining five items had 5-point Likert-type responses worth 1 (*not important at all*) to 5 (*very important*) points. A sample item was "How important is it to you to know who your child's friends are?" Higher scores indicated greater importance of parental supervision to the parents. These five items had a reliability coefficient of .84 (EMT Associates, 2002). Personal communication with Huizinga (April 12, 2004) verified that the original scale scores yielded alpha coefficients in the .80 range as reported by EMT Associates.

#### *The Parent Curfew Scale*

The Parent Curfew Scale was adapted from an instrument used with youth in a study on the developmental pathways of delinquency, violence, and drug use among youth (EMT Associates, 2002). The items were reworded to make them appropriate for adult rather than youth respondents. There were four items; two questioned curfew time, stating "Does your child have a set time to be home on school nights?" and "Does your child have a set time to be home on weekend nights?" with the possible response worth 0 (*no*), 1 (*yes*), or 3 (*my child doesn't go out*) points. The other two items were identical and followed each of the previous items. These items were "Do you know if your child comes home by the set time?" with responses worth 0 (*no*), 1 (*sometimes*), 2 (*yes*), and

4 (*not applicable, my child does not have a set time to be home on school nights/weekend nights*). Personal communication with Huizinga (April 12, 2004) verified that the original scale scores yielded alpha coefficients in the .80 range as reported by EMT Associates.

### *Procedures*

#### *Recruiting Participants*

Participants in the first study (PYC) were recruited through four urban middle schools and consisted of the primary caretakers of youth who attended these schools and who volunteered to participate in the study. These participants ( $N=70$ ) were paid \$15 for completing the instruments. Recruitment took place from June 1999 through September 1999 and from February 2000 through June 2000. Participants in the second study (M-FS) were recruited through three urban middle schools and consisted of the parents or guardians of youth who attended the schools. Two of these schools also participated in PYC while one school was new. An examination of the data confirmed that there were no participants overlapping both projects. These participants ( $N=103$ ) were paid \$15 for completing the instruments. Recruitment took place from June 2002 through December 2003.

### *Data Analyses*

Chi-square equivalency analyses or ANOVAS (when appropriate) were performed on key baseline socio-demographic variables prior to combining the two groups. Alpha coefficients were calculated for all SWBS scales and factors. To assess construct validity, confirmatory factor analyses with LISREL 8.7 were performed using the 2-factor model reported by Paloutzian and Ellison (1991), the 5-factor model found by Miller et al. (1998), and the 3-factor model of Scott et al. (1998). Next an exploratory



factor analysis was conducted with SPSS 13 and that model then confirmed with LISREL

8.7. Correlation analyses were conducted to examine convergent validity and discriminant validity.

## *Results*

### *Data Management*

Prior to conducting any statistical analyses, all data were checked for out-of-range values, missing values, outliers, linearity, normality, etc. All data were cleaned and prepared for analysis with commonly used methods (Tabachnick & Fidell, 2001). Items were also checked for those situations where responses could contradict one another (such as responding *yes* to my child has a set time to be home followed by a response of *not applicable, my child does not have a set time to be home* when asked if the child is home by the set time).

Five cases were eliminated for further analysis for the following reasons. Two cases reported annual household income of over three standard deviations (\$50,000) from the mean income (between \$15,001 and \$20,000). Another case had over 10% of the items missing from the Spiritual Well-Being Scale (SWBS). Finally, the last two cases had significantly lower scores on the Existential Well-Being Scale (EWBS), indicating they were outliers more than three standard deviations below the mean. Additionally, one case had a complete SWBS and demographic information but was missing all of the parent scales and so was eliminated from analyses using the parent scales.

Missing items in the SWBS and the Parent Attachment Scale were replaced by the method of mean substitution. Missing items from the Parent Involvement in School Scale were not replaced because responses of *N/A* were recoded to missing, and only responses of *yes* and *no* were used to calculate the scale score. The Parent Curfew Scale had one participant that did not respond to any of the four items in the scale, so this participant's data was left as missing and not used in analyses. The Parent Supervision Scale and the

Parent Attitude Toward (Youth) Drug Use had no missing items. Although several of the scales were slightly negatively skewed, skewness and kurtosis were within acceptable limits.

Consistency of response checks were required for the Parent Supervision Curfew Scale. There were several cases (seven) that were recoded to N/A in response to the questions regarding the child being home by the set time when the response to the prior question of having a set time to be home had a response of N/A “my child doesn’t go out.” The logic behind this being that if a child does not go out, the following question cannot be responded to with anything other than N/A.

#### *Group Membership Differences*

Equivalency analyses were conducted to discern whether there were differences between the two groups (i.e., participants from the two separate prevention studies). A dichotomous variable was created to designate group membership. Chi-square analyses were conducted for marital status and employment. No significant differences were found between the data from the PYC and the M-FS groups. Additionally, ANOVAS were conducted on these socio-demographic variables: age, household income and employment. No statistically significant differences were found based on group membership at .05; therefore, data from the two studies were combined for the remaining analyses.

### *Construct Validity*

After the data were cleaned and the samples combined there were 168 cases for the analysis of the SWBS. To assess construct validity, confirmatory factor analyses using LISREL 8.7 were conducted to ascertain whether the best fit for the data in this study was the two-factor model reported by Paloutzian and Ellison (1991), the five-factor model found by Miller et al. (1998), or the three-factor model of Scott et al. (1998).

Upon examination of the bivariate frequency tables and the tests of bivariate normality, most of the variables (SWBS items) were *not* normally distributed, but rather were skewed positively (though not enough to necessitate transformation). Under conditions of non-normality, some researchers choose to use Generally Weighted Least Squares (WLS) as an estimation method. Olsson, Foss, Troye, and Howell (2000), however, compared WLS with Maximum Likelihood (ML) and Generalized Least Squares (GLS) under different model conditions and found that, when data are non-normal, WLS was an inferior estimate when the sample size was less than 1000. Considering the sample size is 168, ML and GLS are the most appropriate estimation methods. Olsson et al. also compared ML and GLS under different model conditions, including non-normality, and found that ML provided more realistic indexes of overall fit and less biased parameter values for paths that overlap with the true model. The major assumptions of ML is that the sample size be greater than 200, the data be normally distributed, and the indicator variables have at least five categories. Given the circumstances, it is, however, the best method of estimation to use. This method of estimation was used for the remainder of the process.

The primary task of the model testing was to determine the goodness of fit between each of the hypothesized models and the sample data. Chi-square has been the traditional measure used to test the goodness of fit in model testing (Byrne, 1998). When the chi square is statistically significant, the implication is that the difference between the hypothesized or estimated model and the model resulting from the sample data is due to variation in the sampling. If the chi square is not significant this indicates that the hypothesized model and sample model are not statistically significantly different. Although initially popular, problems have been noted with the chi square goodness of fit tests (Hu & Bentler, 1995). Martens (2005) identified sample size as a concern because large samples may result in a statistically significant chi square based on small differences being detected due to the large sample. Based on concerns with chi square, other fit indices, such as the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) are recommended (Martens). The RMSEA should be .06 or less to indicate a good model fit and the SRMR should be less than .05. Considering the available sample size and the common use of Chi-square in spite of concerns expressed by some, chi square, RMSEA and SRMR were reported in this study.

The original measurement model (Paloutzian & Ellison, 1991), containing 20 items, and two factors, fit the data poorly ( $\chi^2(169) = 505.99, p < .001, RMSEA = .11, SRMR = .45$ ). Additionally, there was a correlation of .92 between the two factors, evidence that there was not much difference between the specified factors for this sample; however, the coefficient alphas for this model with the study sample were: total SWBS, .87; RWBS, .79; and EWBS, .80, and all indicated good reliability.

Next, the model proposed by Miller et al. (1998) was examined. This model contained all of the original 20 items and consisted of five factors. The Miller et al. model also fit the data poorly ( $\chi^2(142) = 7034.82, p < .001, RMSEA = 1.00, SRMR = 0.08$ ). For example, the model would not run until item # 14 (see SWBS in appendix) was eliminated. The coefficient alphas for this model with the study sample were: total SWBS, .87; Factor 1 (Connection With God), .86; Factor 2 (Satisfaction With God and Day to Day Living), .80; Factor 3 (Future Life Contentment), .79; Factor 4 (Personal Relationship With God), .16; and Factor 5 (Meaningfulness), .34. The following indicators pointed toward a poor fit of the model to the data. One of the items needed to be eliminated to produce the fit, chi square was significant, RMSEA was greater than .06, SRMR was greater than .05, two of the factors had very low reliabilities, and the correlations between the factors (1.12 among all factors) were high, indicating an overlap in the factors.

Finally, the model proposed by Scott et al. (1998), containing 16 of the original 20 items, and three factors, also fit the data poorly ( $\chi^2(101) 1470.57, p < .001, RMSEA < .001, SRMR .08$ ). The coefficient alphas for this model with the study sample were: the SWBS modified by Scott, .85; Factor 1 (Affiliation), .87; Factor 2 (Alienation), .81; and Factor 3 (Dissatisfaction With God) .60. The RMSEA again indicated a good fit; however, the chi square was statistically significant, SRMR was greater than .05, and the correlations between the factors were high. Specifically, the correlation among all 3 factors was .95, also too high to distinguish separate factors. The model, therefore, was not considered a good fit for the study data.

Because none of the models tested above provided a good fit to the data, an exploratory factor analysis (EFA) was conducted. The dimensionality of the 20 items from the Spiritual Well-Being Scale was analyzed with maximum likelihood factor analysis using SPSS 13.0 for Windows. Three criteria were used to determine the number of factors to rotate: the prior hypothesis that the measure was not unidimensional, the scree test, and the interpretability of the factor solution. The scree plot indicated that the initial hypothesis of multi-dimensionality was correct, as the scree plot suggested three factors.

Next, a decision needed to be made regarding the appropriate method to use for factor rotation. While Paloutzian and Ellison (1982) used a varimax (orthogonal) rotation, Scott et al. (1998) used an oblique rotation, noting that this method allowed the factors to be correlated rather than to be independent. According to Tinsley and Tinsley (1987), oblique rotations, however, have not been used as frequently in counseling psychology research because both the latent dimensions behind each factor and the latent dimensions behind the correlations among the factors require explanation. The three factors were rotated using a both a varimax rotation procedure and an oblique rotation procedure. Both solutions yielded the same items on the three factors, although the values of the loadings were different. Because the items on each factor were identical, the results of the varimax solution were reported, as varimax is the more commonly used rotation in counseling psychology (Tinsley & Tinsley).

The rotated solution, as shown in Table 1, yielded three interpretable factors. The first factor contained the identical items that Scott et al. (1998)'s first factor contained and so it was called Affiliation. The second factor included several items that were also

included in Miller et al. (1998)'s second factor and so it was called Satisfaction with God and Life. The third factor consisted of 6 of the 10 factors of the original Existential Well-Being Scale (EWBS) and, therefore, it was also called Existential Well-Being. The total variance accounted for was 47.5%. Factor 1 (Affiliation) accounted for 19.6% of the item variance, Factor 2 (Satisfaction with God and Life) accounted for 16.6% of the item variance, and Factor 3 (new EWBS) accounted for 11.3% of the item variance.

To determine the internal consistency estimate of reliability, Cronbach's alpha coefficients were computed for this 20-item scale and the new factors/SWB scales. The coefficient alpha was .87 for Factor 1 (Affiliation), .84 for Factor 2 (Satisfaction with God and Life), and .75 for Factor 3 (Existential Well-Being), each indicating satisfactory reliability. The coefficient alpha for the total scale was .88.

To assess the construct validity of the three factors found by the exploratory factor analysis, confirmatory factor analysis using LISREL 8.7 was conducted. The new model, containing the original 20 items and three new factors, fit the data poorly (see Figure 1;  $\chi^2(167) = 256.69, p < .001, RMSEA = 0.00, SRMR = .08$ ). While RMSEA indicated a good fit, chi square was statistically significant, SRMR was greater than .05, and the correlations between the factors was high.

To improve the fit of the model, item deletion was performed by deleting the poorest loading items from the measurement model one at a time until most of the remaining items loaded at .70 (standardized) or greater. These 11 iterations are not included here due to the repetitiveness of the process and the desire for simplicity. The items deleted from Factor 1 (Affiliation) were items 15, 17, 19, and 20 (see SWBS in Appendix). The items deleted from Factor 2 (Satisfaction with God and Life) were items



2, 5, 9, and 13 (see SWBS in Appendix). The 3rd Factor (Existential Well-Being) retained only 3 items, 4, 10, and 14. Two items, 14 (“I feel good about my future”) and 18 (“Life doesn’t have much meaning”), did not quite meet the .70 factor loading criterion. Considering their potential conceptual importance for the construct, these items, however, were retained on the second factor of the new model.

The resulting measurement Model A consisted of nine items and produced a two-factor solution ( $\chi^2(26) = 60.71, p = .00, RMSEA = .09, SRMR = .11$ ). Analysis of the difference between the chi squares of Model A versus the original model from the EFA was not statistically significant ( $\chi^2(141) = 195.98, p = .001$ ) indicating the two models were not significantly different with regard to model fit. Given the importance of parsimony and that the factor loading of the items of the two factor solution was more desirable, Model A was deemed better. Factor 1 consisted of three items: “I believe that God loves me and cares about me,” “I have a personally meaningful relationship with God,” and “I believe that God is concerned about my problems.” Factor 2 consisted of six items: “I don’t find much satisfaction in private prayer with God,” “I feel that life is a positive experience,” “I feel a sense of well-being about the direction my life is headed I,” “I don’t enjoy much out of life,” “I feel good about my future,” and “Life doesn’t have much meaning.”

To determine the internal consistency estimate of reliability, Cronbach’s alpha coefficients were computed for this scale and its factors. The coefficient alpha for the total scale was .74, the coefficient alpha for Factor 1 was .64, and the coefficient alpha for Factor 2 was .68.

In an attempt to improve the factor loadings, the poorest loading item (item 14 from factor 2) was deleted from Model A; again most of the remaining items loaded at .70 (standardized) or greater. The resulting measurement model, Model B, consisted of 8 items ( $\chi^2(19) = 47.97$ ,  $p < .001$ , RMSEA = .10, SRMR = .11). There was not a statistically significant difference between the chi square of Model A and chi square of Model B ( $\chi^2(7) = 12.74$ ,  $p = .10$ ). To determine the internal consistency estimate of reliability, Cronbach's alpha coefficients were computed for this scale and its subscales. The coefficient alpha was .70 for the total scale, .64 for Factor 1, and .61 for Factor 2.

Next, the poorest loading item (item 18 from Factor 2) from the measurement Model B was deleted. The new model, Model C, consisted of 7 items and produced a better fit than the original model ( $\chi^2(13) = 18.95$ ,  $p = .13$ , RMSEA = .05, SRMR = .05). The chi square differences between the two models was statistically significant ( $\chi^2(6) = 29.02$ ,  $p = .001$ ), indicating Model C was a better fit for the data. To determine the internal consistency estimate of reliability, Cronbach's alpha coefficients were computed for this scale and its subscales. The coefficient alpha for the total scale was .66, the coefficient alpha for Factor 1 was .64, and the coefficient alpha for Factor 2 was .50.

Finally, there was an item with a loading less than .70 and this item (12) was deleted from the Model C. Finally, all remaining items loaded at .70 (standardized) or greater. The resulting measurement model, Model D, consisted of 6 items and satisfactory goodness of fit data (see Figure 2;  $\chi^2(8) = 5.36$ ,  $p = .72$ , RMSEA = 0.00, SRMR = .04). There was a significant difference between the chi squares of the two models ( $\chi^2(5) = 13.59$ ,  $p = .025$ ), indicating Model D was a better fit to the data than Model C. The first factor, which remained the same throughout, consisted of these three

items: “I believe that God loves me and cares about me,” “I have a personally meaningful relationship with God,” and “I believe that God is concerned about my problems.” This factor was called Connection with God. Factor 2 now also consisted of three items: “I don’t find much satisfaction in private prayer with God,” “I feel that life is a positive experience,” and “I feel a sense of well-being about the direction my life is headed in.” This factor was called Satisfaction with Life. Cronbach’s alpha coefficients were computed for the scale and factors. The coefficient alpha for the total scale was .59, the coefficient alpha for Factor 1 was .64, and the coefficient alpha for Factor 2 was .31. The reader is reminded that small values are typical for scales with few items.

*Convergent and Discriminant Validity (Correlational Analyses)*

To examine convergent validity and discriminant validity, correlation analyses were conducted to determine relations among the identified variables. For convergent validity, the correlations between the total SWBS, RWBS and EWBS and the following measures were calculated: (a) Parent Attitude toward (child’s) use of alcohol, tobacco, and other drugs (ATOD) (scale score); (b) Parent Involvement with School (scale score); (c) Parent Attachment (scale score); (d) Parent Supervision (scale scores); and (e) Parent Curfew (scale scores). To demonstrate discriminant validity, correlations between the SWBS and related factors with demographic variables were conducted.

The results of the correlation analyses between Paloutzian and Ellison’s (1982) SWBS and its subscales and the parenting measures are presented in Table 2. Additionally, correlations of these scales and the demographic variables are presented in Table 3. The scores on the Family Supervision Measure were significantly related to the scores on the total SWBS, the RWBS, and the EWBS. Higher scores on family

supervision were associated with higher levels of spiritual well-being, suggesting evidence of convergent validity. Correlations with other parenting scales were not statistically significant. None of the correlations between the SWBS and subscales and the demographic variables were significant, indicating evidence of discriminant validity.

The model resulting from the EFA and its three factors were also correlated with the parenting measures (see Table 2) and demographic variables (see Table 3) with the following statistically significant results. Factor 1 (Affiliation) and Factor 3 (Existential Well-Being) were significantly related to the Parent Supervision Measure. Those correlations demonstrated that those scoring higher on the Affiliation and Existential Well-Being factors also scored higher on the Parent Supervision Scale. Factor 2 (Satisfaction with God and Life) was significantly related to the Parent Attachment Scale. This correlation showed that those who scored higher on the Satisfaction with God and Life also scored higher on the Parent Attachment Scale. These correlations suggested evidence of convergent validity. The other correlations with the remaining parenting scales were not significant. There was a significant negative correlation between Factor 2 and employment status such that lower scores on the Satisfaction with God and Life factor were associated with being unemployed. None of the other correlations with the demographic variables were significant, indicating evidence of discriminant validity.

The results of the correlation analyses between Model D and its subscales and the parenting measures (see Table 2) and demographic variables (see Table 3) were as follows. The total Model D and Factor 2 (Satisfaction with God and Life) were significantly related to the Parent Involvement in School scale; demonstrating that those with a higher score on the total Model D and Satisfaction with God and Life also scored

higher on the Parent Involvement in School Scale. Factor 1 (Connection with God) was significantly related to the Family Supervision scale. Those who reported a greater Connection with God, therefore, also engaged in more parental supervision. These correlations suggest evidence of convergent validity. Correlations with other parenting scales were not statistically significant. None of the correlations between Model D and subscales and the demographic variables were significant, indicating evidence of discriminant validity.

## Discussion

The purpose of this study was to examine the psychometric properties of the Spiritual Well-Being Scale (SWBS) in a sample of African American women. This was done to determine the appropriateness of using the SWBS with a sample that was not included in the norming study. Construct validity was examined by conducting a confirmatory factor analysis with three different models: the two-factor model proposed by the creators of the SWBS (Paloutzian & Ellison, 1982); a five-factor model (Miller et al., 1998); and a three-factor model (Scott et al., 1998). Next an exploratory factor analysis was conducted resulting in a new three-factor model. After the new model was assessed for fit using confirmatory factor analysis (CFA), model modification was conducted until a new 6-item two-factor model resulted. Additionally, Cronbach's alphas were calculated as were correlational analyses so that convergent and discriminant validity could be assessed.

### *Confirmatory Factor Analysis (CFA)*

The results of the CFA of Paloutzian and Ellisons's (1982) two-factor model revealed a significant chi square, a poor fitting Root Mean Square Error of Approximation (RMSEA), and a poor fitting Standardized Root Mean (square) Residual (SRMR) indicating the two-factor model was a poor fit for this data. Additionally, there was a correlation of .92 between the two factors, evidence that there was not much difference between the specified factors for this sample. This suggested either a one-factor solution or the inappropriate assignment of items to the specified factors. Although the original work of Paloutzian and Ellison resulted in three factors, for theoretical reasons, the developers combined two of the factors into one and called it the Existential

Well-Being subscale. It is not surprising, therefore, that their two-factor model was not confirmed. Unfortunately, the items of the two separate factors that were combined by Paloutzian and Ellison were never identified so it is not possible to test their original model.

Although the Miller et al. (1998) factors were very similar to those found by Paloutzian and Ellison (1982) for the Caucasian participants of their study, five factors were found for the African American group, indicating ethnic differences in responses to the scale. In the present study, the CFA using the Miller et al. five-factor model was judged to be a poor fit. There was a statistically significant chi square and a poor fitting RMSEA and SRMR, high correlations between the factors, and a correlation of 1.12 among all the factors, which indicated very little difference between the factors specified. However, it should be noted that the community sample of African American females used in this study might be quite different from the male and female college students comprising the African American sample in the Miller et al. study. It is possible that these conflicting results are indicative of variance among African Americans, meaning that much more work needs to be done in order to determine an appropriate factor structure of the SWBS with this population. Another concern with the five-factor model of Miller et al. was the range in reliability coefficients for this sample. Although Factors 1, 2, and 3 each had good reliability, Factors 4 and 5 had extremely low reliability.

The Chi-square in this study for the three-factor model proposed by Scott et al. (1998) was significant and SRMR was above .05, indicating a poor fit for data (RMSEA was a good fit). However, there were some problems with the Scott et al. study. For example, reliability information was not provided by Scott et al. It is also not clear if the

scale was scored appropriately by Scott et al. based on the negative items resulting in the negative names given to Factor 2 (Alienation) and Factor 3 (Dissatisfaction with God). The scoring instructions (Paloutzian & Ellison, 1991) for the SWBS clearly state that several items are worded negatively and should be scored in the reverse direction from the items worded positively so that higher scores indicate more spiritual well-being. If the negative items were not scored correctly or not interpreted correctly that may have had an impact on how the items were assigned to factors. If that was the case, then confirming that factor structure would not be possible with data using correct scoring procedures. The CFA using the Scott et al. three-factor model was judged to be a poor fit for the data in this study due to the significant chi square, poor fitting SRMR, high correlations between the factors, and a correlation of .95 among all the factors, which indicated very little difference between the factors specified.

#### *Exploratory Factor Analysis (EFA)*

The exploratory factor analysis (EFA) conducted on the SWBS resulted in a three factor solution that was a combination of the three models tested in this study: Factor 1 (Affiliation) was identical to Factor 1 in the model proposed by Scott et al. (1998); Factor 2 (Satisfaction with God and Life) had items from Factor 2 in the model proposed by Miller et al. (1998); and Factor 3 (new Existential Well-Being) resembled the Existential Well-Being Scale (EWBS) from the original model. Although the new factor structure could not be confirmed by model testing (CFA), this should be taken with caution as further attempts at confirmation with an independent sample would be more conclusive (Martens, 2005). Model modification resulted in a six-item two-factor model. Although the model modification was an empirical (rather than theoretical) process, the models



were nested in one another and that allows for direct comparisons to find the best fit (Martens). It would be necessary to conduct further research before drawing conclusions, but indications are that the final model (Model D) is a more parsimonious measure of spiritual well-being with the study sample. Whenever possible it is important to use the most parsimonious measure possible of a construct. Certainly, there is evidence that Factor 1 (Connection with God) is strong, as the items comprising this factor did not change. The three items included in the Connection with God factor may have been the core of the Religious Well-Being Scale (RWBS), identified as one of the original constructs of the SWBS.

*Convergent and Discriminant Validity*

Evidence of convergent validity may have been established using correlational analyses between the SWBS and the new models and the following parenting scales: parental attitude toward child's use of ATOD, parental involvement with school, parental supervision measure, parental supervision curfew and parental attachment to their child. The results demonstrated a consistent positive relationship between the Family Supervision Measure and: the total SWBS, the RWBS and EWBS (Paloutzian & Ellison, 1991); the total EFA model and its Factor 1 (Affiliation) and Factor 2 (Satisfaction with God and Life); and Factor 1 (Connection with God) of Model D. There was also a significant positive relationship between the Parent Involvement in School and the total Model D score and Factor 2 (Satisfaction with Life) of Model D. Finally, there was a significant positive relationship between the Parent Attachment Measure and Factor 2 (Satisfaction with God and Life) of the EFA model.

These findings made evident that parent supervision was related to the various forms of the spiritual well-being measure described in this study. This is not too surprising as previous research has provided evidence of the importance of both spirituality and of parenting for African Americans (Brodsky, 1999; Brome et al., 2000; Hart et al, 2001; Hurd et. al., 1995; Poindexter & Linsk, 1999). More specifically, mothers reporting higher spirituality also reported more positive parenting attitudes and greater pleasure from parenting (Brodsky; Brome et al.). This connection may be related to the strong communal aspect of African American culture as both family connections and children are valued in the African American community (Hart et al.; Sanders, 2002). According to Sanders, the values of both the African American family and church (the codes of behaviors and social attitudes) were intertwined so that the values of family and church are the same. Additionally, hierarchy was important both in the African American Church and in the home and African Americans saw themselves as role models and sources of wisdom for their children (Sanders). A common theme of parenting tasks was the preparation of African American children to live in both their own culture and the culture of a White dominant social and cultural framework that was negligent at best and racist at worst (Franklin & Boyd-Franklin, 1985; Haight, 1998).

Another issue is that in high risk urban areas there is an understandable need for higher levels of supervision of youth behavior and activities. In a study of single-parent African American families, Armistead, Forehand, Brody, and Maguen (2002) found that parents in urban areas where the risks for violence was higher used supervision of their children more than parents in lower risk rural areas. Given that the sample in this study was recruited in a high risk urban area, it was not surprising to find that at least some of

the participants scored high on the Parent supervision Scale because of the perceived risks to their children.

Additionally, Bradley (2001) advised that African American parents should not be held to mainstream parenting practices effective in white middle-class families because their priorities are different. Respect and obedience to authority were valued and emphasized regardless of class or other individual differences. Democratic parenting styles that have become the norm in White middle class families were, therefore, in contrast to the African American values of respect and obedience to authority (Bradley; Brodsky). Furthermore, Oyserman et al. (2002) found that positive parenting attitudes in African Americans were associated with a more authoritative parenting style indicative of strong parental supervision.

Given the previously mentioned connection between family and church (Sanders, 2002), previously reported higher levels of supervision in urban high risk areas (Armistead et al., 2002), and the values placed by African Americans on obedience and respect for authority; it made sense that the African American participants scoring higher on the various spiritual well-being scales would also be the participants reporting higher levels of parental supervision. The relationship between Parent Supervision and the measures of Spiritual Well-Being provided evidence of convergent validity.

The positive relationship between the parsimonious measure of spiritual well-being (Model D) and more involvement with education was expected based on previous research. Prior research has indicated that connection with family, spirituality, and stressing the importance of education were important themes among African American parents, regardless of class or other individual differences (Brodsky, 1999; Gutman &

McLovd, 2000; Hurd et al., 1995). Additionally, parental involvement with the school encouraged both interest in education and success for the child regardless of economic, racial or cultural background (Smalley & Renes-Blanes, 2001). Thus, the results from this study are consistent with past research and indicated that those participants who scored higher on the new measure of Spiritual Well-Being would be expected to be more involved (and score higher on the Involvement with School Scale) with their child's school.

There was also a relationship between Satisfaction with Life (Factor 2, Model D) and parent attachment such that those participants who scored higher on Satisfaction with Life also scored higher on the Parent Attachment Scale. According to Brodsky (1999), all children are valued by African Americans regardless of their parentage. Not only the parents, but the community values and feels affection for their children. As previously stated, Brodsky also reported that along with parenting, family connection and spirituality were also important in African American families. Haight (1998) specifically found that children were valued and that the African American Church provided protection and instruction from adults who cherished and cared for them. Hence, it made sense that individuals more satisfied with life would be the individuals who valued their children and also expressed attachment to their children. Though not known for sure, it was also possible that having a strong attachment to their children contributed to the participant's satisfaction with life.

The results of the discriminant validity analysis demonstrated that, as expected, the SWBS and subscales did not correlate with the demographic variables income, education, employment status, or marital status, nor did the final model, Model D.

Additionally, the EFA model did not correlate with income, education, or marital status, although there was a relationship between employment status and Factor 2 (Satisfaction with Life) of that model. It is not clear why these items were related, however, one can speculate that if one is unemployed, one's satisfaction with life might not be as great as it would be if employed. The other findings were not surprising, as evidence shows that the strengths of African American families, such as spirituality, transcend class or other individual differences (Hurd et al. 1995). Accordingly, we did not anticipate indicators of class such as income, education, or employment or differences such as marital status to correlate with the SWBS or its factors.

It is important to note, however, that because none of the models were confirmed, validity of the factor structure could not be established. The convergent and discriminant validity analyses, therefore, are not strong evidence of construct validity and may not be relevant for this sample in spite of the significant correlations.

### *Reliability*

Analysis of the internal consistency reliability revealed lower reliabilities for Models A, B, C, and D than for the models proposed by Paloutzian and Ellison (1991), Miller et al. (1998), Scott et al. (1998) or the EFA model of this study. This was not too surprising since generally, the fewer items in a scale, the lower the reliability. Likewise, the more factor loadings you have, the higher the reliability is going to be. Although adequate for conducting exploratory research, the current study's internal consistency estimates are considered low for instruments used to make decisions about individuals (Nunnally & Bernstein, 1994). Consequently, it will be important for these findings to be

replicated prior to applying them in real world settings. It is also possible that further exploration will provide a scale that is both reliable and parsimonious.

### *Limitations*

It is important to note the limitations of this study, such as the size of the sample and the characteristics of the participants (African American females from an urban area). Because the sample size was small, the results of the analyses need to be interpreted with caution, particularly the confirmatory factor analyses. Using an urban African American sample means the results cannot be generalized to other types of samples. These limitations warrant further attempts to replicate the findings with larger and more diverse samples of African American women and African American men before any conclusions are drawn.

Additionally, none of the models confirmed the factor structure of the SWBS when used with a group not included in the normative samples. While none of the factor structures were conclusively supported, the results supported the need for researchers to address the methodological implications of conducting research with measures normed on European Americans. Another limitation was the lack of information about the religious affiliation (if any) or faith of the sample participants. Having that information would have allowed the assessment of possible ceiling effects noted by other researchers (Bufford et al., 1991; Ledbetter et al., 1991). Furthermore, because the data in this study came from self-report measures and were not compared (triangulated) with other sources of data, we have no way of confirming the accuracy of the information. The consequences are that the results could not be stated with the same confidence as results from a multi-method study. Another limitation involves the limitation of range of the

demographic variables. This limited range means the tests of discriminant validity were weak; as restricted range of one of the variables used in correlations results in lower correlations.

#### *Future Directions*

More research is indicated both to validate the SWBS instrument with other groups of African American women and African American men as well as other ethnic groups and to further assess its factor structure. It may also help to increase the sample size for better results when model testing is conducted with future groups. It is also possible that a new instrument with fewer items may provide a more parsimonious measure of the factors of spiritual well-being. Additionally, the results of this study indicate the need for caution when using the SWBS with African Americans until construct validity is established, as researchers cannot be certain the results adequately represent the constructs of spirituality of African American females.

#### *Conclusions*

These findings support the suggestion that there may be a bias when instruments normed on European Americans are used with samples from other ethnic groups (Jones, 1996; Padilla & Medina, 1996). Specifically, Jones (1996) suggested reporting separate reliability and validity indexes for each group that will utilize a given measure to obtain its level of appropriateness for those groups, and suggested analyzing the factor structures to determine whether or not the test structure is equivalent across groups. This study provided evidence that the SWBS has a different factor structure with a community sample of African Americans than with Caucasians. One possible explanation for the failure of this study to find a good fit between the models tested and the data is that the

items may be too closely related to one another. It is also possible that the wording of the items may be limiting for some (use of God vs. Allah for Muslims) and not specific enough for others (use of God vs. Jesus for Christians). It is also possible that other constructs may be needed for different samples/populations because the items were based on a Eurocentric model of spiritual well-being. Further research is needed to determine an appropriate factor structure for the SWBS when used with African Americans and/or to develop an instrument more sensitive to constructs appropriate for African Americans. Possible constructs that could be important include the communal aspect of spirituality, and the family aspect of spirituality. In addition, the SWBS may not be an appropriate instrument to use with urban African American Women.



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## Appendix

### Measurement Instruments

#### Demographic Measures

Both the PYC and M-FS projects included questions of gender and race/ethnicity and were used for eligibility in this study. The questions of gender and race will not be duplicated here as they were not used in any of the analyses. Other demographic questions used in the analyses are presented separately for each study.

PYC Demographic Questions: Participants were instructed to choose the response for each item that was correct for them.

#### Your Age

- 18-25
- 26-34
- 35-44
- 45-54
- 55 and older

#### Current Marital Status

- Married
- Separated
- Divorced
- Widowed
- Single, never married

#### Your current employment status

- Employed, full time
- Employed, part time
- Retired
- Unemployed
- Other



Highest level of schooling you completed

- No schooling
- Grade school
- Junior high or middle school
- Some high school
- High school graduate or GED
- Trade or technical school
- Some college
- College graduate
- Post college (graduate school)

Household income in past year

- 0 - \$5,000
- \$5,001 - \$10,000
- \$10,001 - \$15,000
- \$15,001 - \$20,000
- \$20,001 - \$25,000
- \$25,001 - \$30,000
- \$30,001 - \$35,000
- \$35,001 - \$40,000
- \$40,001 - \$45,000
- \$45,001 - \$50,000
- over \$50,000

M-FS Demographic Questions: Participants were instructed to choose the response for each item that was correct for them.

Your Age

- 18-25
- 26-34
- 35-44
- 45-54
- 55 and older

Current Marital Status

- Married
- Divorced
- Separated
- Widowed
- Single

Are you currently employed?

- Yes, have a full time job
- Yes, have a part time job
- No

Education

- None
- Grade school
- Some high school
- High school
- Some college
- College graduate
- Trade or technical school
- Post college

Household income – yearly

- 0 - \$5,000
- \$5,001 - \$10,000
- \$10,001 - \$15,000
- \$15,001 - \$20,000
- \$20,001 - \$25,000
- \$25,001 - \$30,000
- \$30,001 - \$35,000
- \$35,001 - \$40,000
- \$40,001 - \$45,000
- \$45,001 - \$50,000
- over \$50,000

SWB Scale

For each of the following statements circle the choice that best indicated the extent of your agreement or disagreement as it describes your personal experience:

- |  |                       |                          |
|--|-----------------------|--------------------------|
|  | SA = Strongly Agree   | D = Disagree             |
|  | MA = Moderately Agree | MD = Moderately Disagree |
|  | A = Agree             | SD = Strongly Disagree   |
- 
- |     |   |                 |
|-----|---|-----------------|
| 1.  | I don't find much satisfaction in private prayer with God.                  | SA MA A D MD SD |
| 2.  | I don't know who I am, where I came from, or where I am going.              | SA MA A D MD SD |
| 3.  | I believe that God loves me and cares about me.                             | SA MA A D MD SD |
| 4.  | I feel that life is a positive experience.                                  | SA MA A D MD SD |
| 5.  | I believe that God is impersonal and not interested in my daily situations. | SA MA A D MD SD |
| 6.  | I feel unsettled about my future.   | SA MA A D MD SD |
| 7.  | I have a personally meaningful relationship with God.                       | SA MA A D MD SD |
| 8.  | I feel very fulfilled and satisfied with life.                              | SA MA A D MD SD |
| 9.  | I don't get much personal strength and support from my God.                 | SA MA A D MD SD |
| 10. | I feel a sense of well-being about the direction my life is headed in.      | SA MA A D MD SD |
| 11. | I believe that God is concerned about my problems.                          | SA MA A D MD SD |
| 12. | I don't enjoy much about life.  | SA MA A D MD SD |
| 13. | I don't have a personally satisfying relationship with God.                 | SA MA A D MD SD |
| 14. | I feel good about my future.  | SA MA A D MD SD |
| 15. | My relationship with God helps me not to feel lonely.                       | SA MA A D MD SD |
| 16. | I feel that life is full of conflict and unhappiness.                       | SA MA A D MD SD |
| 17. | I feel most fulfilled when I'm in close communion with God.                 | SA MA A D MD SD |
| 18. | Life doesn't have much meaning.   | SA MA A D MD SD |
| 19. | My relation with God contributes to my sense of well-being.                 | SA MA A D MD SD |
| 20. | I believe there is some real purpose for my life.                           | SA MA A D MD SD |

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Parent Measures

School (Parent Involvement with School Scale)

The following set of questions asks about your child's school. For each of the following questions, please answer yes or no.

In the past 6 months have you:

- |    |   |     |    |     |
|----|---|-----|----|-----|
| 1. | Attended a PTO/PTA meeting or other special meeting at school?      | Yes | No | N/A |
| 2. | Attended a parent-teacher conference?                               | Yes | No | N/A |
| 3. | Talked with the teacher about your child's work or behavior?        | Yes | No | N/A |
| 4. | Contacted an interpreter at your child's school?                    | Yes | No | N/A |
| 5. | Contacted an educational assistant?                                 | Yes | No | N/A |
| 6. | Attended a play, concert, sporting event, or other school activity? | Yes | No | N/A |
| 7. | Helped with special projects or class trips?                        | Yes | No | N/A |

Questions about Alcohol, Tobacco, and Other Drugs (Parent Attitude Toward Child (use of) ATOD).

Please read each statement and indicate how much you agree or disagree with each statement.

- |    |  |                           |   |   |   |   |  |  |
|----|--|---------------------------|---|---|---|---|--|--|
|    | 1  | Strongly Disagree         |   |   |   |   |  |  |
|    | 2  | Disagree                  |   |   |   |   |  |  |
|    | 3  | Neither disagree or agree |   |   |   |   |  |  |
|    | 4  | Agree                     |   |   |   |   |  |  |
|    | 5  | Strongly agree            |   |   |   |   |  |  |
| 1. | There are drugs in my neighborhood.  | 1                         | 2 | 3 | 4 | 5 |  |  |
| 2. | I believe that drugs are dangerous and can hurt my child.                                | 1                         | 2 | 3 | 4 | 5 |  |  |
| 3. | I think smoking any cigarettes is unhealthy and can hurt my child.                       | 1                         | 2 | 3 | 4 | 5 |  |  |
| 4. | I think drinking any alcohol is dangerous and can hurt my child.                         | 1                         | 2 | 3 | 4 | 5 |  |  |
| 5. | It is my responsibility as a parent to keep my child from smoking.                       | 1                         | 2 | 3 | 4 | 5 |  |  |
| 6. | It is my responsibility as a parent to keep my child from using alcohol and other drugs. | 1                         | 2 | 3 | 4 | 5 |  |  |
| 7. | We have a family rule that using tobacco is not okay for children.                       | 1                         | 2 | 3 | 4 | 5 |  |  |
| 8. | We have a family rule that using alcohol is not okay for children.                       | 1                         | 2 | 3 | 4 | 5 |  |  |

- |     |  |   |   |   |   |   |
|-----|--|---|---|---|---|---|
| 9.  | We have a family rule that using other drugs is not okay for children. | 1 | 2 | 3 | 4 | 5 |
| 10. | I have talked with my child about the dangers of using tobacco.        | 1 | 2 | 3 | 4 | 5 |
| 11. | I have talked with my child about the dangers of using alcohol.        | 1 | 2 | 3 | 4 | 5 |
| 12. | I have talked with my child about the dangers of using other drugs.    | 1 | 2 | 3 | 4 | 5 |

Family Life (Parent Attachment Scale)

For each statement, please describe your relationship with your child in general and mark the best response.

- 1 Almost never
- 2 Once in a while
- 3 Sometimes
- 4 Frequently
- 5 Almost always

- |     |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|
| 1.  | You get along well with your child.                     | 1 | 2 | 3 | 4 | 5 |
| 2.  | You feel that you can really trust your child.          | 1 | 2 | 3 | 4 | 5 |
| 3.  | You just do not understand your child.                  | 1 | 2 | 3 | 4 | 5 |
| 4.  | Your child is too demanding.                            | 1 | 2 | 3 | 4 | 5 |
| 5.  | You really enjoy your child.                            | 1 | 2 | 3 | 4 | 5 |
| 6.  | Your child interferes with your activities.             | 1 | 2 | 3 | 4 | 5 |
| 7.  | You think your child is terrific.                       | 1 | 2 | 3 | 4 | 5 |
| 8.  | You feel very angry toward your child.                  | 1 | 2 | 3 | 4 | 5 |
| 9.  | You feel violent toward your child.                     | 1 | 2 | 3 | 4 | 5 |
| 10. | You feel proud of your child.                           | 1 | 2 | 3 | 4 | 5 |
| 11. | You wish your child was more like others that you know. | 1 | 2 | 3 | 4 | 5 |

Parent Supervision Scale & Parent Curfew Scale

For each statement, please mark the response that best describes your answer.

- 1 Almost never
- 2 Once in a while
- 3 Sometimes
- 4 Frequently
- 5 Almost always

- |    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| 1. | In the course of a day, how often would you know where your child is?   | 1 | 2 | 3 | 4 | 5 |
| 2. | How often would you know who your child is with when your child is away from home?  | 1 | 2 | 3 | 4 | 5 |
| 3. | When your child isn't at home, how often does he/she know how to get in touch with you?   | 1 | 2 | 3 | 4 | 5 |
| 4. | Does your child have a set time to be home on school nights?<br>Yes No My child doesn't go out  |   |   |   |   |   |
| 5. | Do you know if your child comes home by the set time?<br>Yes No Sometimes<br>Not applicable, my child does not have a set time to be home on school nights. |   |   |   |   |   |
| 6. | Does your child have a set time to be home on <u>weekend</u> nights?<br>Yes No My child doesn't go out  |   |   |   |   |   |
| 7. | Do you know if your child comes home by the set time?<br>Yes No Sometimes<br>Not applicable, my child does not have a set time to be home on school nights. |   |   |   |   |   |

For each question, please mark the response that best describes your answer.

- |   |                      |
|---|----------------------|
| 1 | Not important at all |
| 2 | Not very important   |
| 3 | Somewhat important   |
| 4 | Important            |
| 5 | Very important       |

How important is it to you . . . .

- |     |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|
| 8.  | To know if your child is doing well in his/her school work? | 1 | 2 | 3 | 4 | 5 |
| 9.  | To know if your child is keeping out of trouble?            | 1 | 2 | 3 | 4 | 5 |
| 10. | To know where your child is?                                | 1 | 2 | 3 | 4 | 5 |
| 11. | To know who your child's friend's are?                      | 1 | 2 | 3 | 4 | 5 |
| 12. | To know what your child is doing when he/she is not home?   | 1 | 2 | 3 | 4 | 5 |

Table 1

*Exploratory Factor Analysis: 3-Factor Solution*

SWBS Items	Factors		
	1	2	3
1) "I don't find much satisfaction in private prayer with God."	-.005	.444	.092
2) "I don't know who I am, where I came from, or where I am going."	.031	.622	.107
3) "I believe that God loves me and cares about me."	.389	.110	.040
4) "I feel that life is a positive experience."	.329	.100	.330
5) "I believe that God is impersonal and not interested in my daily situations."	.161	.771	-.037
6) "I feel unsettled about my future."	.029	.386	.558
7) "I have a personally meaningful relationship with God."	.595	.055	.269
8) "I feel very fulfilled and satisfied with life."	.270	.194	.614
9) "I don't get much personal strength and support from my God."	.150	.836	.125
10) "I feel a sense of well-being about the direction my life is headed in."	.336	.070	.695
11) "I believe that God is concerned about my problems."	.760	.088	.065
12) "I don't enjoy much out of life."	.196	.537	.316
13) "I don't have a personally satisfying relationship with God."	.090	.655	.077
14) "I feel good about my future."	.329	.056	.679
15) "My relationship with God helps me not to feel lonely."	.792	.050	.140
16) "I feel that life is full of conflict and unhappiness."	-.040	.285	.301
17) "I feel most fulfilled when I'm in close communion with God."	.777	.118	.135
18) "Life doesn't have much meaning."	.271	.622	.258
19) "My relationship with God contributes to my sense of well-being."	.740	.088	.250
20) "I believe that there is some real purpose for my life."	.691	.093	.188

Extraction Method: Maximum Likelihood.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in five iterations.

Table 2

*Correlation Table: SWBS and Parent Measurement Scale Scores*

	Attitude toward ATOD	Involvement w/school	Attachment	Supervision	Curfew
Total SWBS	-.03 (.740)	.12 (.128)	.10 (.196)	.25** (.001)	-.01 (.875)
RWBS	-.09 (.260)	.12 (.121)	.12 (.112)	.20* (.010)	-.05 (.552)
EWBS	.04 (.636)	.10 (.212)	.06 (.424)	.25** (.001)	.02 (.777)
EFA-factor 1	-.07 (.349)	.14 (.067)	.05 (.547)	.22** (.005)	-.04 (.627)
EFA-factor 2	-.04 (.563)	.05 (.539)	.16* (.038)	.14 (.068)	-.04 (.618)
EFA-factor 3	.06 (.467)	.09 (.235)	.00 (.964)	.22** (.004)	.06 (.445)
Model D	-.04 (.655)	.19* (.012)	.03 (.665)	.15 (.059)	-.04 (.590)
Fact 1	-.06 (.478)	.14 (.075)	.02 (.798)	.16* (.034)	-.15 (.060)
Fact 2	-.01 (.926)	.18* (.018)	.04 (.651)	.09 (.258)	.06 (.458)

\*  $p < .05$  (2-tailed). \*\*  $p < .01$  (2-tailed).



Table 3

*Correlation Table: SWBS & Demographic Variables*

	Age	Education	Employment	Marital Status	Household Income
Total SWBS	-.07 (.399)	-.01 (.877)	-.03 (.665)	-.05 (.534)	-.02 (.775)
RWBS	-.08 (.287)	-.01 (.895)	-.07 (.394)	-.09 (.276)	.06 (.433)
EWBS	-.04 (.622)	-.01 (.880)	.00 (.972)	-.01 (.937)	-.10 (.210)
EFA-factor 1	-.12 (.161)	-.02 (.796)	.03 (.706)	-.02 (.760)	.02 (.764)
EFA-factor 2	-.02 (.812)	.01 (.920)	-.16* (.039)	-.12 (.119)	.04 (.635)
EFA-factor 3	-.03 (.709)	-.02 (.800)	.09 (.266)	.05 (.518)	-.13 (.093)
Model D	-.02 (.827)	.03 (.669)	.01 (.946)	.02 (.840)	-.03 (.715)
Fact 1	-.09 (.265)	-.05 (.511)	.04 (.643)	.00 (1.00)	.00 (.974)
Fact 2	.05 (.550)	.10 (.669)	-.02 (.777)	.02 (.756)	-.05 (.552)

\*  $p < .05$  (2-tailed). \*\*  $p < .01$  (2-tailed).

Figure Captions

*Figure 1.* Exploratory three factor model.

*Figure 2.* Model D

Figure 1. Exploratory three factor model.

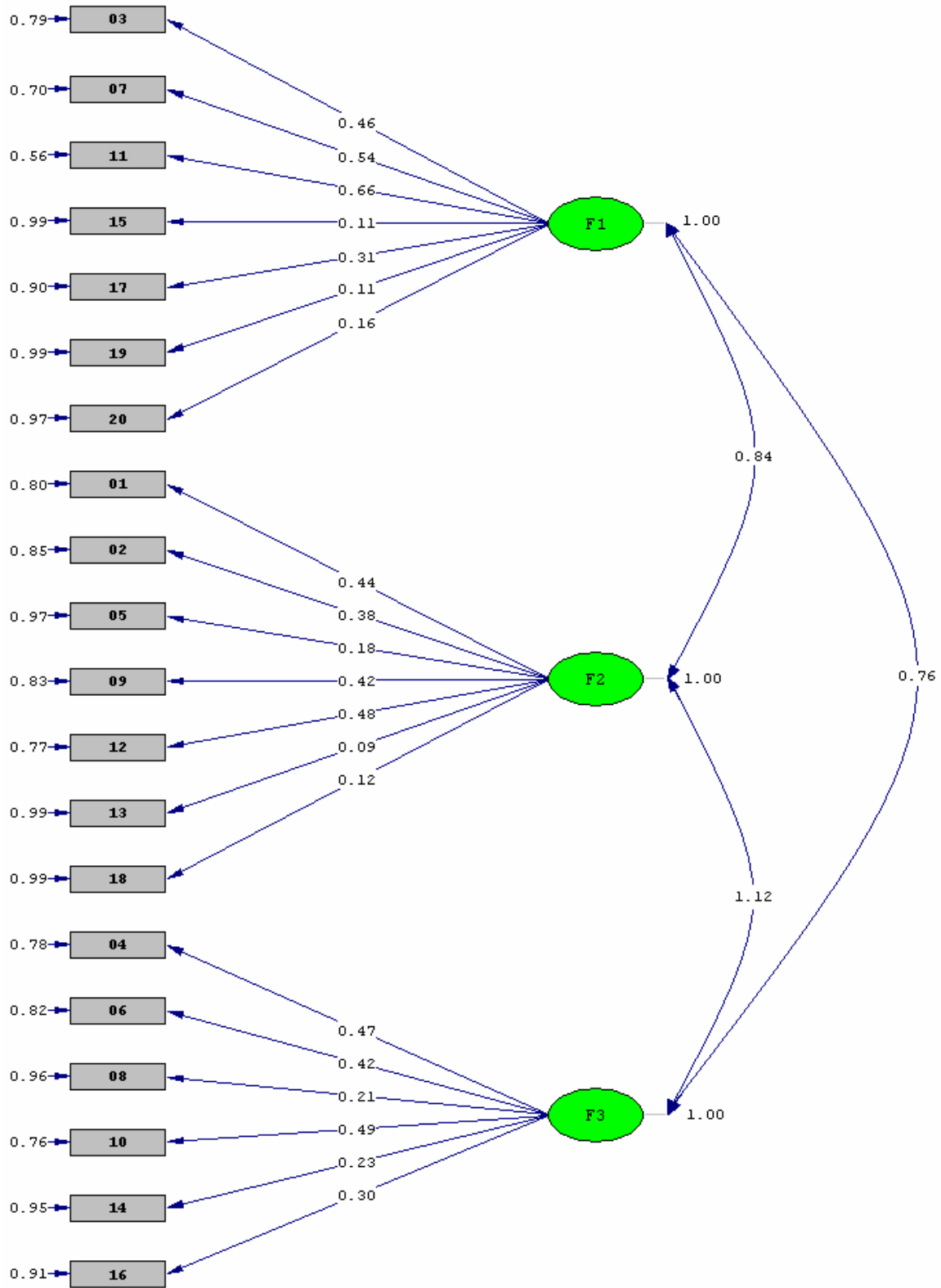


Figure 2. Model D

