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## Sexuality and Spirituality: The *Embodied Spirituality Scale*

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### *Abstract*

This article reports two studies on the development of the *Embodied Spirituality Scale (ESS)*, an instrument designed to measure the level of integration between one's experience of sexuality and spirituality. Both studies were limited to specifically Christian samples. Study 1 reports the initial construction of the *ESS*. Participants in Study 1 consisted of 128 women and 64 men (ages 16 to 75,  $M = 22.7$  years). Study 2 reports a validation study of the *ESS*. Participants in Study 2 consisted of 125 female (46.5 per cent) and 142 male (52.8 per cent) adults between the ages of 18 and 78 ( $M = 47$ ;  $SD = 10.9$ ). The results offer empirical support for the concept of embodied spirituality as an integral relationship between sexuality and spirituality. The results also suggest that, as a measure of embodied awareness, the *ESS* may offer clues to the nature of the 'active ingredient' in the relationship between spirituality and health.

### *Introduction*

Christianity has generally maintained a dualistic separation between body and spirit, which has had many wide-ranging effects. One of these effects has been the traditional perception that sexuality is a matter of carnal, earthly and, therefore, sinful experience (at least outside of the relationship of traditional heterosexual marriage). Within this dualistic perspective, sexuality has often been equated with the activity of genital sex. However, the literature of sexual theology or embodiment theology has challenged this traditional perception and has suggested that sexuality is much more of an integral and holistic part of the human experience than the activity of genital sex. It is the source of our capacity for relationship, for emotional and erotic connection, for intimacy, for passion and for transcendence. It is a holistic expression of our human

experience as *body-selves* (Nelson 1978, 1983; Heyward 1989). Consequently, sexuality is 'neither incidental nor detrimental' (Nelson and Longfellow 1994) to spirituality, but an important and integrated dimension of it (Nelson 1978, 1983, 1992; Heyward 1989; Timmerman 1992; Nelson and Longfellow 1994; Empereur 1999; Isherwood 2000; Gøtz 2001). In other words, it is through the *sensuality* of human *sexuality* (which includes but is not limited to genital sex) that individuals can experience a direct erotic connection with the God of one's understanding. In the language of Christian theology, embodiment is incarnation – the Holy is known and experienced in the flesh.

The experience of an erotic connection with God (hereafter referred to as 'embodied spirituality') is reflected in much of the literature of the Judeo-Christian tradition. From the *Song of Songs* in the Hebrew Bible to the poetry and prose of medieval mystics (Teresa of Avila, St John of the Cross and others), to the words of modern hymns, authors have expressed spiritual experiences in sensual/erotic language. Many consider the use of sensual/erotic language in the expression of spiritual experience to be metaphorical in nature, an attempt to transcend the limitations of human language. Such metaphors express the unknown in terms of the known by linking together two human experiences of profound intensity.

Neurological research (Newberg *et al.* 2001) suggests, however, that the connection between the sexual and spiritual may be more than simply a matter of language and psychology. Newberg *et al.* found that some of the changes that occur in the brain during deep meditation and prayer are similar to the changes that occur in the brain during sexual activity. This suggests that the relationship between sexuality and spirituality is not merely a matter of metaphorical conventions that result from the limitations of human language, but that they share common connections in the human body.

Several studies have been conducted (by researchers from different disciplines and interests) to examine the connections between sexuality and spirituality in the actual experiences of individuals. Wade (2000) conducted a qualitative, phenomenological study that found two factors that differentiated transcendent sexual experiences from ordinary sex. The first factor was participation in an altered state of consciousness rooted in the experience of union with one's partner during sex, but that was also distinct from the experience of orgasm. The second factor was the experience of engagement of one or both lovers with a spiritual force within the context of the relationship in general and in their lovemaking in particular. However, this was not a quantitative study and the author made no claims regarding statistical validity or generalizability.

MacKnee (2002) conducted a similar qualitative, phenomenological study that included interviews with a small number of participants (10). The author analysed the interview material using a phenomenological interpretive method to identify, describe and define the sexual/spiritual experiences reported by participants. Although many of these experiences included orgasm, these 'peaks of sexual and spiritual connection' were much broader and more holistic than the discrete experience of orgasm. As with Wade's (2000) study described above, there was a distinct experience of the presence of the Spirit; that is, 'God was encountered as a third being involved in the throes of passionate intimacy' (MacKnee 2002: 241). He stated that for the participants in his study, the profound nature of sexual/spiritual experience in which individuals experienced connections with God and with their partner resulted in a breakdown of 'dualism in all forms' that reconciled body and spirit, male and female, human and nature.

By far, the largest study to date to examine the connections between sexuality and spirituality was one completed by Ogden (2002). Ogden mounted a large-scale survey investigating sexual responses of 3810 men and women that were 'more than physical' and involved the 'intangible presence of Spirit, or the Divine' (abstract). Her findings were very similar to those of the other studies previously noted. Ogden's (2002) vast study, however, included a survey comprised of questions that had no history of validity and reliability testing and statistical analysis in this study was limited to the report of the number of particular responses as a percentage of the total number of participants. There was no significance testing and no analysis of the narratives in terms of gender differences or for differences related to sexual orientation.

Murray-Swank *et al.* (2005) studied the connections that college students ( $N = 151$ ) made between sexuality and spirituality by examining their beliefs about the sanctification of sexual intercourse in non-marital loving relationships. They defined sanctification as 'perceiving an aspect of life as having spiritual character and significance' (p. 6). Among the total sample in their study, they found that the more participants perceived sexual intercourse as having sacred characteristics, the more likely they were to have engaged in sexual intercourse. They also found that the higher the ratings of sacred qualities of sexual intercourse, the greater the range and frequency of sexual activity and number of sexual partners. They concluded that although these results appear to be counter-intuitive, they may reflect contrasting dualistic and non-dualistic theological perspectives. The authors also stated that their study focused exclusively on heterosexual relationships, which precluded a separate analysis of scores of the few participants who identified as gay, lesbian

or bisexual. Although Murray-Swank *et al.* (2005) used several measures in their study, none of these were measures of personality. Consequently, although their regression analyses controlled for variables such as dating history, attitudes toward premarital sexual relations and general religiousness, there was no control for personality factors. Therefore, there is no way to determine how much of the variance in the analyses could be explained by personality differences.

Intrigued by the body of literature and by medical research that suggests neurological connections between sexuality and spirituality (Newberg *et al.* 2001), the first and second authors sought to develop a study to determine whether one's ability to integrate sexuality and spirituality may be an individual differences construct (Horn and Piedmont 2003). The *Embodied Spirituality Scale (ESS)* is the result of that initial study, which is described in this article as Study 1. The present study is described in this article as Study 2.

### Study 1

The purpose of Study 1 was the development of a measure of embodied spirituality that would be independent of the five major personality dimensions of Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (as identified by the Five-Factor Model, Costa and McCrae 1992). Demonstrating that the measure was independent from personality was important in order to determine whether the measure could predict outcomes *over and above* what could be explained by personality. To that end, it was predicted that there would be few, if any, significant correlations between the new measure, the *Embodied Spirituality Scale (ESS)* and the five major personality dimensions, providing a basis for discriminate validity. It was also predicted that there would be significant correlations between the *ESS* and other measures of spirituality, providing a basis for convergent validity. Multiple regression analyses will be used to document the incremental and predictive validity of *ESS*.

### Method

*Participants.* Participants consisted of 128 women and 64 men (ages 16 to 75,  $M = 22.7$  years) undergraduate students from both Midwestern and Southern public universities. All participants were volunteers and received course credit for their participation. Twenty-eight percent were Catholic, 58 percent indicated a Christian faith and 15 percent indicated 'other'. When asked if they had a relationship with God, 75 percent indicated a moderately strong to very strong relationship.

*Measures.* The *Spiritual Transcendence Scale (STS)* (Piedmont 1999) is a 24-item scale that captures the ability of an individual to step outside of his/her immediate sense of time and place and to view life from a broader, more unified perspective. The factors of the *STS* are Prayer Fulfillment, Universality and Connectedness. This factor structure has been shown to be stable over several different samples (Piedmont 1999, 2001, 2004; Piedmont and Leach 2002; Piedmont *et al.* 2003), has been shown to significantly correspond with observer ratings (Piedmont 1999, 2001) and has shown significant incremental validity over the Five-Factor Model (FFM) of personality in predicting several psychological outcomes (e.g. emotional growth, stress, well-being, attitudes toward sexuality) (Piedmont 1999, 2001; Piedmont and Leach 2002; Piedmont *et al.* 2003).

The *Bi-Polar Adjective Rating Scale (BARS)* (Piedmont 1995) is an 80-item bipolar questionnaire that captures the five dimensions of personality as defined by the FFM (Costa and McCrae 1992): Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. Scale items are arranged in pairs and are rated on a seven-point scale. Alpha reliabilities in the scale's initial testing with 179 college students (149 women and 30 men, ages 17 to 24) ranged from 0.71 (Openness) to 0.83 (for both Extraversion and Agreeableness). A factor analysis of the scale, using the factor structure found by Costa and McCrae (1984) as the target matrix, yielded congruence coefficients of 0.89 for Neuroticism, 0.92 for Extraversion, 0.88 for Openness, 0.90 for Agreeableness and 0.85 for Conscientiousness (Piedmont 1995). A full discussion of the FFM is beyond the scope of this article. Those interested in learning more about the research and development of this model may refer to Digman (1990) or Piedmont (1998).

The *Faith Maturity Scale* (Benson *et al.* 1993) is a scale that assesses the degree to which one's life is energized by a fulfilling faith orientation. The version used in this study was the 12-item short form. Only the total score was used in analyses presented here.

The *Prosocial Behavior Inventory (PBI)* (DeConciliis 1993–94) is a 39-item scale that measures the frequency with which a person has engaged in various prosocial behaviors over the past three months.

The *Purpose in Life Test (PILT)* (Crumbaugh 1968) is a 20-item scale that measures a person's 'will to meaning', or the degree to which an individual has developed a personal sense of meaning in life.

The *Self-Actualization Scale (SAS)* (Jones and Crandall 1986) is a measure of Maslow's highest level of development.

The *Interpersonal Orientation Scale* is a 29-item scale developed by Swap and Rubin (1983) to determine the degree to which one is interested in, and responsive to, other people.

The *Attitudes Toward Abortion Scale* is 20-item scale developed by Parsons *et al.* (1990). It is designed to assess individuals' attitudes toward and reasoning about abortion (high scores indicate a person who is 'pro-life', that is, anti-abortion).

The *Sexual Attitudes Scale* is a 21-item scale developed by Fisher *et al.* (1988) to capture attitudes about sexuality. The overall dimension that arises from this scale reflects sexual attitudes ranging from very erotophobic (low scores = negative attitudes about sex) to very erotophilic (high scores = very positive attitudes about sex).

The *Affect Balance Scale (ABS)* is a 10-item scale developed by Bradburn (1969) to provide a measure of overall psychological well-being over a specific period of time ('in the past few weeks'). Five of the items reflect positive affect and five reflect negative affect. The ABS score is obtained by summing the scores of the five negative affect items and subtracting the total from sum of the positive affect items and adding a constant of 5 to avoid a negative overall score. Total scores range from 0 (lowest affect balance) to 10 (highest affect balance). The ABS has been used extensively with a variety of populations and a variety of settings. Subscale scores also correlate with ratings of global happiness (Lowenthal *et al.* 1975) and well-being (Costa and McCrae 1984). In addition, well-being was captured by a single item rating, by which participants indicated their satisfaction with their lives from 'terrible' to 'delighted'.

The *Religious Behaviors Scale (RBS)* is a 4-item scale that asked participants the frequency with which they pray, read the Bible, read religious literature other than the Bible and attend church services. This scale was developed by the second author.

*Item Development.* After reviewing a number of theological resources on sexual theology and related concepts, the first author began discussions with a group of individuals (clergy and lay, male and female, gay/lesbian and heterosexual) who had varying degrees of familiarity with these concepts. This group compiled 50 items that were believed to capture elements of an integrated sexuality/spirituality or embodied spirituality and provided a basis for face validity. Then, in consultation with the second author, these 50 items were edited down to 42 items that served as the initial item pool for the development of the scale.

## Results

*Factor Analysis.* The 42 items were subjected to a principal components analysis with varimax rotation. Four factors were identified and extracted (accounting for 44 percent of the variance). Factor 2, comprised of nine items, reflected the spiritual qualities of interest. These nine items

were: 'Prayer can change the way I feel physically', 'Spiritual ecstasy can move me to tears', 'I am aware of God's presence when I am having sex', 'Intimacy with others is connected with intimacy with God', 'Sexual pleasure has nothing to do with God', 'Sexuality is an embodied (i.e. body and spirit) response to God', 'Thinking about God during sex would be strange to me', 'I cannot imagine thinking about God when I am making love', 'Worship is an activity of the whole body'. The *Embodied Spirituality Scale (ESS)* was created by summing these items ( $\alpha = 0.80$ ). Although women scored slightly higher than men (26.2 versus 25.9), this difference was not significant ( $t(190) = 0.24, p = \text{n.s.}$ ). Several items were reverse scored to control for acquiescence bias.

*Correlational Analysis.* Scores on the *ESS* were correlated with various demographic variables, measures of the FFM of personality and various religious and non-religious measures and the results are presented in Table 1. As can be seen, the *ESS* correlated significantly with the *STS* ( $r(190) = 0.54, p < 0.001$ ), Frequency of Prayer ( $r(190) = 0.55, p < 0.001$ ), Church Attendance ( $r(190) = 0.48, p < 0.001$ ) and the *Faith Maturity Scale* ( $r(190) = 0.66, p < 0.001$ ). This indicated that the *ESS* clearly captured aspects of spirituality and religious behavior.

Correlations with the measure of the Five Factor personality dimensions indicated only a single significant relationship, with Agreeableness ( $r(190) = 0.23, p < 0.002$ ), indicating that individuals high on *ESS* tend to be more compassionate, trusting and tender-minded. The lack of such association with these dimensions suggests that the *ESS* captures aspects of the individual mostly independent of established personality constructs. The *ESS* also showed numerous significant relationships with a variety of salient psychosocial constructs, such as Well-being, Positive Affect, Self-Actualization and sexual attitudes.

*Incremental Validity.* In order to demonstrate that the *ESS* captures unique aspects of the individual not mediated by personality, a series of hierarchical regression analyses were performed with each of the psychosocial variables listed in Table 1 as the outcome. The scores for the five personality dimensions were entered on the first step followed by the *ESS* score on Step 2. A partial *F*-test indicated if the *ESS* explained additional variance in each outcome. As can be seen in Table 2, in all but two instances the *ESS* added significant explanatory variance over the five personality dimensions.

A second series of hierarchical regression analyses were performed in which the Psychosocial Outcome variables were each used as dependent variables. On Step 1 of the analysis, the five personality domains were



Table 1. Correlations between the *Embodied Spirituality Scale* and other spiritual, religious, personality and psychosocial variables

Outcome	ESS
<i>Spirituality Variables</i>	
Total Spiritual Transcendence Score	0.54**
Total Faith Maturity Score	0.66***
<i>Religious Behavior Variables</i>	
Frequency of Prayer	0.55***
Frequency Attend Services	0.48***
Frequency Read the Bible	0.60***
Frequency Read Religious Literature	0.53***
<i>Big Five Personality Dimensions</i>	
Neuroticism	-0.14
Extraversion	0.03
Openness	-0.04
Agreeableness	0.23**
Conscientiousness	0.11
<i>Psychosocial Outcomes</i>	
Purpose in Life Scale	0.24**
Pro-social Behavior Scale	0.14*
Self-Actualization Scale	0.24***
Interpersonal Orientation	-0.10
Sexual Opinion Scale (erotophilia)	-0.27***
Attitude towards Abortion (pro-life)	0.30***
Positive Affect	0.18*
Negative Affect	-0.14
Well-being	0.17*

Note: *N* ranges from 187 to 192. \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ; two-tailed.

Table 2. Incremental validity of the *ESS* in predicting psychosocial outcomes over the big five personality domains

Psychosocial Outcome	Big Five $R^2$	ESS $\Delta R^2$
Purpose in Life Scale	0.41	0.03**
Pro-social Behavior Scale	0.08	0.02 <sup>a</sup>
Self-Actualization Scale	0.27	0.03**
Interpersonal Orientation	0.17	0.00
Sexual Opinion Scale (erotophilia)	0.20	0.04**
Attitude towards Abortion (pro-life)	0.05	0.09***
Positive Affect	0.07	0.04**
Negative Affect	0.08	0.01
Well-being	0.17	0.03*

Note: *df* for the Partial *F*-tests were (1,179). <sup>a</sup> $p < 0.07$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

entered, followed by the overall STS score on Step 2 and the ESS scale on Step 3. Partial *F*-tests showed that the ESS scale explained significant additional variance in Attitudes towards Abortion ( $\Delta R^2 = 0.09$ , partial  $F(1, 175) = 17.18, p < 0.001$ ) and Sexual Attitudes ( $\Delta R^2 = 0.04$ , partial  $F(1, 1765) = 10.38, p < 0.002$ ).

### *Discussion of Study 1*

The results of Study 1 clearly support the concept of embodied spirituality as an aspect of individual spiritual experience that is relatively independent from personality dimensions. This is a dimension that has not been identified in previous empirical research on spirituality. Significant correlations were found between the ESS and other measures of spirituality and with only one of the five major personality dimensions, providing both convergent and discriminate validity for ESS. Study 1 also demonstrated that ESS exhibited incremental validity over the five major personality dimensions in predicting scores on several psychosocial outcome measures.

One of the limitations of Study 1 was that the participants were undergraduate students and it is possible that ESS would perform differently in other populations. Also, Study 1 did not indicate whether scores on the ESS may be mediated by other factors, such as sexual orientation or gender. Additional research is necessary in order to evaluate these issues. Study 1 also did not examine possible relationships between ESS and health-related factors, and it seems reasonable to predict that since the ESS is a measure of integration of sexuality (body) and spirituality (spirit) that some relationship with health-related factors may, in fact, exist. These issues are addressed in Study 2.

### *Study 2<sup>1</sup>*

The purpose of Study 2 was to confirm the psychometric properties of the ESS as a measure of embodied spirituality that is relatively independent of personality. Sexual orientation and gender were also included in the design of Study 2 in order to determine whether those variables mediated scores on ESS. A 2 (sexual orientation)  $\times$  2 (gender) ANOVA was performed to determine whether significant relationships existed between these variables and ESS scores. Possible relationships between ESS and health-related factors were examined by using a series of multiple regression analyses with health-related measures as dependent variables.

1. Study 2 was partially funded by a grant (to the first author) from the Episcopal Diocese of Washington, DC.

*Method*

*Participants.* Participants for this study were 125 female (46.5 percent) and 142 male (52.8 percent) adults between the ages of 18 and 78 ( $M = 47$ ;  $SD = 10.9$ ). The sample was 77 percent Caucasian ( $n = 207$ ), 11 percent African-American ( $n = 32$ ), 1.9 percent Hispanic ( $n = 5$ ), 1.5 percent Native American ( $n = 4$ ) and 1.1 percent Asian ( $n = 3$ ). Nearly 7 percent (6.7 percent,  $n = 18$ ) of participants listed their ethnicity as 'other'. They represented at least seven different faith traditions from within Christianity (Episcopal, 42 percent; Metropolitan Community Church, 26.4 percent; Roman Catholic, 13.8 percent; Baptist, 4.8 percent; Methodist, 1.9 percent; Presbyterian, 0.4 percent; United Church of Christ, 0.4 percent and 'Other' 10.4 percent) and several different Christian congregations in the Baltimore-Washington, DC area. Sexual orientation of participants was 41.6 percent non-gay/lesbian ( $n = 112$ ), 33.5 percent gay men ( $n = 90$ ), 21.6 percent lesbian ( $n = 58$ ), 1.9 percent bisexual ( $n = 5$ ) and 1.5 percent 'Other' ( $n = 4$ ). Participants who identified their sexual orientation as bisexual or 'other' and participants who identified their gender identity as transgendered ( $n = 2$ ) were excluded from the statistical analysis because an examination of these categories of individuals was beyond the scope of the present study.

*Measures.* The *Assessment of Spirituality and Religious Sentiments (ASPIRES)* was developed by Piedmont (2004) to both clarify and broaden the scope of the *STS* (described in Study 1 above). The *ASPIRES* measures two dimensions of spirituality: Religious Sentiments (which includes the domains of Religiosity and Religious Crisis) and Spiritual Transcendence (which includes a revised version of the *STS* facets of Prayer Fulfillment, Universality and Connectedness). It is composed of 35 items on Likert-type scales (range definitions differ according to subsection). A significant feature of the *ASPIRES* is that it includes both self reports and observer ratings. Internal reliability alphas range from 0.49 (Connectedness, self report) to 0.94 (Prayer Fulfillment, self report). Correlations between self report and observer report alpha reliabilities were all significant ( $p < 0.001$ ). The *ASPIRES* has been found to have incremental and predictive validity over personality for numerous outcomes (Piedmont 2004).

The *Bi-Polar Adjective Rating Scale (BARS)* was described in Study 1 above.

The *Body Awareness and Sensitivity for Intimacy Comfort Scales (BASICS)* was designed by Rayburn and Richmond (1996) to measure the level of body comfort, comfort with intimacy and expressions of sexuality and negative sexual behavior. This 37-item scale has an overall internal reliability of 0.91 (303 cases). Responses are measured on a Likert-type

scale. Internal reliability alphas for the three subscales of the *BASICS* are as follows: Body Comfort, 0.92 (310 cases); Intimacy and Expressions of Sexuality, 0.89 (305 cases); and Negative Sexual Behavior, 0.98 (309 cases) (Rayburn and Richmond 1996). The authors also address validity of the scale by correlating the *BASICS* with the *Derogatis Sexual Functioning Inventory* (Derogatis and Melisaratos 1979) ( $r = 0.72, p < 0.001$ ) and *NEO PI-R* (Costa and McCrae 1992) subscales with *BASICS* subscales as follows: Neuroticism with Body Comfort,  $r = -0.38$  ( $p < 0.05$ ); Neuroticism with Negative Sexual Behavior,  $r = 0.41$  ( $p < 0.05$ ); Extraversion with Body Comfort,  $r = 0.40$  ( $p < 0.05$ ); Conscientiousness with Intimacy,  $r = 0.35$  ( $p < 0.05$ ); and Conscientiousness with Negative Sexual Behavior,  $r = -0.54$  ( $p < 0.001$ ) (Rayburn and Richmond 1996).

The *Embodied Spirituality Scale (ESS)* and the *Affect Balance Scale (ABS)* were both described in Study 1 above.

The *Satisfaction with Life Scale (SWLS)*. Deiner *et al.* (1985) developed this five-item scale to measure global life satisfaction. Each item is scored on a scale from 1 (low satisfaction) to 7 (high satisfaction). The scale has been used with a variety of populations and has demonstrated high internal consistency and high temporal stability. Scores on the *SWLS* have shown moderate to high correlations with other measures of subjective well-being and correlate predictably with aspects of personality (e.g. 0.54 with self-esteem; -0.41 with neuroticism). It has also demonstrated that subjective well-being is a relatively global and stable construct rather than a momentary judgment (Pavot *et al.* 1991).

The *Multidimensional Health Profile Health Functioning (MHP-H)*. This is a comprehensive measure of health functioning developed by Ruehlman *et al.* (1998), based on a national standardization sample of 2411 participants. The profile does not yield an overall score. Instead, it provides scores on 20 subscales formed by the 69 items that cover the areas of subject response to, health habits, adult health history, health care utilization and health beliefs and attitudes. Responses are measured on a 5-point Likert-type scale with different words representing the range of responses for each section (Ruehlman *et al.* 1998).

The authors addressed validity and reliability issues by correlating *MHP-H* subscales with a variety of well-researched instruments, including the *NEO-FFI* (Costa and McCrae 1992) and by using a subsample of 100 spouses who rated their partners (participants) on the various subscales. Analysis revealed a high number of significant correlations with other health-related instruments and few significant correlations with *NEO-FFI* (FFM) personality measures. The majority of spousal subsample ratings were significant (15 out of the 20 subscales, all significant at  $p = 0.01$ ) (Ruehlman *et al.* 1998).

*Demographic Questionnaire.* A demographic questionnaire was included to obtain information such as age, ethnicity, denominational affiliation, gender identity and sexual orientation.

### Results

As predicted, significant correlations were found between the *ESS*, the *ASPIRES* and the *BASICS*. These results are presented in Table 3. As can be seen, significant correlations were found between the *ESS* and the *ASPIRES* total score ( $r(264) = 0.40, p < 0.01$ ), and with the subscales of Religiosity ( $r(264) = 0.31, p < 0.01$ ), Religious Crisis ( $r(264) = -0.20, p < 0.01$ ), Prayer Fulfillment ( $r(262) = 0.37, p < 0.01$ ) and Universality ( $r(262) = 0.25, p < 0.01$ ). Significant correlations were found between the *ESS* and the *BASICS* total score ( $r(264) = 0.28, p < 0.01$ ) and the Intimacy subscale ( $r(264) = 0.28, p < 0.01$ ). Correlations between the *ESS* and the FFM personality dimensions were small, but all were significant.

Table 3. Correlations between the *ESS*, the *BARS*, the *ASPIRES* and the *BASICS*

Criterion variable	Correlation with <i>ESS</i>
<i>BARS</i>	
Neuroticism	-0.27*
Extraversion	0.29*
Openness	0.20*
Agreeableness	0.23*
Conscientiousness	0.17*
<i>ASPIRES</i>	
Religiosity	0.31**
Religious Crisis	-0.20**
Prayer Fulfillment	0.37**
Universality	0.25**
Connectedness	0.01
<i>ASPIRES</i> total score	0.40**
<i>BASICS</i>	
Body Comfort	0.11
Intimacy	0.28**
Negative Sexual Behavior	-0.01
<i>BASICS</i> total score	0.28**

Note: *N* ranges from 259 to 264. \*  $p < 0.01$ .

A joint factor analysis was performed using the five domain scores of the *BARS*, the Spiritual Transcendence subscales of the *ASPIRES* and the *ESS* total scores. The best simple structure was found to be a two-factor solution (oblique rotation) that explained 46 percent of the variance.

These results are presented in Table 4. As can be seen, four of the five personality dimensions loaded on Factor 1 and Prayer Fulfillment, Universality and the *ESS* loaded on Factor 2. The correlation between the two factors was 0.19. These results indicate that the *ESS* is relatively orthogonal to personality.

Table 4. Joint factor analysis of the Five Factor Personality Dimensions, the *ASPIRES* Spiritual Transcendence Dimensions and the *ESS*

Scales	Factor 1	Factor 2
Agreeableness ( <i>BARS</i> )	<b>0.76</b>	0.11
Neuroticism ( <i>BARS</i> )	<b>-0.66</b>	0.08
Conscientiousness ( <i>BARS</i> )	<b>0.66</b>	0.01
Extraversion ( <i>BARS</i> )	<b>0.60</b>	0.30
Connectedness ( <i>STS-R</i> )	0.13	-0.05
Prayer fulfillment ( <i>ASPIRES</i> )	-0.10	<b>0.90</b>
Universality ( <i>STS-R</i> )	-0.16	<b>0.89</b>
<i>ESS</i>	0.26	<b>0.53</b>
Openness ( <i>BARS</i> )	0.26	0.27

Note: Factor loadings > 0.40 are in bold.

A 2 (gender) × 2 (sexual orientation) ANOVA was performed using the total *ESS* score as the dependent variable and gender and sexual orientation as the independent variables. No significant main effects were found for gender [ $F(1, 250) = 1.90, p > 0.05$ ] or for sexual orientation [ $F(1, 250) = 3.19, p > 0.05$ ]. No significant interaction effect was found between gender and sexual orientation [ $F(2, 250) = 0.284, p > 0.05$ ].

#### *Embodied Spirituality Scale and Health-related Factors*

A canonical correlation was performed in order to determine what, if any, significant relationships existed between the *ESS* and the *MHP-H* subscales. First, a regression was performed in which *ESS* scores were regressed on the five personality domains. The residual from this regression analysis was then saved as a separate variable. This residualized *ESS* variable was then entered into the canonical correlation with the 21 *MHP-H* subscales to determine whether there were significant relationships between these subscales and the *ESS*. The canonical correlation analysis revealed that there was a significant overall relationship between the *ESS* and the *MHP-H* subscales (Wilks' lambda = 0.806; multivariate  $F[21, 191] = 2.20; p < 0.01$ ). Inspection of the univariate analysis revealed four effects: 'help from friends' ( $\beta = 0.148, F[1, 211] = 4.70, p < 0.05$ ), 'spiritual help' ( $\beta = 0.263, F[1, 211] = 15.72, p < 0.01$ ),

'using over the counter medications' ( $\beta = 0.139$ ,  $F[1, 211] = 4.18$ ,  $p < 0.05$ ) and 'health vigilance' ( $\beta = 0.149$ ,  $F[1, 211] = 4.80$ ,  $p < 0.05$ ).

In order to simplify and clarify potential underlying constructs, a factor analysis was performed on 12 of the subscales of the *MHP*. The nine single-item subscales ('response to illness', 'using over the counter medications', 'adult life', 'health for past six months', 'current illness', 'chronic illness impairment', 'office visit', 'overnight hospital stay', and 'ER visit') were excluded from the analysis. A three-factor solution with varimax rotation resulted in the best simple structure and explained 49 percent of the variance. Table 5 presents these results.

Table 5. Factor analysis of the *MHP-H* subscales

Subscale	Factor 1	Factor 2	Factor 3
Health Vigilance	<b>0.85</b>	0.09	0.04
Self-efficacy	<b>0.77</b>	-0.16	0.09
Positive Health Habits	<b>0.64</b>	0.19	-0.27
Health Values	<b>0.46</b>	-0.04	0.22
Professional Help	0.21	<b>0.68</b>	0.34
Help from friends	0.01	<b>0.64</b>	-0.19
Self-help	-0.08	<b>0.60</b>	-0.01
Hypochondriasis	<b>-0.41</b>	<b>0.59</b>	-0.01
Spiritual Help	<b>0.40</b>	<b>0.55</b>	0.00
Trust in Health Care System	-0.07	-0.03	<b>0.71</b>
Trust in Health Care Personnel	0.24	0.10	<b>0.71</b>
Negative Health Habits	0.01	0.04	<b>-0.46</b>

Note: Factor loadings > 0.40 are in bold.

An examination of the items on each of the subscales indicated that the majority of items loading on Factor 1 appear to be related to confidence in one's ability to take care of one's own health management (and include a negative loading on the subscale 'hypochondriasis') and, therefore, suggest an underlying construct that may be referred to as 'Health Confidence'. The items loading on Factor 2 appear to be primarily related to help-seeking behavior (and include a positive loading on the subscale 'Hypochondriasis'), which suggests an underlying construct that may be referred to as 'Health Anxiety'. The items loading on Factor 3 appear to be related to reliance on professional help for health management rather than taking personal responsibility for one's health management (note the negative loading on 'negative health habits') and may be referred to as 'Health Dependency'.

These three factors were correlated with the personality, spirituality and the *ESS* variables. The results of this analysis are presented in Table 6. As can be seen, Factor 1 is significantly correlated with the personality

dimensions of Neuroticism (negative correlation), Extraversion, Agreeableness and Conscientiousness; significantly correlated with the spirituality dimensions of Religiosity, Religious Crisis (negative correlation), Prayer Fulfillment, Universality and the *ASPIRES* total score; and with the *ESS*. Factor 2 is significantly correlated with the personality dimensions of Neuroticism and Extraversion, and significantly correlated with the spirituality dimensions of Religiosity, Prayer Fulfillment, Universality, Connectedness and the *ASPIRES* total score. Factor 3 is significantly correlated with the personality dimensions of extraversion (negative correlation) and openness (negative correlation) and significantly correlated with the *ESS* (negative correlation). Factor 3 did not significantly correlate with any of the spirituality dimensions of the *ASPIRES*.

Table 6. Correlations between Factor 1, Factor 2, Factor 3 and other key variables

Criterion variable	Factor 1	Factor 2	Factor 3
<i>Five Factor Personality Domains</i>			
Neuroticism	-0.16*	0.17**	-0.04
Extraversion	0.16**	0.14*	-0.13*
Openness	-0.01	0.08	-0.23**
Agreeableness	0.18**	0.15	0.04
Conscientiousness	0.38**	-0.02	0.07
<i>ASPIRES</i>			
Religiosity	0.23**	0.17**	0.02
Religious Crisis	-0.20**	-0.03	0.03
Prayer Fulfillment	0.20**	0.15*	-0.01
Universality	0.15*	0.16**	0.01
Connectedness	-0.06	0.20**	0.02
<i>ASPIRES</i> Total Score	0.14*	0.22**	0.01
<i>ESS</i>	0.19**	0.12	-0.15*

Note: *N* ranges from 261 to 266. \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

A 2 (gender)  $\times$  2 (sexual orientation) MANOVA was also performed using Factors 1, 2 and 3 as dependent variables. The analysis revealed a main effect for sexual orientation on Factor 2 [ $F(1, 254) = 5.116, p < 0.05$ ] and for gender on Factor 2 [ $F(1, 250) = 7.50, p < 0.05$ ] and Factor 3 [ $F(1, 254) = 5.08, p < 0.05$ ].

### *Discussion of Study 2*

In summary, the results of Study 2 confirmed the psychometrics of the *ESS* as a measure of embodied spirituality that is relatively independent of personality. Significant correlations were found between the *ESS*, the *ASPIRES* and the *BASICS*, providing convergent validity for the *ESS* as a measure of spirituality and body comfort and intimacy. Correlations



with the five personality dimensions were small, but all were significant. A joint factor analysis of the *BARS*, the *ESS* and the *ASPIRES* resulted in the *ESS* loading on the spirituality factor and not the personality factor. As predicted, the *ESS* did have incremental and predictive validity over the five major personality factors in predicting scores on the *MHP-H* subscales ('help from friends', 'spiritual help', 'using over the counter medications', and 'health vigilance') and for two of the three factors (Factor 1 and Factor 2) that resulted from the factor analysis of *MHP-H* scales.

Study 2 found no main effects for either sexual orientation or gender on the *ESS*. Since this is the first empirical study of embodied spirituality as measured by the *ESS*, additional research may be helpful in clarifying this finding. Future empirical research on spirituality could potentially clarify some of these issues by including sexual orientation as a variable with the same regularity that other demographic variables (e.g., age, gender, race, religious affiliation) are included. Studies that do not include sexual orientation as a variable may fail to find effects because of the variance attributable to sexual orientation.

One of the limitations of Study 2 may have been a somewhat restricted range of theological perspectives. Although an attempt was made to include participants from a wide range of theological perspectives, it is possible that the nature of the study itself (examining the relationship between sexuality and spirituality) or some of the measures used in the study (particularly the *BASICS* and the *ESS*) may have offended more theologically conservative individuals who may have subsequently chosen not to participate. Another limitation is that the *ESS* is a self-report measure. The inclusion of observer ratings has been found to be a rich resource for consensual validation in scale development research (Piedmont 1999, 2004). This presents additional options for future research on the *ESS*.

### *General Discussion*

Although the concept of embodied spirituality is well represented in the theological literature, it has not been previously identified in empirical literature regarding spirituality. The findings reported here from both Study 1 and Study 2 support the concept of embodied spirituality as a facet of individual spiritual experience that is relatively independent of the five major personality dimensions. Correlations with measures of spirituality, religious behavior and body comfort and intimacy provided convergent validity evidence for the *ESS*. Most importantly, the hierarchical regression analyses showed the *ESS* to provide additional

explanatory variance over personality in predicting outcomes related to a variety of psychosocial outcomes and health-related factors.

However, the dimension of embodied spirituality has implications beyond the narrow scope of sexuality/spirituality research. It also addresses the broader dimension of body/spirit integration, which could prove valuable in health care research (as suggested in the findings of Study 2). Studies that examine the health effects of religious/spiritual interventions often conclude that some relationship between health (body) and spirit seems to exist, although the 'mechanism' or 'exact nature' of the relationship 'remains unknown' (Sloan *et al.* 2001). The results in Study 2 that described the relationship between *ESS* and health-related factors suggest that embodied spirituality may offer clues to the nature of this relationship. It may be that one's level of embodied awareness is the 'active ingredient' in the relationship between health (body) and spirit (spirituality). As a measure of embodied awareness, *ESS* lays the groundwork for future research not only on embodied spirituality, but also for research on the development of a broader, more holistic measure of embodiment.

Levels of integration (or embodiment) exist on a continuum and few individuals, if any, would be likely to claim to be fully integrated all of the time (Aposhyan 2004). However, by bringing *consciousness* and *intentionality* to the issue of embodiment, one's sense of embodiment can be increased (Aposhyan 2004; Pert 1997). Increasing the level of awareness of integration is what embodiment practices or techniques are designed to do. These are not only 'feel good' experiences but are also capable of affecting physiological processes. For example, Pert (1997) explained how a simple change in breathing can change the number and type of peptides that the brain stem releases and that 'by bringing this process *into consciousness*' (italics added) and *intentionally* altering it (for example, by holding one's breath or breathing faster than normal) the peptides will begin to diffuse more quickly in an attempt to restore homeostasis in the body. The conscious and intentional efforts to assess, adjust and mediate such processes is at the heart of embodiment.

A note of caution is also warranted about the possible ramifications of not considering the dimension of embodiment in clinical practice. Professionals who are entrusted with the care of others (medical professionals, psychotherapists, pastoral caregivers, and so on) have an ethical imperative (at the very least) to 'do no harm'. Without an understanding of the nature and process of integrating body, mind and spirit, or of the client's level of embodiment, it would be difficult to determine whether the interventions used with a patient or client would facilitate movement toward integration or disintegration and whether they would facilitate

healing or contribute to the continuation (and possibly exacerbation) of disease.

Perhaps a useful way to think of the clinical implications of this is to imagine that the spirit has a need or desire (e.g., to simply be heard, to create, to grieve) that the mind attempts to repress or suppress (e.g., 'don't be silly', 'it was a long time ago, get over it'), and the body experiences the result of that disconnection by displaying symptoms (e.g., depression and anxiety, to name only a few) (Horn 2004). Integrative approaches that address each of these manifestations as well as the dynamic interaction between them have the potential to promote healthy development both within and between individuals that is characterized by a flow of energy and information (Aposhyan 2004; Pert 1997; Siegel 1999). Siegel (1999) described integration as the key to the continued interdependent development of our inner and outer worlds and the connection that results from integration as a form of resonance within and between individuals. This suggests the kind of ripple effect that Pert (1997) described as a biologically based resonance in which human cells vibrate in response to each other like 'the strings of a resting violin responding when another violin's strings are played' (p. 312). These ripples and responding vibrations, if nurtured, have the potential for healing within an individual, within an interpersonal relationship, and within larger relational systems (Aposhyan 2004; Siegel 1999). Attending to the issue of embodiment and to techniques that are designed to increase one's level of embodiment therefore has the potential to enhance healing at a variety of levels: within the individual, within relationships, within churches, and within society. The two studies presented here suggest that the *ESS* may be a useful foundational tool in these endeavors.

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