A PSYCHOMETRIC EVALUATION OF THE SHORT FORM OF THE FAITH MATURITY SCALE*

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ABSTRACT

A recent review of spirituality measures identified the Faith Maturity Scale (FMS; Benson, Donahue, & Erickson, 1993) as a potentially useful instrument because of its basis in faith behavior, its development in a national sample, and its psychometric properties. Using a diverse faith sample of 1,288 women and 498 men, this study evaluated the psychometric properties of the 12-item short form of this scale. Exploratory and confirmatory factor analyses indicated that two correlated factors well represented the internal structure of the scale while correlations with measures of religious behavior and spirituality supported its construct validity. Most notable were correlations with measures of emotional maturity, personal meaning and prosocial behavior, which highlighted the FMS scale's personological predictive breadth. These associations were maintained even after the effects of personality were controlled. Such incremental validity supports the utility of the FMS as a measure of religiousness independent of existing personality constructs.

Society in general and the social sciences in particular are experiencing a growing interest in the concepts of religion and spirituality. However one may view religion, 3.5 billion people around the world report it plays a role in their daily living (Paloutzian, 1996). According to Gallup (1994), over 80% of Americans polled reported that religion is important in their lives. The New York Times bestseller list has been inundated with spiritual-like titles, and more recently Newsweek magazine had two articles dealing with spirituality and its rootedness in our lives (Begley, 2001; Woodward, 2001). In scientific journals religious and spiritual constructs such as religious commitment (Levin & Tobin, 1995; Poloma & Pendelton,

1990), religious coping (Boudreaux, Catz, Ryan, Amaral-Melendez & Brantley, 1995; Pargament, Kennel, Hathaway, Grevengoed, & Jones, 1988), and Spiritual Transcendence (Piedmont, 2001) have been found to show positive influences on mental health while also being related to an array of psychologically salient outcomes. No doubt that religious and spiritual variables provide us with important information about who people are and the directions in which their lives will move.

Researchers whose interests lie in the area of religion and spirituality have benefitted from recent attempts at empirically defining these rather ethereal phenomena. As a consequence, a large number of scales have been developed to help fill the growing measurement needs of the field (see Hill & Hood, 1999; MacDonald, Friedman, & Kuentzel, 1999). Despite a plethora of instruments, three important issues have emerged. First, the degree to which these various measures capture distinct aspects of the individual needs to be determined. Having different names for these scales is no guarantee that they actually capture independent constructs; thus the issue of conceptual redundancy is very real. Second, there are concerns about both the psychometric integrity of these scales and their lack of validity evidence (Gorsuch, 1988; Hall, Tisdale, & Brokaw, 1994). For many scales, little or no psychometric evidence is provided. Oft times scales that appear in the literature are used only once or twice and no construct validity evidence accrues for the instrument. Subsequently, researchers are left with many partially developed, conceptually incomplete scales. Finally, it needs to be determined whether these constructs represent new aspects of psychological functioning or whether they are merely the repackaging of already established individual difference variables. Van Wicklin (1990) questioned whether spiritual measures were only the "religification" of existing personality constructs. What added value does spirituality bring to the field?

This last issue is particularly important because it addresses the field at a very fundamental level: Its ability to provide new, unique insights into human dynamics. Piedmont (1999b) argued that developers of religiousness and spirituality instruments need to demonstrate the incremental validity for their measures; to show that these constructs provide information about people over and above what already established personality measures can do. Using the Five-Factor Model of personality (FFM; Digman, 1990; McCrae & John, 1992) as his reference point, Piedmont (1999b) demonstrated that

many instruments did not exhibit much predictive validity once the domains of the FFM were removed. One scale that does appear to offer some promise is the Faith Maturity Scale (FMS; Benson, Donahue, & Erickson, 1993). Slater, Hall, and Edwards (2001) noted that the scale has evidenced good psychometric qualities and has the advantage of being developed and normed on a large sample of Christians.

Benson et al. (1993) defined faith maturity as "the degree to which a person embodies the priorities, commitments, and perspectives characteristic of vibrant and life-transforming faith, as these have been understood in 'mainline' Protestant traditions" (p. 3). In operationalizing this definition, Benson et al. created two subscales: the Vertical (which assesses the degree to which a person emphasizes the relationship between the self and a transcendent reality), and the Horizontal (which assesses the degree of emphasis a person places on serving human kind in terms of prosocial acts and values). These two dimensions are used to create a four-fold typology of faith maturity. Although constructed as a 38-item instrument, several short forms have been created. Of particular interest to this report is the 12-item version. This scale shows good reliability and correlated .94 with the total scale. Benson et al. noted that this version of the instrument correlated as high or higher with external criteria than the full version. It also balances the two dimensions of Vertical and Horizontal, although the initial factor analysis evidenced the presence of only one large factor. Ciarrocchi, Piedmont, and Williams (2000) have shown the short form to evidence significant incremental validity over the FFM domains in predicting prosocial behavior. Chen (1996) demonstrated that the items can be reliably translated into Taiwanese and that the scales continued to evidence useful incremental and construct validity.

In an area with many psychometrically weak scales, the FMS appears to offer an empirically robust alternative. The purpose of this report is to add to our understanding of this scale. There are four issues that will be considered in this report. First, although the original instrument was validated on a large sample, no descriptive and psychometric information is available on the 12-item short form. Its brevity and comparable validity to the long form make it an ideal choice in many research settings and additional validity information can help facilitate its usage. Second, the FMS has been used almost exclusively with mainline Protestant samples. This report will employ

a more diverse faith sample that will include Catholics and Baptists, two groups explicitly omitted originally. This study will examine whether the short form will remain as internally consistent and valid with a more heterogenous group. Third, the factor structure of the instrument will be examined. Originally only one large factor was obtained. Given that there are two subscales, it will be interesting to determine whether they constitute only a single factor (and thus need not really be used as separate constructs) or two factors. Using both exploratory and confirmatory factor analytic techniques, the most optimal internal structure will be found. Finally, this report will examine the construct and incremental validity of the FMS scale. Correlations should be observed between the FMS and a variety of religious, spiritual, and psychological outcomes. These associations should be maintained even after the predictive effects of personality are controlled.

METHOD

Participants

Participants consisted of 1,786 undergraduate students (1,288 women and 498 men) ranging in age from 17 to 62 (Mean = 19). For those that indicated a religious preference, over 88% were Christian with the remaining 12% including Jewish and Other categories. These individuals were aggregated from seven different studies that used the Faith Maturity Scale from September, 1995 to May of 2000.

Measures

Faith Maturity Scale, Short Form (FMS): Developed by Benson, Donahue, and Erickson (1993), this scale assesses the degree to which one's life is energized by a fulfilling faith orientation. Although this instrument contains 38 items, the version used in this study was the 12-item short form developed by Donahue (reported in Benson et al., 1993). Benson et al. (1993) report a correlation between scores on the short version and the total scale of $r = .94$. There are two subscales; the Horizontal, which evaluates the degree to which one's faith leads toward commitments to help others, and the Vertical, which looks at one's sense of closeness to God. Scores are obtained by simply adding responses from each item. Alpha reliability for the overall score was reported to be .88 for an adult sample of mainline

Protestants. Individuals responded to the questions on a 1 (*never true*) to 7 (*always true*) Likert-type scale. One item (#9) was changed in these research studies from, "My life is committed to Jesus Christ" to "My life is committed to the God of my understanding". This was done to make the scale relevant to non-Christian, God-believing participants.

Spiritual Transcendence Scale (STS): Developed by Piedmont (1999a), this 24-item scale captures the degree to which an individual can stand outside of his/her own immediate needs and perspectives and to view life from a larger, more unitive perspective. Three subscales are captured: *Universality*, a belief in the unity and purpose of life; *Prayer Fulfillment*, an experienced feeling of joy and contentment that results from prayer and/or meditation; and *Connectedness*, a sense of personal responsibility to others that cuts across generations and social strata. Items are responded to on a 1 "Strongly Agree" to 5 "Strongly Disagree" scale. Piedmont (1999a; 2001) has shown that these dimensions are independent of the personality domains of the FFM and are able to predict a wide array of relevant life outcomes.

Bipolar Adjective Rating Scale (BARS): This 80 item scale is designed to capture the five major dimensions of personality: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. Research has shown this scale to capture stable, trait dimensions of personality that exhibit cross-instrument, cross-observer validity. Responses are measured on a 1 to 7 point Likert-type scale, and scores for each dimension are found by simply summing responses for each domain. Half of the items are negatively reflected to reduce acquiescence effects. Although initially developed and validated for adults (McCrae & Costa, 1985, 1987), the scale has been shown to be reliable and structurally valid with college students (Piedmont, 1995).

Prosocial Behavior Inventory. This 39-item scale was developed by De Conciliis (1993/1994) using an act-frequency paradigm. Behaviors selected for this scale were nominated by college students as being very descriptive of students they believed to be prosocial. Students were asked to answer each question on a 5-point Likert-type scale denoting the frequency with which they performed each activity over the previous six months.

The Purpose in Life Test. Developed by Crumbaugh (1968), this 20-item scale measures a person's "will to meaning" as construed by Victor Frankl (1959; 1966). Responses are given on a 7-point Likert-type scale, the poles of which vary according to the question. Guttmann

(1996) reviewed the research literature on this scale which provides basic validity data, documenting the scale's ability to capture the degree to which an individual has developed a personal sense of meaning in life. Alpha reliability for the scale in this sample was .84. Research has shown this scale to be related to psychological well-being (Zika & Chamberlain, 1992), ability to cope successfully with the death of a significant other (Pfost, Stevens, & Wessels, 1989; Stevens, Pfost, & Wessels, 1987), and successful outcomes from an alcohol dependence treatment program (Waisberg, & Porter, 1994).

Self-Actualization Scale. Created by Jones and Crandall (1986), this scale provides a measure of Maslow's highest level of development. The 15 items are responded to on a 1 (*disagree*) to 4 (*agree*) Likert-type scale. Jones and Crandall (1986) have found that high scores on this scale are associated with individuals being extraverted, rational in their thoughts and behaviors, and inner- directed. Alpha reliability for this scale in the current sample was .54. Crandall, McCown, and Robb (1988) showed that this scale was sensitive to clinical interventions related to increasing personal assertiveness.

Family Environment Scale (FES): Developed by Moos and Moos (1994), this scale contains 90 statements about various aspects of one's family environment that are responded to on a True-False scale. The instrument has ten scales which assess three different domains of family life: *Quality of the Relationship* which is measured by the Cohesion, Expressiveness, and Conflict scales; *Personal Growth*, which is measured by the Independence, Achievement Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis scales; and the *System Maintenance Dimension*, captured by the Organization and Control scales. These scales show adequate internal consistency and temporal stability. Research has shown that these dimensions are useful for understanding the contribution of family dynamics to the experience of both physical and psychological problems.

Demographic Questionnaire. Developed by the first author, this scale queries subjects about their age, gender, and religious affiliation. Also included were several Likert-type items asking subjects the frequency with which they read the Bible and other religious literature, their frequency of prayer, the extent to which they have a close relationship with God, and the degree to which they experience a union with God that enables them to grow spiritually. Participants were also asked to indicate their view of the Bible across five interpretive categories: a) Bible was written long ago and is worth little today;

b) The Bible was written by wise men but not by God; c) The Bible was inspired by God but contains some errors; d) All Bible stories reflect God's work, but some may not have occurred; and, e) The Bible is God's word, all events in it are literally true.

Procedure

Subjects completed the scales in small groups as part of larger studies. All subjects volunteered and all received course credit for their participation. Given the time and variety of purposes under which subjects completed these assessments were made, not all subjects may have completed all the criterion measures. Thus, sample sizes vary across analyses.

RESULTS

Factor Structure

The first task of this project was to determine the underlying factor structure to the instrument. A series of exploratory factor analyses were performed. After inspection of the scree test and considering the number of eigenvalues greater than one, the results indicated that one or two factors could be recovered. Initially, a principal components analysis was performed using a varimax rotation which extracted two factors that accounted for 63% of the total variance. For an item to be included on a factor, it had to have a minimum loading of .40 and no secondary loading greater than .40 and secondary loadings needed to be at least .20 below the primary loading. Given this study's large sample size ($N = 1786$) and the relative homogeneity of the items noted originally, these criteria appeared appropriate. An inspection of the items indicated that only item 6 ("My life is filled with meaning and purpose") did not load on any factor. Therefore, this item was deleted from further consideration. All further analyses involved only the 11 remaining items (See Table 1).

A second principal components analysis was conducted and two factors were again orthogonally rotated. These two factors accounted for 66% of the total variance. Eight items loaded on the first factor and appeared to represent the Vertical dimension and three items loaded on factor 2 and represented the Horizontal dimension. This analysis was repeated employing an oblique rotation of the two

Table 1. *Summary of Factor Loadings for Oblimin Two-Factor solution for the Short Form of the Faith Maturity Scale*

FMS Item	Factor	
	1	2
1. I help others with their religious questions and struggles	**.72**	.09
2. I seek out opportunities to help me grow spiritually	**.71**	.17
3. I feel a deep sense of responsibility for reducing pain and suffering in the world	.09	**.81**
4. I give significant portions of time and money to help other people	.02	**.77**
5. I feel God's presence in my relationships with other people	**.85**	.02
7. I care a great deal about reducing poverty in the United States And throughout the world	-.05	**.83**
8. I try to apply my faith to political and social issues	**.63**	.25
9. My life is committed to the God of my understanding	**.89**	-.10
10. I talk with other people about my faith	**.81**	-.04
11. I have a real sense that God is guiding me	**.91**	-.12
12. I am spiritually moved by the beauty of God's creation	**.83**	-.02

Note. Item 6 of FMS omitted. N = 1,786. Loadings greater than or equal to .40 are in bold.

factors. The two factors evidenced a moderate degree of correlation (r = .45), and the resulting pattern matrix provided a slightly better fit to the data. The results are presented in Table 1. As can be seen, all items loaded above .60 on their primary factor and less than .25 on their secondary factor. Although the items clearly define the Vertical and Horizontal dimensions, there are some anomalies. First, item 8 was initially assigned as a Horizontal item, but it clearly loads on the Vertical dimension. Items 1, 5, and 9 were originally not classified on either of these two dimensions, but the data clearly show that they load very highly on the Vertical domain. As noted above, item 6 did not load significantly on either factor.

A final principal components analysis was performed which only extracted a single factor. This solution is consistent with the current data set and with the original theory behind the scale. A single factor explained 53% of the total variance. All items loaded above .45 on this dimension (range: .48 for item 7 to .84 for item 5). From these data the items of the FMS can be shown to constitute either a single dimension or to represent two correlated factors. In order to get a better understanding of the underlying structure of this scale, a series of Confirmatory Factor Analyses (CFAs) were performed. Model 1 was a one factor solution, Model 2 was a two factor orthog-

Table 2. *Results of Confirmatory Factor Analyses of the Faith Maturity Scale*

Fit Indices	Model			
	Null	1-Factor	2-Factor Independent	2-Factor Correlated
χ^2	11,606.37	1,819.76	1,470.10	1,001.29
df	55	44	44	43
χ^2/df	211	41.36	33.41	23.28
$\Delta \chi^2$		9,786.61	349.66	468.81
GFI		.82	.86	.89
SRMR		.09	.20	.05
CFI		.85	.88	.92
NNFI		.81	.85	.89

Note. GFI-Goodness of Fit Index; SRMR-Standardized Root Mean Square Residual; CFI-Comparative Fit Index; NNFI-Non-normed Fit Index. N = 1,786.

onal solution, and Model 3 was a two factor correlated solution. The results of these analyses are presented in Table 2.

As can be seen, the two factor, correlated model fitted the data best. Figure 1 presents the final loadings for this solution. Although the overall model is highly significant (χ^2 (N = 1786, df = 43) = 1,001.29, p < .001), the Goodness of Fit, Comparative Fit, and Non-Normed Fit Indices were near or above .90, suggesting that the majority of variance in the data is accounted for by the model. The Standardized Root Mean Square Residual (SRMR) was .05, less than the threshold of .10 (Kline, 1998). The change in chi square indicates that this model was a significant improvement over the 2 factor, independent model. All the standardized parameter estimates presented in Figure 1 were significant. Thus, the items load on their intended facets. The lack of adequate fit for any of the tested models may be due to the very large sample size of this study, which makes rejection of the null hypothesis very easy for the chi square statistic (see McCrae, Zonderman, Costa, Bond, & Paunonen, 1996). Nonetheless, the two factor solution is the best of all models tested and is consistent with the intended content of the scale. The remainder of this report will provide information about this scale for the two dimensions noted.

Descriptive Statistics

Scores for the Vertical and Horizontal subscales were obtained by summing responses across the relevant items. Descriptive statistics

Figure 1. Confirmatory Factor Analysis of the Spiritual Transcendence Scale Items
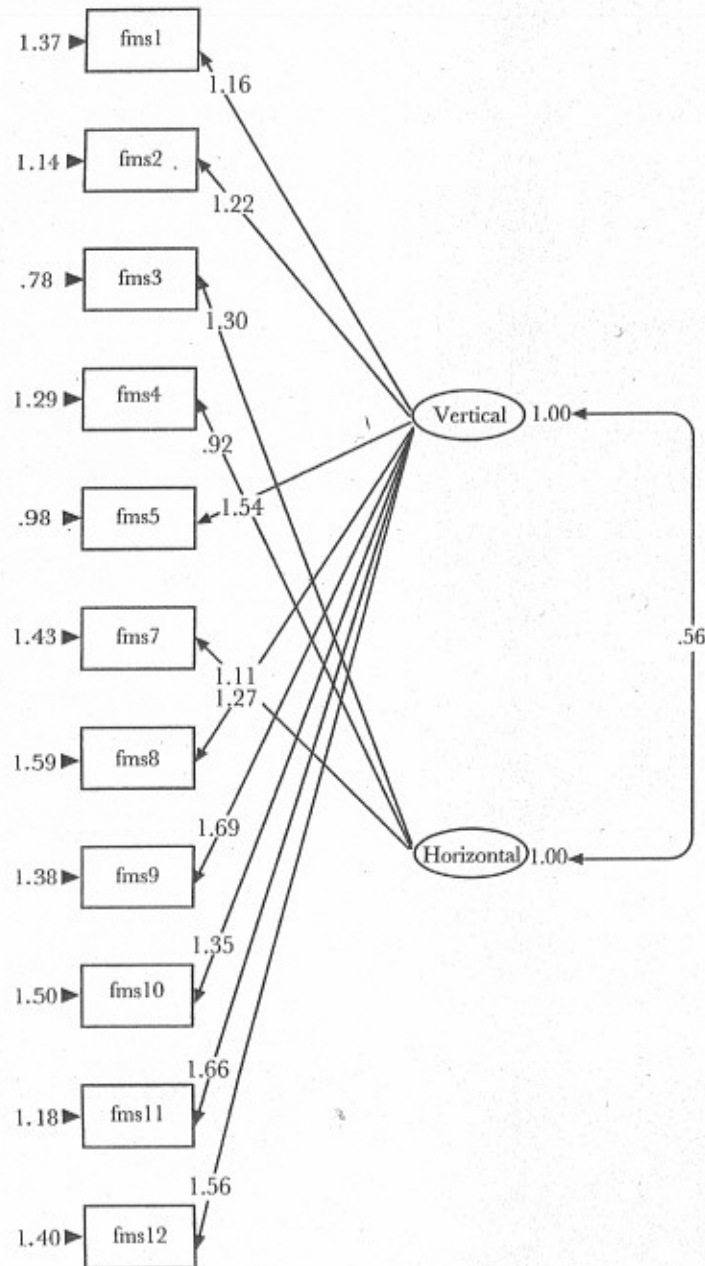
Note. FMS1 Refers to item 1 of the FMS, etc.

Table 3. *Descriptive Statistics and Alpha Reliabilities for the Faith Maturity Scale*

FMS Scale	Women n = 1288		Men n = 496		t difference	α (N = 1786)
	M	SD	M	SD		
Vertical	30.86	11.80	29.66	12.16	1.91	.92
Horizontal	11.34	3.76	10.57	3.91	3.84***	.75
Total Score	42.20	13.90	40.23	14.72	2.64**	.91

Note. Item 6 was not included.

** $p < .01$; *** $p < .001$, two-tailed.

and reliability estimates are given in Table 3. As can be seen, there are some significant gender differences, with women scoring significantly higher than men on the Horizontal and Total scales. This is consistent with normative findings. Alphas are all acceptable. The lower value for the Horizontal scale may be a function of its having only three items.

In the original development sample there were concerns about potential ceiling effects, especially with regard to certain religious denominations. An inspection of the current data shows the distributions for all three scales to be platykurtic, and slightly positively skewed. Mean scores for each scale are located in the middle of their respective distributions of possible scores, indicating no ceiling or floor effects.

Construct Validity

Using the demographic question concerning one's view of the Bible, a one-way ANOVA was performed using the five response categories as the independent variable and scores on the FMS scales as the dependent variables. Significant effects were found for the Vertical [$F (4, 1029) = 38.78$, $p < .001$] and Total Scales [$F (4,1029) = 29.59$, $p < .001$]. In both instances, post-hoc tests indicated that those who saw the Bible as literally true scored significantly higher than all the other groups, while those who saw the Bible as worth little today scored significantly lower than all the other groups. No differences were noted on the Horizontal Scale. Higher FMS scores were obtained with those having a more conservative, fundamentalist orientation to the Bible.

Table 4 presents the correlations between the FMS scales and the

Table 4. *Correlations between the Faith Maturity Scale and the Family Environment Scale*

	FMS Scale		
FES Scale	Vertical	Horizontal	Total
Cohesion	.11*	.14**	.13**
Expressiveness	.11*	.07	.11*
Conflict	-.15**	-.10*	-.15**
Independence	.03	.01	.03
Achievement	-.01	-.01	-.01
Intellectual/Cultural	.14**	.21***	.17***
Active	.10	.11*	.11*
Moral/Religious	.37***	.10*	.34***
Organization	.11*	.16***	.13**
Control	.01	.04	.02

$N = 414$. * $p < .05$; ** $p < .01$; *** $p < .001$, two-tailed.

Family Environment Scales. As can be seen, there are numerous associations between the two scales. Those high on the FMS have families of origin that were more Cohesive, Expressive of Feelings, emphasizing of moral and religious issues, intellectually/culturally focused, and organized, and from families that were low on conflict. Family dynamics play a role in the development and maintenance of one's faith orientation. An organized, supportive, structured, religiously oriented family system seems most relevant to higher FMS scores.

Table 5 presents the correlations between the FMS scales and a variety of personality, spirituality, and religiosity indices. There are three points of interest here. First, the FMS scales correlated minimally with the personality dimensions of the FFM. All coefficients are below .25, suggesting only minor overlap. Regression analyses were conducted that used each of the FMS scales as the criterion and the five domains of the FFM as the predictors. The resulting multiple R^2s for the Vertical, Horizontal, and Total scales were .03, .09, and .05, respectively [Fs (5, 1746) = 11.29, 34.44, 17.29, respectively, all p's < .001]. The Horizontal scale appeared to have the highest relations with the FFM. The personality dimensions of Agreeableness and Conscientiousness were significant, positive predictors of all three scales.

Second, the correlations between the FMS and the STS were significant and higher than those found with the FFM domains. Again, a series of regression analyses were conducted using each of the FMS scales as the outcome criterion and the STS scales as the

Table 5. *Correlations between the Faith Maturity Scale and the Personality and Spirituality Variables*

	Faith Maturity Scale		
	Vertical	Horizontal	Total
Bi-Polar Adjective Rating Scale ($N = 1752$)			
Neuroticism	-.01	-.03	-.01
Extraversion	.07**	.07**	.08***
Openness	.04	.20***	.08***
Agreeableness	.14***	.24***	.18***
Conscientiousness	.12***	.11***	.13***
Spiritual Transcendence Scale ($N = 868$)			
Connectedness	.13***	.13***	.15***
Universality	.31***	.23***	.32***
Prayer Fulfillment	.40***	.22***	.39***
Total	.36***	.26***	.38***
Religious Variables ($N = 1232$)			
Frequency Read the Bible	.60***	.28***	.58***
Frequency Read Religious Literature	.53***	.24***	.51***
Frequency of Prayer	.66***	.24***	.62***
Union with God	.73***	.30***	.70***
Relationship with God	.72***	.29***	.68***
Frequency of Religious Services	.59***	.30***	.58***
Prosocial Behavior Inventory ($N = 834$)	.23***	.42***	.31***
Purpose in Life Test ($N = 320$)	.23***	.20***	.25***
Self-Actualization Scale ($N = 318$)	.19***	.21***	.22***

* $p < .05$. ** $p < .01$. *** $p < .001$ two-tailed.
Note: Item 6 of FMS scale omitted.

predictors. Multiple R^2s for Vertical, Horizontal, and Total were .36, .09, and .33, respectively [Fs (3,865) = 163.12, 26.95, and 144.11, respectively, all ps < .001]. The FMS scales had their highest degree of association with the religious variables, with R^2s for Vertical, Horizontal, and Total being .71, .14, and .65, respectively [Fs (6,694) = 280.36, 19.44, and 212.05, respectively, all ps < .001].

Finally, the FMS scales did evidence significant correlations with the Prosocial Behavior, Purpose in Life, and Self-Actualization Scales. Unlike the previous scales, these measures assess psychologically-oriented variables that should be related to one's faith maturity. Individuals higher on the FMS were found to be higher on personal maturity and meaning as well as being more actively involved in helping behaviors.

Incremental Validity

Using a hierarchical multiple regression paradigm, each of the variables listed in Table 5 was systematically used as criterion measures. Being entered on Step 1 of the regression were the five personality domains of the FFM. On Step 2, the Vertical and Horizontal FMS scales were entered. A partial F was calculated to determine whether the FMS scales added significant explanatory variance to the criterion.

As can be seen in Table 6, the FMS scales explained significant amounts of variance over and above the contribution of the FFM domains to all of the criterion variables. Interestingly, the Vertical subscale evidenced more consistent relations with the criteria. However, the Horizontal dimension was the sole significant predictor of Prosocial Behavior. This subscale was also involved when one's overall relationship with God was being examined (e.g., Union with God, Relationship with God, STS Total score). The Vertical dimension played a significant role with the meaning and growth scales, suggesting that one's relationship with God contributes to our ability to grow and find broad meaning for our lives.

Table 6. *Incremental Validity of the Faith Maturity Scales over the Five-Factor Model Marker Scales*

Criterion Variable	FFM R^2	FMS ΔR^2	Subscale	Partial F
Spiritual Transcendence Scales (N = 868)				
Connectedness	.02	.02	Vertical	6.61***[a]
Universality	.03	.09	Vertical	40.32***[a]
Prayer Fulfillment	.02	.15	Vertical	75.39***[a]
Total Score	.05	.12	V & H	57.67***[a]
Religious Variables (N = 1232)				
Frequency Read the Bible	.02	.36	Vertical	344.4***[b]
Frequency Read Religious Literature	.01	.28	Vertical	205.9***[b]
Frequency of Prayer	.03	.42	V & H	451.7***[b]
Union with God	.01	.53	V & H	699.7***[b]
Relationship with God	.02	.51	V & H	646.9***[b]
Frequency Attend Religious Services	.05	.34	Vertical	237.3***[b]
Prosocial Behavior Inventory (N = 834)	.11	.12	Horizontal	65.27***[c]
Purpose in Life Test (N = 320)	.40	.02	Vertical	6.10**[d]
Self-Actualization Scale (N = 318)	.23	.03	Vertical	5.79**[e]

Note. V = Vertical, H = Horizontal. FFM-Five-Factor Model of Personality; FMS-Faith Maturity Scales

** $p < .01$; *** $p < .001$

[a] df = 2,835; [b] df = 2,1215; [c] df = 2,823; [d] df = 2,311; [e] df = 2,309.

DISCUSSION

Overall these data provide solid empirical support for the FMS scales. They were found to be internally consistent and correlated with a number of spiritual, religious, and psychological variables, even after the predictive effects of personality were removed. The FMS should be seen as a useful tool for research on religiousness; researchers can be confident that the instrument is capturing unique, spiritually-relevant qualities of individuals. These findings add to the growing body of evidence that demonstrates spiritual and religious constructs to be a distinct dimension of individual differences (MacDonald, 2000; Piedmont, 1999a, 2001; Saucier & Goldberg, 1998). As such, any complete assessment of an individual must include measures of religiousness, like the FMS.

This study also provides some interesting insights into the scale. The FMS scales evidenced a two factor, correlated internal structure. This finding was different from what was originally found with the instrument. This may be due to two reasons. First, the current sample included more diverse faith traditions than represented in the normative study. This heterogeneity may have provided greater variability in the responses, enabling a second dimension to clearly emerge in the data. Second, in contrast to the normative data, this study relied almost exclusively on a college student sample. Younger individuals may have a different orientation to faith and spirituality than older people, and these differences could create different response patterns. For example, college students may make distinctions in their expression of faith that older individuals do not have. Chen (1996), using a Taiwanese sample of college students, was also able to capture two correlated factors in her study. In either case, it is important that more research be done examining the factor structure of this scale in different age- and faith-based samples.

An examination of the descriptive statistics for the different subscales did not reveal any ceiling effects in the data. Originally, Benson et al. (1993) excluded evangelical samples because they scored higher than general mainline Protestants and they did not wish to create any possible range restrictions in scores. Our data does include such samples (and they do score the highest of all faith groups), but, as the descriptive statistics showed, such elevations do not seem to have created any ceiling or floor effects. However, it should be noted that by dropping item 6 the current scale is not identical to the original.

Thus, this version should be considered a revised short form of the FMS.

Correlations with the Family Environment Scale showed some interesting patterns of associations. Individuals high on the FMS scale indicated family systems that were very organized and structured, with each member having specific responsibilities. The family system encourages members to show and receive support, help, and commitment from one another. Individuals are free to express their feelings directly to others, although such interchanges do not contain much anger, hostility or conflict. Such a warm and nurturing family system operates within a context that focuses on religious and moral values that may permeate the cultural, political, and intellectual pursuits of the members. What the findings with the FES evidence is that one's faith maturity occurs within a context that may help to support and foster its development. Whether the family dynamics predispose one's spirituality or whether one's spirituality influences the family environment needs to be determined. Future research should examine what situational factors are influential in developing (or impeding) one's faith orientation and how those features can be manipulated.

Correlations with the Big Five personality domains (FFM) showed little overlap with the FMS scales. The only consistent relationships were with (high) Agreeableness and (high) Conscientiousness. High levels of Agreeableness and Conscientiousness are interpreted as representing an altruistic orientation where such individuals are concerned and involved in the plight of others. They are responsive to the needs of others and will respond in helpful ways. They have the persistence and discipline to see their efforts bear fruit (Piedmont, 1998). Given the FMS' orientation toward a behavior-based expression of a "life transforming faith," these associations do make good conceptual sense. But whatever overlap there is with personality, it does not mediate the predictive value of the FMS scales. The hierarchical multiple regression analyses clearly showed the incremental validity of the FMS scales over the FFM domains.

A final issue that needs to be stressed is the value of the incremental validity paradigm for examining spiritual/religious scales. Incremental validity is an important property for any measure of spirituality because it ensures that the scale is non-overlapping with already established personality constructs. The lack of such inde-

pendence creates redundancy and undermines the interpretive and empirical utility of spiritual constructs. Scales that do not evidence this ability should not be used. The FMS certainly captures qualities of the individual that personality does not. It is important to note that the FMS is relevant for understanding not only spiritual and religious behaviors, but psychological constructs concerning personal maturity, prosocial activity, and meaning as well. The FMS may be a useful measure in a wide range of content areas.

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