Strategies for Using the Five-Factor Model of Personality in Religious Research

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The five-factor model of personality (FFM) represents an important advancement in the area of personality research and assessment. One of the model's assets is its ability to organize under a common roof disparate measurement models and provide a common language for talking about important qualities of people. This article argues that the FFM can serve as a useful tool for religious researchers in four ways. First, it can be useful in consolidating work in clergy assessment and selection. Second, the FFM can be helpful in capturing images of God that can be more readily integrated with larger, mainstream psychological theories. Third, the FFM can be used to understand better the psycholog-ical meanings behind religious constructs and to relate these constructs to each other. Finally, the FFM can be used to determine the degree to which religious variables provide explanations of phenomena that are independent of already existing constructs.

The integration of psychology and theology is gaining increased attention in both the general media and academic circles. The growing impetus is to have these two disciplines delineate not only the conceptual value of spiritual constructs for understanding human development, but to demonstrate their empirical utility for improving human functioning. In response, numerous researchers have developed an array of religious and spiritual constructs that have been related to psychologically salient outcomes, such as well-being, coping ability, and life satisfaction (e.g., Boudreaux, Caza, Ryan, Amaral-Melerdez, & Brantley, 1993; Genia, 1991; Pargament, Kennell, Hathaway, Greven, & Jones, 1988). The value of this research is two-fold. Theoretically, it shows that the area of spirituality provides a fertile ground for identifying psychologically useful individual difference variables. Empirically, these new constructs hold the potential for expanding the ability to predict salient life outcomes. Therefore, the integration of psychology and religion holds much exciting promise for expanding the understanding of people and the needs they seek to satisfy.

However, this enthusiasm must be tempered by two critical evaluations regarding the state of religious research. Gorsuch (1988) has noted that the construct validity of many of these psychosocial constructs has not been well established. Until a better sense of the personological content of these scales has been established, it becomes difficult to discuss meaningfully those aspects of psychological functioning that are at the center of attention for religious researchers. Further, the interrelations among these putatively diverse variables have not been examined, leaving open the possibility of redundancy in content. A second criticism has been raised by Van Wicklin (1990), who was concerned that current religious variables are merely the "religionification" of established psychological constructs. For example, what is the difference between a religious well-being scale and a more traditional well-being scale? What added value is accrued in the understanding of one's well-being by bringing in a religious component?

These two issues address the field of religious research at a fundamental level. The first issue seeks to determine the psychologi-cal representation of religious constructs. Without religious research will be to reach a wider audience way to resolve these value of religious constructs in models of personality. religious constructs need not be psychological constructs. They create a climate where ideas between these values occur. Such a dialog amongst researchers to gain access to models in psychology development and research Psychology, in turn, will religious construct a for understanding of the religious constructs and to outline four ways a bridge between these.

The Five-Factor of Personality

Over the past 30 years, the interest in the dimensions that comprise personality have increased, particularly among researchers who are interested in understanding human development. These dimensions are known as the Big Five: extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. However, there is still much to be learned about how these dimensions operate in religious contexts. For example, what is the relationship between a religious well-being scale and a more traditional well-being scale? What added value is accrued in the understanding of one's well-being by bringing in a religious component?
The FFM provides a common language for conceptualizing and discussing the personality qualities that define and direct the ongoing course of individual development. Scores on the FFM are longitudinally related to a number of important life outcomes, including vocational interest and success (Costa, McCrae, & Holland, 1984; Piedmont & Weinstein, 1994), coronary heart disease (Costa, McCrae, & Dembrowski, 1989), occupational burnout and psychological distress (Magnus, Deiner, Fujita, & Farrow, 1993; Ormel & Wohlfarth, 1991; Piedmont, 1993), and coping ability and well-being (Costa & McCrae, 1984, 1989; McCrae & Costa, 1986). Research has shown the five-factor model to be quite comprehensive; the domains of the FFM subsume constructs from a variety of theoretical models, including Murray's needs (Piedmont, McCrae, & Costa, 1992), Jungian typologies (McCrae & Costa, 1989a), the Interpersonal Circumplex (McCrae & Costa, 1989b), and folk concepts (McCrae, Costa, & Piedmont, 1993).

The value of this model is twofold. Empirically, this model is well defined and robust, emerging even across culturally (McCrae & Costa, 1997). Conceptually, these domains are well validated and provide clear definitions of very circumscribed constructs. Therefore, the FFM can serve as a useful reference point for developing and evaluating religious variables. Four major uses will be discussed here: religious scale development, cross-instrument convergence indicated that these dimensions were not a product of any self-distortion or rater bias (McCrae & Costa, 1990; Piedmont, 1994). These dimensions also were found to be extremely stable over the adult life span; 25-year stability coefficients indicate that 80% of the variance in these traits is unchanging, and 60% is estimated to remain constant over 50 years (Costa & McCrae, 1992). Finally, these dimensions have a strong genetic basis (Heath, Neale, Kessler, Eaves, & Kendler, 1992), indicating that they are not mere summary descriptions of behavior, but are genotypic tendencies of individuals to think, act, and feel in consistent ways (McCrae & Costa, 1995).

A large research base documents the ability of the FFM to provide a common language for conceptualizing and discussing the personality qualities that define and direct the ongoing course of individual development. Scores on the FFM are longitudinally related to a number of important life outcomes, including vocational interest and success (Costa, McCrae, & Holland, 1984; Piedmont & Weinstein, 1994), coronary heart disease (Costa, McCrae, & Dembrowski, 1989), occupational burnout and psychological distress (Magnus, Deiner, Fujita, & Farrow, 1993; Ormel & Wohlfarth, 1991; Piedmont, 1993), and coping ability and well-being (Costa & McCrae, 1984, 1989; McCrae & Costa, 1986). Research has shown the five-factor model to be quite comprehensive; the domains of the FFM subsume constructs from a variety of theoretical models, including Murray's needs (Piedmont, McCrae, & Costa, 1992), Jungian typologies (McCrae & Costa, 1989a), the Interpersonal Circumplex (McCrae & Costa, 1989b), and folk concepts (McCrae, Costa, & Piedmont, 1993).

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FFM, which is only just beginning. Rather it is an attempt to introduce this taxonomy to religious researchers and to identify some potential benefits this model can have. Each section is intended to sketch the FFM's heuristic value.

Clergy Selection and Assessment

Much energy and attention continues to be devoted to identifying qualities of individuals suitable for a religious vocation (Jones & Francis, 1992; Patrick, 1991; Sullender, 1993). In fact, some argue that in selecting potential ministers the consideration of personality is more relevant than the actual activities of the role (Ekhardt & Goldsmith, 1984; Maddock, Kenny, & Middleton, 1973). Given the demands of a ministerial career (e.g., to provide leadership, to sacramentally minister to congregants, to care for a diverse group of persons), it is not surprising that certain types of individuals prefer this vocation (Ekhardt & Goldsmith, 1984; Nauss, 1973).

Sullender (1993) reported a composite Minnesota Multiphasic Personality Inventory (MMPI) profile based on 177 white clergy candidates from mainline Protestant denominations. In general the profile described the group to be independent, self-reliant, and capable of dealing with problems of living. In addition the individuals were described as resilient, largely conflict-free, and balanced in terms of self appraisal. Patrick (1991) came to similar conclusions while studying a mixed-sex sample of pastoral candidates. Each candidate completed the Edwards Personal Preference Schedule (EPPS) and the MMPI. The resulting profiles portrayed the candidates as being outgoing, nurturing, altruistic, highly introspective, well-adjusted, and inclined toward leadership roles.

Research also focused on personality traits that may indicate incompatibility with ministry. By identifying the motivational needs an individual brings to ministry, it may be possible to detect those likely to become dissatisfied. Francis and Rodger (1994) suggested that “personality differences predispose individual clergy to experience different levels of conflict within their ministry” (p. 953). Their study indicated that “tough minded clergy are more likely to experience dissatisfaction with the structures of ministry and nutritive clergy are more likely to experience higher levels of anxiety generated by the tensions and conflicts associated with ministry” (p. 953). In a longitudinal study of Catholic seminarians, Query (1979) showed that those who maintained a commitment to their vocation ten years after leaving the seminary were significantly higher on the California Psychological Inventory (CPI; Gough, 1987) Femininity Scale than those who left the priesthood. Earlier, Query (1966) noted that the CPI scales of Self-Concept, Tolerance, and Flexibility were important in counseling Protestant seminarians about continuing their studies. These conclusions suggest that personality assessment could be a helpful part of clergy selection.

Measures of clergy personalities may help in predicting those clergy at risk for sexual misconduct. Francis and Turner (1995) suggested two types of clergy who engage in sexual misconduct: the naive and uninformed who have problems in establishing boundaries between self and others and those who have personality disorders. Francis and Turner suggested that the group of relatively healthy clergy who have failed to establish appropriate boundaries may be helped through education and short term counseling. However, the group of clergy who use people to meet their own unhealthy needs may not be appropriate to be placed in positions of public trust. Clearly, being able to identify individuals at risk for sexual misconduct is important. It would also be helpful to identify which individuals may be assisted in making changes to avoid misconduct and those likely not to change their behavior.

These efforts show the utility of personality in selecting and assessing clergy. However, there are limitations to this research. First, much of this work was done using instruments of questionable value. For example, the MMPI is primarily a measure of psychopathology and, as such, cannot provide a complete description of personality (Costa, Bush, Zonderman, & McCrae, 1986; Costa, Zonderman, McCrae, & Williams, 1985). Another instrument used in this area, the EPQ, has serious psychometric and construct validity problems (Piedmont, McCrae, & Costa, 1992). Second, because a number of scales have been used to evaluate clergy personality, it is difficult—and perilous—to integrate findings from these diverse instruments relying only on scale names or definitions. For example, high scores on the Achievement scale on the EPQ are associated with low Agreeableness (Piedmont, McCrae, & Costa, 1992), whereas high scores on the CPI’s two achievement scale relate to low Neuroticism and high Conscientiousness in one instance (i.e., Achievement via Conformance) and high Openness in the other (i.e., Achievement via Openness).

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Achievement via Inc. (1993). Although these ment,” each scale repres aspects of personality. This is especially true results appear. For ex the EPQ profiles of candidates and Ekha presented a PRF profile situation, both Achievement while the scores of one’s sense can only be an evaluation of their Achievement scale that are relevant to emotional stability, dutifulness. Thus, individuals with high EPQ Achievement Agreeableness. As a result, they tend to generate lower scores.

Because the domains of personality inventories, scales be seen as part of a similar pattern of correlation with the FFM. For example, the PRF scales, all in scale. In the EPQ, the .15, and .12 with N, Agreeableness, respectively (N = 184). In the EPQ scales .15, .25, .23, and PRF Dominance scale .15, .49, .23, .2. Given the similar pat
Achievement via Independence; McCrae et al., 1993). Although these scales are all labeled “achievement,” each scale represents distinct, nonredundant aspects of personality. To assume that high scores on all three scales represented the same qualities would be a serious error.

Another widely used instrument is the Personality Research Form (PRF; Jackson, 1984). This measure assesses similar constructs as the EPPS, yet it has a slightly different pattern of correlations with the FFM. Its Achievement scale is more personologically diverse: It correlated with (low) Neuroticism, Extraversion, Openness, and Conscientiousness (Costa & McCrae, 1988). Thus it represents a broader spectrum of qualities than either the EPPS or CPI. The value of this personological parsing is that it enables researchers to integrate information over studies employing diverse measurement strategies. This is especially true when seemingly contradictory results appear. For example, Patrick (1991) presented the EPPS profiles of male and female pastoral candidates and Eshardt and Goldsmith (1984) presented a PRF profile for a similar group. In the former situation, both sexes scored below the mean on Achievement, while in the latter study their Achievement scores were significantly above the mean. Sense can only be made of this incoherence by an evaluation of their FFM correlates. The PRF Achievement scale is capturing aspects of personality that are relevant to pastoral ministry, such as the emotional stability, outgoingness, flexibility, and dutifulness. Thus, it makes conceptual sense to have candidates with higher levels of this quality. The EPPS Achievement scale, however, reflects low Agreeableness. As such, it should be expected to generate lower scores in this type of sample.

Because the domains of the FFM encompass the qualities of personality represented in major personality inventories, scales from different instruments can be seen as personologically equivalent if they have a similar pattern of correlations with the dimensions of the FFM. For example, in comparing the EPPS, CPI, and PRF scales, all instruments contain a Dominance scale. In the EPPS, this scale correlates .24, .4, .14, .15, and .12 with Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness, respectively (N = 164). In the CPI, these correlations are .25, .55, .25, .23, and .13, respectively (N = 348). The PRF Dominance scale has a similar pattern of correlations: .26, .49, .23, .23, and .18, respectively (N = 298). Given the similar pattern of FFM correlates in terms of pattern and magnitude (with the exception of Openness with the EPPS), one can consider these three scales to be capturing comparable aspects of the individual. Similar analyses can be done with other popular instruments in this area, like the Eysenck Personality Profiler (EPP; Eysenck & Wilson, 1991), which also has been evaluated in terms of the FFM (Neuroticism and Extraversion are essentially isomorphic in the two models, while Psychoticism is a combination of Agreeableness and Conscientiousness; see Costa & McCrae, 1995).

Although the FFM captures normal aspects of personality, these domains also have been found useful in differentiating among various sexually hierarchical and dysfunctional groups (Costa, Fagan, Piedmont, Ponticus, & Wise, 1992; Fagan et al., 1991). For example, Costa and his colleagues (1992) showed that elevated Neuroticism was correlated with dysphoric symptoms, negative body image, and lowered sexual satisfaction. Measures of the FFM (particularly the NEO PI-R; Costa & McCrae, 1992) also have been shown to be relevant to understanding the Axis II disorders (e.g., Trull, 1992; Trull, Uesda, Costa, & McCrae, 1995). Although very high or low scores on the FFM dimensions are not indicative of characteristic impairments per se, such scores can still be helpful clinically (Costa & McCrae, 1992a, b). For example, the dimensions of the FFM can be used to anticipate psychotherapeutic outcomes (Miller, 1991) or to make differential diagnoses (Costa & McCrae, 1992a).

Thus, the domains of the FFM are a useful benchmark for organizing information across multiple studies employing diverse assessment measures. Furthermore, measures of the FFM can be used to anticipate important clinical and nonclinical outcomes relevant to pastoral settings. For example, Rodgerson and Piedmont (1998) showed the FFM domains to be relevant predictors of burnout among clergy. Because the dimensions of the FFM have been shown to be useful predictors of various life outcomes, including job success across a wide range of occupations (Barrick & Mount, 1991; Costa, 1996; Piedmont & Weinstein, 1994), there is every reason to believe that these dimensions should be related to clergy-based outcomes as well.

IMAGE OF GOD RESEARCH

Another strategic application of the FFM concerns Image of God (IOG) research. IOG researchers are interested in understanding how individuals per-
ceive the motivations as these images relate to history and current ps Spilka, 1973; Gorsuch, and Petersen (1990) for lowered loneliness excepting God as less loneliness were related. IOGs, Carroll (1992) reported depressive related to a wrathful found that people who are, sincere, and quite nurturing, but those conscious of others' views, summary, it seems that one's self image.

Although the results be descriptively useful in measuring very specific and self images make findings with larger could illuminate our perceived motivation (Lawrence, 1987) spectrum of dimensions can help develop the express the psychology and its formative pronomological net for portrait of how God has been linked. behavioral processes. faction, and Coping $\text{S}_{i}$

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Although the dimension description of personality, plethex sufficient for capturing other qualities of God such as reverent, all-loving. Other faiths, such as the types of perceptions and well. Certainly these types understanding how people pertinent limitation, the dimensions for organizing God perceptions, and providing more comprehensive.
ceives the motivations and intentions of God and how these images relate to the individual's developmental history and current psychological status (Benson & Spilka, 1973; Gorsuch, 1969; Ruzzuto, 1979). Schwab and Petersen (1990) found that increased self-esteem and lowered loneliness were positively related to perceptions of God as loving, supportive, and kindly, whereas decreased self-esteem and higher levels of loneliness were related to controlling and wrathful IOGs. Carroll (1992) found that higher levels of self-reported depressive symptomatology were positively related to a wrathful IOG. Finally, Roberts (1989) found that people who viewed themselves as generous, sincere, and quick-to-forgive imagined God as nurturing, but those who saw themselves as suspicious of others viewed God as more disciplining. In summary, it seems that one's IOG is correlated with one's self-image.

Although the results of these diverse studies may be descriptively useful, their frequent reliance on measuring very specific and narrow aspects of God and self images makes it difficult to integrate these findings with larger psychological constructs that could illuminate more meaningful insights into the perceived motivations of both God and the individual (Lawrence, 1987). Making appeal to the broad spectrum of dimensions operationalized by the FFM can help develop the theoretical depth necessary to express the psychological significance of one's IOG and its formative process. The FFM provides a rich nomological net for constructing a sophisticated portrait of how God is imaged because these dimensions have been linked to affective, attitudinal, and behavioral processes, such as Well-being, Life Satisfaction, and Coping Strategies.

Figure 1 presents the results of two studies (Ciarrocchi, Piedmont, & Williams, 1998; Piedmont, Williams, & Ciarrocchi, 1997) which asked subjects to rate the personalities of four important religious figures on the FFM: God, Jesus, Mary (the mother of Jesus), and Joseph (Mary's husband). There are two important conclusions to be drawn here. First, the fact that none of the profiles are flat indicates that the qualities subsumed by the FFM are indeed relevant dimensions for capturing images of religious figures. Second, that the profiles for the figures are not all the same indicates that the dimensions of the FFM can also capture important perceived psychological differences. These varying profiles show that individuals do not possess an undifferentiated image of the numinous, but rather make important personological distinctions among various religious figures. For example, Mary is viewed as more than a standard deviation lower than Jesus on Extraversion. This makes sense given that the popular conception of Jesus is as a dynamic, itinerant preacher and healer who attracted great crowds, whereas the popular conception of Mary is as a quietly devoted mother who said little and prayed a great deal. The image of "God" in this sample was perceived as being low on Neuroticism and high on Agreeableness. Individuals with this type of FFM profile are usually seen by others as being patient, relaxed, undemanding, uncritical, optimistic, conceited, and unpretentious (Hofstee, de Raad, & Goldberg, 1992). Clearly, this sample saw God in a positive, supportive manner. Further, these images of religious figures are very different from profiles of other famous persons, such as George Washington and Abraham Lincoln (cf. Gough & Heilbrun, 1983).

These personality ratings have their own significance with regard to how individuals perceive their own internal dispositions. Piedmont et al. (1997) have shown that self-ratings of Neuroticism, Openness, and Agreeableness were significantly related to ratings of Jesus' personality on the domains of the FFM. About 11% of the variance in the rated personality of Jesus overlapped with self-ratings of personality. Interestingly, more educated subjects rated Jesus as less emotionally stable than did less educated subjects. Also, subjects who reported themselves being religiously committed viewed Jesus as more conscientious than did other subjects. In a subsequent study, Ciarrocchi (1997) observed significant gender differences in IOG among college students. For women, IOG was more nurturing than for men. Women's IOG also overlapped more strongly with their own self-ratings of personality.

These findings show that the domains of the FFM are an apt arena for describing not only one's
own personality, but the perceived personalities of religious figures. Two benefits emerge from using the FFM in this context. First, measuring self and others on the same set of dimensions allows for a direct assessment of the degree of overlap between the two sets of ratings. It is this capacity that would be of most interest in studying the developmental aspects of IOGs (e.g., Rizzuto, 1979). Those interested in understanding how IOGs are created and develop often look to the role of influential caregivers in this process. Aside from obtaining ratings of self and God, researchers can also obtain FFM ratings of a preferred parent (i.e., of mother and father). Evaluating how these profiles overlap can provide insights into how parental images influence the quality and content of one's religious intuitions. The results can then be folded into established research outlining how the dimensions of the FFM itself emerge over the lifespan (e.g., John, Caspi, Robins, Moffitt, & Strathamer-Loeber, 1994; McCrae & Costa, 1996).

Second, employing the dimensions of the FFM enables findings from this area to be linked up with the larger, more developed theories of mainstream psychological thought, such as attachment theory. Kirkpatrick and Shaver (1992) hypothesized that one's relationship with God is directly related to one's own personal capacities to establish and maintain relationships with others. Individuals who maintain tenuous, unstable relationships with others also experience an insecure and tenuous relationship with God. But how does one link-up IOG with attachment style? Brennan, Clark, and Shaver (1998) analyzed a variety of attachment scales and identified two higher factors that appeared to explain the majority of variance in these measures: Anxiety and Avoidance. These two dimensions have clear parallels in the FFM. The fear of rejection, personal anxiety, and jealousy associated with the Anxiety construct clearly relates to the Neuroticism domain. The low trust, emotional detachment, and self-orientation of the Avoidant dimension is most relevant to the (low) Agreeableness domain. Given that this study and others (e.g., Fraley & Waller, 1998; Klohnen & John, 1998) have shown that dimensional measures of attachment style are superior to categorical ones, the homogenous domains of the FFM are useful vectors for assessing attachment orientation. Specifically, one can hypothesize that high Neuroticism and high Agreeableness correspond to the preoccupied style; that high Neuroticism and low Agreeableness indicate the fearful style; that low Neuroticism and high Agreeableness characterize the secure style; and, finally, that low Neuroticism and low Agreeableness define the dismissing attachment style.

Related to attachment style is interpersonal orientation, which evaluates characteristic ways of interacting with others. Research has shown that interpersonal behavior forms a circumplex structure around the two FFM dimensions of Extraversion and Agreeableness (McCrae & Costa, 1989b). Thus, scores on these factors help to define and compare the interpersonal styles of self and others (e.g., parent, God). Other FFM-based models exist, such as Well-being, Character, and Competitive Style that provide alternate paradigms for evaluating ratings of religious images (cf. Piedmont, 1998).

**Construct Validity Research**

Gorsch (1988) argued that no new religious measures should be developed until the construct validity of the plethora of existing instruments could be ascertained. New scales should only be developed to fill identifiable gaps in the existing nomological network of religious constructs. Unfortunately, no such nomological structure exists. To date, the only comprehensive organization of individual difference variables is the FFM. Although not religiously based, it provides a useful origin for evaluating the personality implications of religious constructs. If religious constructs have any overlap with personality dispositions, then correlating the measure with the five factor model can illuminate the larger motivations and anticipated outcomes of the scales. Correlations with the FFM also help provide a methodology for nomologically linking religious constructs to each other. Ozer and Riese (1994) likened the correlation of a scale with the FFM to the establishment of latitude and longitude for a given location on earth. As they noted, "[those] who continue to employ their preferred measure without locating it within the FFM can only be likened to geographers who issue reports of new lands but refuse to locate them on a map for others to find" (Ozer & Riese, 1994, p. 361).

Table 1 presents correlations between a variety of religious scales and measures of the five major personality factors. These associations were culled from several different studies (Chen, 1996; Piedmont, 1996; Redgerson & Elison, 1996; Rodger...).
**Table 1**

**Correlations Between Five-Factor Model Domains and Various Religious Constructs**

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<td>Religious Problem Solving</td>
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*p < .05;  **p < .01;  ***p < .001, two-tailed.

*Piedmont, 1996; N = 492; *Rodgerston & Piedmont, 1998; N = 251; *Chen, 1996; N = 534.


1996; Rodgerston & Piedmont, 1998). Two conclusions can be drawn from these data. First, the number of significant correlations attests to the relevance of the FFM for understanding religious oriented constructs. As such, the FFM can be useful for evidencing their personological significance. For example, an Intrinsic religious orientation is associated with an individual high on both agreeableness and conscientiousness. Such individuals have internalized very prosocial values and are perceived by others as being moral, reverent, considerate, responsible, and dependable (Hofstee et al., 1992). The negative correlation with openness suggests a strong commitment to their values. This pattern is very consistent with Gorsuch's (1994) definition of this construct, "... the motivation for experiencing and living one's religious faith for the sake of the faith itself. The person's religion is an end unto itself, a goal pursued in the absence of external reinforcement" (p. 317). An Extrinsic Religious Orientation reflects mostly an anxious and insecure temperament. Such individuals may engage in religious practices in an attempt to minimize or reduce ongoing feelings of guilt and inadequacy. For each religious variable, the pattern of correlations with the FFM highlights psychologically salient dispositions underlying these religious constructs. The patterns of correlations with the FFM can serve to develop the construct validity for each of these religious/spiritual scales.

Additionally, as noted above, redundancy among religious variables can also be identified by examining the scales' patterns of correlations with the FFM. For example, the Intrinsic Religiosity Scale has a pattern of correlations that is very similar to the Religious Well-Being Scale. To some degree, this fact may make sense theoretically for both instruments because each evaluates the degree to which people have an inner sense of directedness concerning their...
religious motivations. Practically, though, these scales are reflecting redundant personological content. Given their similar relations to the FFM, it is not surprising that these scales correlated very highly \( r (490) = .77, p < .001 \). To warrant the use of both scales, research needs to examine their differential validity. On the other hand, the Extrinsic Religiosity scale has a pattern of correlates with the FFM that is quite different from both of the Hood Mysticism factors. As such, one would not expect to find these measures to be related. In this sample the Extrinsic scale correlated .07 and -.02, respectively, with the two Hood scales. Different names in no way guarantees that scales are assessing different constructs. Only through their comparison to a common criterion can such an inference be drawn.

A second conclusion that can be drawn from these data is that although the religious constructs share something with the FFM, the multiple R's show that these religious constructs are not redundant with the model. The values in the last column in Table 1 indicate the amount of variance each religious construct shares with the five personality dimensions. For example, Intrinsic and Extrinsic Religious Orientations share only 3% and 2% of their variance, respectively, with the FFM indicating that they are largely independent of the five factors. One explanation for this lack of overlap may be due to the different levels of abstraction at which these constructs exist. The FFM domains are very broad and are at the highest level of abstraction. The religious scales, on the other hand, reflect very specific qualities. Examining relations between constructs at such varying bandwidths does result in very small associations (Briggs, 1989). Evaluating these religious scales relative to more specific FFM scales, such as the facet scales of the NEO PIR (Costa & McCrae, 1992c), may yield more overlap.

Nonetheless, it is clear that there is a significant amount of unique, reliable variance in all of the scales in Table 1. Scores on these religious scales contain much information about people that is not accounted for by the FFM. On the positive side, the data show these religious/spiritual constructs have the potential to offer new insights into psychological phenomena not already assessed by traditional personality scales. Although the overlap of religious constructs with the FFM can provide useful insights into the personological qualities of these measures, it is ultimately what religious constructs do not have in common with the FFM that is of the most importance. In response to Van Wicklin (1990), religious constructs need to be shown that they are not the simple "religionification" of established psychological variables. However, to document this capability requires religious researchers to adopt a more rigorous empirical paradigm, one that involves the systematic evaluation of the religious and psychological constructs relatedness to various important aspects of life (e.g., prosocial behavior, job performance, burnout, quality of life, well-being). In other words, religious variables need to be shown capable of adding to the understanding of important aspects of life over and above any contribution provided by established psychosocial constructs. The statistical strategy most appropriate for this undertaking is a regression based incremental validity paradigm.

**Incremental Validity Research**

Incremental validity research is useful in determining the common and unique predictiveness of classes of variables. For religious research, incremental validity paradigms are helpful in outlining those individual qualities unique to religious constructs that are predictive of outcomes (i.e., prosocial behavior, racism, sexual behavior) over and above the more traditional personality variables of the FFM. In this manner, researchers can begin to articulate more clearly those aspects of human functioning that are uniquely captured by religious constructs.

Central to this approach is a hierarchical multiple-regression analysis. Once a criterion is selected, FFM measures serve as markers of traditional personality qualities. They are entered on step one of the analysis. Then, the religious construct of interest is entered on step two. This variable would then identify that variance in the criterion not associated with the personality traits. A partial \( F \) determines whether the variance accounted for by the religious variable added significantly to that already accounted for by the personality dimensions entered on the first step.

Rogerson and Piedmont (1998) provided one example of how this paradigm can be used to evaluate religious constructs. In this case Pargament et al.'s (1988) Religious Problem Solving Scale (RPS). Using a sample of Baptist clergy, individuals completed measures of the FFM, RPS, and Maslach and Jackson's (1986) Burnout Inventory (MBI). In a series of hierarchical multiple regression analyses, the incremental validity of the three RPS scales in predicting levels of burnout was evaluated. The

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RPS added nothing to the Exhaustion over the FFM, but the other two were significant. The RPS was being used in a unique predictive value results of such an analysis, whether a scale's weight in applied context is useful.

Piedmont (1999) proposed the FFM, this one construct, new spiritual construct used measures of the FFM's selection of items for Transcendence. Through process, joint correlational analyses with the FFM items' degree of relatedness were selected on the criterion with the FFM. The identified. Then, using the incremental \( R \), evaluated relative to adding sexual attitudes, behavior, and values, it was shown that the significant contribution of the FFM domains predicting Support and Interpretation (FMM explained 14% variance), the Transcendence added 50% as much as over the FMM scales explained variance, re...

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RPS added nothing to the prediction of Emotional Exhaustion over the FFM constructs, while its contribution to the other two scales, although significant, was small (the RPS scales added less than 5% additional explained variance). In this instance, the FFM is being used in a way that demonstrates the unique predictive value of religious constructs. The results of such an analysis can be useful for deciding whether a scale carries sufficient empirical weight in applied contexts to be considered theoretically useful.

Piedmont (1999) provides another application of the FFM, this one concerning the development of new spiritual constructs. In this instance, Piedmont used measures of the FFM as a reference point in the selection of items for a new measure of Spiritual Transcendence. Through the iterative item selection process, joint correlational and principal component analyses with the FFM domains highlighted those items' degree of relatedness to these domains. Items were selected on the basis of their lack of association with the FFM. Thus, a unique, new domain was identified. Then, using hierarchical regression analyses, the incremental validity of this new domain was evaluated relative to a diverse array of criteria, including sexual attitudes, interpersonal style, prosocial behavior, and vulnerability to stress. In all instances it was shown that Spiritual Transcendence made a significant contribution. Even with criteria that the FFM domains predicted well (i.e., Perceived Social Support and Interpersonal Orientation, where the FFM explained 14% and 12%, respectively, of their variance), the Transcendence Scales were able to add 50% as much additional explained variance over the FFM scales (i.e., 8% and 6% additional explained variance, respectively).

If religious research is to remain a viable and substantive field of study, it will need to demonstrate that there are a unique set of variables which define the discipline and that these constructs have something to contribute to the larger endeavor of understanding people. Without this type of empirical documentation, the field will lose focus and relevance. The incremental validity paradigm, with its use of the FFM as both a conceptual and empirical reference point, becomes indispensable to this task. Its value is twofold. First, overlap between religious constructs and the FFM provide a basis for organizing religious variables. The personological “fingerprint” of these scales can identify areas of redundancy among the variables. Second, the FFM can be used to identify individual-difference constructs that lie beyond the FFM that may be particularly salient to religious researchers (cf. Saucier & Goldberg, 1998). The increased predictive validity of these dimensions can then be ascertained.

**Conclusion**

The five-factor model represents an important advancement in the area of mainstream personality research and assessment. The data continue to show the empirical value of these factors. The FFM is not intended to replace or supplant any existing individual-difference variables. Rather, the model's greatest value is its ability to organize the many disparate measurement models that currently exist. Such organization helps to identify redundancy in effort to and outline areas of uniqueness. The FFM also provides a common language for talking about important qualities of people and serves as a medium through which religious research can be integrated with more mainstream theoretical models.

The taxonomic properties of the FFM have useful applications for research in the psychology of religion. First, the FFM could be used to consolidate results from diverse studies on clergy selection so that uniform profiles of successful candidates can be established for various positions. Another application was in the area of I0G research. The dimensions of the FFM have been shown to be useful for capturing impressions of religious figures. The language of the FFM would make it easy to fold these images into larger, mainstream psychological theories of development or interpersonal behavior. Perhaps the two most important applications of the FFM for religious research concern the construct validity of its variables. First, the FFM can be used to help flesh out the personological meanings behind religious constructs so that these variables can be better organized and understood relative to one another. Second, the FFM can be used to determine the degree to which religious constructs provide explanations of phenomena that are independent of already existing constructs.

Being able to document the incremental validity of religious constructs has significant value not only for religious researchers, but for the entire behavioral sciences. The identification of religious constructs that are independent of the FFM would demonstrate that measures of spirituality represent a heretofore untapped domain of potential individual difference variables not previously measured by
social scientists. This represents an exciting potential for religious researchers to provide constructs that can broaden current psychological models of human development and personality, and improve empirical efforts at predicting important life outcomes. In return, religious researchers can benefit from the proven methods and constructs of the mainstream social sciences. The result of this type of collaboration would be to secure the value of spirituality in social science theory and research. The FFM is that kind of established, mainstream methodology that can be indispensable for documenting the heuristic and empirical value of religious and spiritual constructs. It is also a useful point of entry for establishing an interdisciplinary dialogue between religious researchers and the broader social sciences.

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**JOURNAL FOR THE SCIENTIFIC STUDY OF RELIGION**


Bilgrave and Deluty conducted a study on a sample of 237 clergymen. In an attempt to include a broad spectrum of respondents, approximately 75% of the completed forms were selected from a distribution of counseling, psychotherapy, and religious community directories. The American Psychological Association collected from a 65-item questionnaire used to evaluate the respondents' beliefs in the divine presence and the practice of psychotherapy, as well as their specific beliefs in religious beliefs. Furthermore, a correlation between psychological and religious beliefs was found, with the religious beliefs correlating with the cognitive-linguistic and existential perspectives. This section of the Journal is intended to inform readers of current research and to stimulate further investigation into the relationship between religion and psychological function.