

STRATEGIES FOR USING THE FIVE-FACTOR MODEL OF PERSONALITY IN RELIGIOUS RESEARCH

RALPH L. PIEDMONT
Loyola College in Maryland

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 personal 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, numer-

ous 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, Catz, Ryan, Amaral-Melendez, & Brantley, 1995; Genia, 1991; Pargament, Kennell, Hathaway, Grevengeod, & 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 psychotheological constructs has not been well established. Until a better sense of the personalogical 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 "religification" 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

RALPH L. PIEDMONT

to determine the psych...
represented in religiou...
ond issue seeks to dete...
of these measures ovr...
constructs. Without an...
religious research will bec...
reach a wider audienc...
way to resolve these...
value of religious con...
religious constructs w...
models of personality...
gious constructs need...
lar psychological cons...
create a climate wher...
ideas between these tw...
occur. Such a dialog...
researchers to gain acc...
models in psycholog...
development and rese...
Psychology, in turn, v...
religious constructs a...
for understanding p...
report is to present or...
model, the Five-Facto...
and to outline four wa...
a bridge between thes...

THE FIVE-FACTO... OF PERSONALITY

Over the past 30...
verged on the existe...
dimensions that const...
personality characte...
berg, 1993; McCrae...
sions are known as th...
ity and are labeled: ...
experience negativ...
depression, and host...
and intensity of one...
openness to experie...
appreciation of new...
quality of one's inte...
continuum from cor...
finally, conscientious...
tion, and motivatio...
behaviors (Costa & M...
strong cross-observer...
indicated that these...
of any self-distortion...
1987; Piedmont, 199...

Support for this research was provided by the Institute for Religious and Psychological Research and by a Junior Faculty Sabbatical Award. Portions of this report were presented as part of the symposium: R. L. Piedmont (Chair), *The Five-Factor Model and Its Value for Religious Research*. Symposium conducted at the annual meeting of the American Psychological Association, Toronto, Canada. The author would also like to acknowledge the assistance of Joseph E. G. Williams and Christopher Hendrick and two anonymous reviewers in the preparation of this manuscript. Correspondence concerning this article should be addressed to Ralph L. Piedmont, Department of Pastoral Counseling, Loyola College in Maryland, 7135 Minstrel Way, Suite 302, Columbia, MD 21045. Electronic mail may be sent to piedmont@vax.loyola.edu.

to determine the psychological range of convenience represented in religious constructs, whereas the second issue seeks to determine the incremental validity of these measures over established psychological constructs. Without answers to these questions, religious research will become stymied in its efforts to reach a wider audience in the social sciences. One way to resolve these issues and demonstrate the value of religious constructs would be to evaluate religious constructs within established taxonomic models of personality. This is not to suggest that religious constructs need to be reduced to fit into secular psychological constructs. Rather, the goal is to create a climate where the meaningful exchange of ideas between these two disciplines can productively occur. Such a dialogue would enable religious researchers to gain access to the latest methods and models in psychology that would inform theory development and research with spiritual constructs. Psychology, in turn, would see the added value of religious constructs and the importance they hold for understanding people. The purpose of this report is to present one such established taxonomic model, the Five-Factor Model of Personality (FFM), and to outline four ways this model can be applied as a bridge between these two disciplines.

THE FIVE-FACTOR MODEL OF PERSONALITY

Over the past 30 years, researchers have converged on the existence of five orthogonal trait dimensions that constitute an adequate taxonomy of personality characteristics (Digman, 1990; Goldberg, 1993; McCrae & John, 1992). These dimensions are known as the five-factor model of personality and are labeled: neuroticism, the tendency to experience negative emotions such as anxiety, depression, and hostility; extraversion, the quantity and intensity of one's interpersonal interactions; openness to experience, the proactive seeking and appreciation of new experiences; agreeableness, the quality of one's interpersonal interactions along a continuum from compassion to antagonism; and finally, conscientiousness, the persistence, organization, and motivation exhibited in goal directed behaviors (Costa & McCrae, 1992c). The findings of strong cross-observer, cross-instrument convergence indicated that these dimensions were not a product of any self-distortion or rater bias (McCrae & Costa, 1987; 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, 1992d, 1994). 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 personological qualities that define and direct the ongoing course of individual development. Scores on the FFM were 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, & Dembroski, 1989), occupational burnout and psychological distress (Magnus, Deiner, Fujita, & Pavot, 1993; Ormel & Wohlfarth, 1991; Piedmont, 1993), and coping ability and well-being (Costa & McCrae, 1984, 1989; McCrae & Costa, 1986). Research has showed the five-factor model to be quite comprehensive; the domains of the FFM subsumed 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 two-fold. Empirically, this model is well defined and robust, emerging even cross-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: clergy selection and assessment, image of God research, evaluating the construct validity of religiously-oriented scales, and documenting the incremental validity of religious constructs over and above more established personality dimensions. These four topics were selected because each relies heavily on measurement instruments for providing information. Thus, any framework that is helpful for understanding measures ought to be useful in these areas as well. It should be pointed out that this article is not a comprehensive review of religious research using the

VALIDITY

an array of religious
e been related to psy-
such as well-being,
on (e.g., Boudreaux,
, & Brantley, 1995;
ell, Hathaway, Gre-
value of this research
ows that the area of
ound for identifying
difference variables.
ts hold the potential
dict salient life out-
n of psychology and
omise for expanding
l the needs they seek

must be tempered by
ing the state of reli-
) has noted that the
se psychotheological
ablished. Until a bet-
al content of these
becomes difficult to
ects of psychological
r of attention for reli-
interrelations among
have not been exam-
ity of redundancy in
s been raised by Van
ned that current reli-
ligification" of estab-
For example, what is
ous well-being scale
g scale? What added
inding of one's well-
omponent?
he field of religious
The first issue seeks

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; Naus, 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. 955). Their study indicated that "tough minded clergy are more likely to experience dissatisfaction with the structures of ministry and neurotic clergy are more likely to experience higher levels of anxiety generated by the tensions and conflicts associated with ministry" (p. 955). 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 EPPS, 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 EPPS are associated with low Agreeableness (Piedmont, McCrae, & Costa, 1992), whereas high scores on the CPI's two achievement scales 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 Involvement; Piedmont, 1993). Although these scales represent different aspects of personality, the use of all three scales represents a serious error.

Another widely used instrument is the Research Form (PRF; Costa & McCrae, 1992), which assesses similar constructs but with slightly different patterns of correlations. Its Achievement scale is particularly diverse: It correlates with Extraversion, Openness, and Neuroticism (Costa & McCrae, 1992). The value of this personality assessment enables researchers in studies employing this instrument. This is especially true when the results appear. For example, if the EPPS profiles of candidates and Ekhardt's profile are compared, both show high Achievement, while the latter's Neuroticism scores were high. Sense can only be made if the evaluation of their Achievement scale is done in terms of those that are relevant to emotional stability, dutifulness. Thus, it is not surprising that candidates with high EPPS Achievement scores also score high on Agreeableness. As a result, they generate lower scores on Neuroticism.

Because the domain of personality inventories, scales be seen as personally relevant. A similar pattern of correlations is found in the FFM. For example, the EPPS Achievement and PRF scales, all in the same direction. In the EPPS, the Achievement scale correlates -.15, and .12 with Neuroticism, Agreeableness, and Conscientiousness, respectively ($N = 164$). In the FFM, the Achievement scale correlates .25, .55, .25, -.23, and .12 with Neuroticism, Agreeableness, Conscientiousness, Openness, and PRF Dominance scales, respectively (-.16, .49, .23, -.2). Given the similar pat-

maintained a commitment after leaving the profession on the California Gough, 1987) Female the priesthood. Earlier CPI scales of Self-identity were important predictors about continuations suggest that perhaps helpful part of clergy activities may help in preventing sexual misconduct. I suggested two types of misconduct: the naive dilemmas in establishing boundaries and those who are narcissistic and Turner suggest healthy clergy who create boundaries may avoid short term counseling who use people's needs may not be a source of public trust. Individuals at risk for it. It would also be helpful to be assisted with misconduct and those who are.

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 correlates with the FFM. Its Achievement scale is more personally 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 personal 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 Ekhardt 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 incongruity 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 personally 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, .41, -.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 correlates: -.16, .49, .23, -.23, and .18, respectively ($N = 296$). Given the similar pattern of FFM correlates in terms

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 correlates with the FFM. Its Achievement scale is more personally 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 personal 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 Ekhardt 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 incongruity 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 personally 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, .41, -.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 correlates: -.16, .49, .23, -.23, and .18, respectively ($N = 296$). 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 disordered 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, 1992c) have also been shown to be relevant to understanding the Axis II disorders (e.g., Trull, 1992; Trull, Useda, Costa, & McCrae, 1995). Although very high or low scores on the FFM dimensions are not indicative of characterological impairment 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, Rodgeron 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 numerous 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-

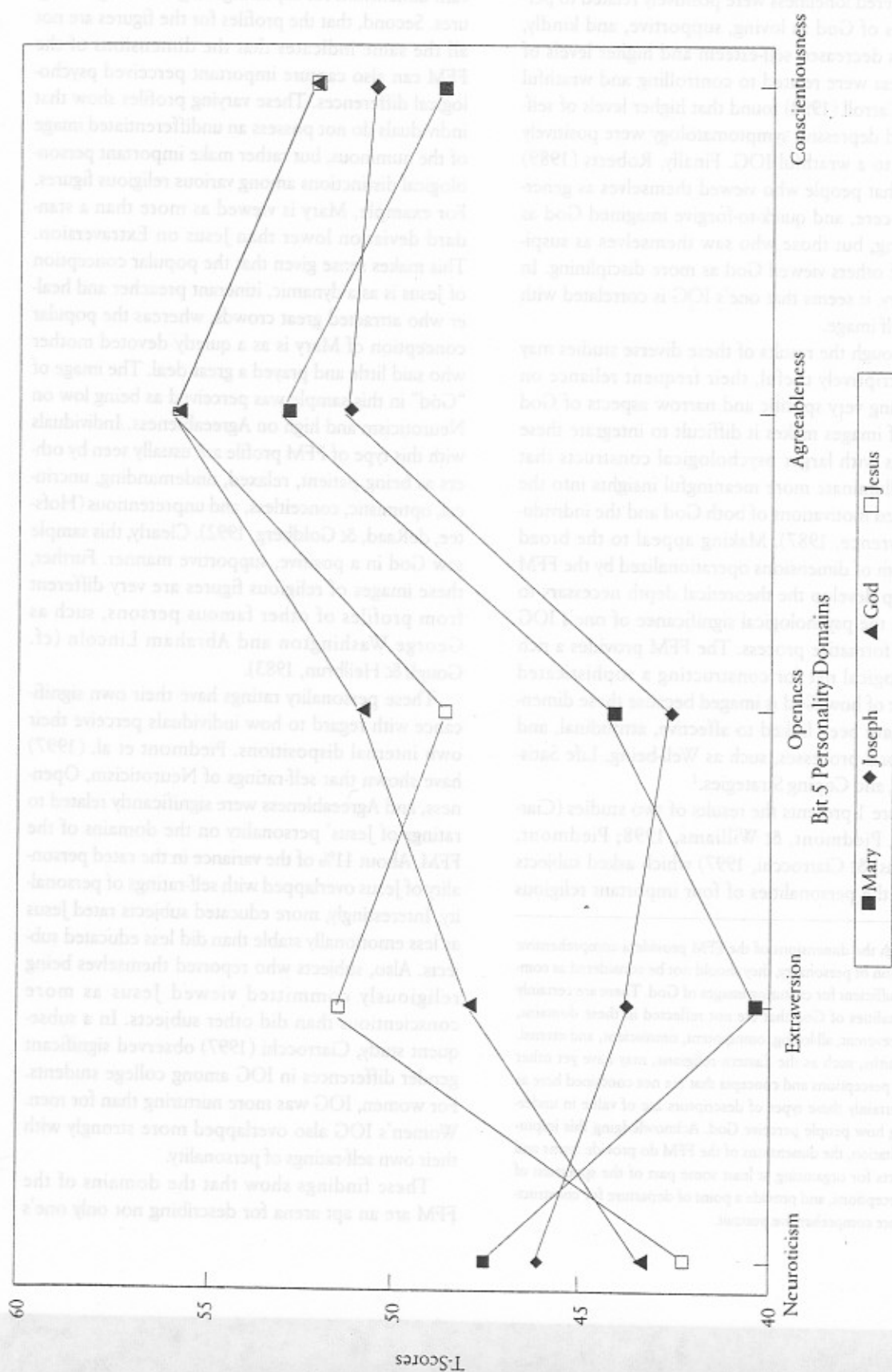


Figure 1. Rated profiles of select religious figures.

ceive the motivations a these images relate to history and current ps Spilka, 1973; Gorsuch, and Petersen (1990) fo and lowered loneliness ceptions of God as lo whereas decreased se' loneliness were relate IOGs. Carroll (1992) f reported depressive sy related to a wrathful found that people wh ous, sincere, and quic nurturing, but those icious of others viewe summary, it seems tha one's self image.

Although the resul be descriptively usefu measuring very specif and self images make findings with larger could illuminate mor perceived motivations al (Lawrence, 1987). spectrum of dimensio can help develop the express the psycholog and its formative pro nomological net for portrait of how God i sions have been linke behavioral processes. faction, and Coping S

Figure 1 presents r rocchi, Piedmont, & Williams, & Ciarrocc to rate the personali

¹Although the dimensions description of personality. pletely sufficient for captu other qualities of God th such as reverent, all-loving Other faiths, such as the types of perceptions and c well. Certainly these typc standing how people partant limitation, the dimen- constructs for organizing God perceptions, and pro ing a more comprehensi



Figure 1. Rated profiles of select religious figures.

ceive 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.¹

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 psychological 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, conceitless, and unpretentious (Hofstee, deRaad, & 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

¹Although the dimensions of the FFM provide a comprehensive description of personality, they should not be considered as completely sufficient for capturing images of God. There are certainly other qualities of God that are not reflected in these domains, such as reverent, all-loving, omnipotent, omniscient, and eternal. Other faiths, such as the Eastern religions, may have yet other types of perceptions and concepts that are not contained here as well. Certainly these types of descriptors are of value in understanding how people perceive God. Acknowledging this important limitation, the dimensions of the FFM do provide terms and constructs for organizing at least some part of the spectrum of God perceptions, and provide a point of departure for constructing a more comprehensive portrait.

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 IOG (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 introjects. 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, & Strouthamer-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

Gorsuch (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 personal 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,

Table 1
Correlations Between

Spiritual Variable
Intrinsic Religious ^a
Extrinsic Religious
Existential Well Being
Religious Well Being
Hood Mysticism 1
Hood Mysticism 2
Religious Problem Sol
Collaborative
Self-Directed
Deferring
Faith Maturity ^c
Total
Vertical
Horizontal

^a $p < .05$; ^b $p < .01$;

^cPiedmont, 1996; $N = 4$

Note. Hood (1975) Mys expression dimension. I: from Paloutzian and Ellison, from Benson, Don: Inventory or its short for

1996; Rodgeron & sions can be drawn f ber of significant corr of the FFM for und constructs. As such, dencing their person ple, an Intrinsic relig with an individual hi conscientiousness. S ized very prosocial v ers as being moral, r ble, and dependabl negative correlation v commitment to their sistent with Gorsuch struct, "... the motiv: one's religious faith The person's religio pursued in the abse

Neuroticism and low
ardful style; that low
 bleness characterize
 hat low Neuroticism
 ne *dismissing* attach-

is interpersonal ori-
 racteristic ways of
 rch has shown that
 circumplex structure
 ons of Extraversion
 Costa, 1989b). Thus,
 define and compare
 nd others (e.g., par-
 odels exist, such as
 mpetitive Style that
 evaluating ratings of
 998).

RESEARCH

r no new religious
 until the construct
 g instruments could
 l only be developed
 isting nomological
 Unfortunately, no
 . To date, the only
 ividual difference
 it religiously based,
 uating the persono-
 constructs. If reli-
 p with personality
 measure with the
 the larger motiva-
 f the scales. Corre-
 vide a methodolo-
 ous constructs to
 likened the corre-
 the establishment
 given location on
 who continue to
 without locating it
 ed to geographers
 at refuse to locate
 !” (Ozer & Riese,
 ?
 tween a variety of
 he five major per-
 were culled from
 1996; Piedmont,

Table 1
 Correlations Between Five-Factor Model Domains and Various Religious Constructs

Spiritual Variable	Five-Factor Domain					R ²
	N	E	O	A	C	
Intrinsic Religious ^a	.00	-.04	-.09*	.09*	.11*	.03
Extrinsic Religious	.11*	-.04	-.07	-.07	-.09	.02
Existential Well Being	-.51***	.34***	-.05	.20***	.39***	.35
Religious Well Being	-.04	.05	-.11*	.11*	.13**	.05
Hood Mysticism 1	.02	.08	.23***	-.04	.02	.06
Hood Mysticism 2	-.04	.13**	.20***	.01	.09*	.06
Religious Problem Solving ^b						
Collaborative	-.26**	.29**	.07	.19**	.34**	.16
Self-Directed	.23**	-.20**	-.09	-.13*	-.16**	.06
Deferring	-.21**	.21**	-.34**	.00	.20**	.20
Faith Maturity ^c						
Total	-.07	.10*	.06	.18***	.17***	.06
Vertical	-.09*	.11*	.04	.13**	.17***	.05
Horizontal	-.06	.08	.17***	.25***	.16***	.09

*p < .05; **p < .01p; ***p < .001, two-tailed.

^aPiedmont, 1996; N = 492; ^bRodgerson & Piedmont, 1998; N = 251; ^cChen, 1996; N = 534.

Note. Hood (1975) Mysticism Factor 1 refers to a general mysticism dimension whereas Factor 2 refers to a joyful religious expression dimension. Intrinsic and Extrinsic Religiosity from Gorsuch and Venable (1983). Existential and Religious Well-being from Paloutzian and Ellison (1982). Religious Problem Solving from Pargament et al. (1988). Faith Maturity Scale, 12-item version, from Benson, Donahue, and Erickson (1993). Five-factor model domains measured by either the Revised NEO Personality Inventory or its short form, the NEO Five-Factor Inventory (Costa & McCrae, 1992^c).

1996; Rodgerson & 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 on-going 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^2 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 PI-R (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 impor-

tance. In response to Van Wicklin (1990), religious constructs need to be shown that they are not the simple "religification" 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.

Rodgers 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

RPS added nothing to the Exhaustion over the FFM contribution to the other two. The RPS additional explained variance was small (the RPS additional explained variance over the FFM is being used in a unique predictive value results of such an analysis whether a scale can weight in applied contextually useful).

Piedmont (1999) provided the FFM, this one construct new spiritual construct used measures of the FFM selection of items for Transcendence. Through process, joint correlation analyses with the FFM items' degree of relatedness were selected on the basis of their relation with the FFM. Then, using regression analyses, the incremental validity was evaluated relative to a criterion such as sexual attitudes, sexual behavior, and vulnerability. It was shown that Spirituality had a significant contribution over the FFM domains predicted. Support and Interpersonal Support (the FFM explained 14% of the variance), the Transcendence added 50% as much as the FFM scales explained variance, relative to the criterion.

If religious research is to be a substantive field of study, it must demonstrate that there are unique aspects to define the discipline. It is something to contribute to the understanding of people. The incremental validity of the FFM as a baseline reference point, because its value is twofold. First, the unique constructs and the FFM are being religious variables "prints" of these scales. The redundancy among the v-

lin (1990), religious that they are not the ished psychological ivalent this capability adopt a more rigor- at involves the sys- is and psychological s important aspects ; job performance, g). In other words, shown capable of mportant aspects of ution provided by acts. The statistical is undertaking is a dity paradigm.

RESEARCH

is useful in deter- : predictiveness of research, incremen- l in outlining those igious constructs e., prosocial behav- er and above the bles of the FFM. In 1 to articulate more nctioning that are istricts.

erarchical multiple- on is selected, FFM ditional personality p one of the analy- f interest is entered l then identify that ciated with the per- mines whether the religious variable / accounted for by l on the first step.

98) provided one n be used to evalu- case Pargament et olving Scale (RPS). ; individuals com-, and Maslach and tory (MBI). In a gression analyses, ree RPS scales in is evaluated. The

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 relevancy. 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 "fingerprints" 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 and to 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 IOG 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 better 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.

REFERENCES

- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personal Psychology, 44*, 1-26.
- Benson, P., Donahue, M. J., & Erickson, J. A. (1993). The Faith Maturity Scale: Conceptualization, measurement, and empirical validation. *Research in the Social Scientific Study of Religion, 5*, 1-26.
- Benson, P., & Spilka, B. (1973). God image as a function of self-esteem and locus of control. *Journal for the Scientific Study of Religion, 12*, 297-310.
- Boudreaux, E., Catz, S., Ryan, L., Amaral-Melendez, M., & Brantley, P. J. (1995). The ways of religious coping scale: Reliability, validity, and scale development. *Assessment, 2*, 233-244.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Briggs, S. R. (1989). The optimal level of measurement for personality constructs. In D. M. Buss & M. C. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 201-209). New York: Springer-Verlag.
- Carroll, W. C. (1992). *Depressed mood in religiously committed persons: A cross-sectional study*. Unpublished doctoral dissertation, Loyola College in Maryland.
- Chen, M. C. (1996). *Psychosocial correlates of prosocial behavior among college students in Taiwan*. Unpublished doctoral dissertation, Loyola College in Maryland.
- Ciarrocchi, J. W. (1997). *Different voices or different persons? Relationship between gender and personality with images of God*. Presentation at the Second Annual Roundtable Discussion on Religious Research, Baltimore, MD.
- Ciarrocchi, J. W., Piedmont, R. L., & Williams, J. E. G. (1998). Who do you say I am? Personality and gender dimensions in men and women's images of Jesus, Mary, and Joseph. *Research in the Social Scientific Study of Religion, 9*, 127-145.
- Costa, P. T., Jr. (1996). Work and personality: Use of the NEO PI-R in industrial/organizational psychology. *Applied Psychology: An International Review, 45*, 225-241.
- Costa, P. T., Jr., Bush, C. M., Zonderman, A. B., & McCrae, R. R. (1986). Correlations of MMPI factor scales with measures of the five-factor model of personality. *Journal of Personality Assessment, 50*, 640-650.
- Costa, P. T., Jr., Fagan, P. J., Piedmont, R. L., Ponticus, Y., & Wise, T. N. (1992). The five-factor model of personality and sexual functioning in outpatient men and women. *Psychiatric Medicine, 10*, 199-215.
- Costa, P. T., Jr., & McCrae, R. R. (1984). Personality as a lifelong determinant of well-being. In C. Malatesta & C. Izard (Eds.), *Affective processes in adult development and aging* (pp. 141-157). Beverly Hills, CA: Sage.
- Costa, P. T., Jr. & McCrae, R. R. (1988). From catalogue to classification: Murray's needs and the five-factor model. *Journal of Personality and Social Psychology, 55*, 258-265.
- Costa, P. T., Jr., & McCrae, R. R. (1989). Personality, stress, and coping: Some lessons from a decade of research. In K. S. Markides & C. L. Cooper (Eds.), *Aging, stress, social support, and health* (pp. 267-283). New York: Wiley.
- Costa, P. T., Jr., & McCrae, R. R. (1992a). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 4*, 5-13.
- Costa, P. T., Jr., & McCrae, R. R. (1992b). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders, 6*, 343-359.
- Costa, P. T., Jr., & McCrae, R. R. (1992c). *The NEO PI-R Professional Manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Jr., & McCrae, R. R. (1992d). Trait psychology comes of age. In T. B. Sonderregger (Ed.), *Nebraska symposium on motivation: Psychology and aging* (pp. 169-204). Lincoln, NE: University of Nebraska Press.
- Costa, P. T., Jr., & McCrae, R. R. (1994). Set like plaster? Evidence for the stability of adult personality. In T. F. Heatherton & J. L. Weinberger (Eds.), *Can personality change?* (pp. 21-40). Washington, DC: American Psychological Association.
- Costa, P. T., Jr., & McCrae, R. R. (1995). Primary traits of Eysenck's P-E-N system: Three- and five-factor solutions. *Journal of Personality and Social Psychology, 69*, 308-317.
- Costa, P. T., Jr., McCrae, R. R., & Dembroski, T. M. (1989). Agreeableness vs. antagonism: Explication of a potential risk factor for CHD. In A. Siegman & T. M. Dembroski (Eds.), *In search of coronary-prone behavior: Beyond Type A* (pp. 41-63). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Costa, P. T., Jr., McCrae, R. R., & Holland, J. L. (1984). Personality and vocational interests in an adult sample. *Journal of Applied Psychology, 69*, 390-400.
- Costa, P. T., Jr., Zonderman, A. B., McCrae, R. R., & Williams, R. B., Jr. (1985). Content and comprehensiveness in the MMPI: An item factor analysis in a normal adult sample. *Journal of Personality and Social Psychology, 48*, 925-933.
- Digman, J. M. (1990). Pe five-factor model. *Annual*
- Ekhardt, B. N., & Goldsm men and women pastora files. *Journal of Psychol*
- Eysenck, H. J., & Wilson, ty Profiler, London: Cor
- Fagan, P. J., Wise, T. N., S R. D., & Costa, P. T., Jr personality dimensions i males with paraphilia. *Jou* 434-448.
- Fraley, R. C., & Waller, N A test of the typological n (Eds.), *Attachment the* 114). New York: Guilford I
- Francis, L. J., & Rodger, on clergy role prioritizat ion with ministry. *Per* 16, 947-957.
- Francis, P. C., & Turner, the Christian church: Who timize? *Counseling and*
- Genia, V. (1991). The Spi spiritual maturity. *Journal*
- Goldberg, L. R. (1993). T traits. *American Psychol*
- Gorsuch, R. L. (1969). T adjective ratings. *Journal* 7, 56-64.
- Gorsuch, R. L. (1988). *Psy Psychology, 39*, 201-221.
- Gorsuch, R. L. (1994). T religious commitment. *Jou* 33, 315-325.
- Gorsuch, R. L., & Venabl Universal I-E Scale. *Jour* 22, 181-187.
- Gough, H. G. (1987). *C administrator's guide*. P Press.
- Gough, H. G., & Heilbru List manual (1983 editi ogists Press.
- Heath, A. C., Neale, M. C K. S. (1992). Evidence for self-reports and informan Social Psychology, 63, 8
- Hofstee, W. K. B., deRaa tion of the Big Five and c Journal of Personality a
- Hood, R. W., Jr. (1975). T tion of a measure of repo the Scientific Study of R

- personality: Use of the NEO PI-R. *Journal of Personality and Social Psychology*, *67*, 225-241.
- Anderson, A. B., & McCrae, R. R. (1994). Factor scales with measures of the NEO PI-R. *Journal of Personality Assessment*, *63*, 1-10.
- Piedmont, R. L., Ponticus, Y., & Wise, T. N. (1991). A comparison of the five-factor model of personality and sexual functioning in men and women. *Psychiatric Medicine*, *21*, 1-10.
- Piedmont, R. L. (1984). Personality as a lifelong process. In C. Malatesta & C. Izard (Eds.), *Personality development and aging* (pp. 141-150). New York: Guilford Press.
- Piedmont, R. L. (1988). From catalogue to classification: The five-factor model. *Journal of Personality and Social Psychology*, *55*, 258-265.
- Piedmont, R. L. (1989). Personality, stress, and coping: A decade of research. In K. S. Gidycz, *Aging, stress, social support*, New York: Wiley.
- Piedmont, R. L. (1992a). Normal personality: The NEO Personality Inventory. In *A Journal of Consulting and Clinical Psychology*, *40*, 1-10.
- Piedmont, R. L. (1992b). The five-factor model of personality disorders. *Journal of Personality and Social Psychology*, *63*, 359-369.
- Piedmont, R. L. (1992c). *The NEO PI-R Profile: Psychological Assessment*. Odessa, FL: Psychological Assessment Resources.
- Piedmont, R. L. (1992d). Trait psychology comes of age. In *Nebraska symposium on motivation* (pp. 169-204). Lincoln, NE: University of Nebraska Press.
- Piedmont, R. L. (1994). Set like plaster? Evidence for stability in personality. In T. F. Heatherton & J. L. Murnighan (Eds.), *Personality change?* (pp. 21-40). Washington, DC: American Psychological Association.
- Piedmont, R. L. (1995). Primary traits of personality: Evidence for five-factor solutions. *Journal of Personality and Social Psychology*, *69*, 308-317.
- Piedmont, R. L., & Dembroski, T. M. (1989). Explication of a potential risk factor for antisocial behavior. In F. M. Dembroski (Ed.), *In search of the risk factor: Beyond Type A* (pp. 41-63). New York: Brunner/Mazel Associates.
- Piedmont, R. L., & Holland, J. L. (1984). Personality structure in an adult sample. *Journal of Personality and Social Psychology*, *47*, 400-410.
- Piedmont, R. L., McCrae, R. R., & Williams, R. B. (1993). Comprehensiveness in the MMPI: An adult sample. *Journal of Personality and Social Psychology*, *64*, 925-933.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, *41*, 417-440.
- Ekhardt, B. N., & Goldsmith, W. M. (1984). Personality factors of men and women pastoral candidates, Part 1: Motivational profiles. *Journal of Psychology and Theology*, *12*, 109-118.
- Eysenck, H. J., & Wilson, G. D. (1991). *The Eysenck Personality Profiler*. London: Corporate Assessment Network, Ltd.
- Fagan, P. J., Wise, T. N., Schmidt, C. W., Jr., Ponticus, Y., Marshall, R. D., & Costa, P. T., Jr. (1991). A comparison of the five-factor personality dimensions in males with sexual dysfunction and males with paraphilia. *Journal of Personality Assessment*, *57*, 434-448.
- Fraley, R. C., & Waller, N. G. (1998). Adult attachment patterns: A test of the typological model. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 77-114). New York: Guilford Press.
- Francis, L. J., & Rodger, R. (1994). The influence of personality on clergy role prioritization, role influences, conflict and dissatisfaction with ministry. *Personality and Individual Differences*, *16*, 947-957.
- Francis, P. C., & Turner, N. R. (1995). Sexual misconduct within the Christian church: Who are the perpetrators and those they victimize? *Counseling and Values*, *29*, 219-227.
- Genia, V. (1991). The Spiritual Experience Index: A measure of spiritual maturity. *Journal of Religion and Health*, *30*, 337-347.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, *48*, 26-34.
- Gorsuch, R. L. (1969). The conceptualization of God as seen in adjective ratings. *Journal for the Scientific Study of Religion*, *7*, 56-64.
- Gorsuch, R. L. (1988). Psychology of religion. *Annual Review of Psychology*, *39*, 201-221.
- Gorsuch, R. L. (1994). Toward motivational theories of intrinsic religious commitment. *Journal for the Scientific Study of Religion*, *33*, 315-325.
- Gorsuch, R. L., & Venable, G. D. (1983). Development of an Age Universal I-E Scale. *Journal for the Scientific Study of Religion*, *22*, 181-187.
- Gough, H. G. (1987). *California Psychological Inventory administrator's guide*. Palo Alto, CA: Consulting Psychologists Press.
- Gough, H. G., & Heilbrun, A. B. (1983). *The Adjective Check List manual (1983 edition)*. Palo Alto, CA: Consulting Psychologists Press.
- Heath, A. C., Neale, M. C., Kessler, R. C., Eaves, L. J., & Kendler, K. S. (1992). Evidence for genetic influences on personality from self-reports and informant ratings. *Journal of Personality and Social Psychology*, *63*, 85-96.
- Hofstee, W. K. B., deRaad, B., & Goldberg, L. R. (1992). Integration of the Big Five and circumplex approaches to trait structure. *Journal of Personality and Social Psychology*, *63*, 146-163.
- Hood, R. W., Jr. (1975). The construction and preliminary validation of a measure of reported mystical experience. *Journal for the Scientific Study of Religion*, *14*, 29-41.
- Jackson, D. N. (1984). *Personality Research Form manual (3rd ed.)*. Port Huron, MI: Research Psychologists Press.
- John, O. P., Caspi, A., Robins, R. W., Moffitt, T. E., & Strouthamer-Loeber, M. (1994). The "Little Five": Exploring the nomological network of the five-factor model of personality in adolescent boys. *Child Development*, *65*, 160-178.
- Jones, D. L., & Francis, L. J. (1992). Personality profile of Methodist ministers in England. *Psychological Reports*, *70*, 538-548.
- Kirkpatrick, L. A., & Shaver, P. R. (1992). An attachment-theoretical approach to romantic love and religious belief. *Personality and Social Psychology Bulletin*, *18*, 266-275.
- Klohn, E. C., & John, O. P. (1998). Working models of attachment: A theory-based prototype approach. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 115-142). New York: Guilford Press.
- Lawrence, R. T. (1987). *God image and self image: The need for a psychometric instrument*. Paper presented at the annual meeting of the Society for the Study of Religion, Louisville, KY.
- Maddock, R., Kenny, C. T., & Middleton, M. M. (1973). Preference for personality vs. Role-activity variables in the choice of a pastor. *Journal for the Scientific Study of Religion*, *12*, 449-452.
- Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: A longitudinal analysis. *Journal of Personality and Social Psychology*, *65*, 1046-1053.
- Maslach, C., & Jackson, S. E. (1986). *Maslach Burnout Inventory manual (2nd ed.)*. Palo Alto, CA: Consulting Psychologists Press.
- McCrae, R. R., & Costa, P. T., Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality and Social Psychology*, *54*, 385-405.
- McCrae, R. R., & Costa, P. T., Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*, 81-90.
- McCrae, R. R., & Costa, P. T., Jr. (1989a). Reinterpreting the Myers-Briggs Type Indicator from the perspective of the five-factor model of personality. *Journal of Personality and Social Psychology*, *57*, 17-40.
- McCrae, R. R., & Costa, P. T., Jr. (1989b). The structure of interpersonal traits: Wiggin's circumplex and the five-factor model of personality. *Journal of Personality and Social Psychology*, *56*, 586-595.
- McCrae, R. R., & Costa, P. T., Jr. (1995). Trait explanations in personality psychology. *European Journal of Personality*, *9*, 231-252.
- McCrae, R. R., & Costa, P. T., Jr. (1996). Toward a new generation of personality theories: Theoretical contexts for the five-factor model. In J. S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 51-87). New York: Guilford Press.
- McCrae, R. R., & Costa, P. T., Jr. (1997). Personality trait structure as a human universal. *American Psychologist*, *52*, 509-516.
- McCrae, R. R., Costa, P. T., Jr., & Piedmont, R. L. (1993). Folk concepts, natural language, and psychological constructs: The California Personality Inventory and the five-factor model. *Journal of Personality and Social Psychology*, *64*, 1-26.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, 60, 175-215.

Miller, T. (1991). The psychotherapeutic utility of the five-factor model of personality: A clinician's experience. *Journal of Personality Assessment*, 57, 415-433.

Nauss, A. (1973). The ministerial personality: Myth or reality. *Journal of Religion and Health*, 123, 77-96.

Ormel, J., & Wohlfarth, T. (1991). How neuroticism, long-term difficulties, and life situation change influence psychological distress: A longitudinal model. *Journal of Personality and Social Psychology*, 60, 744-755.

Ozer, D. J., & Riese, S. P. (1994). Personality Assessment. *Annual Review of Psychology*, 45, 357-388.

Paloutzian, R. F., & Ellison, C. W. (1982). Loneliness, spiritual well-being and quality of life. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research, and therapy*. New York: Wiley-Interscience.

Pargament, K. I., Kennell, J., Hathaway, N., Grevengoed, J. N., & Jones, W. (1988). Religion and the problem-solving process: Three styles of coping. *Journal for the Scientific Study of Religion*, 27, 90-104.

Patrick, J. (1991). Personality characteristics of male and female pastoral candidates. *Journal of Psychology and Theology*, 19, 186-196.

Piedmont, R. L. (1993). A longitudinal analysis of burnout in the health care setting: The role of personal dispositions. *Journal of Personality Assessment*, 61, 457-473.

Piedmont, R. L. (1994). Validation of the NEO-PI-R observer form for college students: Toward a paradigm for studying personality development. *Assessment*, 1, 259-268.

Piedmont, R. L. (1996). Strategies for using the five-factor model in religious research. In R. Piedmont (Chair), *The five-factor model and its value for religious research*. Symposium conducted at the annual Convention of the American Psychological Association, Toronto, Canada.

Piedmont, R. L. (1998). *The Revised NEO Personality Inventory: Clinical and research applications*. New York: Plenum.

Piedmont, R. L. (1999). Does spirituality represent the sixth factor of personality? Spiritual transcendence and the five-factor model. *Journal of Personality*, 67, 985-1013.

Piedmont, R. L., McCrae, R. R., & Costa, P. T., Jr. (1992). An assessment of the EPPS from the perspective of the five-factor model. *Journal of Personality Assessment*, 58, 67-78.

Piedmont, R. L., & Weinstein, H. P. (1994). Predicting supervisor ratings of job performance using the NEO Personality Inventory. *Journal of Psychology*, 128, 255-265.

Piedmont, R. L., Williams, J. E. G., & Ciarrochi, J. W. (1997). Personality correlates of one's image of Jesus: An historiographic analysis using the five-factor model of personality. *Journal of Psychology and Theology*, 25, 363-372.

Query, W. T. (1966). CPI factors and success of seminary students. *Psychological Reports*, 18, 665-666.

Query, W. T. (1979). Changes in scores on California Psychological Inventory among seminarians: What happened to the class of '68? *Psychological Reports*, 45, 129-130.

Rizzuto, A. (1979). *The birth of the living God: A psychoanalytic study*. Chicago: University of Chicago Press.

Roberts, C. W. (1989). Imagining God: Who is created in whose image? *Review of Religious Research*, 30, 375-386.

Rodgers, T. E., & Piedmont, R. L. (1998). Assessing the incremental validity of the Religious Problem Solving Scale in the prediction of clergy burnout. *Journal for the Scientific Study of Religion*, 37, 517-527.

Saucier, B., & Goldberg, L. R. (1998). What is beyond the Big Five? *Journal of Personality*, 66, 495-524.

Schwab, R., & Peterson, K. U. (1990). Religiousness: Its relation to loneliness, neuroticism, and subjective well-being. *Journal for the Scientific Study of Religion*, 29, 335-345.

Sullender, R. S. (1993). Clergy candidates' MMPI profiles: Comparing gender and age variables. *The Journal of Pastoral Care*, 47, 263-273.

Trull, T. J. (1992). DSM-III-R personality disorders and the five-factor model of personality: An empirical comparison. *Journal of Abnormal Psychology*, 101, 553-560.

Trull, T. J., Useda, J. D., Costa, P. T., Jr., & McCrae, R. R. (1995). Comparison of the MMPI-2, Personality Psychopathology Five (PSY-5), the NEO-PI, and the NEO-PI-R. *Psychological Assessment*, 4, 508-516.

Van Wicklin, J. F. (1990). Conceiving and measuring ways of being religious. *Journal of Psychology and Christianity*, 9, 27-40.

AUTHOR

PIEDMONT, RALPH L. Address: Department of Pastoral Counseling, Loyola College in Maryland, 7135 Minstrel Way, Columbia, MD 21045. Title: Director, the Institute for Religious and Psychological Research. Degree: PhD, Personality Psychology, Boston University. Specializations: Five-factor taxonomy of personality, personality correlates of religious/spiritual phenomena.

JOURNAL

This section of the *Journal* at informed of current resources or those related to the general area of religion appearing in other journals. A wide range of psychological and theological resources are surveyed regularly in this section. The editor of the *Journal* solicits correspondence from readers and authors of theoretical or research articles in psychology and theology which contribute directly to the understanding of the task and process of integrating the psychology of religion with theology.

JOURNAL FOR THE SCIENTIFIC STUDY OF RELIGION
Bilgrave, D. P., & Deluty. Religious beliefs and their implications for clinical and counseling psychology. Vol. 37(2), 329-349

Bilgrave and Deluty conducted a study on a sample of 237 clinical psychologists. In an attempt to understand the religious beliefs of psychologists, they would include a broad spectrum of religious beliefs, an approximately equal number of respondents were selected from fields of psychology: Counseling, Psychotherapy, and Pastoral Care. The Directory of the American Psychological Association (American Psychological Association, 1998) was collected from a 65-item questionnaire. The most respondents believe that their practice of psychology is influenced by their practice of psychotherapy, and their religious beliefs. Furthermore, there is a correlation between psychology and their specific psychotherapeutic approaches. Eastern and mystical beliefs were associated with humanistic and existential approaches, whereas orthodox Christian beliefs were correlated with the cognitive-behavioral approach.

Hall, T. W., Brokaw, B. F., Pike, Patricia L. (1998). An empirical exploration of spirituality and religion: Spiritual maturity and relations development. Vol. 37(2), 303-313

