

## Measuring Religious Constructs: A Hierarchical Approach to Construct Organization and Scale Selection

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Although religion deals with humankind's ultimate concerns, such as universal compassion or the quest for divine peace and perfection, to some people the psychological study of religion and spirituality may seem only marginally relevant to positive psychology. In part, this could be because of the negative stances that many theorists have taken toward religion. For instance, Freud (1927/1953) compared religion to an infantile stage of development, calling it the "universal obsessional neurosis of humanity" (pp. 77–78). He believed that religion restricts people's impulses, filling their need for an omnipotent father who will protect them from the powerfulness of nature and rectifying the shortcomings and sufferings they experience in this life. Although Freud thought that religion effectively helped individuals allay anxiety, he also posited that reliance on religion prevented humankind from facing reality and growing past their fears and that it was a societal barrier to the progress of science and reason.

Other theorists and scholars have associated religiousness with mental weakness and deficiency (e.g., Dittes, 1969; Ellis, 1960). A number of empirical studies have shown that religious involvement is negatively related to personal competence and control, self-acceptance and self-actualization, and open-mindedness and flexibility (see Batson, Schoenrade, & Ventis, 1993, for a review). In addition, several studies in the mid-20th century linked religious involvement with prejudice and negative social attitudes (e.g., Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950). In light of these theories and findings, it is easy to justify ambivalence about the place of religion in a psychology of "strength" and "virtue."

Yet other psychologists have concluded that religion promotes growth and mental health. For example, Allport (1937, 1950) believed that mature religion unifies an individual's personality. Although he thought that religion was not the only possible unifying philosophy of life that could develop and maintain a mature personality, Allport believed it to be superior to other philosophies in that "religion is the search for value underlying *all* things" (1937, p. 226).

This comprehensiveness of religion allows it to organize the rest of the person's life in an integrated way. Allport was not alone in believing that religion promotes psychological growth. Other theorists have posited that religion encourages self-realization and enlightenment (Bertocci, 1958; James, 1902/1990; Johnson, 1959) as well as cognitive growth (Elkind, 1970).

Recent research has uncovered positive relationships between religion and particular indexes of physical and mental health (e.g., Koenig, McCullough, & Larson, 2001). Certain forms of religiousness are associated with lower levels of depressive symptoms (e.g., McCullough & Larson, 1999), higher subjective well-being (e.g., Koenig et al., 2001), and even longer life (e.g., McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000). In addition, specific dimensions of religion appear to be related to positive social attitudes such as tolerance toward others (see Batson et al., 1993, for a review). Therefore, although religion is not exclusively a force for good, it may encourage individual health and social harmony in some contexts. Because of this potential, it may be worthwhile for researchers and practitioners to measure different aspects of religiousness. In this chapter, we discuss many important issues in the measurement of religion and spirituality and present a hierarchical model for conceptualizing the various aspects of religiousness that might be measured empirically.

### Religion Versus Spirituality: Definitions

We begin by briefly distinguishing between religion and spirituality. This is a formidable task, because many psychologists have presented multiple definitions of their own (see Pargament, 1997, for a review). One definition of religion that encompasses diverse perspectives and can be applied to many different types of religiousness is presented by Hill et al. (2000):

- A. The feelings, thoughts, experiences, and behaviors that arise from a search for the sacred. . .
- AND/OR
- B. A search for non-sacred goals (such as identity, belongingness, meaning, health, or wellness) in a context that has as its primary goal the facilitation of (A);
- AND:
- C. The means and methods (e.g., rituals or prescribed behaviors) of the search that receive validation and support from within an identifiable group of people. (p. 66)

Using this definition, religion is set apart from other concepts by its relation to the sacred, which according to Hill et al. (2000) can include "a divine being, divine object, Ultimate Reality, or Ultimate Truth as perceived by the individual" (p. 66). Though nonreligious philosophies can, similar to religion, give individuals meaning and purpose in their lives, religion provides meaning and purpose in relation to the sacred (as defined by the individual). This definition incorporates many different aspects of religion, including religious belief, religious sentiment, mystical experiences, and religious behavior. It also acknowl-

edges that religion serves other nonsacred ends for many people and that it occurs in the context of a religious community.

Hill et al. (2000) also outlined the history of the relationship between religion and spirituality, noting that in the past the two terms have been closely linked but that a distinction between being religious and being spiritual recently has emerged. The differentiation between the terms has become important as increasing numbers of individuals have begun to identify themselves as “spiritual but not religious” (Zinnbauer et al., 1997). More and more, the term “spiritual” is used for individual religious experiences, whereas the term “religious” is used for institutionalized religion. In the minds of many people in the general population, spirituality is seen as more positive, experiential, and genuine, whereas religion connotes stale, ritualistic, empty observances (Hill et al., 2000). Yet defining spirituality and religion dichotomously in terms of good–bad or individual–institutional is simplistic, and does not capture the considerable overlap between the two. For example, nearly three quarters of the participants in Zinnbauer et al.’s (1997) study identified themselves as being both spiritual and religious. Moreover, many of the field’s pioneers (e.g., James, 1902/1990; Pratt, 1930) emphasized that transcendent and relational components were intrinsic to religion *per se*.

In distinguishing between religion and spirituality, Hill et al. (2000) defined spirituality separately from religion yet maintained that spirituality could be an integral part of a person’s religiousness. They defined spirituality as “the feelings, thoughts, and behaviors that arise from a search for the sacred” (p. 66), without the added components of nonsacred goals and religious community. With this definition, it is possible for individuals to be both spiritual and religious if they endorse the first criterion of religion (i.e., the search for the sacred). However, it is also possible to be spiritual without religion (searching for the sacred outside of a religious community) or to be religious without being spiritual (pursuing nonsacred goals in a religious context). In addition, this definition of spirituality preserves the individual–institutional distinction between spirituality and religion, but it acknowledges that religion contains both individual and institutional components.

Because many individuals may identify themselves as religious but not spiritual, it is important to use measures that examine not only religiousness but spirituality as well. It also is necessary for psychologists to consider tools that acknowledge the overlap between religiousness and spirituality while also observing their distinctiveness.<sup>1</sup>

## General Measurement Issues

Gorsuch (1984) noted that measurement was both a bone and a boon to the psychology of religion. Specifically, the psychology of religion suffers from an abundance of scales and a lack of alternatives to self-report measures.

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<sup>1</sup>Despite Hill et al.’s (2000) comprehensive definitions of religiousness and spirituality, the majority of measures of religiousness and spirituality tend to be in the area of Western rather

### *An Abundance of Scales*

In psychology of religion, there often exist multiple scales measuring similar constructs, and psychometrically sound scales in similar content areas of religion tend to produce similar results. Indeed, because so many scales already exist for measuring religion dependably, Gorsuch argued that psychologists should refrain from constructing new scales without first doing a thorough literature review to guarantee that an adequate scale did not already exist. He also stated that if a new scale is developed, psychologists should show that it adds new information to existing scales. In addition, Gorsuch maintained that psychologists should shift their emphasis away from designing new measures and toward exploring the relationships between the existing measures and other psychological constructs.

Regrettably, Gorsuch's words of wisdom have gone largely unheeded by many psychologists in the past 15 years. The development of new assessment tools for measuring religiousness accelerates at an extremely fast rate—at least 40 new measures of religiousness were published between 1985 and 1999 (Hill & Hood, 1999)—often resulting in near duplication of one of the approximately 200 published measures of religion. We think that such well-intentioned efforts at scale development and revision will fail to yield new fundamental insights, wasting resources that could be directed toward weightier issues in the study of religion. Rather than constructing new scales, psychologists would fare better to choose among the many pre-existing tools for assessing religiousness. These measures have been reviewed repeatedly (e.g., Hill & Hood, 1999), so their psychometric properties and applications can be considered.

### *Is Self-Report the Only Answer?*

Unfortunately, the success psychologists have experienced in designing measures of religion has been one-sided. The measurement design of choice overwhelmingly has been close-ended, self-report questionnaires, at the expense of other forms of measurement (Gorsuch, 1984). The preference for self-report, close-ended questionnaires stems in part from their ease of administration and scoring. Interview measures of religion have existed—for example, Allen and Spilka (1967) originally used interviews to assess their committed and consensual dimensions of religion—but these measures often give way to less cumbersome self-report questionnaires (e.g., Spilka, Stout, Minton, & Sizemore, 1977). The use of alternative measurement techniques is necessary, however, for accurate study and assessment of religiousness. For example, theories of religious motivation such as Allport's widely cited dimensions of intrinsic and extrinsic religious orientation (Allport & Ross, 1967) would greatly benefit from non-self-report measures of motivations for being religious. The use of self-report measures to the exclusion of alternative measures in studies of religious

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than Eastern religion. Very few scales exist that assess spirituality from an Eastern point of view, and the construction and validation of these types of scales are sorely needed.

motivation (as well as many other areas) is suboptimal because it is not clear that individuals always have conscious access to their motivations (e.g., Nisbett & Wilson, 1977).

Self-report measures also may suffer from social desirability biases. For example, the relationship between intrinsic religious orientation and racial tolerance has been thrown into question because of the link between intrinsic religiousness and social desirability (Batson, Naifeh, & Pate, 1978; see Trimble, 1997, for a review). It is therefore important to use methods of assessment beyond self-report measures. One possible alternative is to use peer reports of target individuals' religiousness (i.e., Piedmont, 1999). In addition, psychologists might construct behavioral measures of religiousness that complement existing self-report measures. Supplementing self-report measures of religiousness with other avenues of measurement will help psychologists attain a clearer picture of the character and consequences of religiousness.

### Strategies for Selecting Measures

Because of the multifaceted nature of religion and religious experience, there is not one best measure of religiousness. Measures exist for assessing religious belief, religious commitment, religious affiliation, religious development, religious maturity, and so on. Given this staggering set of options, we think the selection of religious measures should be based on theoretical principles rather than on personal tastes or convenience. One important principle to consider is whether religion consists of one general factor or many different factors. Gorsuch (1984) suggested that religion is a general factor that can be subdivided into other religious dimensions. He proposed that it would be appropriate to measure the general religious factor when it was being used to predict many other variables, whereas subdimensions should be used to predict the exceptions to the general rule. For example, when looking at the relationship between religion and broad variables such as age differences in religiousness, the use of a general religious factor is appropriate. When predicting a more specific variable such as prejudice, however, it becomes necessary to use subdimensions of religion to see the complete relationship.

#### *A Hierarchical Model*

Gorsuch's insights can be formalized by viewing religiousness and spirituality as a hierarchically structured psychological domain. Higher levels of organization reflect broad individual differences among persons in highly abstracted, trait-like qualities. At this higher, trait-like level (we shall call it Level I), the goal of measurement is to assess broad dispositional differences in religious tendencies or traits so that one might draw conclusions about how "religious" a person is. We label this the *dispositional* level of organization.

Beyond individual differences in the disposition toward religiousness, people manifest tremendous diversity in how they experience religious (and spiritual) realities, their motivations for being religious, and their deployment of

their religion to solve problems in the world. We call this second level (Level II) the *operational* level of organization.

Insights about the general nature and operation of religiousness and spirituality are complex because constructs at these two levels of organization do not function independently. Operational-level measures frequently contain variance that can be attributed to dispositional constructs. For instance, people who are inclined to use religion to cope with stress (an operational, Level II concept) are probably more disposed toward being religious in general (a dispositional, Level I concept; Pargament, 1997). This overlap can be controlled in multivariate research. We would propose that before psychologists conclude that any particular Level II religiousness factor significantly affects the psychological lives of individuals, it is necessary to control for Level I religious variables. Otherwise, psychologists cannot know if their effects are a result of an operational religious variable rather than to general religiousness.

Pargament (1997) provides good examples of the application of a hierarchical model to the relationships among religious constructs, although he has not explicitly described the formal hierarchical structure that we propose. In their studies of religious coping (religion at the operational level of organization), Pargament and colleagues typically use measures of general religiousness (e.g., single-item measures of frequency of prayer and religious attendance) to control for individual differences at the dispositional level of organization. This measurement strategy has allowed these investigators to make substantive conclusions about specific religious operations (particular religious strategies for coping with stress) while being careful not to confound such observations with the effects of general, dispositional differences in religiousness.

In the remainder of this chapter, we use this hierarchical model for organizing religiousness and spirituality to review some of the more promising scales for assessing religiousness at both the dispositional and operational levels.

### **Measuring Religiousness at the Dispositional Level**

At the dispositional level (Level I), we are interested in assessing broad individual differences in people's religiousness or spirituality. We postulate that there exists a personality trait with moderate independence from the Big Five personality dimensions (John & Srivastava, 1999) that predisposes people to an interest in religious pursuits. This idea receives indirect support from three sources.

First, within relatively homogenous cultural groups, many indicators of seemingly distinct aspects of religiousness—frequency of involvement in religious activities, self-reported importance of religion, or engagement in private religious practices—are correlated at nontrivial levels. On average, people who are prone to attend a religious congregation are more likely to pray, say that religion is a guiding force in their lives, and so forth. Measures of ostensibly separate aspects of religiousness frequently correlate as highly as .60 to .80 (Gorsuch, 1984; McCullough, Worthington, Maxey, & Rachal, 1997). Second, even when multiple-item measures of religion are factor-analyzed, the factors that emerge tend to be intercorrelated, suggesting the existence of a higher order dimension. Third, recent evidence from behavioral genetics suggests that

**Table 22.1.** Suggested Measures for Assessment of Dispositional Aspects of Religion and Spirituality

Reference	Scale name
Burris and Tarpley (1998)	Immanence
Cloninger et al. (1993)	Self-transcendence subscale of the Temperament and Character Inventory
Hatch, Burg, Naberhaus, and Hellmich (1998)	Spiritual Involvement and Beliefs scale
Hood (1975)	Mysticism scale
Paloutzian and Ellison (1982)	Spiritual Well-Being scale
Piedmont (1999)	Spiritual Transcendence scale
Plante and Boccaccini (1997)	Santa Clara Strength of Religious Faith Questionnaire
Rohrbaugh and Jessor (1975)	Religiosity Measure
Worthington et al. (1998)	Religious Commitment Inventory (RCI-10)

religious inclinations are partially heritable (for review see D'Onofrio, Eaves, Murrelle, Maes, & Spilka, 1999).

Individual differences in Level I religiousness can be assessed easily by examining the common variance in a few items or behavior samples. For example, Rohrbaugh and Jessor's (1975) scale of general religiousness yielded a highly reliable and consistent unidimensional measure of general religiousness with only eight questions. Their items measure frequency of church attendance, prayer, the amount of religious influence in participants' lives, certainty of religious doctrine, experiences of religious reverence, and feelings of comfort and security from religion. These items of general religiousness were highly correlated with a separate item of self-reported religiousness ( $r_s = .78$  to  $.84$ ). The common variance in the small number of questions used by Pargament (1997) to assess general religiousness also assess Level I adequately. In addition, the Santa Clara Strength of Religious Faith Questionnaire (SCSORF) is a useful measure of strength of religious faith. Plante and Boccaccini (1997), noting that the majority of religiousness scales were designed for use with individuals who were self-categorized as religious, constructed the 10-item SCSORF as a more broad measure of faith for use in the general population.

In addition, there exist a number of scales that assess dispositional levels of spirituality. MacDonald, LeClair, Holland, Alter, and Friedman (1995) provided a good review of the properties and applications of 20 measures of spirituality, mysticism, and transpersonal experiences. They purposefully selected many of their scales for their independence from traditional measures of religiousness. (See Table 22.1 for references to these and several other measures of dispositional religiousness and spirituality.)

The measurement of Level I religiousness has been fruitful for studying the relationship of religion to physical and psychological health. For example, McCullough and Larson (1999) concluded that general measures of religious involvement tended to be negatively related to depression. Furthermore,

**Table 22.2.** Suggested Measures for Assessment of Operational Aspects of Religion and Spirituality

Reference	Scale name
<b>Religious orientation</b>	
Allport and Ross (1967)	Religious Orientation Scales: Intrinsic and Extrinsic
Batson and Schoenrade (1991a, 1991b)	Quest Religious Orientation
Hoge (1972)	Intrinsic Religious Motivation Scale
<b>Coping</b>	
Pargament et al. (1990)	Religious Coping Activities Scale
Pargament et al. (1988)	Religious Problem-Solving Scales
Pargament, Koenig, and Perez (1998)	RCOPE
<b>Prayer</b>	
Bade and Cook (1997)	Prayer Functions Scale
Luckow, McIntosh, Spilka, and Ladd (2000)	No name given
Poloma and Pendleton (1989)	Types of prayer
Richards (1991)	Types of prayer

religious involvement also predicts lower use of alcohol, tobacco, and illicit drugs, along with fewer substance abuse problems. In addition, people who are higher in dispositional religiousness tend to have greater happiness and satisfaction with life (Myers & Diener, 1995). However, many other relationships between religiousness and health may surface through the examination of Level II religious constructs.

### Measuring Religiousness at the Operational Level

The content of people's religiousness theoretically can be distinguished from the functions of religion in their lives (Gorsuch, 1984). In a similar way, we suggest that the higher order, dispositional aspect of religion exists independently of the operational aspects of religion (at which we might assess such differences in the *functions* or *experiences* of a person's religious life). Two people who are equally disposed toward being religious—in other words, they have identical Level I religiousness—may have very different ways of experiencing, expressing, and deploying their religiousness to solve life's problems.

Religious operations (what we call Level II religiousness) are manifold. It would be impossible to describe them all in this chapter. Therefore, we focus on a few exemplars. They include the motivations behind a person's religiousness, the ways an individual might use his or her religion in coping, and prayer. To complement our discussion, in Table 22.2 we recommend some published scales for assessing these and similar Level II constructs.



## *Religious Orientation*

Allport and Ross's (1967) distinction between intrinsic and extrinsic religious orientation is one of the most established Level II concepts in the psychology of religion. The extrinsically religious person uses religion as a means to another end, whereas the intrinsically religious person holds religion as an ultimate goal.

### *Extrinsic Orientation*

Persons with this orientation are disposed to use religion for their own ends. The term is borrowed from axiology, to designate an interest that is held because it serves other, more ultimate interests. Extrinsic values are always instrumental and utilitarian. Persons with this orientation may find religion useful in a variety of ways—to provide security and solace, sociability and distraction, status and self-justification. The embraced creed is held lightly or else selectively shaped to fit more primary needs. In theological terms the extrinsic type turns to God, but without turning away from the self.

### *Intrinsic Orientation*

Persons with this orientation find their master motive in religion. Other needs, strong as they may be, are regarded as of less ultimate significance, and they are, so far as possible, brought into harmony with the religious beliefs and prescriptions. Having embraced a creed the individual endeavors to internalize it and follow it fully. It is in this sense that he lives his religion. (Allport & Ross, 1967, p. 434)

Allport (1950) believed that extrinsically religious individuals used religion to buffer anxiety but did not take religion's lessons to heart. Therefore, extrinsic religion was responsible for the relationships between religion and undesirable traits such as prejudice. In contrast, the more mature intrinsically religious individuals, though rarer than the extrinsically religious, represented the positive end toward which religion was striving: these individuals should be more helpful, more loving, and less prejudiced, according to this definition (e.g., Allport & Ross, 1967).

Reliabilities for Allport and Ross's (1967) Religious Orientation scale (ROS) have ranged from .73 to .82 for the intrinsic scale, and .35 to .70 for the extrinsic scale (Trimble, 1997). Hoge's (1972) version of the intrinsic religiousness scale shows higher reliability (.90). Trimble (1997) also points out that Hoge's (1972) scale is more theoretically succinct, measuring only religious motivation and leaving out behavior, cognitions, and perceptions. Yet, despite the superior psychometric and theoretical properties of Hoge's scale, Allport and Ross's (1967) ROS remains the most widely used measure of religious orientation.

Allport and Ross's (1967) measurement of intrinsic and extrinsic religious orientation has been challenged. Perhaps one of the greatest criticisms came from Batson and his colleagues. Stating that the ROS excluded the critical, open-minded component in Allport's original concept of intrinsic religious orientation, Batson added an additional dimension of religious orientation: religion as quest (e.g., Batson & Schoenrade, 1991a, 1991b). Quest was defined as

an approach that involves honestly facing existential questions in all their complexity, while at the same time resisting clear-cut, pat answers. An individual who approaches religion in this way recognizes that he or she does not know, and probably will never know, the final truth about such matters. Still, the questions are deemed important, and however tentative and subject to change, answers are sought. (Batson et al., 1993, p. 166)

Batson et al. (1993) constructed a 12-item Quest religious orientation scale to measure this questioning, reflective component to the mature religious sentiment.

EMPIRICAL DIFFERENCES AMONG EXTRINSIC, INTRINSIC, AND QUEST RELIGIOUS ORIENTATIONS. The necessity of adding a quest dimension to the concept of religious orientation becomes apparent when one observes the growing empirical evidence for differences between extrinsic, intrinsic, and quest religiousness. As Allport and Ross (1967) predicted, extrinsic religious orientation continues to be associated with prejudice against a plethora of different minority groups. However, scores on intrinsic religious orientation scales are related to decreased prejudice only on self-reports and when prejudice is condemned by the individual's religious community. Many studies using behavioral measures of prejudice (e.g., Batson, Flink, Schoenrade, Fultz, & Pych, 1986; Batson et al., 1978), or looking at prejudice that is not strictly prohibited by the church, such as prejudice against lesbians and gay men or Communists (e.g., Herek, 1987; McFarland, 1989), show intrinsic religion to be related to *increased* prejudice. Quest is the only religious orientation consistently related to decreased prejudice (Batson et al., 1993).

The three different religious orientations also relate in different ways to helping behavior. Specifically, high scores on the extrinsic religion scale often are unrelated to helping, or are related to decreased helping. High scores on intrinsic religion measures are related to the appearance of helpfulness, but often this help seems to serve the individual's need to appear helpful, rather than addressing the specific situation of the person in need. In contrast, although high scores on the quest scale are not related to an increase in helping in general, they are related to helping that is sensitive to the need of the other person (see Batson et al., 1993, for a review). Looking at the intersection between helping behavior and prejudice, Batson, Floyd, Meyer, and Winner (1999) found that individuals scoring high on intrinsic religion were less likely to help a gay person than a nongay person, regardless of whether the helping opportunity would or would not promote homosexuality. In contrast, Batson, Eidelman, Higley, and Russell (2001) found that those scoring higher in quest religion were less likely to help an antigay individual, but only if helping that individual would promote antigay behavior. In this way, knowledge of people's religious orientation can predict whether, and whom, someone will help.

In summary, the issue of religious orientation has shown that, in certain areas of psychology, differentiation among multiple religious dimensions is useful and necessary. In fact, an inaccurate picture is portrayed of the relation-

ship between religion and other psychological concepts such as prejudice if Level II measurements such as orientation are not considered.

### *Religion and Coping*

People often turn to the sacred in times of stress, particularly in extreme situations of turmoil and threat. Just as there are different types of religious orientation, there are different ways that people might use religion to cope with individual life stressors. Just as much of religion's association with such negative concepts as prejudice can be explained by differences in religious orientation, the relationship between religion and well-being can be greatly clarified by examining the ways people use their religion to cope.

Although religion is not universally used as an aid in coping, it is clear that in certain stressful circumstances, many people will turn to religion as a way to cope (Pargament, 1997). Psychologists have developed measures for assessing both (a) general religious styles for coping with problems and (b) particular religious strategies for coping with specific stressors. Pargament et al. (1988) described (a) a *collaborative* religious problem-solving style, which involves an active, relational interchange with God in solving problems; (b) a *deferring* religious problem-solving style, which involves relinquishing problems to God that the individual is unable or unwilling to resolve personally; and (c) a *self-directing* style that reflects the fact that God gives people the liberty to direct their own lives. The Religious Problem-Solving scales (Pargament et al., 1988) assess these three religious problem-solving styles with 12 self-report items each (six-item short forms also are described). These subscales have theoretically expected correlations with measures of Level I religiousness, locus of control, religious orientation, and self-esteem.

Pargament and colleagues also have developed a comprehensive measure of the many ways that people might use their religiousness to cope with specific stressors. The most recent culminations of this effort are the religious coping scale (RCOPE; Pargament, Koenig, & Perez, 1998) and the Brief RCOPE (Pargament, Smith, Koenig, & Perez, 1998). The RCOPE consists of 21 subscales that assess the extent to which the individual uses each of 21 religious coping strategies (e.g., benevolent religious reappraisal, punishing God reappraisal, active religious surrender, passive religious deferral, seeking spiritual support, religious helping, etc.). Although these subscales appear to be useful in their own right, there is evidence that their structure can be simplified into a two-factor structure consisting of positive (adaptive) and negative (maladaptive) religious coping strategies. Pargament et al. (1998) developed the 14-item brief RCOPE to assess these two global religious coping factors. They provided some evidence that the use of positive religious coping was positively related to mental health and physical health, whereas the opposite was generally true for negative religious coping. More recently, Pargament, Koenig, Tarakeshwar, and Hahn (in press) demonstrated that negative religious coping (therein renamed *religious struggle*) is related to mortality among medically ill older adults. These measures of religious coping could have a variety of applications

to the study of health and well-being, particularly within a classical stress-and-coping framework.

### *Prayer*

Prayer is one of the fundamental aspects of religious life (Heiler, 1958; McCullough & Larson, 1999). As such, the study of prayer as a Level II or operational form of religiousness may provide unique insight into the ways that people “do religion” in their daily life. Until recently, acknowledgment of the fact that prayer occurs in a variety of forms and styles was all but neglected in empirical psychology. This was due in part to the lack of self-report measures for assessing these various aspects of prayer.

Poloma and Pendleton (1989) were among the first social scientists to study prayer as a multidimensional experience. To do so, they developed multi-item scales for assessing the four types of prayer described by Heiler (1958) and Pratt (1930): meditative prayer (i.e., thinking about or reflecting on God); ritual prayer (reading prayers or reciting them from memory); colloquial prayer (communicating with God in a conversational style); and petitionary prayer (requesting that God meet the specific needs of oneself or others). Poloma and Pendleton also created a measure to assess the frequency with which prayer led to strong spiritual or religious experience. These five scales demonstrated adequate internal consistency and were related to several measures of life satisfaction. It also is worth noting that Poloma and Pendleton controlled for Level I religiousness with a single prayer frequency item before making inferences about the relationships of the specific types of prayer with measures of life satisfaction.

Several other researchers have developed measures of prayer. Luckow, McIntosh, Spilka, and Ladd's (2000) factor analysis of the items from several previous measures of types of prayer led to the identification of seven different types of prayer: intercessory–thanksgiving; ritualistic; material petition; habit; meditation–awareness; confession–closeness; and egocentric petition. Laird, Snyder, Rapoff, and Green (2001) specifically identified and validated different types of private prayer: adoration; confession; thanksgiving; supplication; and reception. In a different vein, Bade and Cook (1997) developed a functional measure of prayer that attempts to assess the specific ways that individuals might use prayer to cope. This 58-item checklist consists of four coping functions that prayer can serve: (a) providing acceptance; (b) providing calm and focus; (c) deferring and avoiding; and (d) providing assistance. Cook and Bade (1998) reported that these various scales had patterns of correlations with locus of control, religious problem-solving style, and the use of religious coping strategies. Moreover, Schoneman and Harris (1999) found correlational evidence consistent with the idea that some of these functions of prayer may be related positively to anxiety (using prayer to defer or avoid coping), whereas others are related negatively to anxiety (providing assistance).

The existing self-report questionnaires for measuring prayer may be useful, both for assessing the types of prayer that people use and the functions that prayer might serve in their coping efforts. It also is worth noting—in the

spirit of our desire to point out alternatives to cross-sectional questionnaire assessment of religious variables—that prayer can be measured using other methods as well. For example, McKinney and McKinney (1999) demonstrated that use of prayer could be assessed using a daily diary method. These measures, along with self-reports of prayer, would allow researchers to tap into this important Level II religious variable.

## Conclusion

As Gorsuch (1984) noted nearly two decades ago, measurement is the boon of the psychology of religion. That is still the case today. The abundance of scales benefits not only psychologists of religion, but any psychologist interested in looking at the associations of religiousness with other aspects of people's lives. From the perspective of positive psychology, certain forms of religiousness show promising associations with physical and mental health, the promotion of tolerance and prosocial behavior, and positive interpersonal relationships, to name a few. Because of the potential for religiousness to influence individual lives in a positive way, and the pervasiveness of religiousness and spirituality around the world, positive psychology would do well to integrate religious and spiritual concepts into its perspective.

The availability of so many measures of religiousness also can pose challenges to individuals who are unfamiliar with the psychology of religion. We have attempted to simplify the process by classifying religious and spiritual psychological concepts into a two-level hierarchical structure. At the superordinate level are dispositional measures of general religiousness, which assess religiousness as broad individual differences among persons in the tendency toward religious interests and sentiments. At a subordinate level of organization are operational measures of religiousness, which assess how particular aspects of religion function. Examples of operational measures include religious orientation, religious coping, and prayer.

The specific religious concept that a psychologist chooses to measure must be driven by theory. In addition, psychologists interested in Level II religious operations should concurrently assess Level I religiousness. Without Level I measures, a researcher mistakenly could conclude that operational variables are producing effects when, in reality, the effects could be accounted for by general religiousness.

We urge researchers and practitioners to eschew the practice of measuring religious constructs with single-item measures (see also McCullough & Larson, 1999). Although single-item measures of frequency of prayer, attendance at religious services, or self-rated religiousness have much to offer in terms of face validity, their dependability is limited by the psychometric weaknesses that plague all single-item measures of psychological constructs. Assuming that the internal consistency of a single-item measure is .50 (which may be generous), then the associations with such a measure of religiousness with another construct would be attenuated by 29% relative to the true relation among the constructs in the population (Hunter & Schmidt, 1990). This level

of attenuation is too high and completely unnecessary given the fact that highly reliable multi-item measures of religious constructs are widely available.

Similar to others before us, we also recommend the use of alternative measurement techniques to supplement self-report questionnaires of religiousness and spirituality. Many of the relationships between religiousness and other concepts are subject to socially desirable responding, or may be of limited validity in some applications. Use of peer reports, interviews, behavioral measures, and other alternatives to self-report questionnaires can provide us with a richer notion of religiousness and spirituality and a broader understanding of its associations with other domains of human functioning.

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