

**The purpose of this study is twofold: (a) To see whether religious doubt is related to psychological well-being and (b) to test for age differences in the relationship between these constructs. The data come from a national sample of Presbyterians. The findings suggest that doubt is associated with greater psychological distress and diminished feelings of well-being. Moreover, the results reveal that the deleterious effects of doubt are greater for younger than for older people. Implications for practice with adults across the life span are suggested.**

**Key Words:** Religious doubt, Well-being, Adult development

# Aging, Religious Doubt, and Psychological Well-Being

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A growing number of studies suggest that religious participation exerts a beneficial effect on psychological well-being (see Ellison & Levin, 1998, for a recent review of this literature). These intriguing findings have touched off a concerted effort to explain how the salubrious effects of religion arise. Much of this work has focused on various facets of religious practice, such as prayer (Levin, 1996), participation in formal religious services (Idler & Kasl, 1997), and the exchange of mutually supportive behaviors among fellow parishioners (Ellison, 1994). However, these religious practices presuppose and depend on a more fundamental factor—faith. Without belief in basic religious principles, things like prayer and participation in religious services would have little meaning. But developing and maintaining a religious faith is challenging because it requires people to believe in things that cannot be seen or understood fully. Moreover, the presence of pain, evil, and suffering in the world serves to tax the faith of some individuals significantly (Kushner, 1981).

This article describes what happens when people have doubts about religion. In particular, we explore the possibility that religious doubt has important implications for psychological well-being. While theological discussions of religious doubt abound in the literature (e.g., Barth, 1963; Tillich, 1957), there have been relatively few empirical studies on this topic. This is surprising because religious doubts are common (Hunsberger, McKenzie, Pratt, & Pancer, 1993). Moreover, the few studies that are available suffer from at least two problems. First, they have rarely examined the effects of religious doubt on psychological well-

being (see Ellison, 1991, for a notable exception). Second, the majority of studies rely on samples composed of undergraduate students (Hunsberger et al., 1993; Nielsen & Fultz, 1995) or students in seminary school (Helfaer, 1972). Restricting study samples in this way is unfortunate because there is considerable discussion in the secular research literature on whether the ability to deal with uncertainty and doubt varies with age (e.g., Acredolo & O'Connor, 1991). If this is true, it is unlikely that focusing solely on the relationship between religious doubt and health will be productive. Instead, it makes more sense to probe directly for age differences in the relationship between these constructs. The analyses in this study were performed toward the end.

The discussion that follows is divided into three main sections. First, we develop in detail the theoretical underpinnings of this study. Following this, we describe the study sample, measures, and data analytic strategy. Finally, we present and discuss the results.

## Background

### *Religious Doubt, Psychological Well-Being, and Aging*

At first glance, it would appear that religious doubt is undesirable because it threatens to drive a wedge between religious practices and their purported mental health benefits. However, a thorough reading of the literature suggests that the issue may not be straightforward and that wrestling with religious doubt may even be a necessary prerequisite for developing a deeper and more meaningful faith. We begin laying the theoretical groundwork for this study by presenting these alternatives in sharp contrast. In the process, we bolster each perspective by turning to the secular as well as religious literature on doubt. Once the basic issues have been identified, we search for a resolution by assessing whether the relationship between doubt

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and psychological well-being varies by age. Here, the central thesis is that doubt per se is not detrimental; instead, age-related differences in the ability to handle doubt may determine whether it exerts an adverse effect on well-being. But once again, the issues are not distinct because it is possible to argue that the ability to manage doubt either increases or decreases with age. Rather than propose a solution based on conceptual grounds alone, we delve into both possibilities by contrasting secular and sacred literature on this issue. Throughout, our intent is to use this series of contrasts to highlight gaps in the knowledge base, thereby underscoring the contribution of the empirical work that follows.

*Doubts Are Detrimental.*—One way to begin thinking about doubt is to view it as an unsettling state of indecision that arises from seeing the validity in two seemingly inconsistent points of view. So, for example, it may be difficult for a person to believe in a loving and protecting God while at the same time recognizing that there is a great deal of suffering, pain, and injustice in the world. Viewed in this way, religious doubt is a specific instance of the more general problem of cognitive dissonance (Festinger, 1957). Examining doubt from this vantage point is helpful because, as Festinger points out, unsuccessful efforts to resolve cognitive dissonance can promote feelings of psychological distress.

Although dissonant beliefs involving secular issues may be troublesome, doubts that arise within the context of one's faith may carry the added burden of invoking sanctions or guilt. Evidence of this may be found in the New Testament, where the book of Romans unequivocally states that ". . . he who has doubts is condemned" (Romans 14:23, KJV). Similar views are expressed by Karl Barth, a prominent Protestant theologian (Helfaer, 1972). In particular, Barth (1963, p. 131) argues that, "No one should flirt with his unbelief or with his doubt. The theologian should only be sincerely ashamed of it."

As the discussion provided up to this point suggests, religious doubt may be detrimental for two reasons. First, following Festinger (1957), holding views that are incompatible can be distressful. Second, as Barth's (1963) discussion reveals, religious doubt may make conflicted individuals feel ashamed or guilty for questioning their faith in the first place. This is important because focusing on the fallout of shame and guilt provides several ways to link religious doubt with mental health problems. For example, one possibility is that feelings of shame or guilt that accompany religious doubt lower one's feelings of self-esteem, which many suspect is an important determinant of mental health (Krause, 1987). Similarly, the shame associated with religious doubt may cause conflicted persons to withdraw from fellow parishioners, thereby depriving themselves of another well-known source of psychological well-being (Ellison, 1994).

*Doubts Are Beneficial.*—In direct contrast to the previously described perspective, it is possible to use

the secular as well as the sacred research literature to argue that doubts are not only beneficial, they are essential to positive growth and development. Evidence for this proposition may be found in developmental psychology, where one of the most widely held notions is that cognitive development is motivated by uncertainty and doubt (Acredolo & O'Connor, 1991). Piaget (1975) used the term *disequilibria* to capture the essence of this process. He argues that disequilibria forces individuals to mature by challenging currently held ideas and encouraging them to strike out in new directions. This perspective is consistent with the views of many psychotherapists, who argue that openness and flexibility in the acquisition and assimilation of new information promotes mental health, whereas close-minded and rigid adherence to what is already known is unhealthy (e.g., Ellis, 1980).

Support for the insights of these psychotherapists can be found in the literature on religious doubt. In particular, Hunsberger and his associates (1993) found that college students who had religious doubt were better able to differentiate among alternative dimensions to problems and were more adept at integrating alternative points of view. Consistent with the perspective developed by Piaget (1975), this type of cognitive flexibility is likely to promote personal growth and development.

Whereas some religious researchers argue that doubt promotes growth and development, others express this view in especially strident terms. For these scholars, religious doubt is the very essence of faith itself. For example, the well-known Protestant theologian Tillich (1957, p. 73) argued that ". . . doubt is not the opposite of faith; it is an element of faith." Similar views are expressed by Allport (1950) in his classic book on religion: ". . . the mature religious sentiment is ordinarily fashioned in the workshop of doubt" (p. 73). Finally, and perhaps most important, Batson, Schoenrade, and Ventis's (1993) work on a religious quest is based in part on the notion that doubt is beneficial and ultimately leads to a deeper and more meaningful faith. This is evident in the following item that was taken from their widely used Quest Scale: "It might be said that I value my religious doubts and uncertainties" (Batson et al., 1993, p. 171). Although an extensive number of studies on quest and mental health have produced mixed findings (see Batson et al., 1993, for a review of this research), the underlying, two-part, theoretical rationale embedded in Batson and colleagues' quest construct still makes sense from a conceptual point of view: (a) Openly and honestly confronting religious doubt produces a deeper, more meaningful, and more mature religious faith; and (b) those with the deepest and most mature faith should enjoy the greatest mental health benefits.

*The Noxious Effects of Doubt Increase With Age.*—The literature reviewed up to this point provides two very divergent views of the relationship between doubt and psychological well-being. As noted earlier, one way to resolve this dilemma is not to focus on doubt per se; instead it may be more useful to exam-

ine age differences in the relationship between doubt and well-being. But here again, the leads provided in the literature are ambiguous. We begin by reviewing two bodies of research that suggest the effects of doubt become more pernicious with age. The first has to do with recent advances in identity theory, whereas the second involves concerns about death.

A central premise in identity theory is that people occupy multiple roles (Burke, 1991; Thoits, 1991). Associated with each role are clusters of normative expectations that form the basis for evaluating the adequacy of role performance. By providing guidance as well as a mechanism for appraising role enactment, the shared behavioral expectations associated with social roles promote a sense of meaning and purpose in life. This function is important because research consistently shows that a life experienced as meaningful is an important precursor of well-being (e.g., Debats, Drost, & Hansen, 1995; Frankl, 1985). According to recent extensions of identity theory, when problems arise in a role, the sense of meaning and purpose provided by that role are in jeopardy (Burke, 1991; Thoits, 1991). However, it is more complicated than this.

People typically occupy a number of different roles. Moreover, as Stryker (1987) and others have shown, these roles may be organized into a hierarchy reflecting different levels of commitment and emotional investment. Subsequent research has demonstrated that problems associated with roles that are valued highly have an especially noxious effect on health and well-being (Krause, 1994, 1998).

There are at least two reasons why doubt arising in religious roles may be especially problematic for older people. First, as a number of gerontologists have observed, late life is a time of role loss and role exit, when people retire from jobs, children move out of the home, and many encounter loss of a spouse (Rosow, 1976). Consequently, the restriction of role options suggests that a higher value will be placed on the relatively few that remain. Second, this may be one reason why research consistently shows that religion becomes increasingly salient with age (see Beit-Hallahmi & Argyle, 1998, for a recent review of this literature). If these observations are correct, then religious doubt should exert a more deleterious effect on the psychological well-being of older rather than younger people.

In addition to role loss, another concern that arises in late life is the approach of death. This issue is especially salient for older people because of declining health and more frequent deaths of age-peers. Consequently, a number of elderly people are anxious about dying (Kalish, 1976). However, as Pargament (1997) and others point out, an important function of religion is to allay these concerns. The reassurance provided by religion is captured succinctly in the well-known twenty-third Psalm: "Lo, though I walk through the valley of the shadow of death, I fear no evil, for Thou art with me . . ." (KJV). But elders struggling with religious doubt are less likely to avail themselves fully of this important source of solace, thereby depriving themselves of an important way to cope with anxiety about death.

*The Noxious Effects of Doubt Decrease With Age.*—Although the notion that doubt becomes more problematic with advancing years seems plausible, it is also possible that the maturity and more extensive experience of those who are older afford a greater ability to handle doubt. In fact, assets that accrue over the years may even make it possible to turn doubt into a growth experience. Although the term *doubt* is not used explicitly, the notion that grappling with uncertainty or ambiguity is a positive force for personal advancement may be found in a number of the classic works on human development. For example, images of the positive effects of doubt may be found in Erikson's (1959) discussion of the final stage of adult development (i.e., integrity versus despair). He maintains that people engage in an extensive life review as they approach their final years. Some (but not all) are able to reach the highest or most complete level of personal development by effectively coming to grips with the inherent ambiguities that have arisen over the course of their lives. Resolving doubts about how one's own life has turned out appears to be an integral part of this process.

The notion that doubt is more difficult for the young comes to center stage in Fowler's (1981) widely cited treatise on stages in the development of faith. This is especially evident in his discussion of development during Stages 4 and 5 of his six-part scheme. Stage 4 occurs anywhere from the early 20s to the early 40s. Fowler describes this stage as a time of great struggle where previously held beliefs are "demythologized," resulting in a ". . . gnawing sense of the sterility and flatness of the meanings one serves" (p. 183). In contrast, Stage 5, which emerges around mid-life, is a time for acquiring wisdom and arises from an effort to deal successfully with the inherent ambiguity of life. The words chosen by Fowler to describe Stage 5 development are important because they differ significantly from the largely negative terminology used to discuss Stage 4. Referring to Stage 5, Fowler (1981) notes that "What the previous stage struggled to clarify . . . this stage now makes porous and permeable. Alive to paradox and the truth inherent in contradictions, this stage strives to unify opposites in mind and experience" (p. 198). Embedded in this discussion is a subtle image of mounting strength and an increased ability to deal with ambiguity and doubt in Stage 5 (see also Koenig, 1994).

Taken as a whole, the literature reviewed up to this point presents a series of contrasts. It is possible to argue that doubt has detrimental effects on well-being, but it is equally plausible that doubt has a salubrious impact because it promotes intrapersonal growth. Alternatively, a developmental perspective may be used to show that doubt is neither inherently good or bad, and that what matters most is the life stage in which it emerges. But even here it is just as easy to argue that doubt is either more or less difficult for older people to handle. One way to make sense of these seemingly contradictory points of view is to conduct a two-part series of exploratory analyses. First, we assess the additive effects of religious doubt on psychological well-being. Second, we evaluate whether

there are age variations in the impact of doubt on well-being.

## Methods

### Sample

The data for this study come from a national panel survey of clergy, elders, and rank-and-file members of the Presbyterian Church (USA). The panel began in 1973. Data were collected four times a year, with the same individuals participating in three years of interviews. The members' sample was drawn from the population of active members of Presbyterian Church (USA) congregations. The elders' sample was drawn from the list of active elders—that is, elders currently serving on session. The session is the governing board of a Presbyterian congregation. Elders may be thought of as lay leaders of a congregation.

We excluded members of the clergy from the present study for the following reasons. First, religious doubts are likely to be qualitatively different for those who have formally dedicated their professional lives to their faith. In particular, the nature, meaning, and demands that doubt places on clergy are likely to differ substantially from regular church members. Second, the extensive training received in seminary school, as well as practical experience gained in helping rank-and-file members confront religious doubts, are likely to provide clergy with coping skills for confronting doubt that are not enjoyed by others in the congregation. Moreover, these coping skills are likely to be largely unrelated to age, thereby obfuscating the processes we hope to observe among lay persons.

The data used in the analyses presented in the Results section were collected in 1996 and 1997. This represents the first two interviews with a new round of study participants in the ongoing panel survey. A two-stage process was used to draw the Wave 1 panel of members in the fall of 1996. First, sampling with probability proportionate to size, we selected 425 congregations from the population of 11,361 Presbyterian congregations in the United States. We asked each selected congregation to compile a numbered alphabetical list of members' names. Then, based on seven numbers that had been generated at random, we asked the congregations to send the name and address of each selected member. Seventy-three percent of the congregations sent the requested names, resulting in a pool of 2,163 rank-and-file church members. Sixty-three percent of these randomly selected members returned completed, self-administered questionnaires by mail ( $N = 1,363$ ).

We drew the sample of elders from a list maintained at the national office. We also accomplished this with a two-step process. First, we created a list of elders from each sampled church from the master file. Then, using an algorithm, we drew four or five elders from each congregation. This resulting sample consisted of 1,759 elders, of which 75% ( $N = 1,314$ ) returned usable questionnaires.

We sent members and elders who participated in the Wave 1 survey a follow-up questionnaire in Feb-

ruary 1997. Seventy-five percent of the members ( $N = 1,022$ ) and 79% of the elders ( $N = 986$ ) returned completed Wave 2 questionnaires. Unlike the initial survey, the Wave 2 questionnaires contained information on religious doubt and psychological well-being. Consequently, with the exception of some basic demographic information and self-reported church attendance, the substantive questions used in the analyses presented in the Results section come from the Wave 2 interviews only.

After using listwise deletion of missing values to deal with the problem of item nonresponse, we pooled a sample of members and elders used in this study ranging from 1,757 to 1,851 individuals. Preliminary analysis of the sample consisting of 1,851 individuals revealed 52% were elders, the average age of the study participants was 55.58 years ( $SD = 15.06$ ), approximately 44% were men, and 95% were White.

### Measures

Table 1 contains the measures used in this study. The procedures used to code these indicators are provided in the footnotes of this table.

**Table 1. Study Measures**

- |   |
|---|
| 1. Religious Doubt (Wave 2 survey only) <sup>a</sup>                            |
| How often have the following problems caused doubts about your religious faith? |
| A. evil in the world  |
| B. personal suffering   |
| C. the feeling that life really has no meaning                                  |
| 2. Depressed Affect <sup>b</sup> (Wave 2 survey only)                           |
| How much of the time during the past four weeks                                 |
| A. have you felt so down in the dumps that nothing could cheer you up?          |
| B. have you felt downhearted and blue?  |
| C. did you feel worn out?   |
| D. did you feel tired?  |
| 3. Positive Affect <sup>b</sup> (Wave 2 survey only)                            |
| How much of the time during the past four weeks                                 |
| A. did you feel full of pep?  |
| B. have you felt calm and peaceful?   |
| C. did you have a lot of energy?  |
| D. have you been a happy person?  |
| 4. Church Attendance <sup>c</sup> (Wave 1 survey only)                          |
| How often do you attend your congregation's Sunday worship services?            |
| 5. Prayer <sup>d</sup> (Wave 2 survey only)                                     |
| How often do you pray?  |

<sup>a</sup>These measures are scored in the following manner (coding in parentheses): Never (1); sometimes (2); often (3).

<sup>b</sup>These indicators are scored in the following manner: None of the time (1); a little of the time (2); some of the time (3); a good bit of the time (4); most of the time (5); all of the time (6).

<sup>c</sup>This item is scored in the following manner: Never (1); less than once a year (2); about once or twice a year (3); several times a year (4); about once a month (5); 2–3 times a month (6); nearly every week (7); every week (8).

<sup>d</sup>This indicator is scored in the following manner: Never (1); less than once a week (2); once a week (3); two or more times a week (but less than daily) (4); once a day (5); two or more times a day (6).

**Religious Doubt.**—We used three indicators to assess religious doubt. We asked respondents how often the following problems caused doubts about their faith: (a) evil in the world, (b) personal suffering, and (c) the feeling that life really has no meaning. These measures come from the 1988 edition of the General Social Survey (GSS; Davis & Smith, 1989). A high score on these items denotes greater doubt. The internal consistency reliability estimate for this brief composite is .636.

Because religious doubt is the core construct in this study, it is important to provide some basic description information on the distribution of scores on this scale. Doubt scores ranged from 3 to 9; the mean is 4.356, and the standard deviation is 1.284. Although this measure is skewed toward the low end of the scale, it is important to point out that only 35% of the participants in this study indicated they never experienced doubts about their faith.

**Psychological Well-Being.**—Psychological well-being is assessed with eight indicators that come from the SF-36 Health Survey (Ware & Sherbourne, 1992). Four of these items are coded in a negative direction (e.g., feeling downhearted and blue), while the remaining indicators are scored in the opposite direction (e.g., being a happy person).

Because an exploratory factor analysis of the SF-36 measures suggests the positive and negatively keyed indicators load on separate factors, we use these items to construct two separate outcome measures: depressed affect (Cronbach's alpha = .809) and positive affect (alpha = .828). A high score on the depressed affect measure stands for greater psychological distress while a high score on the positive affect measures represents better mental health.

**Religious Practice Controls.**—The relationships among religious doubt, age, and well-being are evaluated after controlling for the effects of two religious practice measures: church attendance and prayer. Attendance at Sunday worship services is assessed with a single item. A high score on this measure, which was administered in the Wave 1 survey, reflects more frequent church attendance. Frequency of prayer is also measured with a single item. Responses to this question are coded with a six-part scheme, where a high score on this indicator denotes more frequent prayer.

**Contrasting Elders and Members.**—In the analyses that follow, we pool the sample of members with the sample of elders. However, in doing so, we must control for the potential influence of occupying different roles in the church. Consequently, a binary variable was created by assigning a score of 1 to elders and a score of 0 to rank-and-file church members.

**Sociodemographic Controls.**—The age of all study participants was obtained at the Wave 2 survey. This measure is scored continuously in years.

The interface between religious doubt, age, and psychological well-being was evaluated after controlling for the effects of the following demographic indi-

cators: gender (1 = men; 0 = women); race (1 = White; 0 = otherwise); and total yearly family income before taxes. This income measure, which came from the baseline survey, was coded into 14 ordinal categories, with a minimum of "under \$10,000" and a maximum of "over \$150,000."

### Data Analysis Strategy

The theoretical rationale developed for this study suggests that the effects of religious doubt on psychological well-being may depend on age. Stated in more technical terms, this specification calls for a statistical interaction effect between doubt and age on well-being. The following ordinary least squares (OLS) regression equation is used to test for this interaction:

$$\text{PWB} = a + b_1\text{AGE} + b_2\text{RD} + b_3\text{CA} + b_4\text{PR} + b_5\text{EL} + b_6(\text{Age} \times \text{RD}) + \sum c_i Z_i \quad (1)$$

In this equation, PWB stands for the two measures of psychological well-being: depressed and positive affect scores. RD in Equation 1 represents religious doubt, CA is church attendance, PR denotes the frequency of prayer, EL is the binary variable contrasting elders and church members, the  $Z_i$  are the demographic control measures, the  $b_i$  and  $c_i$  are regression coefficients, and  $a$  is the intercept. Following the recommendations of Aiken and West (1991), all independent variables are deviation scored (i.e., centered on their means) before Equation 1 is solved.

Equation 1 is estimated in a hierarchical manner. The additive effects of the independent variables are estimated first (i.e., AGE, RD, CA, PR, EL, and the  $Z_i$ ). Following this, the equation is re-estimated after a term designed to capture the interaction between age and religious doubt has been added to the model (i.e., AGE  $\times$  RD). An additional formula provided by Aiken and West (1991, p. 12) is then used to illustrate the effects of the proposed interaction more clearly. In particular, estimates of the effects of religious doubt on well-being at select age levels are computed (this procedure is described in greater detail when the study findings are presented). Significance tests are then derived for these estimates.

## Results

### Religious Doubt, Age, and Well-Being

Table 2 contains the results of the OLS regression analyses that were designed to assess the impact of religious doubt, age, church attendance, prayer, and the demographic control measures on depressed affect scores. The left-hand column contains the additive effects of these independent variables, whereas tests for the statistical interaction between age and religious doubt on depressed affect scores are contained in the right-hand column (see Equation 1). Corresponding estimates that were derived when positive affect scores served as the outcome measure are presented in Table 3.

As the data in the left-hand portion of Table 2 re-

**Table 2. Multiple Regression of Depressed Affect on Religious Doubt and Age (*N* = 1,767)**

Independent Variables	Additive Effects		Interaction Effects	
	b <sup>a</sup>	Beta <sup>b</sup>	b	Beta
Age	-.045	-.227***	-.045	-.224***
Sex	-.614	-.102***	-.605	-.100***
Race	-.154	-.011	-.107	-.008
Income	-.075	-.086***	-.074	-.085***
Elders/Members	.077	.013	.074	.012
Prayer	-.035	-.012	-.040	-.014
Church Attendance	-.152	-.062**	-.141	-.057*
Religious Doubt	.462	.196***	.455	.194***
(Age × Religious Doubt)	—	—	-.012***	—
Multiple <i>R</i> <sup>2</sup>	.128		.134	

<sup>a</sup>Unstandardized (metric) regression coefficient.<sup>b</sup>Standardized regression coefficient.\**p* < .05; \*\**p* < .01; \*\*\**p* < .001.

veal, people who have more doubts about their religious faith are more likely to experience symptoms of depression than those with fewer uncertainties (Beta = .196; *p* < .001). Comparable findings emerge in the analyses involving positive affect scores. More specifically, as the data in the left-hand column of Table 3 indicate, greater doubt about religion is associated with lower positive well-being (Beta = -.170; *p* < .001). Taken together, these results help to clarify the first set of contrasts presented earlier. In particular, the findings suggest that instead of promoting growth and personal development for the sample taken as a whole, religious doubt tends to erode feelings of well-being.

Even so, the tests for statistical interaction effects suggest that the relationship between doubt and well-being is not straightforward. More specifically, the data

**Table 3. Multiple Regression of Positive Affect on Religious Doubt and Age (*N* = 1,757)**

Independent Variables	Additive Effects		Interaction Effects	
	b <sup>a</sup>	Beta <sup>b</sup>	b	Beta
Age	.023	.099***	.023	.098***
Sex	.590	.083***	.587	.083***
Race	.133	.008	.115	.007
Income	.111	.108***	.110	.107***
Elders/Members	-.084	-.012	-.083	-.012
Prayer	.218	.066**	.220	.066**
Church Attendance	.206	.071**	.203	.070**
Religious Doubt	-.471	-.170***	-.469	-.169***
(Age × Religious Doubt)	—	—	-.004	—
Multiple <i>R</i> <sup>2</sup>	.076		.077	

<sup>a</sup>Unstandardized (metric) regression coefficient.<sup>b</sup>Standardized regression coefficient.\*\**p* < .05; \*\*\**p* < .001.

in the right-hand column of Table 2 indicate that the interaction between religious doubt and age is statistically significant (*b* = -.012; *p* < .001; unstandardized coefficients are discussed here because standardized estimates are meaningless in this context). However, it is not easy to discern the precise nature of the relationships between these constructs based on this coefficient alone. Fortunately, as discussed earlier, it is possible to perform some additional calculations by hand to clarify these results. Essentially, these computations involve deriving separate estimates of the effects of religious doubt on depressed affect scores at select age levels (see Aiken & West, 1991, p. 12). If older people are able to handle religious doubt easier than those who are young, the effects of doubt on depressed affect scores should decline steadily with age. However, if doubt is more problematic for those who are older, then the opposite trend should emerge in the data. Although any age level could be selected for these calculations, the following equally spaced ages are used to illustrate the nature of the interaction that has emerged in the data: ages 20, 40, 60, and 80. The results of these additional calculations are presented in Table 4.

Viewed broadly, the data in Table 4 suggest that the young have greater difficulty with religious doubt than those who are older. More specifically, at age 20, the deleterious effects of doubt on depressed affect scores are fairly pronounced (Beta = .371; *p* < .001). Even at age 40, doubt is associated with more symptoms of depression, but the effects are not as strong (Beta = .321; *p* < .001). By age 60, the pernicious effects of doubt on depressed affect scores have declined fairly substantially (Beta = .172; *p* < .001). In fact, the impact of doubt among 60 year-olds is about 65% smaller than the corresponding effect for 20-year-olds. Finally, by age 80, the deleterious effects of doubt on depressed affect scores have been offset completely (Beta = .072; not significant).

Although there are age differences in the relationship between religious doubt and depressed affect scores, the same conclusion does not appear to hold when positive affect scores are the outcome measure. In particular, the data in the right-hand column of Table 3 indicate that the statistical interaction effect between age and religious doubt on positive affect is not statistically significant (*b* = .004; not significant).

**Table 4. The Effects of Religious Doubt on Depressed Affect Scores at Select Age Levels**

Select Age Level	Effects of Religious Doubt	
	b <sup>a</sup>	Beta <sup>b</sup>
20	.871	.371***
40	.754	.321***
60	.403	.172***
80	.169	.072

<sup>a</sup>Unstandardized (metric) regression coefficient.<sup>b</sup>Standardized regression coefficient.\*\*\**p* < .001.



## Supplementary Analyses

In order to have greater confidence in the findings that have emerged so far, we performed a set of supplementary analyses that have not been discussed up to this point. These analyses address two potentially important concerns. First, it is possible that people who have religious doubts are less likely to pray or attend church frequently. If this is true, we may be underestimating the total effects of religious doubt on well-being by controlling statistically for the effects of these religious practice measures (see Baron & Kenny, 1986, for a detailed discussion of this issue). One way to gauge the extent of this problem is to regress church attendance and prayer on religious doubt, as well as the other control variables listed in Table 1. These analyses (not shown here) suggest that the effect of religious doubt on the frequency of prayer is statistically significant, but the size of this relationship is modest ( $Beta = -.076$ ;  $p < .001$ ). Moreover, the findings further reveal that religious doubt fails to exert a statistically significant effect on the frequency of church attendance ( $Beta = -.033$ ; not significant; tables containing the results of these analyses are available upon request from the first author).

The second set of supplementary analyses concerns the relationship between age and religious doubt. It is possible that the effects of religious doubt on well-being decline with age because older people are less likely to have doubts about their faith in the first place. Stated in more technical terms, this would reflect a manifestation of the classic base-rate problem, whereby effect size is constrained by restricted variance in a measure (Meehl & Rosen, 1955). One way to assess the extent of this problem is to regress religious doubt on age, sex, race, income, and the binary variable contrasting elders and members. The results of this analysis (not shown here) suggest that older people have fewer doubts about their faith than younger individuals ( $Beta = -.134$ ;  $p < .001$ ). But this effect size is not substantial. In fact, all the independent variables taken together explain only 1.8% of the variance in religious doubt.

## Discussion

The goal of this study has been to contribute to the understanding of the relationship between religion and well-being by examining the potential influence of religious doubt. The findings suggest that religious doubt may indeed influence psychological well-being, but not in the way some might anticipate. Although it might initially appear that doubt promotes personal growth and well-being, we found little evidence of such effects. Instead, the data suggest that religious doubt tends to erode feelings of psychological well-being.

The finding that there is a downside to religion is consistent with results from a small (but growing) number of studies. For example, Pargament (1997) suggests that some religious coping methods increase, rather than decrease, mental health problems. Similarly, research by Krause, Ellison, and Wulff (1998) indicates that neg-

ative interaction in the church erodes feelings of well-being among rank-and-file members, elders, and (especially) clergy. Taking a more balanced approach to the study of religion is important because it provides a way of reconciling conflicting findings in the literature, thereby making it possible to address the concerns of those who are critical of research in this field (see for example Sloan, Bagiella, & Powell, 1999). In particular, investigators should strive to accurately specify the overall or net effects of religion on well-being by carefully probing the negative as well as the positive effects of leading a religious life.

The research presented here is also noteworthy because it represents one of the few times that religious doubt has been linked to health-related outcomes. Ellison (1991) conducted the only other study we could find that deals with this issue. As in the present study, Ellison found that doubt erodes well-being. However, our work differs from his study in two potentially important ways. First, Ellison used life satisfaction and happiness as outcome measures. We expand the scope of inquiry by assessing depressed and positive affect. Second, Ellison reverse coded religious doubt items and called the resulting construct existential certainty. We elected not to pursue this strategy for the following reason. In using this scoring procedure, Ellison is, in essence, defining existential certainty as the lack of religious doubt. However, a low score on a religious doubt measure may capture more than one construct. For example, people may not have doubts about religion simply because they do not care that much about religion in the first place. As this example reveals, in addition to assessing existential certainty per se, the reverse coding procedure may also be capturing indifference toward religion.

Rather than focusing solely on the additive effects of doubt on well-being, the findings from the present study further contribute to the literature by assessing age differences in this relationship, as well. The data reveal that younger people may have more problems handling religious doubt than older individuals. In particular, the noxious effects of doubt on well-being do not decline substantially until about age 60. But even at this point in the life course, we see no evidence that doubt promotes intrapersonal growth. Instead, we merely find that doubt is no longer associated with symptoms of depression. As Jahoda (1956) and others have argued for some time, the absence of negative symptomatology is not the same as positive mental health. Viewed broadly, the results from this study underscore the importance of assessing positive and negative dimensions of mental health separately.

Two aspects of the results involving age differences in the effects of doubt deserve further comment. The first has to do with the potential role of wisdom, whereas the second is concerned with the differential effects of doubt on depressed and positive affect scores.

The notion that older people are more adept at dealing with doubt and uncertainty is consistent with research on the emergence of wisdom in later life (Baltes, 1991). In particular, his work suggests that wisdom is especially likely to emerge in late life, and is a hallmark of successful aging. The definition of wisdom

used in his research is especially important for the purposes of the present study. In particular, Baltes defines wisdom as "... an expertise in the fundamental pragmatics of life permitting exceptional insight and judgment involving complex and uncertain matters of the human condition" (pp. 842–843). Although Baltes does not mention religious doubt explicitly, the notion that wisdom involves expertise in dealing with complex and uncertain matters speaks directly to the ability of older adults to handle religious doubt successfully.

We observed age differences in the effects of doubt when depressed affect served as the outcome measure, but not when positive affect scores were used as the dependent variable. The reasons for this are not clear. Perhaps one potential explanation for these differential effects may be found by returning to the notion that the resolution of doubt brings wisdom. In particular, the attainment of wisdom may not come with ease and even though working through doubts and ambiguities eventually reduces negative psychological states, these gains may also incur certain costs. It is interesting to note that two of the four items in our positive affect scale deal with having pep and energy. Perhaps grappling with doubt reduces feelings of depression, but extracts a price at the same time by draining psychic energies.

Our findings have three potentially important implications for practitioners working with individuals across the life course. First, religious doubt is associated with greater depressive symptomatology and less positive affect. This suggests that clinicians should consider asking questions about religion when conducting standard mental health assessments (Koenig & Pritchett, 1998). In particular, mental health professionals may wish to explore the salience of religion with clients and assess the extent to which religious beliefs are a source of strength or vulnerability in their lives.

Second, although doubt is associated with poorer mental health outcomes, our data suggest that older adults are able to use resources that mitigate the effects of doubt on depressive symptoms. Perhaps repeated experience in grappling with doubt across the life course inoculates elderly people from its noxious effects. One way to capitalize on this source of resilience in a clinical context is to have practitioners ask elders who are currently wrestling with doubt to recall an earlier time when they faced the same problem. This may allow mental health professionals to help elders draw upon previous experience, strength, and resources to deal with current problems associated with religious doubt (Trice & Perkins, 1996).

Third, because our findings reveal that younger people are more vulnerable to the effects of religious doubt, it may be possible to enlist older adults to help them cope more effectively with these problems. Because elders are likely to have greater experience in handling doubt, they may serve as important role models for younger individuals who are having doubts about their faith. In fact, religious institutions may be able to facilitate this process by developing intergenerational programs that allow younger and older people

to come together and mutually explore their beliefs and doubts.

Those interested in further study of the relationship between doubt and well-being would be well advised to consider the limitations in the present study. First, the data are cross-sectional. As a result, we cannot tell whether changes in doubt precede or follow changes in well-being. Clearly, this issue can only be addressed with data that have been gathered at more than one point in time. In addition, we equate the observed differences between younger and older people as evidence of developmental processes. However, because the data are cross-sectional, we cannot be sure whether these effects are due to age, period, or cohort effects (see Palmore, 1978, for a discussion of the intractable nature of this problem). Finally, our sample consists solely of Presbyterians. Consequently, we cannot be certain if the results can be generalized to people in other denominations as well as other religious faiths.

In spite of these shortcomings, we hope the work presented here sparks further interest in a widespread concomitant of a religious life—doubt. We believe that the study of doubt is especially important because assessing how people handle and react to doubt serves as a gateway to more fully understanding how the nature and meaning of religion unfolds over the life course. Given the increasing evidence that religion serves certain health-protective functions (Ellison & Levin, 1998), a deeper understanding of these processes is essential for assisting adults across the life course.

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