RELIGION AND PHYSICAL HEALTH:
THE ROLE OF PERSONAL FAITH AND CONTROL BELIEFS

Daniel McIntosh and Bernard Spilka

ABSTRACT

The present work is an effort to confirm and extend an extensive, primarily anecdotal literature on religion and physical health. To date, in a largely atheoretical manner, research has treated both of these areas as unidimensional in nature. The present study attempts to rectify these problems. Religion is considered an aspect of coping behavior with the potential of enhancing personal control, and thereby countering immunosuppression. Both control and faith are regarded here as multidimensional. In line with the proposed theory, differential associations between indices of physical health, control, and forms of personal faith are demonstrated. Internalized, intrinsic, and individually active religion associates with less illness than extrinsic and passive spiritual expressions. A more extensive theoretical perspective is offered as guidance for future research on this topic.

The association of religion with health is apparently as old as humanity. Burial customs and cave drawings as early as the paleolithic indicate that the principal caregivers in prehistoric times were group spiritual leaders (Guthrie 1946). Evidence from ancient civilizations such as Sumeria, Babylonia, and Egypt
further suggests that health and illness were largely understood in religious
terms (Major 1954; Sigerist 1951).

Despite the separation of religion from medicine in the contemporary world,
and replacement of spiritual explanations for illness by medical ones, there
continues to exist a gray area between these domains where scientific
understanding has not been very satisfactory. Here we find such phenomena
as faith healing, and seemingly miraculous recoveries associated with prayer,
religious rituals, and visits to shrines known for their cures (Johnson 1959).
Organizations such as Christian Science and the Emmanuel Movement which
link religion and physical health have had much support in recent history
(Weaver 1913; Worcester, McComb, and Coriat 1908). Paralleling these
developments is a literature relating health to mind, and this often includes
religion as a factor affecting both mental and physical function (Benson 1984;
Levin and Schiller 1987; MacDonald 1908).

STRESS, COPING, AND CONTROL

In the course of searching for nonphysical influences on health, attention has
recently focused on stress and coping behavior (Antonovsky 1979; Cronkite
and Moos 1984; Lazarus 1966; McGrath 1970). Stress is ever present in life,
and simply refers to the fact that the individual’s resources are continually being
called upon (Selye 1976). When problems are not easily resolved, stress is likely
to be present, and this commonly occurs. The person must cope with trying
situations that are usually nothing more than the ordinary content of daily
existence (DeLongis, Folkman, and Lazarus 1988). Even the relatively
protected setting of the college environment has been shown to be fraught with
stress (Bloom 1975). Although the psychological and physiological effects of
stress have been noted since antiquity (Dunbar 1938; Misiak and Sexton 1966;
Plaut and Friedman 1981; Zilboorg and Henry 1941), the full significance of
these early observations is only now becoming evident in a rapidly developing
literature on stress and health.

Much research has demonstrated that stress adversely affects health, and
does so, in large part, by suppressing immunological functioning (Ader and
Cohen 1984; Antonovsky 1979; Bartrop, Lockhurst, Lazarus, Kiloh, and
Penny 1977; Folkman 1984; Jemmott and Locke 1984; Laudenslager and Reite
1984; Monjan and Collector 1977; Sklar and Anisman 1981). Among a wide
variety of undesirable conditions, stress has been associated with tumor
formation and infectious diseases such as the common cold, trench mouth,
recurrences of herpes, and mononucleosis (Jemmott and Locke 1984). A variety
of stress-related diseases have also been distinguished (Appley and Trumbull
1967; Bruhn and Wolf 1979; Glass 1977; Kobasa 1979; Maddi, Bartone, and
Puccetti 1987; Moss 1973). Though stress is significant in health status, of equal
or greater importance is how it is handled (Folkman, Lazarus, Gruen, and DeLongis 1986b; Hull, Van Treuren, and Virnelli 1987; Maddi, Bartone, and Puccetti 1987; Sklar and Anisman 1981).

The need for control has been singled out as an especially important aspect of the coping process that relates to the physiology of stress (Folkman 1984; Folkman et al. 1986b; Seligman 1975; Taylor 1986). More specifically, there is evidence that immunosuppression relates to exposure to stressful conditions in which helplessness and a lack of control prevail (Laudenslager and Reite 1984; Moss 1973; Sklar and Anisman 1981; Taylor 1986). It is our contention that the connection between religion and health may be a function of the relationship between religion and control. The present chapter is therefore an effort (1) to understand theoretically how personal faith might enhance one's sense of control and ability to cope with stress, and (2) to demonstrate empirically associations between religion, control, and health.

RELIGION AND CONTROL: THEORY AND MEASUREMENT

Religion

Early ideas that conceived of both religion and control as essentially unidimensional or simply bipolar have given way to more complex views. Psychometrically, personal faith was originally treated as religiosity with people varying along a dimension ranging from atheism to fundamentalism. By the 1960s, a number of multidimensional schemes appeared, the most popular of which was the Intrinsic-Extrinsic distinction of Allport (Allport and Ross 1967). Recently, Batson's (Batson and Ventis 1982) notion of Quest faith has received much attention. For the person with an intrinsic orientation, religion is the master motive with all aspects of life referenced to it. It is an expression of the perennial search for ultimate truth. On the other hand, extrinsic faith is utilitarian, a means to an end rather than the end itself. The latter might be status, friendship, or economic gain (Hunt and King 1971). The quest perspective is characterized by searching, doubt, and self-examination. It has also been tied to religious conflict and various forms of anxiety (Kojetin, McIntosh, Bridges, and Spilka 1987).

The operational treatment of these constructs has been in contention, particularly with respect to distinguishing between intrinsic faith and orthodoxy (Batson and Ventis 1982). In response, Spilka (1986) proposed that the distinction might be made by combining the intrinsic and quest measures. This might also better approximate Allport's (1950) concept of mature religion than simply assuming a perfect correspondence with intrinsic faith. This approach suggests a category of pure intrinsics who have internalized their
faith, but are still flexible and engaged in spiritual self-examination. Utilizing
the intrinsic, extrinsic, and quest scales in a patterned manner also permits
more exact operationalizations of extrinsic and quest forms of personal faith
(Spilka 1986).

Locus of Control

Rotter (1966) originally suggested that individuals see life events as falling
along a continuum from internal to external determination. Levenson (1973)
refined the concept of external control into control by powerful-others and
chance, and Kopplin (1976) soon added a measure of God control in which
God was the active power and the person was passively dependent on God.
Recognizing that some people believe that both they and God are active in
a mutually supportive manner, Pargament, Grevenoed, Kennell, Newman,
Hathaway, and Jones (1985) have developed measures in which both God and
the individual could be conceived as active or passive. For example, an Active
God-Active Person (AGAP) outlook is endorsed by those who see themselves
acting in collaboration with a concerned God.

Religious Activity, Faith Perspectives, and Control

General measures of religiosity such as church attendance relate negatively
and strongly to feelings of powerlessness (Cardwell 1980), and positively to
a sense of God control (Pargament, Steele, and Tyler 1979). Distinguishing
intrinsic, extrinsic, and quest types, an intrinsic orientation is also negatively
associated with powerlessness, while an extrinsic one correlates positively with
powerlessness (Minton and Spilka 1976; Pargament et al. 1979; Spilka and
Mullin 1977).

Due to the importance and imminence of God in intrinsic faith, it has
consistently been found to affiliate with a high sense of God control while
opposing control by powerful-others and chance (McIntosh, Kojetin, and
Spilka 1985; Pargament et al. 1979). On the other hand, the extrinsic religionist
perceives outside forces as extremely influential in life (Strickland and Shaffer
1971), hence extrinsic faith relates positively to control by powerful-others and
chance, but is independent of God control (McIntosh et al. 1985).

The searching component of Quest religion implies a sense of internal
control, yet this approach appears to be independent of all forms of control
(McIntosh et al. 1985). This may indicate that questors either do not endorse
a stable general set of beliefs about control or show a variety of control beliefs
which may even be situation-specific.

Relationships with God control become more meaningful when self and God
images are defined in terms of activity and passivity (Pargament et al. 1985).
The more activity one assigns to God, the greater the sense of God control.
Activity on the part of the person in relation to either an active or passive God affiliates with internal control and high self-esteem. The tendency of the Koppin God control scale to picture an active God and a passive person who must implicitly deny personal activity may explain the confusion about associations with internal control.

One form of religious behavior that relates the person to God is prayer. The most common kind of prayer is petitionary in which people attempt to gain control over external forces or themselves (Clark 1958). As an active expression of both behavioral and cognitive control, prayer has been shown to be a form of coping with adaptive potential, both psychologically and somatically (Folkman et al. 1986b; Folkman and Lazarus 1988; Holahan and Moos 1987).

Health Locus of Control and Religion

Not only do people have beliefs about control in specific life domains, but they may feel that these aspects of living are subject to the same loci of control they address to life in general. For example, Wallston, Wallston, and DeVillis (1978) developed a multidimensional locus of control scale to assess the perceived role of chance, powerful-other, and internal control in health and illness. Just as religion correlates with these same control beliefs in generalized form, it may also apply them to health. Our view of those who espouse an intrinsic orientation implies that they should not only believe that God has a role in their health, but that the responsibility is also on them to behave in a healthy way. This would seem to be true of Mormons whose theology places a high valuation on physical health, wholesome food, and abstinence from alcohol, stimulant beverages, and tobacco (Vernon and Waddell 1974). Intrinsic individuals may also be more likely to engage in other healthful activities such as exercise. In contrast, those who feel health is a matter of chance and external forces may be more extrinsic religiously, and therefore less apt to engage in healthful practices.

Religious Meaning and Control

Lazarus and Folkman (1984, pp. 276-277) have stated that “humans are meaning-oriented, meaning-building creatures who are evaluating everything that happens.” In previous work (Spilka, Shaver, and Kirkpatrick 1985; Taylor 1983), it was suggested that people make attributions, such as to sources of control, in order to maintain or enhance meaning. Meaning may thus be conceived a form of control, since understanding is generally preferable to ambiguity and lack of information (Berlyne 1960; Spilka et al. 1985). Fiske and Taylor (1984, p. 107) suggest that “Perhaps the earliest response to a loss of control is the desire to gain more information.” The provision of such
information has been termed "informational control," and is considered a kind of cognitive control (Averill 1973).

This aspect of control is especially relevant to religion. Walter Clark (1958, p. 419) succinctly states the fundamental relationship between religion and meaning. He claims that "The most pervading reason for the eternal appeal of religion seems to be that religion more than any other human function satisfies the need for meaning in life."

THE PRESENT STUDY

The foregoing theory basically sees religion as influencing health via the control functions that religion offers the individual. As suggested above, associating personal faith with control, and control with health, we offer the broad hypothesis that religion should be beneficial to health. This, however, needs further specification because of the different religious orientations that people manifest.

Our expectation is that those who are religiously intrinsic are likely to perceive an active benevolent deity that supports their own efforts in life. We therefore predict that intrinsics will demonstrate an AGAP orientation as part of their strong belief in internal control in general, and for health in particular. For the same reasons, they should also engage in good health practices, and demonstrate greater involvement in prayer. In addition, they will see their faith as providing the necessary meanings to understand life. Health-wise they should reveal a low reported incidence of illness.

The opposite pattern should be evident among extrinsic religionists who, with their belief in external control, will report more negative health habits and more illness than intrinsics.

Those who manifest a quest religious outlook lack a consistent orientation toward control. The fact they also reveal a relatively high level of anxiety (Kojetin et al. 1987) suggests that they neither feel able to influence their environment or control their anxiety. With respect to health, these weaknesses should reveal a high reported incidence of illness.

METHOD

Sample

The participants included 69 students from colleges in Colorado and Georgia, and seven adult members of a Denver-area Protestant church. On a preselection measure, the volunteers who were chosen identified themselves as Christian, and were at least moderately interested in religion. There were
Religion and Physical Health

19 males and 53 females plus four who failed to identify their sex. Mean age of the sample was 23.2 years.

Tests and Measures

Measures of Religion

Intrinsic and extrinsic religious orientations were assessed with the 20 items of the Allport-Ross scales (1967) ($r_{ni} (I) = .85; r_{ni} (E) = .65$), plus an extrinsic item from the Feagin (1964) measure (“one reason for my being a church member is that such membership helps to establish a person in the community”). Quest faith was measured with a nine-item revised version of the Batston Interfunctional scale ($r_{ni} = .66$) (Kojetin et al. 1987).

A six-item scale to evaluate meaning from religion was developed from a factor analysis of items used in a pilot study ($r_{ni} = .81$). A representative item is “Even though things seem to change so easily in the world, my faith offers me a stable set of meanings.” Lastly, participants were also asked how often they pray.

General Locus of Control

A combination of the Levenson (1973) and Kopplin (1976) scales was employed to assess internal control ($r_{ni} = .81$), control by chance ($r_{ni} = .74$), powerful-others ($r_{ni} = .76$), and God ($r_{ni} = .90$). God control was further analyzed by utilizing the Pargament et al. (1985) scale to evaluate the AGAP ($r_{ni} = .95$) outlook. Individuals endorsing AGAP items believe that they work collaboratively with God in coping with life events. An example from the 12 items is: “When it comes to deciding how to solve a problem, God and I work together as partners.”

Health Locus of Control

The 12-item multidimensional health locus of control scales (Wallston et al. 1978) were used to measure internal ($r_{ni} = .90$), powerful-other ($r_{ni} = .84$), and chance ($r_{ni} = .79$) loci of control within the domain of health. God health locus of control was assessed with a scale developed for this study which was based on the Wallston et al. items ($r_{ni} = .93$).

Health and Illness Scales

Health habits were evaluated with 17 yes-no items derived from standard physician medical evaluation forms ($r_{ni} = .90$). These dealt with exercise,
nutrition, smoking etc. In addition to utilizing the individual items, an eight item health habits scale was also developed ($r_{tt} = .92$).

Health status was assessed with a 57-item symptom checklist on which respondents indicated the number of days each problem was experienced during the previous month. This list was developed for the present study from symptoms used previously by Laudenslager (personal communication 1986). A general illness score resulted from summing the number of symptom-days ($r_{tt} = .86$). A factor-analysis of the 57 items resulted in four sickness subscales which, because of their content, are labeled: Emotional ($r_{tt} = .77$), somatic ($r_{tt} = .50$), visceral ($r_{tt} = .57$), and respiratory ($r_{tt} = .44$). The emotional scale contains psychological symptoms such as being depressed, anxious, irritable, jumpy, and jittery, and will not be used here. Illustrative Somatic scale content is fainting, dizziness, migraine headache, difficulty concentrating, and muscle tension. Because these items show psychological-physical overlap, this instrument is utilized. Visceral items included ulcers, diarrhea, shortness of breath while resting. The Respiratory scale included runny nose, dry cough, productive cough (phlegm) and the like. Nonoverlapping items with factor loadings above .3 on each scale were summed to obtain the scale scores.

Procedure

Each volunteer completed a questionnaire containing the above measures. A six-point Likert scale was used to indicate three degrees of agreement or disagreement with the items on the religion and control scales.

In addition to employing the original scale scores, two procedures evaluated the religious orientations of the participants. First, they were categorized into three religiosity groups. Using scale medians, $^3$ Pure intrinsics (PI) were defined as those who scored above the intrinsic and quest scale medians, and below that for the extrinsic scale. Pure extrinsics (PE) scored high on the extrinsic scale, and low on both the quest and intrinsic scales. Pure questors (PQ) were scored as above the median on the Quest scale but below those on the intrinsic and extrinsic measures. A variation of this second approach computed “likeness-to-ideal” scores. Setting up the appropriate theorized pattern (e.g., Pure Intrinsic: Maximum I item score = 6; extrinsic score = 1, Quest score = 6), each individual’s scores were deviated from these for PI, PE, and PQ, and a total absolute deviation score was computed; the lower the score the more similar the person is to the ideal type. It must be kept in mind that this scheme imposes a perfect negative correlation between intrinsic and extrinsic faith, and may therefore be questioned. It is employed here for heuristic purposes, partially to meet the Batson (Batson and Ventis 1982) criticism of overlap between orthodoxy and intrinsic faith. In addition to using these schemes, original scale scores were also employed correlationally.
RESULTS

Religion and Control

Religion Measures

Table 1 indicates that the pattern of relationships among the Intrinsic, Extrinsic, and Quest Scales is similar to what has usually been observed elsewhere (Donahue 1985; Kojetin et al. 1987; McIntosh et al. 1985). When the original scales are combined to produce the patterned similarity-to-ideal religious types, correlations with the original scales stay reasonably high, being in the .50 to .75 range. There is, however, enough variation between the original and similarity measures to evidence differences when these are associated with other variables.

An intrinsic orientation is strongly associated with deriving meaning from religion, and engaging in prayer, both of which are regarded here as forms of control. Though the correlations are weaker with the similarity scores, they remain substantial, and confirm the findings with the original scores. Extrinsic faith unexpectedly affiliates positively with a quest outlook, but this association disappears when the corresponding similarity measures are related. Extrinsic religion, as expected, is negatively related with finding meaning in religion or engaging in prayer. These coefficients are considerably stronger with the pure extrinsic variable.

Control Measures

The pattern of correlations for the control measures reveals some unusual associations, namely positive relations among internal, change, and powerful-other forms of control. That between the latter two variables is commonly observed, but both should be negatively related to internal control. As has been generally shown, internal and God control (passive person) are negatively associated, but the expected similar patterning of God control with chance and powerful-others was not found.

When the general and health locus of control measures are related, the corresponding scales show rather high coefficients, suggesting that control in the health realm is basically a situation-specific form of control that corresponds well to the general control attributions that people make. Unexpectedly, the role of chance and God in health are positively associated, though health internal control is strongly negatively affiliated with God control (passive person), a finding similar to that found with the general control measures.

The AGAP collaborative form of control implies joint internal and God control. It is unrelated to general internal control, but rather strongly associated
Table 1. Intercorrelations Among Religion and Control Measures

<table>
<thead>
<tr>
<th></th>
<th>Religion Scales</th>
<th>Control Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic</td>
<td>Similarity</td>
</tr>
<tr>
<td></td>
<td>E* Q PI PE PQ  Mng Pray Int Ch PWO God AGAP Int Ch PWO God</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>-25* -13</td>
<td>75** -75** -71** 84** 59** -38** -38** -35**</td>
</tr>
<tr>
<td>E</td>
<td>22* -51** 51** -16 -24* -26* 37** 63** 49**</td>
<td>-19 -06 25* 45** 26* -13</td>
</tr>
<tr>
<td>Q</td>
<td>40** -40** 62** -21 -20 38** 20 15</td>
<td>-29** -06 34** 02 16</td>
</tr>
<tr>
<td>PI</td>
<td>-1.0 -06</td>
<td>58** 44** -22 -46** -39**</td>
</tr>
<tr>
<td>PE</td>
<td>06 -58** -44** 22 46** 39**</td>
<td>-28 -51** 14 34** 09 -30**</td>
</tr>
<tr>
<td>PQ</td>
<td>-64** -43** 35** 11 13</td>
<td>-50** -56** 34** -05 05 -49**</td>
</tr>
<tr>
<td>Religious Meaning</td>
<td>59** -44** -35** -38**</td>
<td>65** 73** -33** -12 -07 65**</td>
</tr>
<tr>
<td>Prayer</td>
<td>-36** -33** -21</td>
<td>53** 41** -27** -03 -07 44**</td>
</tr>
<tr>
<td>General Internal Control</td>
<td>27* 32** -56** -17 79** 05 27* -60**</td>
<td></td>
</tr>
<tr>
<td>General Chance Control</td>
<td>63** -14 -24** 17 72** 37** -06</td>
<td></td>
</tr>
<tr>
<td>General Powerful Others Control</td>
<td>-07 -34** 14 47** 37** -05</td>
<td></td>
</tr>
<tr>
<td>General God Control</td>
<td>61** -45** 19 02 86**</td>
<td></td>
</tr>
<tr>
<td>Active Person Active God</td>
<td>-05 -01 -02 60**</td>
<td></td>
</tr>
<tr>
<td>Health Internal Control</td>
<td>-04 16 -54**</td>
<td></td>
</tr>
<tr>
<td>Health Chance Control</td>
<td>42** 22</td>
<td></td>
</tr>
<tr>
<td>Health Powerful Others Control</td>
<td>01</td>
<td></td>
</tr>
</tbody>
</table>

Notes: * Code: Religion Scales: I = Intrinsic, E = Extrinsic, Q = Quest, PI = Pure Intrinsic, PE = Pure Extrinsic, PQ = Pure Quest; Mng = Religious Meaning, Pray = Prayer frequency; General Control Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God; AGAP = Active God Active Person; Health Control Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God.

* p < .05; ** p < .01.
with God control. AGAP, however, opposes control via chance or powerful-others in general. This is not true for the health control measures, all of which, with the exception of God control, are independent of AGAP. The latter again correlates strongly with God control.

Personal Faith-Control Relationships

In keeping with previous findings, intrinsic religion was positively associated with God control, in general and in the health domain. In like manner, as expected, AGAP correlates positively and strongly with an intrinsic outlook. Partial confirmation of earlier work is seen in negative correlations between intrinsic faith and general control by chance and powerful-others. Though the theorized direction holds for the corresponding associations in the health realm, neither coefficient attains statistical significance. The hoped for positive correlation between intrinsic faith and internal control is directly contradicted for both general and health internal control. As noted, there has been inconsistency in past research regarding this association.

In contrast, extrinsic faith reveals positive correlations with internal control, something not usually observed. When the “pure” religious groups are compared in Table 2, no significant differences are obtained, and this finding is in line with a similar independence of the pure intrinsic similarity measure from the general and health internal control scales. Because of the scoring paradigm, the same is obviously true for the extrinsic similarity index.

The often noted positive affiliations between an extrinsic orientation and general chance and powerful-other control are present, and are also found with health locus of control. This pattern is maintained for the pure extrinsic measure with the exception of the powerful-other health control scale. One can infer further support from Table 2, where the pure extrinsics reveal the highest group scores for general and health chance control and general powerful-other control.

The original extrinsic scale is apparently independent of both AGAP and the general and God-health control scores, hence countering our expectation. Support, however, for this same hypothesis may be adduced from the theorized negative relationships found with the extrinsic similarity score. The group results in Table 2 confirm the original scale finding for God control, but not for AGAP. This issue is obviously not resolved, and has bearing on the relative validity of the two approaches.

Our expectations concerning the relationship of extrinsic faith with deriving meaning from religion and engaging in prayer do gain support. These findings hold for both the original scale scores, the similarity scores, and the grouping procedure reported in Table 2. In other words, extrinsics are less likely than intrinsics to gain understanding from religion or engage in prayer.
Table 2. Summary of Analyses of Variance Comparing Pure Intrinsic, Pure Extrinsic, and Pure Quest Groups on Religious and Control Variables

| Variables            | PI  | PE  | PQ  | F      | Significant Comparisons
|----------------------|-----|-----|-----|--------|--------------------------
| Intrinsic Rel.       | 5.1 | 3.5 | 3.4 | 33.72**| PI > PE and PQ            |
| Extrinsic Rel.       | 2.4 | 3.4 | 2.6 | 27.70**| PE > PI and PQ            |
| Quest Rel.           | 4.1 | 2.9 | 4.1 | 22.42**| PE < PI and PQ            |
| Rel. Meaning         | 5.3 | 4.2 | 4.2 | 8.23** | PI > PE and PQ            |
| Prayer               | 15.3| 3.4 | 1.6 | 7.16** | PI > PE and PQ            |
| Internal Control     | 4.1 | 4.3 | 4.4 | < 1    |                          |
| Chance Control       | 2.2 | 3.3 | 2.7 | 11.33**| PE > PI                   |
| Powerful Others      | 2.6 | 3.3 | 2.4 | 4.49*  | PE > PQ                   |
| God Control          | 3.9 | 3.2 | 2.9 | 2.48   |                          |
| AGAP                 | 4.5 | 3.0 | 3.1 | 8.60** | PI > PE and PQ            |
| Health Internal      | 4.4 | 4.3 | 4.6 | < 1    |                          |
| Health Chance        | 2.4 | 3.1 | 2.4 | 8.10** | PE > PI and PQ            |
| Hlth Power. Others   | 2.8 | 3.0 | 2.9 | < 1    |                          |
| Health God           | 3.6 | 3.0 | 2.7 | 1.87   |                          |

Notes:  
* All means are item means  
* Comparisons were effected by the Schefe’ test.  
* p < .05; ** p < .01

A quest orientation goes with both general and health internal control; however, there is a denial of God control in both areas, but AGAP appears here to be independent of quest faith. Though no significant associations are found for prayer and deriving meaning from religion with the original quest scale, predictions in line with expectations are noted for the quest similarity scoring. As implied above, these differences suggest the new scoring procedures may possess construct validity worthy of further consideration.

Religion, Control, and Health Habits

Table 3 indicates a scattered pattern of few and weak control-health-habit correlations, many of which attain significance in the .05 to .10 range. They make sense as often as not, and suggest the potential of chance findings. Possibly the most meaningful associations show alcohol usage to be negatively related to general and health God control, while control by powerful-others is similarly tied to sleeping poorly and not exercising. In opposition, AGAP goes with using vitamins, the latter also affiliating with God control. Since the
### Table 3. Intercorrelation Among Control and Health Habit Measures

<table>
<thead>
<tr>
<th>Control Scales</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Int</td>
</tr>
<tr>
<td>Exercise Adeq.</td>
<td>00*</td>
</tr>
<tr>
<td>Exercise Freq.</td>
<td>08</td>
</tr>
<tr>
<td>Awake Rested</td>
<td>03</td>
</tr>
<tr>
<td>Sleep Well</td>
<td>-02</td>
</tr>
<tr>
<td>Reg. Bowel Move</td>
<td>05</td>
</tr>
<tr>
<td>Take Laxatives</td>
<td>-07</td>
</tr>
<tr>
<td>Take Vitamins</td>
<td>-13</td>
</tr>
<tr>
<td>Take Sedatives</td>
<td>-14</td>
</tr>
<tr>
<td>Take Sleeping Pills</td>
<td>-19*</td>
</tr>
<tr>
<td>Take Aspirin</td>
<td>-09</td>
</tr>
<tr>
<td>Take Alcohol</td>
<td>15</td>
</tr>
<tr>
<td>Take Coffee</td>
<td>00</td>
</tr>
<tr>
<td>Smoke</td>
<td>-05</td>
</tr>
<tr>
<td>Chew Tobacco</td>
<td>-20*</td>
</tr>
<tr>
<td>Take App. Suppr.</td>
<td>-12</td>
</tr>
<tr>
<td>Take Thyroid</td>
<td>-16</td>
</tr>
</tbody>
</table>

**Notes:****  
- Code: General Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God; AGAP = Active God Active Person; Health Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God.  
- *p < .10, **p < .05

A health habits scale failed to correlate significantly with any of the control or religion measures, it is not included here.

A similar problem of possible chance involvement exists with the religion and health-habit relationships; however, rather meaningfully, intrinsic religion and engaging in prayer are opposed to smoking and alcohol usage while affiliating with taking vitamins and having regular bowel movements. Why intrinsic faith would associate negatively with exercise frequency, or prayer affiliate positively with chewing tobacco is not clear, and may again illustrate chance error. Nothing of real note is observed with extrinsic and quest forms of faith, though the latter is weakly and positively affiliated with smoking. No table is presented for the categorical way of scoring the PI, PE, and PQ groups because of the lack of significant results using this method.

In sum, these findings imply that health habits in this sample are not likely to be mediating factors between religion, control, and health.
Table 4. Intercorrelations Among Religion and Health Habit Measures

<table>
<thead>
<tr>
<th>Religion Scales</th>
<th>Basic</th>
<th>Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>E</td>
</tr>
<tr>
<td>Exercise Adeq.</td>
<td>-02</td>
<td>-07</td>
</tr>
<tr>
<td>Exercise Freq.</td>
<td>-23</td>
<td>05</td>
</tr>
<tr>
<td>Awake Rested</td>
<td>13</td>
<td>-17</td>
</tr>
<tr>
<td>Sleep Well</td>
<td>01</td>
<td>-08</td>
</tr>
<tr>
<td>Reg. Bowel Move.</td>
<td>20*</td>
<td>11</td>
</tr>
<tr>
<td>Take Laxatives</td>
<td>-02</td>
<td>-13</td>
</tr>
<tr>
<td>Take Vitamins</td>
<td>22*</td>
<td>-02</td>
</tr>
<tr>
<td>Take Sedatives</td>
<td>10</td>
<td>09</td>
</tr>
<tr>
<td>Take Sleeping Pills</td>
<td>08</td>
<td>-01</td>
</tr>
<tr>
<td>Take Aspirin</td>
<td>-04</td>
<td>04</td>
</tr>
<tr>
<td>Take Alcohol</td>
<td>-22*</td>
<td>09</td>
</tr>
<tr>
<td>Take Coffee</td>
<td>07</td>
<td>-04</td>
</tr>
<tr>
<td>Smoke</td>
<td>-21*</td>
<td>10</td>
</tr>
<tr>
<td>Chew Tobacco</td>
<td>13</td>
<td>-08</td>
</tr>
<tr>
<td>Take App. Suppr.</td>
<td>05</td>
<td>01</td>
</tr>
<tr>
<td>Take Thyroid</td>
<td>11</td>
<td>-04</td>
</tr>
</tbody>
</table>

Notes: 
* Code: Religion Scales: I = Intrinsic, E = Extrinsic, Q = Quest, PI = Pure Intrinsic, PE = Pure Extrinsic, PQ = Pure Quest; Mng = Religious Meaning, Pray = Prayer frequency

b Note decimal points are omitted.

p < .10; ** p < .05; *** p < .01.

Control and Health

Even though Table 5 reveals another scattered pattern of correlations, what is found is mostly in line with the theoretical perspective advanced here. In contrast to past research, internal control is generally independent of the illness items. AGAP, which is viewed as a composite of internal and God control, however, correlates negatively as theorized with overall sickness and ten of the specific disorder indicators. In only one instance is there a finding opposite to expectations. In like manner, significance is observed in 29 coefficients for general and health chance and powerful-other control. In all instances, the tendency is for illness and physical discomfort to increase. God control does not really evidence any noteworthy pattern, but the three significance correlations obtained are opposite to what was predicted. Remember that this
Table 5. Interrelationships Among Control and Health Measures

<table>
<thead>
<tr>
<th></th>
<th>General</th>
<th></th>
<th></th>
<th></th>
<th>Health</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Int</td>
<td>Ch</td>
<td>PWO</td>
<td>God</td>
<td>AGAP</td>
<td>Int</td>
<td>Ch</td>
<td>PWO</td>
</tr>
<tr>
<td>Sickness Total</td>
<td>07&lt;sup&gt;c&lt;/sup&gt;</td>
<td>22*</td>
<td>26**</td>
<td>-08</td>
<td>-25**</td>
<td>07</td>
<td>12</td>
<td>06</td>
</tr>
<tr>
<td>Somatic Factor</td>
<td>06</td>
<td>27**</td>
<td>32**</td>
<td>-02</td>
<td>-19</td>
<td>12</td>
<td>20*</td>
<td>12</td>
</tr>
<tr>
<td>Mild Headache</td>
<td>03</td>
<td>24**</td>
<td>16</td>
<td>01</td>
<td>-07</td>
<td>03</td>
<td>28**</td>
<td>17</td>
</tr>
<tr>
<td>Sinus Headache</td>
<td>03</td>
<td>10</td>
<td>18</td>
<td>-12</td>
<td>-25**</td>
<td>-06</td>
<td>00</td>
<td>05</td>
</tr>
<tr>
<td>Migraine Headache</td>
<td>-08</td>
<td>17</td>
<td>08</td>
<td>08</td>
<td>-04</td>
<td>-09</td>
<td>26**</td>
<td>07</td>
</tr>
<tr>
<td>Earache</td>
<td>01</td>
<td>18</td>
<td>30**</td>
<td>04</td>
<td>-28**</td>
<td>05</td>
<td>06</td>
<td>-12</td>
</tr>
<tr>
<td>Runny Nose</td>
<td>06</td>
<td>22*</td>
<td>15</td>
<td>-07</td>
<td>-16</td>
<td>12</td>
<td>10</td>
<td>-03</td>
</tr>
<tr>
<td>Dizziness</td>
<td>-01</td>
<td>21*</td>
<td>30**</td>
<td>03</td>
<td>-25**</td>
<td>04</td>
<td>11</td>
<td>09</td>
</tr>
<tr>
<td>Shortness Breath</td>
<td>08</td>
<td>20*</td>
<td>21</td>
<td>-10</td>
<td>-20*</td>
<td>00</td>
<td>15</td>
<td>20*</td>
</tr>
<tr>
<td>(resting)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mouth-Gum Disease</td>
<td>-16</td>
<td>-12</td>
<td>-16</td>
<td>24**</td>
<td>05</td>
<td>-22*</td>
<td>01</td>
<td>00</td>
</tr>
<tr>
<td>Mononucleosis</td>
<td>14</td>
<td>07</td>
<td>34***</td>
<td>00</td>
<td>-23**</td>
<td>16</td>
<td>-09</td>
<td>-17</td>
</tr>
<tr>
<td>No Energy-Tired</td>
<td>-04</td>
<td>08</td>
<td>30**</td>
<td>00</td>
<td>-22**</td>
<td>-02</td>
<td>03</td>
<td>-08</td>
</tr>
<tr>
<td>Low Fever</td>
<td>02</td>
<td>02</td>
<td>09</td>
<td>-05</td>
<td>-33***</td>
<td>-13</td>
<td>-04</td>
<td>13</td>
</tr>
<tr>
<td>High Fever</td>
<td>13</td>
<td>00</td>
<td>-02</td>
<td>-06</td>
<td>00</td>
<td>01</td>
<td>11</td>
<td>21*</td>
</tr>
<tr>
<td>Menstrual Cramps</td>
<td>-08</td>
<td>-09</td>
<td>06</td>
<td>03</td>
<td>26**</td>
<td>12</td>
<td>-09</td>
<td>00</td>
</tr>
<tr>
<td>Vaginal Infection</td>
<td>03</td>
<td>21*</td>
<td>06</td>
<td>16</td>
<td>-28**</td>
<td>08</td>
<td>-03</td>
<td>-07</td>
</tr>
<tr>
<td>Pain-Swollen Joint</td>
<td>-03</td>
<td>08</td>
<td>21*</td>
<td>00</td>
<td>-01</td>
<td>-04</td>
<td>07</td>
<td>09</td>
</tr>
<tr>
<td>Difficulty Swallow.</td>
<td>03</td>
<td>07</td>
<td>30**</td>
<td>18</td>
<td>-11</td>
<td>-02</td>
<td>-01</td>
<td>02</td>
</tr>
<tr>
<td>Fainting</td>
<td>-03</td>
<td>24**</td>
<td>25**</td>
<td>08</td>
<td>-21*</td>
<td>03</td>
<td>15</td>
<td>01</td>
</tr>
<tr>
<td>Allergy Attack</td>
<td>20*</td>
<td>36***</td>
<td>18</td>
<td>02</td>
<td>15</td>
<td>17</td>
<td>34***</td>
<td>04</td>
</tr>
<tr>
<td>Twitching</td>
<td>02</td>
<td>22*</td>
<td>19</td>
<td>-04</td>
<td>-11</td>
<td>-06</td>
<td>25**</td>
<td>13</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>00</td>
<td>25**</td>
<td>07</td>
<td>08</td>
<td>05</td>
<td>01</td>
<td>27**</td>
<td>11</td>
</tr>
<tr>
<td>Severe Gas</td>
<td>-21*</td>
<td>-07</td>
<td>-03</td>
<td>04</td>
<td>-02</td>
<td>-19*</td>
<td>-07</td>
<td>-25**</td>
</tr>
</tbody>
</table>

Notes:  
<sup>a</sup> Because there are 63 health measures (57 items, 4 factors, a total sickness score, and total days sick), only those are presented where, at least, one relates to a control scale beyond the .10 level. Those that may be considered primarily behavioral are also not included.

<sup>b</sup> Code: General Control Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God; AGAP = Active God Active Person; Health Control Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God.

<sup>c</sup> Note decimal points are omitted.

* p < .10; ** p < .05; *** p < .01

The form of God control conceives of an active deity and a passive person. It results in findings opposite to those with AGAP.
Table 6. Intercorrelation Among Religion and Health Measures

| Sickness Total | -26** | 21* | 15 | -20* | 20* | -19* | 26** | 15 |
| Somatic Factor | -21* | 27** | 27** | -11 | 11 | 20* | -20* | -18 |
| Visceral Factor | -21* | 04 | 05 | -14 | 14 | 17 | -21* | -03 |
| Respiratory Fac. | -19* | 05 | -08 | -20* | 20* | 07 | -03 | -26** |
| Digestive | -27** | -03 | 08 | -13 | 13 | 27** | -22* | -08 |
| Mild Nausea | -22* | -02 | 07 | -10 | 10 | 21* | -19* | -11 |
| Vomiting | -22* | -01 | 01 | -15 | 15 | 18 | -14 | -05 |
| Mild Headache | -13 | 23** | 20* | -08 | 08 | 12 | -11 | -22** |
| Sinus Headache | -08 | 19* | 06 | -11 | 11 | 00 | -09 | -15 |
| Migraine Headache | 09 | 10 | 19* | 14 | 14 | 00 | 08 | 02 |
| Earache | -19* | 09 | 04 | -15 | 15 | 13 | -15 | -12 |
| Runny Nose | -26** | 08 | 00 | -22* | 22* | 16 | -16 | -21* |
| Dry Cough | 06 | 02 | -21* | -09 | 09 | -19* | 17 | -19* |
| Dizziness | -19* | 25** | 17 | -15 | 15 | 12 | -16 | -15 |
| Chest Pain | -31*** | -03 | 02 | -22* | 22* | 23** | -18 | -14 |
| Shortness Brth. (resting) | -28** | 14 | 05 | -24** | 24** | 17 | -18 | -16 |
| Mouth-Gum Disease | 14 | 00 | 02 | 11 | -11 | -10 | 18 | 35*** |
| Mononucleosis | -20* | 13 | -12 | -27** | 27** | 01 | -18 | -10 |
| No Energy-Tired | -24** | 07 | 09 | -15 | 15 | 20* | -19* | -21* |
| Skin Rash | 05 | -19* | -01 | 11 | -11 | 05 | -02 | 09 |
| Bladder Infect. | -20* | 04 | 13 | -08 | 08 | 21* | -27** | -02 |
| Menstrual Irreg. | -13 | 01 | 03 | -08 | 08 | 11 | -20* | -07 |
| Asthma Attack | -22* | -07 | -08 | -17 | 17 | 15 | -19* | -13 |
| Allergy Attack | 09 | 21* | 01 | -03 | 03 | -16 | 07 | -08 |
| Twitching | -21* | 15 | -01 | -23** | 23** | 08 | -13 | -15 |
| Ulcer | -24** | -13 | 01 | -10 | 10 | 25** | -18 | -06 |
| Hemorrhoids | -15 | -22* | 08 | 04 | -04 | 27** | -12 | 10 |

Notes: * Because there are 63 health measures (57 items, 4 factors, a total sickness score, and total days sick), only those are presented where, at least, one relates to a control scale beyond the .10 level. Those that may be considered primarily behavioral are also not included.

*b Code: General Control Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God; AGAP = Active God Active Person; Health Control Scales: Int = Internal, Ch = Chance, PWO = Powerful Others, God.

** Note decimal points are omitted.
* p < .10; ** p < .05; *** p < .01
Religion and Health

The correlations between religion and health are fairly strongly in line with theoretical expectations. The pattern is most supportive for intrinsic faith which is negatively related to the overall sickness score, the somatic, visceral, respiratory factors, a digestive composite and 13 of the illness indicators. In essence, the Pure Intrinsic similarity procedure confirms these results. Also, in keeping with our hypothesis, extrinsic religion associates positively with overall sickness, the somatic factor, and five of the specific illness items. In addition, the Pure Extrinsic similarity scoring approach also confirms our expectations with seven significant though weak coefficients. In two other instances, significant coefficients are in the direction opposite to that predicted.

Four of the health measures affiliated with quest faith, three positively, and one negatively. Since most of these are weak, chance error may be present. A similar inference is suggested for the significant correlations with the Pure Quest index. What is observed offers the barest support for our hypothesis.

As expected, the ability to derive meaning from religion related negatively to the somatic and visceral factors, and six of the items, but not with the total sickness score.

A somewhat parallel situation exists with respect to prayer which relates negatively to the respiratory factor and four illness items; a fifth item is in the opposite direction to that expected. Again no table is presented for the analysis of the categorical scoring of the faith types. Very few noteworthy comparisons are found, the only one dealing with the respiratory factor and items. These observations are in line with those offered above for the original scales.

DISCUSSION

We regard the present research as an initial effort to relate form of personal faith to health, and feel that links between various religious orientations and reported expressions of illness have been demonstrated using reliable measures. Of considerable significance is the fact that this effort was based on a theoretical rationale in which control and coping mechanisms mediate the religion-health relationship.

Despite the associations noted, it is important to recognize that, like most work in this area, the correlations were often not strong, hence caution should be employed in generalizing these findings (Folkman et al. 1986b). Cross-validation with further refining of measurement in both the religious and health domains is recommended. The utilization of larger samples with a wider age range would also be desirable.
Intrinsic Faith, Internal Control, and Health

The most provocative results were observed with intrinsic religion which related in a negative manner to internal control, but positively to God control and an active person-active God perspective. One may speculate that internal control relative to religion may be distinct from the same variable conceived as a general personality tendency. Pure intrinsics may see God as ultimately powerful while still viewing themselves as an active force. Since the deity is also perceived as an omnipresent influence in the world, intrinsics may be reluctant to take too much credit for themselves. Still the AGAP perspective involves internal control in a collaborative sense, and does not oppose divine power.

Because belief in AGAP control related strongly to both pure intrinsic faith and health, there is reason to believe that an action orientation on the part of those who are intrinsically religious has significance for health, and possibly to other aspects of life.

As noted previously, like some others (Benson 1975, 1984; Selye 1976), we found that prayer may be a meaningful element in the religion-health complex. Conceived by Holahan and Moos (1987) as an active cognitive coping strategy, it is understandable why pure intrinsic faith and health were both positively affiliated with frequency of prayer. Prayer is also a noteworthy correlate of an AGAP perspective. Additional investigation is necessary to determine what it is about prayer that may promote health: Its meditative tension-reducing aspects, links with control through identification with divine power that may counter feelings of helplessness and the like. In other words, prayer may function to lessen the difficulty of adaptation to one's environment, and therefore counter the susceptibility to illness that is associated with poor adjustment (Cohen 1979).

Religious meaning may also perform a similar role by offering a kind of cognitive or informational control. Troubled people who derive meaning from faith are no longer afloat in a sea of ambiguity and uncertainty. They become connected to ideas that are personally and culturally relevant. The person employing this avenue is also not alone in that these beliefs are invariably shared with others. This social link may further offer some beneficial effect (Silver and Wortman 1980).

The prediction that belief in internal control would be an important factor in the religiosity-health connection was not directly confirmed. This may be due to our using a religious population in which personal influence is less meaningful than differences on other control variables such as AGAP or God control.

Extrinsic Faith, Control, and Health

The expectation that a pure extrinsic orientation would be associated with reporting relatively poor health was marginally supported. As with the pure
intrinsic perspective the stronger affiliation between PE and several specific symptoms provides evidence for the religiosity-health connection.

Those who possess a pure extrinsic religious orientation tend to believe in control by chance and powerful-others, and it is known that such expressions of external control are affiliated with increased symptom reporting (Petersen and Seligman 1984; Seeman and Seeman 1983). In theory, belief in external control should hinder active coping and thus lead to poorer health. Among extrinsic religionists, this would be in part due to the utilitarian and opportunistic nature of their faith. Its arousal solely when needed does not suggest that it will be a source of real internal strength.

Quest Faith, Control, and Health

The positive tie between quest faith and internal control implies that questors ought to report good health. We theorized the opposite because the evidence does not suggest consistency of questors relative to control beliefs. Our position gained weak support, but there is the possibility that this could result from our use of a religious sample. Questors apparently reject all beliefs in control that include God. In the present group, belief in an influential God may promote health and the perception of physical well-being.

The Possible Role of Health-Habits

Regarding the role of health-habits in the link between religion and health, very few such associations were observed, and these were weak. The youth of the majority of the participants could be a factor as smoking and drinking were unrelated to the measures of sickness in this sample, even though intrinsic tendencies do counter the use of alcohol.

Methodological Considerations

A central methodological concern in the present research is the use of subjective retrospective reports of health and illness. Self-report has been regarded as one weakness of research in this area (Cohen 1979; Levin and Schiller 1987). Though it would be most desirable to have had confirmation of respondent health data from physician’s records, this was not possible. There is, however, good reason to believe that most people including college students vary considerably in their willingness to consult professionals for many minor conditions. Chief among these that would be common on a college campus are respiratory problems such as nasal congestion, colds, coughs and so on, and these proved to be sensitive in this work. Previous validation of subjective reports has been confined to more serious medical conditions that are not likely to be found among the majority of the young people studied here. Still, in
the only study available where self-report and formal medical diagnoses were compared, agreement was 89% (Kobasa, Maddi, and Courington 1981). The use of self-reports of illness has been strongly defended, and continues to be the most widely utilized procedure for conducting research on factors affecting health (Kobasa, Maddi, and Kahn 1982; Maddi et al. 1987).

Measurement error is always a consideration that cannot be overlooked, particularly where instrument reliability is questionable. As noted in the section on tests and measures, though most scales demonstrated excellent internal consistency, the Somatic and Visceral health scales did not prove to be very reliable. Since some possible construct validity was demonstrated for these instruments, they merit further development and research assessment.

The present study is the first we know of in which an effort was made to redefine the way intrinsic and extrinsic religion are employed. Two new procedures along the lines suggested by Batson’s treatment of Allport’s concept of mature religion were developed. One distinguishes groups which we denoted pure intrinsic, pure extrinsic, and pure quest; the other approach utilized the same terminology, but employed what we termed similarity-to-ideal scoring. The two procedures clearly overlap considerably. A weakness with the similarity scoring is the imposed -1.0 relationship between the intrinsic and extrinsic scales; a psychometrically developed weighting procedure might enhance the validity of this method. The categorical approach suffers from the problem of using either scale medians instead of midpoints. The latter is the most justifiable, but even large samples usually do not produce one individual who falls above the extrinsic scale midpoint (Gorsuch 1987). A heuristic practicality dictated the use of scale medians, but this must raise the question of whether the desired concepts are really being measured.

Assessing Theory

A theoretical framework relating religion and health has been offered, but only these two principal variables and control were assessed in the present study. Future work needs to evaluate in depth various mediating possibilities that have recently been appearing in the control and coping literature.

One proposed scheme that further analyzes the concept of control looks particularly promising. This distinguishes two forms: Primary control which is designed to effect changes in the world, hence in one’s situation. The alternate possibility is secondary control in which objective reality remains the same, but the individual’s perceptions are modified through a process of self-change (Rothbaum, Weisz, and Snyder 1982; Weisz, Rothbaum, and Blackburn 1984). Religious activities such as prayer, participation in ceremonies and the like can be viewed as efforts at secondary control since they are ways by which a person can accommodate to external reality. They may also be regarded as active-
cognitive strategies which will affect, and possibly moderate stress appraisal (Holahan and Moos 1987).

Religion and Secondary Control

All of the forms of secondary control hypothesized by Rothbaum et al. (1982) may be regarded as examples of cognitive control that are dependent on meaning, and religion may be of considerable importance in establishing such meaning. With respect to what these scholars define as interpretive control, Bulman and Wortman (1977) noted that a number of the paraplegic accident victims they studied saw their affliction in terms of God making them suffer so that they would learn a lesson and change their lives. This perception of purposeful meaning endowed the paraplegics with renewed esteem and a heightened sense of control.

Another significant kind of meaning has been termed predictive control. Devout individuals confronting difficulty may look for a divine indication that things will turn out all right. Examples of such signs are common in both scripture and religious testimony. There is also much evidence that predictability per se may reduce stress (Miller 1980). Apparent knowledge of the future can directly buttress internal control by affording new activity options. Among these are the invoking of God control via prayer in which the individual remains active by perceiving a collaborative relationship with an active deity. An alternative relinquishing of internal control to God is also possible. The simple fact of being able to apply religious explanations to certain life situations probably endows the person with some sense of control.

Possibly the most common form of religious secondary control is exercised through prayer. It permits the individual to involve the deity in one’s personal concerns; God is thus the vicarious instrument of control, hence we have what is termed vicarious control. This can be accomplished at least two ways. The person may simply place the problem “in the hands of God,” and passively wait for results. The other possibility is that religious activity can sponsor the view that “God helps those who help themselves.” An active deity can thus be joined with an active person. Both approaches may provide a sense of increased power in troubling circumstances.

These forms of secondary control may not change reality, but as Kazantzakis (1961, p. 45) claims, they can “change the eyes which see reality.” In this way, feelings of control are supported, and along with them enhanced security and self-esteem.

The Role of Control in Appraisal and Coping

Overlapping with the above perspective is a theoretical view that deals with the role of control in appraisal and coping. The impact of any given event depends
on one's ability to respond in an adaptive way (Plaut and Friedman 1981). Different people display a variety of coping methods. For example, some may exercise, others meditate, and even others pray. Such seemingly diverse approaches may be similar in that they permit the individual to gain a sense of control over personal distress, the situation, or both (Fleming, Baum, and Singer 1984). Apparently, control over an agent is particularly noteworthy in determining both its psychological and physiological effects (Maier and Laudenslager 1985; Taylor 1986). As important as the sense of control appears to be, the mechanisms underlying its relationship to health are not clear. Folkman (1984) suggests that coping strategies mediate the control-health relationship.

The first step in dealing with stress is the appraisal process. Primary appraisal assesses whether the situation is relevant and meaningful to the person. This can result in five possible judgments: (1) irrelevancy, (2) benign-positive, (3) stressful with an emphasis on actual harm (harm/loss threat appraisal), (4) stressful but emphasizing potential harm (threat appraisal), and (5) stressful but posing a constructive opportunity for growth (challenge appraisal). One's beliefs about control are an important facet of primary appraisal as they would affect assessments of threat or challenge. Secondary appraisal is concerned with actions to be taken if well-being is threatened (Folkman 1984; Folkman et al. 1986b), and, again, ideas about control must influence the person's behavioral choices and/or beliefs about the event in question.

Secondary appraisal is succeeded by coping which is the transformation of evaluation into action. This poses two alternatives: Problem-focused coping is directed at solving the difficulty; emotion-focused coping is concerned with handling the emotion aroused by the problem (Folkman et al. 1986b). Both forms of coping are likely to be employed by an individual in a stressful situation (Lazarus and Folkman 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen 1986a). One can analogize problem-focused coping and challenge appraisals to primary control in which direct efforts are made to effect changes in the world. In addition, both problem- and emotion-focused coping are intended to mitigate stress. They also involve active cognitive and behavioral coping strategies. Prayer, for example, has been conceived as one such cognitive strategy (Holahan and Moos 1987). Folkman et al. (1986b) developed a measure they termed positive reappraisal that contains both traditional and liberal religious content. It was found to be highly and positively correlated with both problem-focused coping and successful emotion-focused coping.

RELIGION, CONTROL, AND HEALTH

Religion, Control, Coping Strategies, and Health

Whether religion as a form of secondary control passively creates the idea of control or stimulates real-world action, it endows those who employ these
methods with renewed hope. Both hope and the view that one is in control relate positively to health status (Engle 1971; Folkman et al. 1986b; Lefcourt 1973; Naditch, 1973; Ostfeld and Eaker 1985; Petersen and Seligman 1984; Richter 1957; Schulz 1976; Seeman and Seeman 1983; Seligman 1975; Taylor 1986). These links have been most clearly established for internal controllers who are more likely to make challenge appraisals, and engage in primary control/problem-focused behavior (Anderson 1977; Folkman 1984; Kobasa 1979). We would thus hypothesize that internally controlled religious people should reveal better health than those who see control vested in external forces.

Where primary control or problem-focused coping is lacking, threat appraisals are associated with emotions such as anxiety and fear (Folkman 1984). The effective use of secondary control/emotion-focused coping may buffer an individual from the negative effects of these emotions, hence secondary control should be better for health than no control at all.

Even though the foregoing control considerations seem most pertinent to internal control, they may also be relevant to God control. Insofar as people passively rely on God, they could be utilizing threat appraisals and emotion-focused coping behavior: Health may only minimally profit from such an approach. If they adopt a combination of internal and God-control as in Pargament’s AGAP concept, a problem-focused coping with challenge appraisals would seem to be employed. This may represent both secondary control and primary control efforts that ought to benefit health. Since this perspective is in line with our view of intrinsic as opposed to extrinsic religion, the former should be positively related to health, the latter negatively. Such was shown in the present work.

Further work should examine the role of religion in primary and secondary control, and appraisal, and in problem- and emotion-focused coping. Measures of these forms of appraisal along with relevant coping scales have been developed (Folkman et al. 1986b). Though some attention has been afforded the role of religion in appraisal, its potential has not been realized for assessing the various kinds of secondary control or for either problem- or emotion-focused coping. We feel that such instruments may be developed, and these will permit investigation of the complex relationships among religion, control, and coping. A fuller picture of the religion-health link can thus be achieved.

CONCLUSION

The present work confirms a link between religiosity and health that has a long history. Though overall health is weakly related to form of personal faith, several specific symptoms may be more strongly affiliated with religion.

The relationships among the forms of personal faith, control, and health suggest that the control-coping model holds promise as a tool for
understanding potential religion-health connections. The measures of intrinsic religious orientation associate strongly with deriving meaning from faith, the use of prayer, and a mutually active collaborative control relationship with God. These perceptions and behaviors relate positively to subjective health, and imply that an intrinsic faith may buttress the body's immune system. In contrast, extrinsic faith affiliates with beliefs in chance and control by powerful-others, tendencies that are hypothesized to counter efficient behavior. This was manifested here in signs of poorer health than were true for intrinsics. Though questors endorse internal control, they tend to evidence more indicators of illness than intrinsics.

One interpretation of these results is that people such as extrinsics and questors who exhibit more symptoms than intrinsics may be less flexible in their perspectives on control than the latter. Adaptability may be an important key to health.

This study may help fill a significant gap in the literature on research relating religion and health (cf. Levin and Schiller 1987). The perspective that faith orientation influences coping strategies is suggested as a fruitful step in the investigation of religion and physical health.

NOTES

1. Internal consistency coefficients (alphas) were computed for all scales, and are designated following each scale as $r_a$.
2. This and other new instruments developed for this study are available on request from the authors.
3. The use of medians is a best approximation to the preferred use of scale midpoints. In the present sample, as has been noted by Gorsuch (1987) in other samples of similar respondents, virtually no one falls below the midpoint of the Intrinsic scale and above the midpoint of the Extrinsic scale.
4. Since this research has the quality of being pilot in nature, in all tables dealing with health and illness variables, coefficients below the .1 level of significance are considered heuristically meaningful.

REFERENCES


