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THE RELATIONSHIP OF THE QUEST SCALE TO THE NEO-FFI INVENTORY: A VALIDATION STUDY

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THE RELATIONSHIP OF THE QUEST SCALE TO THE NEO-FFI INVENTORY: A VALIDATION STUDY

A Dissertation APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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Abstract

This study examined the relationship between the Quest scale and personality. Ninety-nine participants from a large midwestern University completed this study. Participants were volunteers from a psychology subject pool. Participants completed a demographic information sheet, the Quest scale, and the NEO-FFI. Multiple regression analyses were performed predicting Quest scores from a linear combination of the NEO-FFI scales. A factor analysis of the Quest scale was also performed. Results supported a three factor solution for the Quest scale. The results also suggest some relationship between Quest and the five NEO-FFI personality variables. Two of the three factors shared a significant relationship with personality variables accounting for 20% and 17% of the variance. The results seem to leave the question of the validity of the Quest unsettled.

Introduction

The notion that individuals are motivated toward religion for different reasons, referred to as religious orientation, was first articulated by Allport (1966). According to Allport (1966), there are two types of religious orientation: Extrinsic and Intrinsic. An Extrinsic orientation characterizes those who are involved with religion for what they can get out of religion (e.g., social contacts, security). An Intrinsic orientation, on the other hand, characterizes those who use religious beliefs to guide their lives and who are motivated by an internal desire to serve God (Allport, 1966).

The concept of religious orientation, particularly that of Extrinsic and Intrinsic types, has been widely studied in the literature. Donahue (1985) stated that, "No approach to religiousness has had greater impact on the empirical psychology of religion than… Intrinsic and Extrinsic religiousness" (p. 400). Research has examined the relationship between these two dimensions and aspects of mental health such as freedom from worry and guilt, self-esteem, anxiety, personal competence, flexibility, and socially appropriate behavior, to name just a few. Most of these studies have indicated that an Intrinsic orientation is associated with positive mental health while an Extrinsic orientation is either associated with negative mental health or displays no relationship with mental health measures (Batson, Schoenrade, & Ventis, 1993; Donahue, 1985).

Batson (1976), dissatisfied with Allport's (1966) original theory of two religious orientations, hypothesized that there was a third orientation, that of Quest. According to Batson (1976), Quest characterizes individuals who are motivated to

religious beliefs as a means of seeking answers to existential questions. Batson (1976) developed a six-item scale, the Interactional Scale, later re-named the Quest Scale, to measure this construct. Thus far, research has indicated relationships between Quest and open-mindedness, flexibility, and lower prejudice (Batson et al., 1993). What the research has failed to indicate is any relationship between a Quest orientation and other measures of religiosity, leading many researchers to question the validity of Quest as a religious dimension (Donahue, 1985).

While many researchers have expressed concern over the fact that Quest has failed to correlate with other measures of religiosity, the authors of this instrument have attempted to provide evidence in support of their instrument. For example, research has indicated that individuals with religious beliefs score more highly on Quest than do individuals who do not ascribe to religious beliefs (e.g., seminarians vs undergraduate students). Individuals of less traditional religious beliefs have been found to score more highly on Quest than individuals of more traditional religious beliefs (Batson & Schoenrade, 1991a). Furthermore, Quest has been found to correlate with religious cognitive complexity (Batson & Raynor-Prince, 1983) and with moral reasoning (Sapp & Gladding, 1989).

Despite these findings, however, many researchers have raised concerns regarding the concept of Quest. Donahue (1985) suggested that Batson's (1978) results may be spurious due to the fact that small samples were used (average N = 50), the data were correlational, and the data were truncated due to the fact that all subjects indicated at least a moderate interest in religion. Donahue (1985) argued that these three reasons alone are enough to question the validity of the Quest orientation.

In addition to these concerns, many of the results that have been cited to support the validity of Quest have been unpublished studies that are unavailable for analysis. Often, there has been very limited information concerning the nature of the studies reported (i.e., sample size, methodologies), making it difficult to draw conclusions concerning the validity of the results.

In addition, while some research has revealed correlations of Quest with cognitive complexity and existential questioning (Batson & Raynor-Prince, 1983), other research has failed to replicate these results (Spilka, Kojentin, & McIntosh, 1985; Watson, Hood, & Morris, 1988). Additional research has suggested that age influences individual's scores on Quest. For instance, Watson, Howard, Hood, and Morris (1988) found that Quest was inversely related to age, i.e., Quest scores went down as age went up. These authors suggested that Quest may relate to an intermediate, less mature form of religion if it relates to religion at all due to the fact that Quest scores decrease as an individual matures and grows older.

Additionally, research has demonstrated strong positive correlations between Quest and religious conflict (Kojetin, McIntosh, Bridges, & Spilka, 1987; Nielsen & Fultz, 1995; Spilka et al., 1985) and between Quest and avoidance of religious answers to existential questions (Watson, Hood, et al., 1988). Furthermore, research has indicated that Quest items were viewed as anti-religious by individuals ascribing to religious beliefs (Watson, Morris, & Hood, 1992), and Quest has been found to be significantly negatively correlated with measures of religious interest (Watson, Morris, Hood, Milliron, & Stutz, 1998). The finding that Quest was significantly

negatively correlated with measures of religious interest led Watson et al. (1998) to conclude the following:

> Every measure of Quest displayed a significant inverse correlation with the religious interest ratings. Quest, however, theoretically is central to the mature religious search for meaning. How can a search for meaning that predicts a disinterest in religion be described as religious? Quest scales do not operationalize a religious dimension, but instead record some type of agnosticism (p. 161).

Simpson, Newman, and Fuqua (2004) conducted a principal components analysis of the following measures of spirituality: the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982), the Intrinsic-Extrinsic-Revised Scale (Gorsuch & Veneable, 1983), the Spiritual Assessment Inventory (Hall & Edwards, 1996), and the Quest scale. This analysis revealed a three-factor solution for these scales. However, it was found that the Quest scale had a very low communality with the three factor solution, indicating that the Quest scale is measuring a construct different than what is measured by the other widely known and used measures of spirituality and religiosity. The fact that the Quest scale has little in common with other measures of religion raises further questions regarding whether or not this scale may be measuring a religious construct.

Collectively, these results raise rather serious questions regarding the validity of Quest as an orientation to religion (Donahue, 1985; Hood & Morris, 1985; Spilka et al., 1985; Watson, Hood, et al., 1988). Watson, Howard, et al. (1988) suggested that Quest may be better understood as a rejection of traditional beliefs in God than as an orientation to religion. Donahue (1985) added that "until some group of individuals reasonably identifiable as religious can be demonstrated to have higher

Quest scores than another group, it seems invalid to call this a measure of religiousness" (p. 413).

It is apparent that there is no consensus in the literature regarding the validity of the Quest orientation. Evidence was reported to support the validity of Quest as it was originally conceptualized (Batson & Raynor-Prince, 1983; Batson & Schoenrade, 1991a; Sapp & Gladding, 1989). However, criticisms of these findings on both conceptual and methodological grounds raise serious questions about what Quest actually measures (Donahue, 1985). Whether or not Quest is a valid third orientation to religion remains an unanswered question (Kojetin et al., 1987; McFarland & Warren, 1992; Nielsen & Fultz, 1995; Spilka et al., 1985; Watson et al., 1992; Watson, Hood, et al., 1988).

If Quest is not a religious orientation, this leaves the question of what Quest does measure. Perhaps as McFarland and Warren (1992) stated, "Quest reflects a broader disposition or general personality style" (p. 172). The research base examining the relationship between Quest and personality is extremely limited. The majority of research in the area of personality and religious orientation has utilized Eysenck's personality dimensions. Eysenck and Eysenck (1975) believed that there are three independent personality dimensions: extraversion, neuroticism, and psychoticism. Extraversion measures sociability and impulsivity; neuroticism measures emotional instability and includes things such as anxiety, depression, low self-esteem, and tension; and psychoticism measures lack of impulse control, including dimensions such as aggression, coldness, egocentricity, and impulsivity. Eysenck hypothesized that there would be a negative relationship between

Extraversion and religiosity. Eysenck likened religious values to tenderminded attitudes that "incorporate ethical and religious ideas that tend to thwart the desire for immediate gratification of aggressive and sexual impulses" (cited in Robinson, 1990, p. 915). This association with tender minded attitudes would result in a negative relationship between religion and extraversion. Indeed, much of the research has born out the negative relationship between extraversion and religiosity, particularly when attitude toward religion scales were used (Maltby, Talley, Cooper, & Leslie, 1995).

Francis, Pearson, Carter, and Kay (1981) hypothesized that it is the aspect of impulsivity in extraversion that has resulted in its negative relationship with religion. These researchers further speculated that psychoticism, due to its relationship with impulsivity, would also have a negative relationship with religion. This hypothesis was supported by Robinson (1990). Results of this study indicated that there was a significant relationship between psychoticism and impulsivity and an Extrinsic orientation and no relationship between these variables and an Intrinsic orientation, supporting the ideas outlined by Francis et al. (1981). Similar results were obtained by Maltby et al. (1995), and Maltby (1999a). These researchers also found that an Intrinsic orientation, along with other measures of committed religiosity, such as personal prayer and religious attitude, had a negative correlation with psychoticism. This result was confirmed in every sample tested.

The evidence of a negative relationship between all forms of committed religion and psychoticism appears to be consistent in the literature. These findings make the results of Joseph, Smith and Diduca (2002) study particularly interesting.

These researchers examined the relationship between Quest and personality and found that there was a positive relationship between Quest and psychoticisim. The finding of a positive relationship between Quest and psychoticism is contradictory to what would be expected of a measure of religiosity, as measures of committed religion generally display no relationship or negative relationships with psychoticism (Taylor & MacDonald, 1999). If Quest is a valid measure of religion, it is difficult to understand why it correlated positively with a trait that generally correlates negatively with committed forms of religion (i.e., psychotocism).

Taylor and MacDonald (1999) concluded that the literature examining Eysenck's personality model and religiosity has demonstrated that there is a negative relationship between extraversion and religion, that neuroticism is unrelated to religion, and that there is a negative relationship between religion and psychoticism. These researchers related Eysenck's personality dimensions to the NEO-PI. The NEO-PI is a well-known and widely used measure of personality that is based on the five-factor model of personality. The five-factor model of personality expands Eysneck's personality theory and postulates that there are five independent components of personality: extraversion, neuroticism, openness to experience, conscientiousness, and agreeableness. Similar to Eysneck's theory, extraversion is characterized by sociability, impulsivity, affection, friendliness, and talkativeness while neuroticism is characterized by worry, insecurity and self-consciousness (McCrae & Costa, 1987). In addition, openness to experience is characterized by terms such as original, daring, and imaginative; conscientiousness is associated with

self-control, ambition, and perseverance, and agreeableness is characterized by terms such as trusting, sympathetic, and cooperative (McCrae & Costa, 1987).

Taylor and MacDonald (1999) noted that the Eysenck personality dimensions and the NEO-PI have been shown to correlate with one another. Specifically, neuroticism as measured by Eysneck's Personality Questionnaire correlates positively with neuroticism as measured by the NEO-PI. Similarly, extraversion as measured by Eysneck's Personality Questionnaire correlates positively with extraversion as measured by the NEO-PI. Psychoticism, as measured by Eynseck's Personality Questionnaire is inversely correlated with agreeableness and conscientiousness as measured by the NEO-PI. Openness to experience has not been demonstrated to correlate with any of Eysneck's personality dimensions. Therefore, based on research indicating negative relationships between psychoticism and measures of religiosity and the inverse relationship demonstrated between psychoticism and agreeableness and conscientiousness, high scores on measures of religiosity should correlate with high scores on agreeableness and conscientiousness as measured by the NEO-PI. Also based on previous research findings, measures of religiosity should continue to demonstrate negative relationships with scores on extraversion, while there should be a lack of correlation between religious measures and neuroticism.

Prior to the Taylor and McDonald (1999) study, no research had examined the relationship between the NEO-PI and measures of religiosity. These researchers looked specifically at the relationship of the NEO-PI to religious orientation, religious affiliation, and religious involvement. Results indicated a significant positive relationship between an Intrinsic orientation and agreeableness and

conscientiousness. In fact, agreeableness and conscientiousness were significantly and positively correlated with all affiliations of religion and religious involvement. Again, conscientiousness has been characterized by words such as self-control, ambition, and perseverance, while agreeableness has been characterized by words such as trusting, sympathetic, and cooperative. This research suggests that religious affiliation is positively associated with these traits. If all religious affiliations are associated with these two variables, one would expect other measures of religious beliefs or involvement to also correlate significantly with these latter two scales.

Only one study was identified that examined the relationship of a Quest orientation to the five-factor model of personality (Kosek, 1997). Participants in this study were 104 middle school students recruited from a Warsaw middle school. The measures were administered during a religion class. Measures used included the Polish version of the Swedish Religious Orientation Scale (Hovemyr, 1994) and the Polish Adjective Checklist (Szarota, 1995). The Swedish Religious Orientation Scale is a twenty-eight-item scale combining the ROS (Allport & Ross, 1967) and Batson's (1976) Interaction scale. The Polish Adjective list was administered to measure the five-factor model of personality. In this study, both Quest and Intrinsic orientations correlated significantly with agreeableness and conscientiousness while an Extrinsic orientation correlated significantly with only extraversion. These correlations are consistent with what would be expected of a religious measure based on previous research findings (i.e., positive correlations with agreeableness and conscientiousness).

There were some obvious limitations associated with this study. For instance, the sample was limited to a narrowly defined age group and ethnicity. Participants were enrolled in a religion class, which may suggest that they had a higher interest in religion than students in general. In addition, the instruments used are of concern. The version of the ROS used has not been well established and, thus, little is known regarding its validity. Finally, the researchers did not use the NEO-PI itself in their investigation, but instead used an adjective checklist as a substitute. The authors offered little information concerning the validity of this instrument as a substitute for the NEO-PI, and this was not a substitution found elsewhere in the literature. Collectively, these factors raise serious concerns regarding the generalizability of findings obtained in this study.

The literature examining the relationship between religious orientation and personality is very small and the literature examining religious orientation and the five-factor model is even smaller. With the exception of two studies, most of the literature in this area has concerned the relationship between personality styles and Intrinsic and Extrinsic orientations. The research seems to indicate that there is some relationship between these variables. For instance, there appears to be a negative relationship between extraversion and religion, no relationship between neuroticism and religion, a negative relationship between psychoticism and religion, and positive relationships between committed forms of religion (i.e., Intrinsic orientation) and agreeableness and conscientiousness (Taylor and MacDonald, 1999).

Only two of these studies examined Quest as it relates to the five-factor model of personality. Although one of the studies indicated that Quest related to the five-

factor model in a similar fashion to other measures of religion (i.e., positive correlations with agreeableness and conscientiousness), there were serious limitations associated with the methodology used in this study (Kosek, 1997).

The purpose of the current study was to further explore what Quest measures. Specifically, this study examined the underlying structure of Quest and explored the relations of Quest dimensions to personality dimensions of the Five-Factor model and Intrinsic and Extrinsic dimensions of religious orientation. This study was designed to improve upon the Kosek (1999) study in that the sample was not truncated by using a religion class, the more frequently used and further validated version of the Quest was used, and the NEO-FFI itself was used.

Method

Participants

The research participants consisted of 99 undergraduate students from a large Midwestern university (power = .98). The students ranged in age from 18 to 48, with a mean age of 20 years and a median age of 19 years. Approximately 69% of subjects were female (n = 68) and 30% were male (n = 30). Participants were distributed across class levels as follows: 42 freshmen (42%), 22 sophomores (22%), 14 juniors (14%), and 5 seniors (5%), with 16 participants (16%) not responding to this question. The ethnic composition of the college sample was 81 (81%) Caucasian/White, 5 (5%) African-American, 4 (4%) Asian-American, 5 (5%) Native-American, 2 (2%) Hispanic, and 2 (2%) Middle-Eastern. Approximately 90 (90%) participants identified as having a religious affiliation while 8 (8%) identified as being agnostic or non-affiliated with religion. Of these 90, 72 (72%) reported being Protestant, 12 (12%) reported being Catholic, 2 (2%) reported being Jewish, and 4 (4%) reported Other church affiliation. Frequency of church attendance was as follows: 41 (41%) indicated church attendance once a week or more, 21 (21%) indicated church attendance once a month or more, 30 (30%) indicated church attendance once a year or less, and 6 (6%) indicated no church attendance.

The students were a part of the undergraduate psychology subject pool and were enrolled in introductory psychology courses. Participation in the study was strictly voluntary, and participants received class credit for their participation in the research.

Instruments

Three instruments were administered for the purposes of this study, the NEO-FFI (short form of the NEO-PI), the Religious Orientation Scale (ROS) and the Quest Scale. In addition, a demographic information sheet (Appendix C) was completed.

The Quest Scale (Batson & Schoenrade, 1991b). The Quest Scale (Appendix A) contains 12 items presented on a nine point Likert scale ranging from strongly agree to strongly disagree. Batson and Schoenrade (1991b) developed the Quest scale utilized here as a revision of their previous six-item Interactional scale. Their purpose in revising the original scale was to enhance the internal consistency reliability of scores obtained from the scale. The new Quest scale had an internal-consistency reliability of .78 and correlated .86 with the original scale. Test-retest reliability (r = .63) was reported in only one study of undergraduate psychology students (Baton & Schoenrade, 1985).

Batson and Schoenrade (1991b) hypothesized that their scale would tap three separate dimensions. They believed these dimensions would be readiness to face existential questions without reducing their complexity, self-criticism and perception of religious doubt as positive, and openness to change. Batson and Schoenrade investigated the hypothesized factor structure of Quest with two separate samples within their 1991b study. Although a three factor solution was supported in the original study, the factors differed from Batson and Schoenrade hypotheses. Batson and Schoenrade, therefore, recommended that the overall scores for the instrument should be used for analysis as opposed to the factor scores. In addition, these three

factors do not appear to be widely used or investigated in the literature (Donahue, 1985).

Questions regarding the validity of this scale remain unsettled in the literature. Quest has been demonstrated to relate to religious cognitive complexity (Batson & Raynor-Prince, 1983), higher moral reasoning (Sapp & Gladding, 1989), and to measure something different than is measured by either the Extrinsic or Intrinsic orientation scales (Batson & Schoenrade, 1991a). However, there have been persistent concerns regarding the construct validity of this instrument (Donahue, 1985). It has also been hypothesized that it is better understood as a measure of anxiety or conflict (Spilka et al., 1985; Kojetin et al., 1987: Nielsen & Fultz, 1995), that it is an artifact of age (Watson, Howard, et al., 1988), and that it predicts disinterest in religion (McFarland & Warren, 1992; Watson et al., 1998).

The NEO-FFI (McCrae & Costa, 1987*).* The NEO-FFI version of the NEO-PI was chosen for use in this study because of the abbreviated length of the test. The NEO-FFI contains 60 items presented on a five point Likert scale ranging from strongly agree to strongly disagree. The instrument takes approximately 10-15 minutes to complete. The NEO-FFI is a shortened version of the NEO-PIR. The first version of the NEO-PIR was developed in 1978 as the NEO Inventory. This inventory measured the domains of neuroticism (N), extraversion (E), and openness to experience (O). In 1983, items measuring agreeableness (A) and conscientiousness (C) were added. Finally, in 1990 additional A and C items were added as well as some modifications to N, E, and O items resulting in the current NEO-PIR (Costa & McCrae, 1992).

Neuroticism is characterized by worrying, insecurity, and self-consciousness. It includes not only negative affect, but also disturbed thoughts and behaviors. Extraversion is characterized by words such as sociable, assertive, active, exuberant, excitement seeking, and talkative. Openness to Experience is characterized by originality, imagination, broad interests, and risk taking (McCrae & Costa, 1987). Agreeableness has been referred to as a continuum from compassion to antagonism and refers to the quality of social interactions an individual may have with others. Conscientiousness is referred to as an aspect of character and ego strength. Words such as will power, initiative, need for achievement, moral scrupulousness and responsibility have been used to describe this construct (Costa, McCrae, & Dye, 1991).

Preliminary validity was supported by correlations between the original scale and the NEO-FFI ranging from .77 to .94. Convergent validity has also been demonstrated by positive correlations with other measures of the five-factor model such as the California Q-Set (Block, 1961) and the Hogan Personality Inventory (Hogan, 1986). In addition, expected correlations have been found with adjective checklists and sentence completion tests, yielding further evidence of the validity of the NEO-FFI. Test-retest reliabilities have ranged from .63 to .83. The NEO-FFI has been widely used in the literature and is accepted as a reliable and valid measure of the five-factor model (Costa & McCrae, 1992).

The Religious Orientation Scale (Allport & Ross, 1967). The ROS (Appendix B) measures both Extrinsic and Intrinsic orientations to religion. It contains twenty items administered on a five point Likert scale, ranging from strongly agree to

strongly disagree. Nine items measure the Intrinsic orientation, while eleven items measure the Extrinsic orientation (Hill & Hood, 1999).

Internal consistency reliabilities for the Intrinsic scale averaged .83 while reliabilities for the Extrinsic scale average .65. The Intrinsic and Extrinsic subscales have been found to load on two separate factors. The ROS was the first measure of religious orientation and subsequent measures that have been developed to measure this construct have been based on comparisons with the ROS. Subsequently, construct validity cannot be established by comparisons with other measures of religious orientation. However, this scale and its subscales have displayed expected correlations with other measures of religiosity. For instance, the Intrinsic scale has been shown to correlate with measures such as religious beliefs and religious orthodoxy, while the Extrinsic scale has failed to correlate with these measures, yielding weight to the validity of these two constructs. In addition, the Intrinsic and Extrinsic subscales have been found to correlate as expected with prejudice, with the Intrinsic scale have no or negative correlations with prejudice and the Extrinsic scale correlating positively with prejudice. The ROS is the most widely used measure of religious orientation to date and has been accepted in the literature as a valid measure of the Extrinsic and Intrinsic orientations (Donahue, 1985).

Procedure

A description of the study was posted on Oklahoma State University's Experimetrix web page, which is a web site designed to coordinate undergraduate psychology students' participation in research projects. Upon arriving for the study, participants were given a research packet including a consent form, the demographic

information sheet, the NEO-FFI, the ROS, and the Quest scale. The inventories, consent form, and demographic information sheet were randomly ordered in the packets and numbered. Participants were instructed not to write their name or any identifying information on any of these testing materials in order to ensure confidentiality. All participants were treated in accordance with the ethical standards of the American Psychological Association (American Psychological Association, 1992).

Results

Initially, a principal axis factor analysis with oblimin rotation was conducted on the 12 Quest items to determine whether the three-dimensional structure (readiness to face existential questions without reducing their complexity; self criticism and perception of religious doubt as positive; openness to change) hypothesized by its developers was present. Three factors with eigenvalues greater than 1.0 were extracted, and examination of the scree plot seemed to support a three factor solution. Structure coefficients, eigenvalues, communalities, sums of squared loadings after rotation, and percentage of variance accounted for are presented in Table 1. The three factors accounted for 44.42% of the total variance. The composition of factors in this study (See Appendix D) differed somewhat from that reported by Batson and Schoenrade (1991b). Based upon an examination of the item content comprising factors in this study, the factors were labeled Embracing Doubts, Unsettledness, and Existential Search for Meaning. The correlation between Factors 1 and 3 was in the moderate range, while others were quite small (See Table 2).

In order to examine the relationships between personality dimensions of the NEO-FFI and Quest dimensions, three multiple regression analyses were conducted, using a linear combination of personality dimensions to predict each of the three Quest dimensions. Table 3 presents the results of the first multiple regression analysis in which a linear combination of personality dimensions was used to predict Quest Factor 1 (Embracing Doubt). The results of this analysis indicate that the relationship between personality dimensions and Factor 1 was statistically significant [F (5, 93) = 4.63, $p < .01$], indicating that approximately 20% of the variance in

Factor 1 was shared with the linear combination of the NEO-FFI scales. The unique contributions of each of the NEO-FFI scales are presented in the table. Unique contributions of all NEO-FFI scales were statistically significant except Conscientiousness. In the second multiple regression analysis, a linear combination of NEO-FFI personality dimensions was used to predict Quest Factor 2 (Unsettledness). This relationship was not found to be statistically significant [F (5, 93) = .885, $p > .05$). Finally, a third multiple regression analysis was conducted in which a linear combination of NEO-FFI personality dimensions was used to predict Quest Factor 3 (Existential Search for Meaning). The results of this analysis are presented in Table 4. The relationship between personality dimensions and Factor 3 was statistically significant [F (5, 93) = 3.77, $p < .01$]. Approximately 17% of the variance in Factor 3 was shared with the linear combination of NEO-FFI scales. As reflected in the table, the unique contributions of the Extraversion and Agreeableness scales were statistically significant.

Finally, in order to explore the relationship of Quest scores to scores on measures of religiosity/spirituality in this undergraduate sample, zero order correlations of Quest to ROS-Extrinsic Religiosity and Intrinsic Religiosity were examined. These correlations are presented in Table 5. As can be seen in the table, all but one of these correlations were statistically significant. In addition, two multiple regression analyses were conducted in which a linear combination of Extrinsic Religiosity and Intrinsic Religiosity were used to predict the three Quest factors. The R^2 for each of these analyses is also include in Table 5. Approximately 23% of the variance in Factor 1 (Embracing Doubts) and 20% of the variance in

Factor 3 (Existential Search for Meaning) was accounted for by a linear combination of the ROS scales. The relationship of a linear combination of these scales with Factor 2 (Unsettledness) was notably smaller (R^2 = 7%).

Discussion

The results of the factor analysis of Quest items provide some support for the three-dimensional structure of the Quest hypothesized by Batson and Schoenrade (1991b). Two of the factors emerging from this study seem to tap themes similar to those described by Batson and Schoenrade. For example, two of their factors were described as Ask Existential Questions and Religious Doubts Positive. Similarly, two of the factors derived from this analysis were labeled Existential Search for Meaning and Embracing Doubts. It would be difficult to escape the similarity among these two sets of factors. Batson and Schoenrade identified a third factor as Openness to Change, while the third factor in this study seemed more related to Unsettledness. While some parallels can be drawn between the structures reported in these two studies, it is necessary to point out that the composition of factors was not consistent, i.e., items comprising the three factors differed considerably across the samples of the two studies (Appendix D). Clearly, further examination of the underlying structure of the Quest is warranted.

At the most general level, this study supports a relationship between two of three factors of the Quest scale and a linear combination of NEO-FFI scales. A multiple regression analysis using Factor 1 (Embracing Doubts) of the Quest as a dependent variable and the five factors of the NEO-FFI as predictor variables revealed that 20% of the variance in Factor 1 was shared with a linear combination of the NEO-FFI scales. Neuroticism, extraversion, openness, and agreeableness were all significant predictors of factor one. Factor 1, which seems to tap a valuing of religious doubts and questions, shared a positive relationship with neuroticism,

extraversion, and openness and an inverse relationship with agreeableness. The relationship between factor 1 and the Five-Factor Personality dimensions is summarized in Appendix E.

Previous research has revealed that committed forms of religion (i.e., Intrinsic orientation) most generally have an inverse relationship with extraversion and an inverse or no relationship with neuroticism (Francis et al., 1981; Maltby, 1999a; Maltby, 1999b; Maltby, et al., 1995; Robinson, 1990; Taylor and McDonald, 1999). In the current study, factor 1 of the Quest scale failed to perform as it would be expected based on previous research with regard to its relationship with extraversion and neuroticism. In addition, factor 1 shared an inverse relationship with agreeableness. Again, this is inconsistent with previous research regarding measures of religion and agreeableness. For instance, Taylor and McDonald (1999) found that agreeableness was positively related to every measure of religious affiliation and religious involvement. The lack of correlation with conscientiousness is also inconsistent with what would be expected of a measure of religion as Taylor and McDonald (1999) found every measure of religion in their study to correlate positively with conscientiousness. The failure of this particular dimension of the Quest scale to correlate as expected with personality, however, is consistent with previous findings in the research that has raised questions as to the validity of Quest as a religious measure (Donahue, 1985; Joseph, et al, 2002, McFarland & Warren, 1992; Watson et al., 1988).

Simpson, Newman, and Fuqua (2004), using a sample of adult participants from various places of worship or religious organizations, found that total scores on

Quest correlated positively with openness to experience and conscientiousness. In other words, Quest correlated with positive aspects of personality. This is somewhat inconsistent with the findings in the current study regarding factor 1 of the Quest scale. Specifically, factor 1 of Quest in this study did share a positive relationship with openness to experience, but failed to share a positive relationship with conscientiousness (Appendix E).

One reason for the difference in these two studies may relate to the difference in samples utilized. The current study utilized a sample of undergraduate college students who may or may not have an interest in religion. On the other hand, Simpson, Newman, and Fuqua (2004) utilized an older sample of subjects, all of whom shared some interest in religion or religious activities. This type of adult sample of individuals with at least a moderate interest in religion is similar to those typically used by Batson and colleagues in their analysis of the Quest scale. Using samples who have an interest in religion, Batson and colleagues have generally found that the Quest scale measures what it was intended to measure (Baton, 1976; Batson et al., 1978; Batson & Raynor-Prince, 1983; Batson & Schoenrade, 1991a; Batson & Ventis, 1982). Thus, it appears that the relationship of Quest to personality may be influenced by the religiousness of the samples used (Donahue, 1985; Hood & Morris, 1985; Kojetin et al., 1987; Nielsen & Fultz, 1995; Spilka et al., 1985; Watson, Hood, et al., 1988; Watson et al., 1992; Watson et al., 1998). Further research examing these relationships seems warranted.

Another possible explanation for the observed variability in the relationship between Quest and personality might relate to the age of participants. In the Simpson

et al. (2004) study, the mean age of participants was 37.7 years while the mean in the current sample was 20 years. It seems possible that younger participants (who are not specifically identified as religious) may score highly on the Quest scale due to a general doubting or questioning frame of reference. Watson, Howard et al. (1988) hypothesized that Quest scores would be highest in adolescents because of the resolution of identity issues typical of individuals of this age. However, these subjects are not scoring highly on Quest because they are interested in religion as a means of answering existential questions. In other words, they are not truly "Quest" individuals. They are scoring highly on Quest because of identity confusion and resolution. Therefore, these subjects would most likely not share the positive characteristics with personality that are generally found in religious individuals because they are not necessarily religious individuals. This speculation might explain why studies utilizing only participants who are interested in religion find Quest to perform as would be expected of a measure of religion. Likewise, it could explain why studies utilizing participants who are not interested in religion generally find that Quest does not perform as would be expected of a measure of religion. Clearly, further exploration of this notion is needed.

A second multiple regression analysis using Factor 3 (Existential Search for Meaning) of the Quest scale as a dependent variable and a linear combination of NEO-FFI scales as predictors revealed that 17% of the variance in Factor 3 was shared with a linear combination of the NEO-FFI scales. Agreeableness and extraversion were significant predictors of Factor 3 of the Quest scale. The relationship between neuroticism and Factor 3 neared significance ($p < .058$). Factor

3 of the Quest scale shared a positive relationship with agreeableness and an inverse relationship with extraversion and neuroticism. This finding is consistent with previous research that indicates that committed forms of religion share a positive relationship with agreeableness, an inverse or no relationship with neuroticism, and an inverse relationship with extraversion. (Taylor & McDonald, 1999). This finding is also consistent with the Kosek (1997) study which indicated that the Quest scale shares a positive relationship with agreeableness. The current study seems to lend some credence to the validity of Factor 3 of the Quest scale based on the fact that it performed as would be expected of a measure of religion. The relationship between Factor 3 and the Five-Factor Personality dimensions is also summarized in Appendix E.

At first glance, the findings regarding Factor 3 of the Quest scale seem inconsistent with the hypothesis concerning younger participants scoring highly on Quest because of identity confusion and therefore, not sharing the positive qualities generally associated with religious individuals. However, looking at the composition of these two factors may further explain the pattern of results. Factor 1 of the Quest scale was labeled Embracing Doubts. The above hypothesis stated that the younger participants in this study may be scoring more highly on Quest not because they value religious doubts specifically, but rather because they are experiencing overall doubt or identify confusion in their life. If these individuals are in a overall state of doubt and confusion, it would make sense that they would elevate a scale that taps the embracing of doubts. On the other hand, Factor 3 of the Quest scale was labeled Existential Search for Meaning. Individuals who are in a general state of doubt and

confusion may not necessarily always endorse items that tap search for Existential Meaning as they would items that tap Embracing Doubts. It is possible, therefore, that individuals who endorse the items that make up Factor 3 may be endorsing these items not because of a general doubting nature, but rather may be understood a true "Quest" individual. Consequently, they may experience the same positive characteristics that are hypothesized to be experienced by true Quest individuals. Again, future research would need to address this dynamic to examine whether this hypothesis has merit.

Zero order correlations were also calculated for the Quest factors and scores on the Intrinsic and Extrinsic scales of the ROS. Factor 1 of the Quest scale had a significant negative relationship with the Intrinsic scale and a significant positive relationship with the Extrinsic scale. These correlations may explain the results regarding the relationship of Factor 1 of Quest and the NEO-FFI. Factor 1 did not perform as would be expected of a measure of religion, such as the Intrinsic scale, based on previous research. Instead, its relationship with the NEO-FFI variables were more like what would be expected of a measure such as the Extrinsic scale of the ROS (Taylor and McDonald, 1999). It appears that Factor 1 of the Quest not only fails to relate to NEO-FFI dimensions as expected, but also fails to relate to other measures of religion as be expected (Appendix E).

On the other hand, Factors 2 and 3 of the Quest shared a significant positive relationship with the Intrinsic scale and Factor 3 shared a significant negative relationship with the Extrinsic scale. In this analysis, Factors 2 and 3 of the Quest scale performed as would be expected of a measure of religion. In combination with

results of the regression reported earlier, Factor 3 of the Quest scale not only shares the relationship with personality that would be expected of a measure of religion, it also shares the correlations with other measures of religion that would be expected.

This difference between the three factors of the Quest can add to our understanding regarding the inconsistency in previous research regarding the performance of the Quest scale. It appears that Factors 2 and 3 of the Quest scale may perform as would be expected of a measure of religion while Factor 1 does not. Perhaps removing items making up Quest Factor 1 could increase the validity of this instrument. Removing items that tap valuing of doubts could reduce the possibility that individuals who are in identify confusion or a general doubting frame of reference would elevate scores on the Quest not because of religious beliefs, but because of this doubting frame of reference. Consequently, high scores on the Quest scale would be more likely to be those true Quest individuals that Batson and Schoenrade (1991a) originally intended to measure. This point would need to be examined in future research.

Limitations of the Study

There are some important limitations of this study that should be noted. First, the sample utilized was primarily composed of Caucasian/White, freshmen and sophomore college students, with the mean age of twenty. Findings reported are clearly limited by the characteristics of this sample. A broader range of ages and associated developmental levels, as well as a broader range of ethnic backgrounds, socioeconomic circumstances, and occupations would improve the robustness and generalizability of these findings.

Additionally, self-report measures were utilized in this study. The use of self-report measures calls into question the validity of the findings due to the fact that it is difficult to know whether or not subjects are being completely truthful. In addition, subjects were told that the study was intended to assess the relationship between religion and personality. This description may have resulted in further truncation of the sample as only those individuals who had some interest in religion may have volunteered for this study. Finally, as a social desirability measure was not utilized in this study, it is difficult to determine to what degree social desirability may have influenced the results.

Conclusions and Implications

The results of this study provides some support for the three-dimensional structure of the Quest scale hypothesized by its developers, although the composition of factors varies across samples and studies. These results further suggest that there is some relationship between Quest and the five NEO-FFI personality dimensions. Two of three Quest factors had a significant relationship with personality dimensions accounting for 20% and 17% of the variance in this scale. Interestingly, the same two factors exhibited similar relationships with a linear combination of the religious orientation scales, with these relationships accounting for approximately 23% and 20% of the variance. Factor 2 (Unsettledness) seemed unrelated to both personality and religious orientation. Obviously, questions remain regarding what the Quest scale actually measures. Further research examining Quest as it relates to measures of personality and other measures of religion with diverse samples (i.e., age, ethnicity, religious affiliation) is warranted.

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Table 1

Principal Axis Factor Analysis of Quest Items

Item	Factor 1	Factor 2	Factor 3	h^2
1	.28	.32	.01	.18
2	.70	.06	-.40	.51
3	.76	-.15	-.38	.63
4	.38	.04	-.76	.59
5	.72	-.28	-.52	.69
6	.39	.15	-.07	.18
7	.10	-.54	-.08	.31
8	.17	.50	-.15	.29
9	.53	.05	-.53	.41
10	.74	.24	-.38	.59
11	.29	-.05	-.82	.69
12	.48	-.17	-.26	.28
Eigenvalues	4.11	1.54	1.29	
Sums of Squared Loadings After Rotation	3.15	.86	2.36	
% of Total Variance	30.44	7.35	6.64	

Table 2

Factor Correlation Table

	Factor 1	Factor 2	Factor 3
Factor 1	1.00	.08	-.39
Factor 2	.08	1.00	.07
Factor 3	-.39	.07	1.00

Table 3

Regression of the Five-Factor Personality Variables and Quest Factor 1 (Embracing Doubt)

Variable	*B*	Squared semi-Partial	*t* value	*p*	*r*
Neuroticism	.038	.07	2.90	.005	.28
Extraversion	.041	.06	2.70	.008	.07
Openness	.030	.04	2.05	.043	.17
Agreeableness	-.033	.04	-2.01	.048	-.24
Conscientiousness	-.055	.00	-0.37	.710	-.04

Table 4

Regression of the Five-Factor Personality Variables and Quest Factor 3 (Existential Search for Meaning)

Variable	*B*	Squared semi Partial	*t* value	*p*	*r*
Neuroticism	-.025	.03	-1.92	.058	-.25
Extraversion	-.033	.06	-2.20	.031	-.02
Openness	-.010	.01	-.70	.485	-.05
Agreeableness	.048	.08	2.85	.005	.32
Conscientiousness	.056	.00	0.38	.705	.15

Table 5

Relationships Among Quest Factors and ROS Intrinsic and Extrinsic Orientations

Factor	Intrinsic	Extrinsic	R^2
Factor 1 (Embracing Doubt)	-.38*	.45*	.23
Factor 2 (Unsettledness)	.26*	-.17	.07
Factor 3 (Existential Search For Meaning)	.34*	-.42*	.20

* $p <$. 01

Appendix A

Quest Scale

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

1. As I grow and change, I expect my religion also to grow and change.
2. I am constantly questioning my religious beliefs.
3. It might be said that I value my religious doubts and uncertainties.
4. I was not very interested in religion until I began to ask questions about the meaning and purpose of my life.
5. For me, doubting is an important part of what it means to be religious.
6. I do not expect my religious convictions to change in the next few years.
7. I find religious doubts upsetting.
8. I have been driven to ask religious questions out of a growing awareness of the tensions in my world and in my relation to my world.
9. My life experiences have led me to rethink my religious convictions.
10. There are many religious issues on which my views are still changing.
11. God wasn't very important to me until I began to ask questions about the meaning of my own life.
12. Questions are far more central to my religious experience than are answers.

Appendix B

Religious Orientation Scale

Please indicate the extent to which you agree or disagree with each item below by using the following rating scale.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. Although I believe in my religion, I feel there are many more important things in my life.
   1 2 3 4 5

2. It is important for me to spend periods of time in private religious thought and meditation.
   1 2 3 4 5

3. It doesn't' matter so much what I believe so long as I lead a moral life.
   1 2 3 4 5

4. If not prevented by unavoidable circumstances, I attend church.
   1 2 3 4 5

5. The primary purpose of prayer is to gain relief and protection.
   1 2 3 4 5

6. I try hard to carry my religion over into all my other dealings in life.
   1 2 3 4 5

7. The church is most important as a place to formulate good social relationships.
   1 2 3 4 5

8. The prayers I say when I am alone carry as much meaning and personal emotions as those said by me during services.
   1 2 3 4 5

9. What religion offers me most is comfort when sorrows and misfortune strike.
   1 2 3 4 5

10. Quite often I have been keenly aware of the presence of God or the Divine Being.
    1 2 3 4 5

11. I pray chiefly because I have been taught to pray.
    1 2 3 4 5

12. Although I am a religious person, I refuse to let religious considerations influence my everyday affairs.
    1 2 3 4 5

13. I read literature about my faith (or church).
    1 2 3 4 5

14. A primary reason for my interest in religion is that my church is a congenial social activity.
    1 2 3 4 5

15. If I were to join a church group, I would prefer to join a Bible study group rather than a social fellowship.
    1 2 3 4 5

16. Occasionally, I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being.
    1 2 3 4 5

17. My religious beliefs are really what lie behind my whole approach to life.
    1 2 3 4 5

18. One reason for my being a church member is that such membership helps to establish a person in the community.
    1 2 3 4 5

19. Religion is especially important because it answers many questions about the meaning of life.
    1 2 3 4 5

20. The purpose of prayer is to secure a happy and peaceful life.
    1 2 3 4 5

Appendix C

Demographic Questionnaire

1. Age _____

2. Gender _____

3. Ethnicity _____

4. Class Rank _____

5. Major _____

6. Religious affiliation _____

7. Frequency of church attendance

    a. More than once a week.

    b. Once a week.

    c. More than once a month.

    d. Once a month.

    e. More than once a year.

    f. Less than once a year.

    g. Never.

Appendix D

Items Contributing to Quest Factors

Batson's Hypotheses Regarding Quest Items

Factor 1 (Readiness to Face Existential Questions) – Items 4, 8, 9, 11

Factor 2 (Perception of Religious Doubt as Positive) – Items 3, 5, 7, 12

Factor 3 (Openness to Change) – Items 1, 2, 6, 10

Batson's Sample 1

Factor 1 (Readiness to Face Existential Questions) – Items 4, 8

Factor 2 (Perception of Religious Doubt as Positive) – Items 5, 7, 12

Factor 3 (Openness to Change) – Items 1, 2, 3, 6, 9

Batson's Sample 2

Factor 1 (Readiness to Face Existential Questions) – Items 4, 11, 12

Factor 2 (Perception of Religious Doubt as Positive) – Items 3, 5, 7

Factor 3 (Openness to Change) – Items 1, 2, 8, 9

Quest Items Contributing to Factors in Current Study

Factor 1 (Embracing Doubts) – Items 2, 3, 5, 6, 9, 10, 12

Factor 2 (Unsettledness) – Items 7, 8

Factor 3 (Existential Search for Meaning) – Items 2, 4, 5, 9, 11

Appendix E

Significant Relationships between Quest and Personality within Current Study and Previous Research

	Previous Research	Factor 1	Factor 2	Simpson et al. (2004) (not factored)
Neuroticism	Negative	Positive	Negative ($p < .08$)	No
Extraversion	Negative	Positive	Negative	No
Openness to Exp.	No	Positive	No	Positive
Agreeableness	Positive	Negative	Positive	No
Conscientiousness	Positive	No	No	Positive
Intrinsic Orientation	Positive	Negative	Positive	Not included
Extrinsic Orientation	Negative/No	Positive	Negative	Not included

Appendix F

Proposal Submitted to the Graduate College

The Quest Scale: Measure of Religion or Personality?

Dissertation Prospectus

SUBMITEED TO THE GRADUAtE FACULTY

In partial fulfillment of the requirement for the

Degree of Doctor of Philosophy

Rebecca G. Walls

University of Oklahoma

2004

Introduction

The notion that individuals are motivated toward religion for different reasons, referred to as religious orientation, was first articulated by Allport (1966). According to Allport (1966), there are two types of religious orientation: Extrinsic and Intrinsic. An Extrinsic orientation characterizes those who are involved with religion for what they can get out of religion (e.g., social contacts, security). An Intrinsic orientation, on the other hand, characterizes those who use religious beliefs to guide their lives and who are motivated by an internal desire to serve God (Allport, 1966).

The concept of religious orientation, particularly that of Extrinsic and Intrinsic types, has been widely studied in the literature. Donahue (1985) stated that, "No approach to religiousness has had greater impact on the empirical psychology of religion than… Intrinsic and Extrinsic religiousness" (p. 400). Research has examined the relationship between these two dimensions and aspects of mental health such as freedom from worry and guilt, self-esteem, anxiety, personal competence, flexibility, and socially appropriate behavior, to name just a few. Most of these studies have indicated that an Intrinsic orientation is associated with positive mental health while an Extrinsic orientation is either associated with negative mental health or displays no relationship with mental health measures (Batson, Schoenrade, & Ventis, 1993; Donahue, 1985).

Batson (1976), dissatisfied with Allport's (1966) original theory of two religious orientations, hypothesized that there was a third orientation, that of Quest. According to Batson (1976), Quest characterizes individuals who are motivated to

religious beliefs as a means of seeking answers to existential questions. Batson (1976) developed a six-item scale, the Interactional Scale, later re-named the Quest Scale, to measure this construct. Thus far, research has indicated relationships between Quest and open-mindedness, flexibility, and lower prejudice (Batson et al., 1993). What the research has failed to indicate is any relationship between a Quest orientation and other measures of religiosity, leading many researchers to question the validity of Quest as a religious dimension (Donahue, 1985).

Background of the Problem

While many researchers have expressed concern over the fact that Quest has failed to correlate with other measures of religiosity, some evidence has emerged that seems to support the validity of Quest. For example, research has indicated that individuals with religious beliefs score more highly on Quest than do individuals who do not ascribe to religious beliefs (e.g., seminarians vs. undergraduate students). Individuals of less traditional religious beliefs have been found to score more highly on Quest than do individuals of more traditional religious beliefs (Batson & Schoenrade, 1991a). Furthermore, Quest has been found to correlate with religious cognitive complexity (Batson & Raynor-Prince, 1983) and with moral reasoning (Sapp & Gladding, 1989).

Many researchers, however, have raised concerns regarding the concept of Quest. Donahue (1985) suggested that Batson's (1978) results may be spurious due to the fact that small samples were used (average $N = 50$), the data were correlational, and the data were truncated due to the fact that all subjects indicated at least a moderate interest in religion. Donahue (1985) argued that these three reasons alone

are enough to question the validity of the Quest orientation. In addition to these concerns, many of the results that have been cited to support the validity of Quest have been unpublished studies that are unavailable for analysis. Often, there has been very limited information concerning the nature of the studies reported (i.e., sample size, methodologies), making it difficult to draw conclusions concerning the validity of the results.

In addition, while some research has revealed correlations of Quest with cognitive complexity and existential questioning (Batson & Raynor-Prince, 1983), other research has failed to replicate these results (Spilka, Kojentin, & McIntosh, 1985; Watson, Hood, & Morris, 1988). Additional research has found that age is a factor in an individual's scores on Quest. For instance, Watson, Howard, Hood, and Morris (1988) found that Quest was indirectly related to age, suggesting that Quest may relate to an intermediate, less mature form of religion if it relates to religion at all.

Additionally, research has demonstrated strong positive correlations between Quest and religious conflict (Kojetin, McIntosh, Bridges, & Spilka, 1987; Nielsen & Fultz, 1995; Spilka et al., 1985) and between Quest and avoidance of religious answers to existential questions (Watson, Hood, et al., 1988). Furthermore, research has indicated that Quest items are viewed as anti-religious by individuals ascribing to religious beliefs (Watson, Morris, & Hood, 1992), and Quest has been found to be significantly negatively correlated with measures of religious interest (Watson, Morris, Hood, Milliron, & Stutz, 1998). The finding that Quest was significantly

negatively correlated with measures of religious interest led the authors of that study to conclude the following:

> Every measure of Quest displayed a significant inverse correlation with the religious interest ratings. Quest, however, theoretically is central to the mature religious search for meaning. How can a search for meaning that predicts a disinterest in religion be described as religious? Quest scales do not operationalize a religious dimension, but instead record some type of agnosticism (Watson et al., 1998, p. 161).

Collectively, these results raise some questions regarding the validity of Quest as an orientation to religion, (Donahue, 1985; Hood & Morris, 1985; Spilka et al., 1985; Watson, Hood, et al., 1988). Watson, Howard, et al. (1988) suggested that Quest may be better understood as a rejection of traditional beliefs in God than as an orientation to religion. Donahue (1985) added that "until some group of individuals reasonably identifiable as religious can be demonstrated to have higher Quest scores than another group, it seems invalid to call this a measure of religiousness" (p. 413).

It is apparent that there is no consensus in the literature regarding the validity of the Quest orientation. Evidence was reported to support the validity of Quest as it was originally conceptualized (Batson & Raynor-Prince, 1983; Batson & Schoenrade, 1991a; Sapp & Gladding, 1989). However, criticisms of these findings on both conceptual and methodological grounds raise serious questions about what Quest actually measures (Donahue, 1985). Whether or not Quest is a valid third orientation to religion remains an unanswered question (Kojetin et al., 1987; McFarland & Warren, 1992; Nielsen & Fultz, 1995; Spilka et al., 1985; Watson et al., 1992; Watson, Hood, et al., 1988).

If Quest is not a religious orientation, this leaves the question of what Quest does measure. Perhaps as McFarland and Warren (1992) stated, "Quest reflects a

broader disposition or general personality style" (p. 172). The research base examining the relationship between Quest and personality is extremely limited. Joseph, Smith, and Diduca (2002) examined the relationship between Quest and personality and found that there was a positive relationship between Quest and psychoticisim. Psychoticism has been defined as a lack of impulse control, including dimensions such as aggression, coldness, egocentricity, and impulsivity. The finding of a positive relationship between Quest and psychoticism is contradictory to what would be expected of a measure of religiosity, as measures of committed religion generally display no relationship or negative relationships with psychoticism (Taylor & MacDonald, 1999).

Only one study was found that examined the relationship between Quest and scores on the NEO Personality Inventory (McCrae & Costa, 1987), which is a well-known and widely used measure of personality. This research revealed that both Quest and Intrinsic orientations to religion had positive correlations with agreeableness and conscientiousness, while an Extrinsic orientation correlated significantly with only extraversion (Kosek, 1999). The correlation between Quest and agreeableness and conscientiousness supports the validity of Quest as a religious orientation based on previous research that has indicated positive correlations between these two variables and other measures of committed religion.

There are, however, some serious limitations of this study. For instance, the sample was limited to a narrowly defined age group and participants were enrolled in a religion class, which may suggest that they had higher interest in religion than students in general. In addition, the instruments used are of concern. The version of

the ROS used has not been widely used and, thus, little is known regarding its validity. Finally, the researchers did not use the NEO-PI itself, but instead used an adjective checklist. The authors offered little information concerning the validity of this instrument as a substitute for the NEO-PI, and this was not a substitution found elsewhere in the literature. Collectively, these factors raise serious concerns regarding the validity of findings obtained in this study.

Statement of the Problem

Although there is research that supports the validity of Quest as a third orientation to religion (Batson & Schoenrade, 1991a), there are also a number of studies questioning the validity of Quest as a religious orientation (Kojetin et al., 1987; McFarland & Warren, 1992; Nielsen & Fultz, 1995; Spilka et al., 1985; Watson et al., 1992; Watson et al., 1998; Watson, Morris, & Hood, 1989). Some authors have questioned whether Quest may be better thought of as a measure of religious conflict (Kojetin et al., 1987; Nielsen & Fultz, 1995; Spilka et al., 1985) or as a measure of agnosticism or a general doubting attitude (Donahue, 1985).

It has also been suggested that Quest may be better understood as a "broader disposition or personality style" (McFarland & Warren, 1992). However, there is a lack of research examining Quest as it relates to personality and the results of the studies that have been completed are not in agreement. While one study found that Quest, unlike most measures of religiosity, correlated positively with psychoticism (Joseph et al., 2002), another study indicated that Quest scores correlated positively with agreeableness and conscientiousness, correlations one would expect of a measure of religiosity (Kosek, 1997).

The purpose of the current study is to further explore what Quest measures. Specifically, this study will examine the relationship of Quest to the dimensions of the five-factor model represented in the NEO-PI. This study will improve upon the Kosek (1999) study in that the sample will not be truncated by using a religion class, the more frequently used and further validated version of the Quest will be used, and the NEO-PI itself will be used. The research question to be addressed is "What is the relationship between a linear combination of personality dimensions on the NEO-PI and Quest scores in a sample of undergraduate students?"

Significance of the Study

Despite serious questions concerning the validity of the Quest scale as a measure of religious orientation, this instrument continues to be used as such (Batson & Schoenrade, 1991a). A significant body of research has accumulated, suggesting Quest measures something other than religious orientation. It has been suggested the Quest actually taps a broader dispositional or personality style quite distinct from religious orientation. Efforts to explore this possibility to date have been limited in regard to both quantity and quality of the studies conducted. This study is designed to further explore the relationship between Quest and the five-factor model of personality using a sufficiently large sample that is relatively diverse religiously and a well-established measure of the five-factor model.

Review of the Literature

Introduction

Religious orientation, a concept developed by Gordon Allport, has been widely researched within the realm of the psychology of religion. Donahue (1985) stated that, "No other approach to religiousness has had greater impact on the empirical psychology of religion that Gordon W. Allport's concepts of Intrinsic and Extrinsic religiousness" (p. 400). Kosek (1997) further stated that "Undoubtedly the most enduring religious concepts used by the psychology of religion in the assessment of religious accountability are Intrinsic and Extrinsic religious orientation" (p. 230). Furthermore, Watson, Morris, and Hood (1989) described Allport's concept of religious orientation as a benchmark in the psychology of religion.

In fact, at the time of Donahue's (1985) article, over 70 published studies had utilized Allport's concept of religious orientation. This research had examined such correlates of religious orientation as religious orthodoxy, prejudice, dogmatism, anxiety, guilt, depression, locus of control, purpose in life, feminism, and various other dimensions of mental health. Much of this research has revealed positive relationships of an Intrinsic religious orientation with measures of mental health and negative or no relationships of an Extrinsic religious orientation and measures of mental health (Batson et al., 1993; Donahue, 1985). Clearly, religious orientation is both a widely accepted and widely used measure of religiousness.

Religious Orientation as a Method of Examining Prejudice

The concept of religious orientation initially emerged in relation to interest in examining the relationship between religion and prejudice. Early research examining the various correlates of religious beliefs, revealed a positive correlation between religion and prejudice (Allport, 1966; Feagin, 1964; Gorsuch & Aleshire, 1974). In fact, it was this somewhat surprising finding that led Allport to develop the concept of religious orientation. Allport (1966) theorized that there are two different orientations to religion to which an individual may ascribe: Extrinsic and Intrinsic. An Extrinsic religious orientation is utilitarian in nature. The person who is of an Extrinsic religious orientation is an irregular attender of religious activities and is involved in religion for what they can get out of religion, such as security, social contacts, etc. An Intrinsic religious orientation, on the other hand, is characteristic of someone who internalizes religious beliefs. The Intrinsically religious individual lives their religion, and it is their master motive. They are not motivated by what they can get out of religion, but rather use religious beliefs to guide their lives (Allport & Ross, 1967). Allport subsequently developed the Religious Orientation Scale (ROS) for the purposes of measuring this distinction in the religious orientation of individuals (Allport & Ross, 1967).

Allport's (1966) original theory postulated that the previous findings of a positive relationship between religion and prejudice resulted from the lack of distinction between the religious orientations of the individuals sampled. He hypothesized that an Extrinsic religious orientation would be associated with greater displays of prejudice while an Intrinsic religious orientation would be negatively

associated with prejudice. Allport (1966) believed that certain religious individuals are more prejudiced than non-religious individuals not because religion instills prejudice, but because of certain factors in the psychological make-up of these particular individuals. He hypothesized that some individuals are:

> tormented by self-doubt and insecurity. Prejudice enhances their self-esteem; religion provides them a tailored security. Others are guilt ridden; prejudice provides a scapegoat, and religion relief. Still others live in fear of failure. Prejudice provides an explanation in terms of menacing out-groups, religion promises a heavenly, if not terrestrial, reward (p. 451).

Prejudice and religion, in a sense, satisfy similar needs in individuals. Allport (1966) believed it was the Extrinsically oriented individuals, with their utilitarian use of religion, that would display greater levels of prejudice while Intrinsically oriented individuals, with their orientation toward religion to have a personal relationship with God, would either display no prejudice or lower levels of prejudice. Allport (1966) defined prejudice as thinking something to be characteristic of others without sufficient evidence to affirm this belief. He further stated that prejudice was comprised of both a negative feeling or attitude and a failure of correct cognition or rationality (i.e., an attitudinal and a cognitive component).

Allport and Ross (1967) originally tested the above theory with 309 members of six different churches. They found modest correlations confirming Allport's (1966) original hypothesis. Correlations between an Extrinsic orientation and prejudice ranged from .21 to .44, while the correlations between an Intrinsic orientation and prejudice ranged from .08 to .28. Thus, there appeared to be some initial evidence supporting his hypothesis.

Other researchers have confirmed the hypothesis concerning an Intrinsic religious orientation having negative correlations with prejudice. Batson, Naiefeh,

and Pate (1978), using undergraduate psychology students, confirmed that an Intrinsic religious orientation had a negative relationship with prejudice while an Extrinsic orientation did not have a significant relationship with prejudice. Batson, Flink, Shoenrade, Fultz, and Pysch (1986) also found that an Intrinsic religious orientation was related to less prejudice, specifically when prejudice was measured behaviorally by having subjects choose whether or not to watch a movie with an individual from a racial minority group. Similar to the Batson et al. (1978) study, these researchers were also unable to identify a relationship between an Extrinsic religious orientation and prejudice.

McFarland (1989) extended this line of research by looking at religious orientation and prejudice toward individuals of different genders, sexual preference, and race. Results reflected a significant positive correlation between an Intrinsic religious orientation and prejudice related to homosexual individuals. However, an Intrinsic religious orientation was related negatively to prejudice toward women and displayed no correlation with prejudice toward African-Americans. On the other hand, an Extrinsic religious orientation was significantly positively correlated with prejudice related to African-Americans and significantly negatively correlated with prejudice related to homosexual individuals. One hypothesis concerning these findings is that Intrinsically oriented individuals display greater prejudice and discrimination toward gays/lesbians due to the fact that most Christian religions continue to teach that this lifestyle is Biblically immoral. On the other hand, the same teaching does not exist concerning gender and race, resulting in less discrimination and prejudice in these areas.

The issue of religion as it relates to prejudice has been widely researched. As a result, there have been a few reviews of the literature analyzing the empirical evidence in this area. One such review suggested that it was the irregular or infrequent attenders of church that displayed greater levels of prejudice while the regular attenders of church displayed lower levels of prejudice (Gorsuch & Aleshire, 1974). The regular attender may be related to an Intrinsic orientation while the irregular attender is generally Extrinsically oriented. Gorsuch and Aleshire (1974) concluded that the Intrinsically oriented individual, or the highly committed religious person is one of the least prejudiced members of our society. Subsequent reviews have also supported the contention that the Intrinsically oriented individual is less prejudiced than is the Extrinsically oriented individual. Batson and Ventis (1982) cited fourteen studies indicating that an Extrinsic religious orientation was related to greater prejudice than an Intrinsic religious orientation. They also cited twenty-five studies that indicated that moderate attenders of church services (i.e., Extrinsics) demonstrated greater prejudice than regular attenders (i.e., Intrinsics). A subsequent meta-analysis of studies of religious orientation revealed overall correlations of -.05 between an Intrinsic religious orientation and prejudice and .34 between Extrinsic religious orientation and prejudice (Donahue, 1985). Thus, it appears that Allport's (1966) original theory concerning the nature of religious orientation and its relationship with prejudice has been supported. In other words, there appears to be a consensus in the literature indicating Intrinsically oriented individuals are less prejudiced, on average, than are Extrinsically oriented individuals. No literature was

found that compared relations of Extrinsic and Intrinsic orientations with prejudice to the relation of a non-religious orientation with prejudice.

The Concept of Quest

Although the religious orientation literature certainly has its roots in the relationship of this construct with prejudice, this literature has expanded to include the examination of other correlates of religious orientation in subsequent years. In a review of the religious orientation literature, Donahue (1985) suggested that an Intrinsic orientation was an excellent measure of religious commitment, correlating well with other measures of religion such as religious beliefs and religious orthodoxy. He further reported correlations with variables such as an internal locus of control, purpose in life, and lack of anxiety. An Extrinsic orientation, on the other hand, "does a good job of measuring the sort of religion that gives religion a bad name" (Donahue, 1985, p. 416). Besides correlations with prejudice, an Extrinsic orientation has been found to correlate with dogmatism, trait anxiety, fear of death, and lack of altruism.

While there has been support for Allport's (1966) original theory concerning the relationship of religious orientation to prejudice, as well as evidence demonstrating a relationship between various mental health variables and religious orientation, some researchers have been critical of the Intrinsic-Extrinsic distinction. For instance, Batson (1976) believed that measuring only two orientations to religion was insufficient. He hypothesized that there was a third orientation to religion, that of Quest. Batson (1976) stated that a Quest orientation was characterized by individuals who "view religion as an endless process of probing and questioning generated by the

tensions, contradictions, and tragedies in their own lives and in society" (p. 32). People with this orientation may not be associated with any particular religious institution, but are continually asking questions about the nature and purpose of life. They are motivated toward religious beliefs as a means of answering these sorts of questions.

Batson (1976) tested his hypothesis concerning this construct by administering the Religious Life Inventory and the Doctrinal Orthodoxy Scale to 67 students at Princeton Theological Seminary. The Religious Life Inventory was comprised of items from the ROS in addition to items developed by Batson (1976) to measure Internal (i.e., Intrinsic), External (i.e., Extrinsic), and Interactional (i.e., Quest) orientations. A principal components analysis was performed on this scale resulting in a three-factor solution that accounted for 80% of the variance. This analysis indicated that six of the original nine items developed by Batson to measure Quest loaded on a single factor. Batson combined these six items to develop a measure he referred to as the Interactional Scale. Batson did not elaborate on his choice of Interactional Scale as the title of his instrument.

These three scales were then administered to an additional 33 students. Eight of these students were from a nondenominational evangelical group, seven were from a social service organization, and fifteen were volunteers who responded to a general request for participants in psychological research. It was hypothesized that the evangelical group would score highest on Intrinsic orientation while the social service group would score highest on a Quest orientation. As hypothesized, the evangelical group scored significantly above zero on Intrinsic and significantly below zero on

Quest while the social service group scored significantly above zero on Quest only. Although Batson (1976) concluded based on these data that the Quest orientation is a valid third dimension of religious orientation, his conclusions should be viewed with caution due to the small sample sizes used (N = 67 and 33).

As the religious orientation literature had its beginnings in the realm of religion and prejudice, Batson also examined this relationship, specifically looking at his new Quest orientation and prejudice. Batson et al. (1978) found that a Quest orientation was related to reduced prejudice regardless of how prejudice was measured. They also found that this relationship could not be explained as an artifact of social desirability, as the negative relationship did not decrease when they controlled for social desirability. They concluded that an Intrinsic religious orientation "relates to a desire to present oneself as more righteous than one actually is" while a Quest orientation "correlates negatively with antisocial behavior and positively with prosocial behavior" (Batson et al., 1978, p. 40). Batson and Ventis (1982) further suggested that the Intrinsic scale likely measures rigid devotion to orthodox religious beliefs and further added that this scale may merely measure social desirability.

Although Batson cited initial evidence that Quest is a valid third orientation to religion and that it displays expected correlations with prejudice, Batson further investigated the validity of this orientation by examining the relationship between religious orientation and cognitive complexity. Batson and Raynor-Prince (1983) developed the Religious Paragraph Completion Test to assess religious cognitive complexity. This test required participants to write a series of short paragraphs that

began with a sentence stem that suggested some existential conflict (e.g., "When I consider my own death….", p. 43). The authors based this instrument on the previously developed Paragraph Completion Test (Schroder, Driver, & Streufert, 1967), which was administered to assess general cognitive complexity. Higher cognitive complexity scores are assigned to paragraphs that indicate a tolerance for ambiguity, an openness to alternative ways of looking at information, the ability to include disparate views, avoidance of rigid thinking, recognition of the fallibility of one's own thinking, and appreciation for different points of view.

The participants for this study were 35 introductory psychology students at a Midwestern university who indicated at least a moderate interest in religion. Participants also completed the ROS (Allport & Ross, 1967) and the Interactional Scale (Batson, 1976). Due to the hypothesized nature of Quest as an open-ending seeking of religious answers to existential questions in a continually analytical manner, one would expect Quest to relate positively to cognitive complexity, and particularly so to religious cognitive complexity.

Results indicated no significant correlation between either general or religious cognitive complexity and Extrinsic or Intrinsic orientations. There was, however, a significant positive correlation between a Quest orientation and religious cognitive complexity. The correlation between a Quest orientation and general cognitive complexity was not statistically significant. Furthermore, removing the effect of general complexity from the equation reduced but did not eliminate the relationship between Quest and religious cognitive complexity, leading the authors to conclude

that Quest is related to greater cognitive complexity specifically in dealing with religious answers to existential questions (Batson & Raynor-Prince, 1983).

Additional research has indicated a significant positive correlation between Quest and moral reasoning while a negative relationship was found between an Intrinsic orientation and moral reasoning (Sapp & Gladding, 1989). This result, combined with the results of the Batson and Raynor-Prince (1983) study, lends some credence to the hypothesis that Quest is associated with an open-ended seeking of religious answers to existential concerns.

Development of Additional Measures of Quest

As stated previously, Batson's (1976) original measure of Quest was a six-item scale called the Interactional Scale (Appendix A). With it's low number of items, the Interactional Scale's internal consistencies ranged from .18 to .69 (Batson, 1976). To improve the internal consistency of this measure, Batson and Schoenrade (1991a) developed a twelve-item measure of Quest. The new Quest scale had an internal consistency of .81 and correlated .87 with the six-item Interactional Scale. This revised scale became the current Quest scale (Appendix B).

In efforts to improve the internal consistency of the Interactional scale, Kojentin et al. (1987) proposed a lengthened version of this scale, which contained three additional items that were excluded from Batson's (1976) original Interactional Scale. Reliabilities for this scale range from .63 to .77 (Appendix C). Similarly, Altemeyer and Hunsberger (1992) developed a sixteen-item scale (Appendix D) to further improve the reliability of Quest. Little is said, however, regarding how these items were chosen or constructed. These revisions are mentioned as they are used in

a few of the research studies that will be reviewed. Most of the research to date, however, has utilized the original six-item Interactional Scale (Hill & Hood, 1999). Unless otherwise noted, this is the scale utilized in the review to follow.

Validity Concerns with Quest

As stated previously, Quest was originally conceptualized by Batson (1976) as a third orientation to religion characterized by an open-ended seeking of religious answers to existential questions such as what is the meaning of life. Batson (1976) believed that individuals of a Quest orientation would be motivated to be involved with religion to seek answers to these sorts of questions. Some initial support was found for Batson's (1976) concept of Quest. For instance, Quest was found to measure something different than is measured by either Extrinsic or Intrinsic orientations, it was found to discriminate between religious and non-religious individuals (Batson, 1976), and it was found to correlate with moral reasoning and religious cognitive complexity (Batson & Raynor-Prince, 1983; Sapp & Gladding, 1989).

While there has been some initial support for Batson's (1976) concept of Quest, there is certainly no consensus in the literature regarding the validity of this orientation. Specific concerns regarding the validity of the Quest orientation have included whether it relates to existential questioning, whether it demonstrates construct validity, whether it is merely an artifact of age, whether it may be better understood as a measure of anxiety, conflict, or doubt, whether it predicts disinterest in religion, and whether methodologies used to support Quest have been adequate. In

the following sections, the literature relating to each of these areas of concern will be reviewed.

Does Quest correlate with existential questioning? The first concern, whether Quest correlates with existential questioning as predicted by Batson (1976), was examined by Watson, Hood, et al. (1988). These researchers utilized a sample of 201 introductory psychology students to investigate the relationship between religious orientation and existential concerns. To measure existential concerns these authors utilized the Avoidance of Existential Confrontation (AEC) (Thauberger, Ruznisky, & Cleland, 1981) and the Avoidance of the Ontological Confrontation of Death – form A (AOCD; Thauberger et al., 1981). These researchers found that an Intrinsic orientation was related to avoidance of religious existential questions but unrelated to non-religious existential questions. Furthermore, Quest and Extrinsic orientations were negatively associated with religious but not non-religious AEC items, leading the authors to speculate that Quest was not related to an open-ended seeking of religious answers to existential concerns, but rather that it correlated with avoiding religious answers to these types of questions (Watson, Hood, et al., 1988).

The authors concluded that an Intrinsic orientation was not associated with a general tendency to ignore existential questions, but instead was associated with a commitment to traditional religious resolutions of those questions. Watson, Hood, et al., (1988) cited this evidence as support for their earlier contention (Hood & Morris, 1985) that an Intrinsic orientation was not indicative of a closed or rigid way of thinking, but is instead indicative of a commitment to some form of religion. They further found no support for the idea that Quest was related to on going seeking of

religious answers to existential questions, as the Interactional Scale (original measure of Quest) did not correlate with either measure of existential questioning. They concluded that "an interactional stance (i.e., Quest orientation) reflects a rejection of more traditional beliefs in God and life after death" (Watson, Hood, et al., 1988, p. 52). These results directly oppose Batson's (1976) conceptualization of Quest as an orientation toward religion characterized by seeking religious answers to existential questions and leave the question regarding the relationship of Quest to this form of questioning unsettled.

Does Quest discriminate between religious and non-religious groups?

Donahue articulated concerns regarding the validity of Quest in a 1985 review of the literature concerning religious orientation. In this review, Donahue (1985) stated that the construct validity of Quest had never been empirically demonstrated and that "until some group of individuals reasonably identifiable as religious can be demonstrated to have higher Quest scores than another group, it seems invalid to call this a measure of religiousness" (p. 413).

Batson and Schoenrade (1991a) responded to this concern by citing evidence from a study in which seminarians had a significantly higher mean score than did undergraduates. The seminarians also scored significantly higher than undergraduates on the Intrinsic scale and significantly lower on the Extrinsic scale. The authors concluded that these findings provided evidence that Quest was measuring a religious dimension since the seminarians were an identifiable religious group while the undergraduates were not.

Batson and Schoenrade (1991a) reported evidence of a similar study conducted by Puff (1984) as part of a senior thesis. While seminarians in this study scored lower on Quest and higher on Intrinsic, the overall Quest mean remained significantly higher than the overall mean for undergraduates on this scale.

Batson and Schoenrade (1991a) next reviewed an unpublished master's thesis that examined scores on religious orientation between a traditional church group and a non-traditional, charismatic group. The non-traditional group was described as placing "emphasis on religion as shared search; some members spoke in tongues, and some prayed with hands raised" (Batson & Schoendrade, 1991a, p. 421). Both groups reported high interest in religion and frequent participation in religion. The two groups differed significantly in their scores on the Quest scale only. Scores were significantly higher on Quest for the non-traditional group than for the traditional group. As Quest is intended to measure a dimension of religion characterized by an open ended searching for answers without a reliance on traditional religion, Batson and Schoenrade (1991a) interpreted this study as further evidence of the validity of the Quest dimension. None of these studies have been published and thus were unavailable for analysis. In addition, Batson and Schoenrade (1991a) offered very little information concerning samples or methodologies used. Therefore, while some support regarding Quest's ability to discriminate between religious and non-religious groups was offered, the lack of information regarding these particular studies prevents closure on the matter.

Is Quest an artifact of age? An additional concern, that Quest may be an artifact of age, was raised by Watson, Howard, et al. (1988). In their study, 205

participants, ranging in age from 11 to 83 years, were selected at various functions sponsored by the Presbyterian denomination. Participants completed the ROS and the Religious Life Inventory (which includes the Quest scale items). Older participants scored higher on the Intrinsic scale than did younger participants, while younger participants scored higher on the Extrinsic and Quest scales. Furthermore, Quest was indirectly related to age suggesting that Quest may relate to an intermediate, less mature form of religion. Quest scores were highest among adolescents and young adults. The peak of Quest scores in late adolescence is consistent with the resolution of identity issues typical of individuals of this age. As an Intrinsic orientation was related positively to age, the authors suggested that Quest might operate as a precursor of an Intrinsic orientation.

Batson and Schoenrade (1991a) pointed out, however, that the younger participants in the Watson, Howard, et al. (1988) study were obtained from different institutions (i.e., Sunday School classes, church family activities) than were older participants (i.e., meeting of Presbyterian ministers). They stated that the results of this study were questionable, as age was confounded by the institution in which participants were gathered. Furthermore, Batson and Schoenrade (1991a) reviewed dissertation results from three studies that failed to find age related differences in Quest scores. They admitted that sample sizes (N = 20 at each age interval) and methods were less than desirable in these studies. However, they stated that the findings of the research, which failed to reveal a significant relationship between Quest and age, supported the view that Quest is not related to age nor is it a mere measure of sophomoric doubt. While Batson and Schoenrade (1991a) offered

evidence that Quest is unrelated to age, the data used to support this argument were based on unpublished dissertation results, again making analysis difficult. Clearly, further research examining the relationship of Quest to age seems warranted.

May Quest be better understood as a measure of anxiety, conflict, or doubt? An additional concern regarding Quest has been that it might be better understood as a measure of anxiety and/or conflict than as an orientation to religion characterized by an open-ending seeking of religious answers to existential questions. This issue was examined by Spilka et al. (1985). These researchers administered the Allport and Ross (1967) ROS and the Batson Interaction Scale (1976) to assess the religious orientations of 93 undergraduate students. The Edwards Social Desirability Scale (Edwards, 1957) was administered to assess social desirability. Several measures of cognitive complexity were utilized in addition to two cognitive performance measures.

There were no statistically significant differences in cognitive ability, flexibility, or creativity based on religious orientation. In other words, the Quest orientation was related to neither greater nor lesser amounts of cognitive ability, flexibility, or creativity than Intrinsic or Extrinsic orientations. Results did indicate a significant negative correlation between Quest and social desirability. The authors cited evidence that social desirability has been found to be negatively associated with anxiety, which in turn has been positively correlated with religious conflict. They hypothesized that the significant negative correlation between Quest and social desirability may indicate that Quest is better understood as a measure of religious conflict and anxiety rather than a constructive open-minded orientation (Spilka et al.,

1985). This conclusion seems somewhat unwarranted, as anxiety was not directly measured in this study.

Additional research has confirmed this hypothesized relationship between Quest and anxiety and/or conflict. For example, Nielsen and Fultz (1995) administered the Interactional Scale (Batson & Schoenrade, 1991b), the ROS (Allport & Ross, 1967), the Funk Religious Conflict Scale (Funk, 1967) and the revised 12-item Quest scale in their study of 182 introductory psychology students. Quest was found to positively correlate with religious conflict. Specifically, the doubt components of Quest correlated with conflict, leading the authors to conclude that the relationship between Quest and conflict stemmed from doubts that individuals with a Quest orientation had about their beliefs or religion. Conflict was found to correlate negatively with an Intrinsic orientation and positively with an Extrinsic orientation. Specifically, an Extrinsic orientation correlated positively with the Conflict Regarding Hell component of Funk's Religious Conflict Scale (Funk, 1967) while it correlated negatively with the Uncertainty Regarding Religious Beliefs component of this scale. The authors suggested that these results seem to indicate that Extrinsic individuals are not in conflict regarding their religious beliefs, but rather may experience some conflict and fear regarding the possibility of the existence of Hell.

The results concerning Quest and anxiety were confirmed by Kojetin et al. (1987). These researchers utilized three different samples for comparison purposes in their investigation. The first sample consisted of 104 undergraduates who indicated at least a moderate interest in religion. Fifty-three of these individuals indicated that they were Christian and that they attended church at least once a month. The second

sample consisted of 49 seminary students, and the third sample was made up of 85 adult members of the Church of Christ. Participants completed the Interactional Scale (Batson, 1976), the Quest Scale (Batson & Schoenrade, 1991b), the ROS (Allport & Ross, 1967), and the Funk Scale of Religious Conflict (Funk, 1967), as well as two measures of trait anxiety.

Results confirmed that Quest was significantly positively correlated with religious conflict and trait anxiety while Intrinsic and Extrinsic orientations were not correlated with religious conflict or anxiety. The authors suggested that the Quest's "designation as a faith of constructive and creative questioning could be more of a 'face' phenomenon than one of underlying substance…it may reflect a broad pattern of intellectual deviance from the American mainstream that marks Questers as different" (Kojetin et al., 1987, p. 114).

Even more evidence linking Quest to anxiety/conflict was found by Watson et al. (1992). These researchers administered the Religious Life Inventory (Internal, External, Quest and Orthodoxy scales) (Batson, 1976), the revised Quest Scale (Kojetin et al., 1987), the ROS (Allport & Ross, 1967), the Costello and Comrey Depression and Anxiety instruments (Costello & Comrey, 1967), and the Rosenberg (1965) Self-Esteem Scale to 300 undergraduate psychology students. Results indicated that the Intrinsic scale and related measures predicted adaptive psychological functioning while the Extrinsic scale was associated with maladjustment. Quest predicted identity diffusion rather than identity formation as well as diminished autonomy and greater anxiety. Analyses further revealed that the Quest items were viewed as anti-religious for a sample of Intrinsic subjects. The

authors concluded that "Quest as conceptualized in the ideology of its construction received no support as an adaptive form of religiousness. In fact, it was associated with greater anxiety, less autonomy, and identity diffusion in the full sample" (Watson et al., 1992, p. 425). This research certainly raises questions regarding the validity of Quest as conceptualized by Batson (1976). How can Quest be an orientation toward, or a motivation for, religion when it is characterized more by religious doubts and conflict regarding religious beliefs than it is by religious commitments?

In responding to these specific criticisms, Batson and Schoenrade (1991a) pointed out that while Quest is significantly correlated with religious conflict, the two concepts load on different factors, indicating that they are two separate dimensions of questioning or conflict. They stated that Quest seems to be measuring " a more active search in which doubts are central and, although they produce some anxiety, are viewed as positive and not simply as a threat" (Batson & Schoenrade, 1991a, p. 425).

Batson and Schoenrade (1991a) also responded to concerns that Quest is a measure of religious doubt or agnosticism. They indicated that although there has been generally a low negative correlation between Quest scores and scores on the Orthodoxy scale, these correlations were not strong enough to assume that Quest is a measure of agnosticism. They suggested that:

> Much room is left for high scorers on the Quest scale to have strong beliefs and low scorers to have weak beliefs. Indeed, it is almost as likely, but not quite, that high scorers on the Quest scale will have relatively strong orthodox beliefs as that they will have relatively weak beliefs (Batson & Schoenrade, 1991a, p. 422).

Since there was not a strong negative correlation between Quest and the Orthodoxy scale, Batson and Schoenrade (1991a) concluded that Quest does not measure agnosticism. This conclusion regarding the relationship between Quest and orthodoxy does not necessarily seem to rule out the possibility that Quest may be related to agnosticism. As with many of the concerns regarding the validity of Quest, the concern that Quest may relate to anxiety, conflict, or doubt seems to remain unsettled in the literature.

Does Quest predict disinterest in religion? Perhaps of greater concern than the fact that Quest may relate to anxiety and/or doubt is the fact that in the Watson et al. (1992) study, participants who indicated an interest in religion rated the items on the Quest scale as "anti-religious." One would not expect a religious scale to be viewed as anti-religious by a group of religious individuals. This concern was confirmed in the Watson et al. (1998) study. These researchers administered the following scales to 679 undergraduate introductory psychology students: the ROS (Allport & Ross, 1967), the Interactional Scale (Batson, 1976), the Quest Scale (Batson & Schoenrade, 1991b), the Kojetin et al. (1987) revised Quest scale, the Rosenthal Identity Scale (Rosenthal, Garney, & Moore, 1981), the Ochse Identity Scale (Ochse & Plug, 1986), and the Ethics Position Questionnaire Idealism and Relativism subscales (Forsyth, 1980). After completing all of these instruments, participants were asked to rate the items of the Quest scale according to how they conformed to their religious beliefs. Quest correlated positively with Extrinsicness and Relativism and negatively with religious interest, Intrinsicness, Idealism, and Identity. The authors concluded the following:

> Every measure of Quest displayed a significant inverse correlation with the religious interest ratings. Quest, however, theoretically is central to the

> mature religious search for meaning. How can a search for meaning that predicts a disinterest in religion be described as religious?….Quest scales do not operationalize a religious dimension, but instead record some type of agnosticism (Watson et al., 1998, p. 161).

Watson, Morris, Hood, Miller, and Waddell (1999) also found significant negative correlations between Quest and religious interest leading them to observe:

> … it is an interesting problem to explain how a religious motivation scale could predict a disinterest in religion and still be valid. Inverse Quest correlations with religious interests have been reported previously and clearly suggest that Quest may not be a valid measure (p. 206).

These researchers raise important concerns. Just as measures of personality would be expected to correlate with one another, or measures of intelligence to correlate with one another, one would likewise expect valid measures of religion to correlate with one another. Quest, however, has failed to meet the criterion of construct validity in this way. In fact, it has not only failed to correlate as expected with theoretically related measures, but actually has been found to correlate negatively, reflecting *disinterest* in religion in general. It is questionable that Quest could be a valid third orientation of religion in light of such compelling evidence challenging its construct validity.

In a similar line of research, McFarland and Warren (1992) found that Quest not only predicted disinterest in religion, but that it was also predictive of a desire to read anti-religious articles. These researchers, using a sample of 102 adult Christian fundamentalists, administered a questionnaire consisting of three items of McFarland's (1989) Fundamentalism scale, the Allport and Ross ROS, and all four versions of the Quest scale (i.e., Interactional Scale, Quest Scale, Altemeyer and Hunsberger (1992) revision and Spilka et al. (1985) revision). Participants also read the titles, authors and abstracts of 24 articles. Six of the articles supported a

fundamentalist belief and six opposed the same belief. The remaining twelve articles were on non-religious topics. The sample consisted of acquaintances of junior and senior psychology students in rural areas of Kentucky and Tennessee. Intrinsic religion was found to correlate positively with the desire to read pro-fundamentalist articles, or belief-supporting articles, and unrelated to the desire to read anti-fundamentalist articles. Extrinsic religion, on the other hand, was negatively related to the desire to read pro-fundamentalist articles. All four measures of Quest were positively related to the desire to read anti-fundamentalist articles. Two of the Quest scales (Altemeyer & Hunsberger,1992; Batson & Schoenrade, 1991b) were positively related to the desire to read pro-fundamentalist articles while the Batson and Ventis (1982) and the Kojetin et al. (1987) Quest scales were unrelated to desire to read pro-fundamentalist articles.

In a stepwise regression, Intrinsic religion explained the most variance in desire to read pro-fundamentalist articles. A similar stepwise regression looking at desire to read anti-fundamentalist articles indicated that only Quest was related. Although these findings must be interpreted with some caution due to the instability of results that are generated by step-wise procedures, results suggest that Quest predicts a desire to read everything, including belief-contradictory information, belief-confirming information, and non-religious articles. Although the authors concluded that this study lends support to the idea that Quest is a measure of open-minded truth seeking, they admitted that Quest may also reflect a broad desire to explore important issues, whether religious or otherwise. They stated that “In part,

but not completely, Quest reflects a broader disposition or general personality style" (McFarland & Warren, 1992, p. 172).

Is Quest a valid measure of religious orientation? While there has been a fair amount of research in this area, there does not appear to be a consensus in the literature concerning the validity of the Quest orientation. Support was found for the idea that Quest measures something different than do Intrinsic or Extrinsic orientations (Batson & Schoenrade, 1991a). Support was also found for the notion that Quest relates to greater religious cognitive complexity (Batson & Raynor-Prince, 1983) and higher levels of moral reasoning (Sapp & Gladding, 1989). Finally, evidence was found that religious individuals scored higher on Quest than did non-religious individuals and that non-traditional religious groups scored higher on Quest than did traditional religious groups (Batson & Schoenrade, 1991a), lending some weight to the validity of Quest.

However, fairly serious concerns regarding the methodologies used in this research have been raised. Donahue (1985) summarized many of these concerns. First, he discussed the nature of the samples used. Sample sizes were far too small (average of 50), and most of the participants were college students, limiting the generalizability of findings. Perhaps more importantly, participants were chosen because they indicated at least a moderate degree of interest in religion. This likely resulted in truncation of the samples used, further limiting generalizabilty of results and fueling questions regarding the validity of the findings. Additionally, Donahue (1985) raised concerns about the correlational nature of the research and the potential for missing curvilinear relationships. Furthermore, some of the research was

unavailable for analysis due to the fact that it has not been published, and the authors reviewing these articles did not offer enough information concerning the nature of the research reported to allow valid conclusions to be drawn.

In addition to the methodological concerns with the research supporting the validity of Quest, there is also considerable empirical evidence that directly challenges the validity of Quest. There is evidence that Quest correlates with religious conflict rather than religious affiliation (Spilka et al., 1985; Kojetin et al., 1987; Nielsen & Fultz, 1995) and that Quest is not correlated with existential questioning (Watson, Hood, et al., 1988). Quest has also been found to correlate with identity diffusion (Watson et al., 1992), and its items have been described as anti-religious by religious subjects (Watson et al., 1992). Negative correlations have been found between Quest and various measures of religious interest (McFarland & Warren, 1992; Watson et al., 1998). There is also evidence that Quest scores decline with age while Intrinsic orientation scores display the opposite relationship (Watson, Howard, et al., 1988).

As with the body of literature supporting the validity of Quest, there are also methodological concerns with this research. Much of this research has also been correlational in nature and has relied on college student samples. However, all of these articles had been published and thus were available for analysis and review of methodology. Sample sizes were also generally larger.

Religion and Personality Styles

Quest clearly measures something different than is measured by either an Extrinsic or Intrinsic orientation. However, if Quest does not measure a third

orientation to religion, it is important to clarify what it does measure. One possibility is that Quest measures one or more dimensions of personality. Perhaps, as McFarland and Warren (1992) suggested, "In part, but not completely, Quest reflects a broader disposition or general personality style" (p. 172). Although there have been a few studies that have examined Intrinsic and Extrinsic orientations and personality, only two studies were found that examined the relationship between Quest and personality (Joseph et al., 2002; Kosek, 1997). Therefore, a review of the personality literature as it applies to Extrinsic and Intrinsic orientations will also be included.

Intrinsic and Extrinsic Religious Orientations and Personality. McClain (1978) was one of the first researchers to examine the relationship of religious orientation and personality. He observed that most of the research that examined personality and religion has viewed religion as a unitary construct, with individuals either being religious or non-religious. Much of this research has indicated that religious individuals tend to have lower associations with psychoticism, defined as a lack of impulse emotional, including dimensions such as aggression, coldness, egocentricity, and impulsivity.

To explore how these findings might differ based on religious orientation, McClain (1978) administered the 16 Personality Factor Inventory (Cattell & Eber, 1962) the Edwards Personal Preference Schedule (Edwards, 1959), the California Personality Inventory (Gough, 1957), and the ROS to 438 students in a mental health class. This class was composed of primarily fourth and fifth year undergraduates.

A principal components analysis revealed eight personality factors: achievement, self-control, social adequacy, affiliation, egocentric sexuality,

restlessness, and stereotyped femininity. Intrinsic religiosity was associated with higher self-control, personal and social adequacy, and stereotyped femininity, while an Extrinsic orientation was associated with egocentric sexuality and restlessness. McClain (1978) concluded that these results support the idea that religious orientations are associated with certain personality traits, with Intrinsic being associated with more positive traits than Extrinsic.

Further evidence that religious orientations may be associated with certain personality traits, specifically that an Intrinsic orientation correlates with positive personality characteristics and an Extrinsic orientation correlates with negative personality characteristics, was found by Kahoe (1974). Kahoe (1974) administered the following scales to 333 freshmen at a Midwestern university: The Dogmatism Scale (Rokeach, 1960), the *F* scale from the Authoritarian Personality Scale (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950) the Responsibility scale from the California Psychological Inventory (Gough, 1957), the Rotter Internal-External Locus of Control Scale (Rotter, 1966), and the Allport and Ross (1967) ROS. This researcher also obtained information about freshman GPA and ACT scores to include in his analysis. The F Scale and the Dogmatism Scale had significant positive correlations with an Extrinsic orientation and no relationship with an Intrinsic orientation. Responsibility and an internal locus of control were correlated positively with an Intrinsic orientation and not at all with an Extrinsic orientation. The relationship between an Intrinsic orientation and an internal locus of control supports McClain's (1978) finding of a relationship between greater personal control and an Intrinsic orientation.

Religious Orientation and Psychopathology. In addition to examining the relationship between religious orientation and normal personality, some researchers have investigated the relationship between religious orientation and psychopathology. Given the above results linking an Intrinsic orientation to more positive qualities than an Extrinsic orientation, it would seem likely that an Intrinsic orientation would be less associated with psychopathology than an Extrinsic orientation. One such example was found in the Watson, Morris, Hood and Biderman (1990) study. These researchers investigated the relationship between pathological narcissism and religious orientation. They stated that pathological narcissism is "a dependency in which individuals demand that others confirm the perfection of their self in order to maintain tolerable self-esteem" (Watson et al., 1990, p. 40). These researchers believed that a committed form of religion, such as an Intrinsic orientation would be related to less of this type of narcissism.

Eight hundred fifty introductory psychology students took part in this study, completing the ROS and the Narcissistic Personality Inventory (Raskin & Hall, 1981). Results confirmed the authors' hypothesis; Intrinsically motivated individuals scored significantly lower than Extrinsically oriented individuals on pathological narcissism, once again linking positive personality characteristics more to an Intrinsic orientation than to an Extrinsic orientation.

An additional study looking at religious orientation and psychopathology was reported by Joseph et al. (2002). These researchers looked at the relationship of all three religious orientations (i.e., Quest, Intrinsic, and Extrinsic), personality, schizotypal traits, and manic-depressive experiences. One hundred eighty community

volunteers completed the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), Claridge's Schizotypal Traits Questionnaire (Claridge & Broks, 1984), Thalbourne's Manic-Depression scale (Thalbourne, Delin, & Bassett, 1994), and the Batson and Ventis (1982) Religious Life Inventory (including the Interactional Scale).

In this study, Intrinsic and Extrinsic orientations were significantly and negatively correlated with scores on psychoticism. However, unlike the other measures of committed religion, Quest was found to be significantly and positively correlated with psychoticism (i.e., aggression, coldness, egocentricity, and impulsivity). These authors noted that:

> Inspection of the items composing the Quest scale do not suggest that this is simply a measure of religious experience, although it is possible that those endorsing items of the Quest scale are more likely to have had religious experiences (Joseph et al., 2002, p. 79).

Although it is difficult to draw definite conclusions as to why Quest might correlate with psychoticism, what is of concern is that Quest again failed to perform as would be expected of a religious measure (i.e., failed to correlate with psychoticism).

Religious Orientation and Eysenck's Personality Dimensions.

With the exception of the studies reviewed above, the majority of research in the area of personality and religious orientation has utilized Eysenck's personality dimensions. Eysenck and Eysenck (1975) believed that there are three independent personality dimensions: extraversion, neuroticism, and psychoticism. Extraversion measures sociability and impulsivity; neuroticism measures emotional instability and includes things such as anxiety, depression, low self-esteem, and tension; and

psychoticism measures lack of impulse control, including dimensions such as aggression, coldness, egocentricity, and impulsivity. Eysenck hypothesized that there would be a negative relationship between Extraversion and religiosity. Eysenck likened religious values to tenderminded attitudes that "incorporate ethical and religious ideas that tend to thwart the desire for immediate gratification of aggressive and sexual impulses" (cited in Robinson, 1990, p. 915). This association with tender minded attitudes would result in a negative relationship between religion and extraversion. Indeed, much of the research has born out the negative relationship between extraversion and religiosity, particularly when attitude toward religion scales were used (Maltby, Talley, Cooper, & Leslie, 1995).

Francis, Pearson, Carter, and Kay (1981) hypothesized that it is the aspect of impulsivity in extraversion that has resulted in its negative relationship with religion. These researchers further speculated that psychoticism, due to its relationship with impulsivity, would also have a negative relationship with religion. Robinson (1990) administered the ROS and the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) to 194 introductory psychology students to examine this hypothesis. Results indicated that there was a significant relationship between psychoticism and impulsivity and an Extrinsic orientation and no relationship between these variables and an Intrinsic orientation, supporting the ideas outlined by Francis et al. (1981).

This line of research was continued by Maltby et al. (1995). Using a sample of 324 adults in communities in North Carolina, these researchers administered the Francis Scale of Attitude toward Christianity (Francis & Stubbs, 1987), the ROS, and the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) in an attempt to

replicate the above results. These researchers also found that an Intrinsic orientation, along with other measures of committed religiosity, such as personal prayer and religious attitude, had a negative correlation with psychoticism. Extending this research to a sample of 1,040 adults in the United Kingdom and the Republic of Ireland, Maltby (1999a) also found a negative relationship between an Intrinsic orientation and psychoticism. Similar findings were also reported from students from Sheffield Hallam University and the University of Ulster (Maltby, 1999b).

The evidence of a negative relationship between all forms of committed religion and psychoticism appears to be consistent in the literature. These findings make the results of Joseph et al. (2002) study of concern. As already stated, these researchers found a positive relationship between Quest and psychoticism. If Quest is a valid measure of religion, it is difficult to understand why it correlated positively with a trait that generally correlates negatively with committed forms of religion (i.e., psychotocism).

Religious Orientation and the NEO-PI. Overall, Taylor and MacDonald (1999) concluded that the literature examining Eysenck's personality model and religiosity has demonstrated that there is a negative relationship between extraversion and religion, that neuroticism is unrelated to religion, and that there is a negative relationship between religion and psychoticism. These researchers related Eysenck's personality dimensions to the NEO-PI. The NEO-PI is a well-known and widely used measure of personality that is based on the five-factor model of personality. The five-factor model of personality expands Eysneck's personality theory and postulates that there are five independent components of personality: extraversion, neuroticism,

openness to experience, conscientiousness, and agreeableness. Similar to Eysneck's theory, extraversion is characterized by sociability, affection, friendliness, and talkativeness while neuroticism is characterized by worry, insecurity and self-consciousness (McCrae & Costa, 1987). In addition, openness to experience is characterized by terms such as original, daring, and imaginative; conscientiousness is associated with self-control, ambition, and perseverance, and agreeableness is characterized by terms such as trusting, sympathetic, and cooperative (McCrae & Costa, 1987).

Taylor and MacDonald (1999) noted that the Eysenck personality dimensions and the NEO-PI have been shown to correlate with one another. Specifically, neuroticism as measured by Eysneck's Personality Questionnaire correlates positively with neuroticism as measured by the NEO-PI. Similarly, extraversion as measured by Eysneck's Personality Questionnaire correlates positively with extraversion as measured by the NEO-PI. Psychoticism, as measured by Eynseck's Personality Questionnaire is inversely correlated with agreeableness and conscientiousness as measured by the NEO-PI. Openness to experience has not been demonstrated to correlate with any of Eysneck's personality dimensions. Therefore, based on research indicating negative relationships between psychoticism and measures of religiosity and the inverse relationship demonstrated between psychoticism and agreeableness and conscientiousness, high scores on measures of religiosity should correlate with high scores on agreeableness and conscientiousness as measured by the NEO-PI. Also based on previous research findings, measures of religiosity should continue to

demonstrate negative relationships with scores on extraversion, while there should be a lack of correlation between religious measures and neuroticism.

Prior to the Taylor and McDonald (1999) study, no research had examined the relationship between the NEO-PI and measures of religiosity. These researchers looked specifically at the relationship of the NEO-PI to religious orientation, religious affiliation, and religious involvement. Participants were 1,129 introductory psychology students at the University of Windsor. Results indicated a significant positive relationship between an Intrinsic orientation and agreeableness and conscientiousness. In fact, agreeableness and conscientiousness were significantly and positively correlated with all affiliations of religion and religious involvement. Again, conscientiousness has been characterized by words such as self-control, ambition, and perseverance, while agreeableness has been characterized by words such as trusting, sympathetic, and cooperative. This research suggests that religious affiliation is positively associated with these traits. If all religious affiliations are associated with these two variables, one would expect other measures of religious beliefs or involvement to also correlate significantly with these latter two scales.

Only one study was identified that examined the relationship of a Quest orientation to the five-factor model of personality (Kosek, 1997). Participants in this study were 104 middle school students recruited from a Warsaw middle school. The measures were administered during a religion class. Measures used included the Polish version of the Swedish Religious Orientation Scale (Hovemyr, 1994) and the Polish Adjective Checklist (Szarota, 1995). The Swedish Religious Orientation Scale is a twenty-eight-item scale combining the ROS (Allport & Ross, 1967) and Batson's

(1976) Interaction scale. The Polish Adjective list was administered to measure the five-factor model of personality. In this study, both Quest and Intrinsic orientations correlated significantly with agreeableness and conscientiousness while an Extrinsic orientation correlated significantly with only extraversion. These correlations are consistent with what would be expected of a religious measure based on previous research findings (i.e., positive correlations with agreeableness and conscientiousness).

There were some obvious limitations associated with this study. For instance, the sample was limited to a narrowly defined age group. Participants were enrolled in a religion class, which may suggest that they had a higher interest in religion than students in general. In addition, the instruments used are of concern. The version of the ROS used has not been widely used and, thus, little is known regarding its validity. Finally, the researchers did not use the NEO-PI itself in their investigation, but instead used an adjective checklist as a substitute. The authors offered little information concerning the validity of this instrument as a substitute for the NEO-PI, and this was not a substitution found elsewhere in the literature. Collectively, these factors raise serious concerns regarding the generalizability of findings obtained in this study.

The literature examining the relationship between religious orientation and personality is very small and the literature examining religious orientation and the five-factor model is even smaller. With the exception of two studies, most of the literature in this area has concerned the relationship between personality styles and Intrinsic and Extrinsic orientations. The research seems to indicate that there is some

relationship between these variables. For instance, there appears to be a negative relationship between extraversion and religion, no relationship between neuroticism and religion, a negative relationship between psychoticism and religion, and positive relationships between committed forms of religion (i.e., Intrinsic orientation) and agreeableness and conscientiousness (Taylor and MacDonald, 1999).

Only two of these studies examined Quest as it relates to the five-factor model of personality. Although one of the studies indicated that Quest related to the five-factor model in a similar fashion to other measures of religion (i.e., positive correlations with agreeableness and conscientiousness), there are serious concerns with the methodology of this study (Kosek, 1997). Furthermore, there was no research identified that utilized the NEO-PI and the Quest scale. Clearly, further research examining the relationship of the Quest scale with the five-factor model of personality is warranted. The purpose of the current study is to explore whether the Quest scale may be better conceptualized as a measure of personality than as a religious orientation by examining its relationship to the five dimensions of the five-factor model as operationalized on the NEO-PI. Specifically, the research question addressed by this study is "What is the relationship between a linear combination of personality dimension on the NEO-PI and Quest scores in a sample of undergraduate students?"

Method

Participants

Participants will be volunteers selected from the University of Oklahoma psychology subject pool. Based on a power analysis, a convenience sample of approximately ninety-eight participants over the age of eighteen will be utilized. Participants will receive course credit for their participation in this study. No other benefits or risks are expected during the completion of this project. Participation will require approximately 30 minutes to an hour.

Instruments

Two instruments will be administered for the purposes of this study, the NEO-FFI (short form of the NEO-PI) and the Quest Scale. In addition, a demographic information sheet (Appendix E) will be completed.

The Quest Scale (Batson & Schoenrade, 1991b). The Quest contains 12 items presented on a nine point Likert scale ranging from strongly agree to strongly disagree. Batson and Schoenrade (1991b) developed the Quest scale utilized here as a revision of their previous six-item Interactional scale. Their purpose in revising the original scale was to enhance the internal consistency reliability of scores obtained from the scale. The new Quest scale had an internal-consistency reliability of .78 and correlated .86 with the original scale. Test-retest reliability (r = .63) was reported in only one study of undergraduate psychology students (Batson & Schoenrade, 1985).

Questions regarding the validity of this scale remain unsettled in the literature. Quest has been demonstrated to relate to religious cognitive complexity (Batson & Raynor-Prince, 1983), higher moral reasoning (Sapp & Gladding, 1989), and to

measure something different than is measured by either the Extrinsic or Intrinsic orientation scales. Batson & Schoenrade, 1991a). However, there have been persistent concerns regarding the construct validity of this instrument (Donahue, 1985). It has also been hypothesized that it is better understood as a measure of anxiety or conflict (Spilka et al., 1985; Kojetin et al., 1987: Nielsen & Fultz, 1995), that it is an artifact of age (Watson, Howard, et al., 1988), and that it predicts dis-interest in religion (McFarland & Warren, 1992; Watson et al., 1998). Further research is needed in this area

The NEO-FFI (McCrae & Costa, 1987*).* The NEO-FFI contains 60 items presented on a five point Likert scale ranging from strongly agree to strongly disagree. The instrument takes approximately 10-15 minutes to complete. The NEO-FFI is a shortened version of the NEO-PIR. The first version of the NEO PIR was developed in 1978 as the NEO Inventory. This inventory measured the domains of neuroticism (N), extraversion (E), and openness to experience (O). In 1983, items measuring agreeableness (A) and conscientiousness (C) were added. Finally, in 1990 additional A and C items were added as well as some modifications to N, E, and O items resulting in the current NEO-PIR (Costa & McCrae, 1992).

Neuroticism is characterized by worrying, insecurity, and self-consciousness. It includes not only negative affect, but also disturbed thoughts and behaviors. Extraversion is characterized by words such as sociable, fun loving, affectionate, friendly, and talkative. Openness to Experience is characterized by originality, imagination, broad interests, and risk taking (McCrae & Costa, 1987). Agreeableness has been referred to as a continuum from compassion to antagonism and refers to the

quality of social interactions an individual may have with others. Conscientiousness is referred to as an aspect of character and ego strength. Words such as will power, initiative, need for achievement, moral scrupulousness and responsibility have been used to describe this construct (Costa, McCrae, & Dye, 1991).

Preliminary validity was supported by correlations between the original scale and the NEO-FFI ranging from .77 to .94. Convergent validity has also been demonstrated by positive correlations with other measures of the five-factor model such as the California Q-Set (Block, 1961) and the Hogan Personality Inventory (Hogan, 1986). In addition, expected correlations have been found with adjective checklists and sentence completion tests, yielding further evidence of the validity of the NEO-FFI. Test-retest reliabilities range from .63 to .83. The NEO-FFI has been widely used in the literature and is accepted as a reliable and valid measure of the five-factor model (Costa & McCrae, 1992).

Procedure

A description of the study will be posted on the University of Oklahoma's Experimetrix web page, which is a web site designed to coordinate undergraduate psychology students' participation in research projects. A date and a place for completion of the study will be included in this description. Upon arriving for the study, participants will be given a research packet including a consent form, the demographic information sheet, the NEO-FFI, and the Quest scale. The inventories, consent form, and demographic information sheet will be randomly ordered in the packets and numbered. Participants will be instructed not to write their name or any identifying information on any of these testing materials in order to ensure

confidentiality. Participants will sign a sign-out sheet upon completion of the study so that they may receive class credit for their participation. Participants will also be given a number to call should they have any questions regarding their participation or the results of the study.

Research Question

This study will examine the relationship of Quest to the dimensions of the Five-Factor model represented in the NEO-PI. The research question to be addressed is "What is the relationship between a linear combination of personality dimensions of the NEO-PI and Quest scores in a sample of undergraduate students?"

Data Analysis

In order to address the research question, a multiple regression analysis will be performed predicting Quest scores from a linear combination of the NEO-FFI scales.

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Appendix A

Interactional Scale

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

1. I have been driven to ask religious questions out of a growing awareness of the tensions in my world and in my relation to my world.
2. My religious development has emerged out of my growing sense of personal identity.
3. God wasn't very important to me until I began to ask questions about the meaning of my own life.
4. It might be said that I value my religious doubts and uncertainties.
5. Questions are far more central to my religious experience than are answers.
6. I do not expect my religious convictions to change in the next few years.

Appendix B

Quest Scale

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

13. As I grow and change, I expect my religion also to grow and change.
14. I am constantly questioning my religious beliefs.
15. It might be said that I value my religious doubts and uncertainties.
16. I was not very interested in religion until I began to ask questions about the meaning and purpose of my life.
17. For me, doubting is an important part of what it means to be religious.
18. I do not expect my religious convictions to change in the next few years.
19. I find religious doubts upsetting.
20. I have been driven to ask religious questions out of a growing awareness of the tensions in my world and in my relation to my world.
21. My life experiences have led me to rethink my religious convictions.
22. There are many religious issues on which my views are still changing.
23. God wasn't very important to me until I began to ask questions about the meaning of my own life.
24. Questions are far more central to my religious experience than are answers.

Appendix C

Kojetin, McIntosh, Bridges, & Spilka (1987) Quest Scale

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

1. Education has led me to question some teachings of my church.
2. I am actively trying to decide by reading or other means what the truth is about religion.
3. It might be said that I value my religious doubts and uncertainties.
4. I have been driven to ask religious questions out of a growing awareness of the tensions in my relation to the world.
5. Questions are far more central to my religious experience than are answers.
6. My religious development has emerged out of my growing sense of personal identity.
7. I do not expect my religious convictions to change in the next few years.
8. I feel that I shouldn’t question my religion, but I sometimes do anyway.
9. I sometimes wonder just what life is all about and why we are here.

Appendix D

Altemeyer & Hunsberger (1992) Quest Scale

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

1. It might be said that I value my religious doubts and uncertainties.
2. It is better for a person's religious beliefs to be firm and free of doubt.
3. You don't find the true religion by studying all the facts in the universe; you find it by praying to God for grace, humility and enlightenment.
4. Religious doubts allow us to learn.
5. When my religious beliefs are challenged by famine, disease, and other evils in the world, it only makes me believe in God's goodness more fervently than ever.
6. My religious beliefs may change in the future as I mature and learn.
7. Religion should just be an aspect of a more basic quest to discover the truth about everything, without prejudice and taking nothing on faith.
8. My religious beliefs are far too important to me to be jeopardized by a lot of skepticism and critical examination.
9. The point of life is to search for the truth, with as open a mind as you can, NOT to memorize the "eternal truth" that have been handed down from generation to generation as matters of faith.

10. I am glad my religious beliefs are based upon faith; it would not mean as much to God, and to me, if these beliefs could be “scientifically proven” beyond a doubt.
11. We were NOT put on the earth to “search for the truth, whatever it is” but instead to live our lives according to the revealed word of God.
12. If an honest quest for the truth leads to the conclusion that there is no God, then that is what one must conclude.
13. The human mind is too limited to discover God and the Truth by itself: we simply have to accept the truths that have been revealed.
14. The real goal of religion ought to be to make us wonder, think, and search, NOT take the word of some earlier teachings.
15. When my religious beliefs are challenged by personal unhappiness, or by some clever argument, it just makes me believe stronger than ever.
16. My goal is to discover the truth, even if that means changing my religious beliefs.

Appendix E

Demographic Questionnaire

8. Age _____

9. Gender _____

10. Ethnicity _____

11. Class Rank _____

12. Major _____

13. Religious affiliation _____

14. Frequency of church attendance

    a. More than once a week.

    b. Once a week.

    c. More than once a month.

    d. Once a month.

    e. More than once a year.

    f. Less than once a year.

    g. Never.