

**Religion, Open-mindedness and Work Orientation
Among College Students from Secular and Religious Settings**

By

Jeffrey Stanley Korchoski

A Thesis

Submitted to the Faculty of Graduate Studies

In Partial Fulfillment of the Requirements

For the Degree of

MASTER OF ARTS

Department of Psychology

University of Manitoba

Winnipeg, Manitoba



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from Secular and Religious Settings**

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Jeffrey Stanley Korchoski

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree**

of

Master of Arts

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Acknowledgements

I wish to acknowledge the contribution of several people who were instrumental in the completion of this research. To my committee members: Dr. Shirin Schludermann, Dr. Eduard Schludermann, and Dr. David Creamer – a special thanks for your time, patience, expertise and invaluable input. I would particularly like to thank my advisor, Dr. Shirin Schludermann for her assistance, and Dr. Eduard Schludermann for his assistance in interpreting the statistical data. I would also like to thank Ian Clara for his assistance with the statistical analyses. I would like to thank the staff and students of Concord College, Canadian Mennonite Bible College, William and Catherine Booth College, and Providence College for providing me with subjects. I would also like to thank Cheryl Thorlakson for her help in collecting data.

Abstract

This study attempted to explore the relationship between religion, open-mindedness, and work orientation. Participants were 485 students enrolled in introductory psychology at a large secular university and 69 students enrolled in four small religious colleges. Participants completed a variety of questionnaires on religion, open-mindedness and work orientation. Open-mindedness was assessed as both a 'cognitive style of reasoning' and a 'personality trait'. When the data was analysed, Social Commitment was found to correlate positively with Intrinsic Religiosity, Christian Orthodoxy, Horizontal Faith, and Faith Global 2. Horizontal Faith was found to correlate with Tolerance, Social Change and Social Adequacy. Global Faith 2 also correlated with Tolerance, Social Change and Social Adequacy. When open-mindedness was viewed as a personality trait, Openness correlated positively with Religious Maturity, Horizontal Faith and Global Faith 2. In the area of Work Orientation, a significant correlation was found only between Horizontal Faith and Work Orientation. Finally, comparisons were made between the university student sample and the religious college student sample using a series of one-way ANOVA's. The religious college sample tended to score higher than the university sample on Intrinsic Religiosity, Christian Orthodoxy and Horizontal Faith.

Introduction

Adolescence has been considered by many researchers to span the period from about 12 years of age to 22 years of age. Some of the most dramatic and permanent changes in life usually occur during these ten short years. The individual is transformed from one who is still living at home, going to school and obeying parents, to an adult who earns a living and is striving to take control of his or her life (Dobson, 1995). Most of the decisions that will shape the life of the individual are made during this decade. These may include a choice of occupation, the decision to marry and the establishment of values and principles by which life will be governed.

There are, of course, many resources to which adolescents can turn for guidance and assistance. These may include parents, peers, educational institutions and organised religion.

The Conceptualisation of Religion

Few human concerns are more seriously regarded than religion. "People surround themselves with spiritual reference, making it a context in which the sacred is invoked to convey the significance of every major event in life" (Hood, Spilka, Hunsberger & Gorsuch, 1996; p. 1). Birth may be sanctified by baptism, or christening. Clergy

solemnises marriages, and even those who don't embrace religion formally are ultimately united with it through death.

When researchers first began to study religion, they measured it solely by church attendance. Whether you went to church seemed to influence your whole realm of religious beliefs and attitudes. It wasn't long before researchers began to subscribe to the idea that religion is complex and multidimensional. "To date, many different forms and types of religion have been proposed, and all have been criticised and praised with many having spawned a great deal of research" (Hood, Spilka, Hunsberger & Gorsuch, 1996; p. 24). The researcher should keep in mind that certain types of proposed measures might imply value judgements suggesting "good" or "bad" religion from the standpoint of religious educators and even psychologists. Despite some of these problems, the scheme proposed by Gordon Allport which identifies "Intrinsic" and "Extrinsic" forms has proven quite fruitful in stimulating research (p. 24).

Intrinsic and Extrinsic Orientation

Religious orientation is centred on people's motivations toward religion, as opposed to degree of religiosity (Allport & Ross, 1967; Hood, 1970; Watson, Morris & Hood, 1990). Allport and Kramer (1946) first proposed this distinction. In their study of traditional Christian groups, (e.g., Catholics) they found that these particular groups showed more prejudice than nonmembers despite Christianity's emphasis on love and brotherhood (Spilka, Hood & Gorsuch, 1985). Allport hypothesised that two different

motivations lead people to being religious. He identified these as Intrinsic and Extrinsic.

Persons with the “Extrinsic orientation” are:

Disposed to use religion for their own ends. The term is borrowed from axiology, to designate an interest that is held because it serves other more ultimate interests. Extrinsic values are always instrumental and utilitarian. Persons with this orientation may find religion useful in a variety of ways—to provide security and solace, sociability and distraction, status and self-justification. The embraced creed is lightly held or else selectively shaped to fit more primary needs. In theological terms the Extrinsic turns to God, but without turning away from self (Allport & Ross, 1967; p. 434).

On the other hand, persons with the “Intrinsic orientation” find their master motive in religion:

Other needs, strong as they may be, are regarded as less significant, and they are, so far as possible, brought into harmony with the religious beliefs and prescriptions. Having embraced a creed the individual endeavours to internalise and follow it fully. It is in this sense that he or she lives their religion (Allport & Ross, 1967; p. 434).

When Allport and Ross conducted their original study to determine peoples motivation for religion, they found what many others researchers found (e.g., Bass, 1955; Chapman & Brock, 1958; Chapman & Campbell, 1959; Christie, 1954, Jackson & Messick, 1957). Some of their subjects were provokingly inconsistent in response to the test items. The subjects of Allport and Ross persisted in endorsing any or all items that to them seemed favourable to religion in any sense. Therefore, two more typologies were

added. The first is the “Indiscriminately Proreligious”. This refers to subjects who, on the intrinsic scale, score at least 12 points less than the extrinsic (Allport & Ross, 1967). The other typology is the “Indiscriminately Antireligious” or nonreligious. This includes those individuals who show a strong tendency to disagree with items on both scales (Allport & Ross, 1967). In their original sample, nonchurchgoers were excluded so no cases of nonreligious individuals were found. However, Allport and Ross (1967) note that pilot work with markedly liberal groups indicated that this type does exist even among members of so called “religious” organisations.

Since Allport and Ross’s original article, various writers have offered further interpretations of religious orientation. For instance Hood (1971) linked the institutional aspects of religion to the Extrinsic orientation and the personal experiential aspect of religion to the Intrinsic orientation. Kirkpatrick and Hood (1990) have argued that the notion of religious orientation, as well as the concepts of Intrinsic and Extrinsic dimensions are both conceptually and empirically poorly delineated. They concluded from a review of the literature that the Intrinsic orientation generally refers to religious commitment while the Extrinsic is best referred to as a utilitarian selfish motivation. Donahue (1985) came up with different terms for the Extrinsic and Intrinsic orientations referring to the Intrinsic as a “meaning endowing framework” and the Extrinsic as that of “comfort and social convention” (p. 400).

Researchers also have various opinions as to whether assessment of the religious orientation construct should include the four types or just two. For example, Kirkpatrick and Hood (1990) were critical of the fourfold typology. Kirkpatrick (1989) has asserted that the Extrinsic scale is not unified, but consists of two separate social and personal

dimensions. Genia (1993) further confirmed this finding in a study. These two studies suggest Allport and Ross's scale to fall along three dimensions: Intrinsic (I), Extrinsic for personal benefits (Ep), and Extrinsic for social rewards (Es). On the other hand Watson, Morris and Hood (1990) have argued that available evidence supports continued use of the fourfold typology. Similarly Hood (1978) has reported that the Indiscriminately Pro-religious and Anti-religious categories are conceptually and empirically useful.

Further research has also been conducted on correlational aspects of the scale. The Indiscriminately Proreligious and Extrinsic typologies have been associated with prejudice (Allport & Ross, 1967; Herek, 1987; Morris, Hood & Watson, 1989). Thompson (1974), using the Rokeach dogmatism scale, found that the Indiscriminately Antireligious were the most open minded of the four categories of religious orientation and were significantly more open-minded than the Extrinsic and the Indiscriminately Proreligious.

The consensus of previous research has consistently been that women are more religious than men are (Donahue, 1985). In a recent meta-analysis, Donahue (1985) stated that of the 67 I-E studies surveyed, only seven addressed the issue of sex differences. Alker and Gawin (1978), and Paloutzian, Jackson and Crandall (1978) reported that there were no significant sex differences reported in their research. In three other studies, Baither and Saltzberg (1978), Strickland and Shaffer (1971), and Strickland and Weddell (1972), scored the I-E in a bipolar fashion and found that women were more likely to score toward the Intrinsic end. Thompson (1974) has reported similar results. Therefore, it could be concluded that women score significantly higher on the Intrinsic scale than men, but no sex differences are evident for the Extrinsic scale.

Recently Gorsuch and Venable (1983) noted that none of the research using Allport and Ross's (1967) Religious Orientation Scale had been conducted with children or young adolescents. They blame this partly because the Religious Orientation Scale (Allport & Ross, 1967) uses language that is too difficult for children and young adolescents to understand (Gorsuch & Venable, 1983; Fry, 1968). They argue that a scale with language too difficult for even part of the sample not only increases the difficulty of rejecting the null hypothesis but also can cause spurious relationships to occur (Gorsuch & Venable, 1983). To alleviate this deficiency, they developed an Age Universal I-E Scale (Gorsuch & Venable, 1983). Rewriting each item with its respective Allport-Ross item did this. With multiple rewrites, the one correlating highest with its respective Allport-Ross item was then selected for the Age Universal Version (Gorsuch & Venable, 1983). Results indicated that the alpha internal reliability coefficients for Age Universal I and E scales are as high as those of the original scales. Further analysis indicated the Age Universal I-E Scale is usable, with certain precautions, with both children (fifth grade and above) and adults (Gorsuch & Venable, 1983).

Religion as Quest

Social psychologist C. D. Batson of the University of Kansas has also examined the Intrinsic-Extrinsic dimension. He claims that when it was first subjected to measurement, a very significant feature of Allport's original conception was overlooked—namely, “a critical open ended approach to existential questions”. (Batson, Schoenrade & Ventis, 1993; p. 169). After a number of attempts to measure what Batson termed Quest

religion, he recently settled on a three dimensional framework: (1) readiness to face existential questions without reducing their complexity; (2) self-criticism and perceptions of religious doubts as positive; and (3) openness to change. Though each of these realms is evaluated by four items, the most recent form of the Quest scale combines all 12 items into one instrument (Batson et al., 1993).

One criticism of intrinsic religion is that, when measured, it is not distinguished from simple orthodoxy or religiosity. People for whom their faith is very significant are likely to agree with the intrinsic items. Quest religion might offer a possible means of making the distinction between simple orthodoxy or religiosity and questioning, doubt and openness. Hood, Spilka, Hunsberger and Gorsuch (1996), in their reading of Allport and Batson, suggest that a “true Intrinsic orientation” should combine a quest perspective with the other elements now found in measures of intrinsic faith. For example, those scoring high on intrinsic religion and high on quest may be true Intrinsic; that is, if they also score low on extrinsic religion. Scoring high on intrinsic religion and low on Quest may illustrate a simplistic religiosity or a narrow orthodoxy. This kind of thinking might also be used to identify “pure” Questers or Extrinsic (Hood, Spilka, Hunsberger & Gorsuch, 1996).

The “Quest” dimension, however, has come under considerable criticism (e.g., Finney & Maloney, 1985; Hood & Morris, 1985). For example Finney and Maloney (1985) present empirical evidence that questions Batson and Ventis’ (1982) claim as to the independence of the three dimensions, and Kojetin, McIntosh, Bridges and Spilka (1987) see quest more in terms of measuring religious conflict and stress rather than open minded searching. Similarly, Donahue (1985) sees quest as less a form of maturity and commitment and more a state of troubled religious doubt.

Consequently, at least according to Allport's (1950) conceptualisation of mature religion, there is some doubt as to whether the quest scale measures religious maturity better than the intrinsic scale. As a result, Dudley and Cruise (1990) suggest: "What seems to be lacking is a way of being religious that combines the best qualities of both intrinsic and quest and therefore reflects Allport's original definition of religion" (p. 99).

Christian Orthodoxy

Besides measuring such complex aspects as motivation toward religion and active searching in religion, researchers have also developed scales to assess belief in some of the more basic tenements of the Christian faith. One of these is the Christian Orthodoxy Scale (Fullerton & Hunsberger, 1982).

"Christian orthodoxy" refers to the acceptance of well-defined, central tenets of the Christian religion (Fullerton & Hunsberger, 1982). In large measure, these tenets are contained in the officially adopted 'creeds' of the various denominations (e.g., the Apostles or Nicene Creed of the Catholic and Anglican faiths and others). Although differences may be present between denominations, "the creed itself comprises a 'rockbed' of doctrinal beliefs on which is virtually unanimous agreement by Catholics and Protestants alike" (Fullerton & Hunsberger, 1982, p. 318). The original Christian Orthodoxy Scale was an attempt to write attitude items, which could be used to assess the extent of which people accept these beliefs.

Since the Christian Orthodoxy Scale was first published (Fullerton & Hunsberger, 1982), it has proved useful in a variety of contexts including religious socialisation

(Hunsberger & Brown, 1984), apostasy (Hunsberger, 1983), attribution theory (Lupfer, Hopkins & Kelley, 1988), and helping behaviour (Hunsberger & Platonow, 1986), to name a few. The scale has also been shown to possess strong psychometric properties (Fullerton & Hunsberger, 1982; Hunsberger, 1987).

One of the drawbacks to the scale, however, has been its length. Therefore, a short form was developed by Hunsberger (1989), containing just six items instead of the original 24. Despite its shortened length, it still retains most of its strong psychometric properties. The Short Form Christian Orthodoxy Scale is relatively unidimensional with Cronbach's alpha $\sim .94$, and inter-item correlations ranging from .69 to .74 (Hunsberger, 1989).

A number of studies have used The Short Form Christian Orthodoxy Scale. A recent study looked into the relationship between Quest and orthodoxy on complexity of religious doubts. Hunsberger, Alisat, Pancer and Pratt (1996), found that people with a more orthodox religious orientation tended to think more simply about existential questions, while the Quest religious orientation was significantly positively correlated with complexity for thinking about existential content.

The Concept of Religious/Faith Maturity

Faith maturity is the degree to which a person embodies the priorities, commitments, and perceptions characteristic of vibrant and life-transforming faith, as they have been understood in "mainline" Protestant traditions. This definition places the focus on indicators of faith rather than faith itself (Benson, Donahue, & Erickson, 1993).

The founders of the modern day Protestant movement were among the first to testify that mature faith has observable consequences. It alters motivation, informs conduct, and transforms the self. In like manner, Allport (1950) claims that mature religious sentiment is “productive of a consistent morality” (pg. 65), and Strunk (1965) posits that mature religion is a significant source of socially responsible behaviour. Consistent with this thinking, faith maturity can be seen as evidenced more by value and behavioural consequences than by right belief, although some indicators of faith maturity, particularly in the core dimension ‘trusts and believes’ are statements of classical Christian belief. Many of the markers of faith maturity are in the consequential domain and are defined in dimensions such as ‘fruits of faith’, ‘holds life affirming values’, ‘advocates social change’, and ‘acts and serves’. (Benson et al., 1993).

Faith Maturity Scale

Based on faith maturity research, Benson, Donahue, and Erickson (1993) created what they termed the Faith Maturity Scale. The scale development was guided by eight considerations.

- 1). Faith maturity occurs along a continuum with measurement based on the degree to which its indicators are present. Each indicator is given equal weight.
- 2). There are multiple core dimensions of faith maturity, and any scale should include an approximately equal number of indicators in each dimension. A mature faith concerns the integration of multiple dimensions.

- 3). The core dimensions of a mature faith measure should prominently reflect the theological territory covered by two themes found in most faith traditions, both Christian and non-Christian. One is about the self, including one's personal relationship to God, one's effort to seek God, and the personal transformation one experiences in this divine encounter. This theme might be called vertical, agentic, or "love of God" faith. Strength on this theme without balance from the second theme could be understood as individualism preserving religion (Benson & Williams, 1986). The second theme is about obligation and action on the human plane. It has to do with heeding the call to social service and social justice. This theme could be called horizontal, communal, or "love-of-neighbour" faith. Strength in this theme without balance from the first indicates a social concern that is not undergirded by traditional religious themes. Faith maturity is understood as a balanced integration of these two themes.
- 4). The scale should have heuristic value to allow its use in educational settings as a method for examining and discussing the nature of faith maturity.
- 5). The length of the instrument and its format should make it useful for evaluation purposes and to detect change following program interventions.
- 6). The scale should minimise economic, educational, and racial-ethnic specificity.
- 7). The indicators of faith maturity should not presume an institutional attachment or involvement.
- 8). The core dimensions and their sampled indicators should focus on common understandings within multiple denominations, thereby minimising denominational specificity (Benson et al., 1993).

Guided by the eight principles above, Benson et al. (1993) developed the Faith Maturity Scale. The original scale consists of 38 items. For the purposes of this study, however, only the horizontal version of this scale (12 items respectively) will be used.

Scale reliabilities are robust across gender, respondent type and denomination, with Cronbach's alphas ranging from .84 to .89. As well, considerable evidence supports the validity of the scale. Development as a criterion-based instrument with the significant involvement of three expert panels (seminary scholars, denominational experts, and clergy) suggests face validity. The process of deriving items from indicators chosen to represent eight core dimensions of faith maturity suggests content validity. Construct validity was assessed through known groups, expert raters, relation to age of respondent, and relation to other measures (Benson et. al. 1993). The Faith Maturity Scale has also been shown to correlate with other measures or religiosity. Faith maturity correlates .58 with intrinsic religiousness and is unrelated to extrinsic religiousness using Feagin's (1964) twelve item intrinsic-extrinsic measure. It also correlates .57 with self reported importance of religion; .47 with frequency of prayer; .65 with a four item Good Samaritan Scale and .48 with a measure of support for racial equality (Benson et. al. 1993).

Religious Maturity Scale

Dudley and Cruise (1990) have some preliminary data on a proposed 11-item scale called the Religious Maturity Scale. This scale is part of a larger 58-item Personal Religious Inventory that was tested primarily on students from two church sponsored universities. Results showed that religious maturity was uncorrelated with extrinsic

religion and positively correlated with intrinsic and quest, although only weakly with the former and moderately with the latter. Further, even though the preliminary psychometric data showed only moderate reliability (Cronbach's Alpha = .55), the conceptualisation of mature religion put forward by Dudley and Cruise (1990) is worthy of research attention.

Global Faith Development Scale

Leak and Randall (1995), have recently developed what they termed the Global Faith Development Scale. This is a brief 8 item scale based on the work of Fowler (1981), which measures relatively mature faith development (i.e., Fowler's stage 4 or 5) as opposed to less mature faith (i.e., Fowler's stage 2 or 3). Content validity was established based on agreement between two well know authors in the psychology of religion and two theologians who teach Fowler's theory. Content validity and reliability assessments were good (alpha = .72; 5 week test-retest reliability $r = .96$).

The Role of Religion in Adolescence

Traditionally, religion has been the guiding institution that has helped adolescents to form social and moral values. Typically most adolescents attended church, Sunday school and youth groups. It was primarily an interaction between religion and family that fostered social and moral values. Times, however seem to have changed.

In a recent study of teenagers in Canada, Bibby and Posterski (1992) have shown that church attendance continues to decline and participation in youth groups is low.

Relatively few adolescents seem to place much importance on religious involvement. To many it is something that is “marginal to everyday life” (Bibby & Posterski, 1992).

Notwithstanding the above findings, Bibby and Posterski (1992) found that many teens exhibited a high level of receptivity to matters spiritual, including meaning, purpose, and life after death. One point, however, should be made here. It is obvious that organised religion is being pushed to the sidelines. If this is the case, then what are the implications for society?

Bibby and Posterski (1992) found that those adolescents who were frequent worship attenders were affirming the values of honesty, forgiveness and generosity at higher levels than were those who did not attend. This decline in values is important since a society should be built on honesty, forgiveness and generosity. They state:

One of the advantages for young people who are regularly involved in religious institutions is that they acquire knowledge systematically. Like learning mathematics in school, youth that participate in formal religious structures learn about ethics, morals, and values in an organised manner. Involvement in catechism sessions, confirmation classes, and other religious education endeavours all serve to construct a framework for their moral instruction and faith development. What can result are an organised conscience and the construction materials for building character. Like putting together the pieces for a jigsaw puzzle, there is the possibility of piecing together a picture that has harmony and clear design. Even if participation in religious institutions is abandoned later in life, a person still has a framework in place to give guidance for making decisions in life that follow.

(Bibby & Posterski, 1992; p. 249)

Thus, the influence of religion on the adolescent, though changing, cannot be ignored as a source of influence in their lives. Religion may be the forgotten factor in adolescent research.

Religion and Social Competence

The review of the literature shows that studies of religion and adolescence have typically focused on social incompetence. Thomas and Carver (1990), point out that these studies have largely focused on devalued adolescent attitudinal and behavioural variables. A consistent relationship typically emerges. "The higher the proportion of religious involvement, the lower the frequency of duration of various forms of antisocial behaviour including drug use, alcohol use and sexual behaviour" (p. 198). "The dominant theoretical orientation underlying virtually all of the extant research sees religion best described as social control theory" (p. 202). Religion accomplishes this not only by highlighting the negative consequences of antisocial behaviour in the "here and now" but also in the "world to come." What does appear to be lacking, though, is research on the possible role of religion as "socially supportive, motivational and facilitative" (p. 202).

In a literature review of religion and social competence conducted by Thomas and Carver (1990), the most obvious pattern from the data is the consistency of results across these studies showing that involvement in and commitment to religion is positively correlated with social competence. Thomas and Carver (1990) agree with basic Durkheimian formulations that integration into social orders is the critical element in preparing people to live better. This theoretical explanation focuses on important social

processes rather than pointing toward dimensions of personality or individual attitudes.

Thomas and Carver (1990), assume that:

As the individual becomes integrated into the religious spheres and accepts the set of values surrounding those social relationships, he or she becomes more sensitive to interpersonal expectations from significant others, finds it easier to develop goals, and more readily identifies personal abilities needed to achieve those goals (p. 205).

Religion and Well Being

The relationship between religion and health has long been a subject of interest in the social-science literature, with a wide range of outcomes reported. Still, much research has pointed to a positive relationship between the two, suggesting that adherence to religious precepts may well be associated at some level with improved mental or physical health (Frankel & Hewitt, 1994).

Idler (1987) has posited four theoretical mechanisms explaining the link between religion and health. First, involvement in religion may constrain high-risk behaviours, such as smoking, drinking and sexual activity. Second, involvement in religious groups may be a source of social support, much like involvement in any other group. Religious groups also demand much of their involved members, so that group membership may have both positive and negative effects. Third, through a mechanism Idler calls “coherence”, religious involvement provides “access to a unique system of symbols . . . that allows individuals to make sense of and cope with their experiences” (Idler, 1987; p. 229).

Finally, a theodicy mechanism allows the religiously involved to accept the fact that suffering may exist (even in a God-ruled world) and to deal more effectively with life's problems.

Recent empirical research on the relationship between religion and health has focused on either mental or physical well being (Frankel & Hewitt, 1994). In the first area, which has tended to dominate the literature, consensus regarding the nature of the link between religion and well being (as measured by life satisfaction, psychological state, or emotional well being) has been slow to emerge (Frankel & Hewitt, 1994). What has become clear is that there are different dimensions of religiosity and that some of these are more important than others in developing life satisfaction, well being and psychosocial maturity (Ellison, 1991; Genia, 1996; Oleckno & Blacconiere, 1991).

For example, the standard dimensions of extrinsic and intrinsic religiosity as outlined by Allport and Ross (1967) have been studied. Williams, Larson, Buckler, Heckman and Pyle (1991), in a study of 720 American adults, found that extrinsic religiosity, or what Allport refers to as 'using religion for their own individual needs', is the least consistent predictor of mental health. Research examining intrinsic, or what Allport refers to as 'living one's religion', has fared somewhat better. Larson and his colleagues (1992) reviewed studies in two major psychiatric journals and concluded that where religious variables are reported at all, the results show a positive relationship between religious commitment and well being.

In a recent article, Frankel and Hewitt (1994) looked at the role of religion and well being of Canadian university students, by studying those who belonged to a campus faith group (InterVarsity Christian Fellowship, Campus Crusade for Christ, Navigators,

Campus Bible Fellowship, etc.), and those who did not. They found that those who did belong were healthier and happier and better able to handle stress than those with no such affiliation. They conclude that involvement in campus faith groups, as an expression of inward religiosity, is beneficial.

A preponderance of evidence suggests that religious individuals with an intrinsic faith are more psychologically adjusted than those who are extrinsically oriented toward religion (Donahue, 1985). Intrinsic individuals also tend to score high on measures of spiritual well being (Basset, Humphrey, Dorr, Biggs, Distaffen, Doxtator, Flaherty, Hunsberger, Poage & Thompson, 1991; Ellison, 1983). However, findings that an intrinsic orientation is linked to religious fundamentalism (McFarland, 1989) and social desirability (Batson, Naifen & Pate, 1978; Leak & Fish, 1989; Pargament, Adamakos, Ensing, Keleman, Warren, Falgout, Cook & Myers, 1987) raise questions about the nature of intrinsic faith. Fundamentalism has been shown to correlate with right wing authoritarianism (Altemeyer & Hunsberger, 1992), intolerance (Altemeyer & Hunsberger, 1992) and discriminatory attitudes (McFarland, 1989).

In an effort to assess a more open-minded religious approach, Batson and his colleagues developed, then refined a quest scale (Batson & Schoenrade, 1991a, 1991b; Batson & Ventis, 1982). Although quest consistently predicts tolerance and non-discriminatory attitudes (Altemeyer & Hunsberger, 1992; McFarland, 1989), less is known about the psychological and emotional characteristics of high questers. With the exception of two studies finding quest to be associated with greater anxiety (Kojetin, McIntosh, Bridges & Spilka, 1987; Watson, Morris & Hood, 1992), the quest scale generally fails to

correlate with measures of mental health or mental disturbance (Watson, Morris & Hood, 1987; Watson, Morris & Hood, 1992).

In order to address some of these shortcomings, Genia (1996), examined the relationship between Intrinsic, Extrinsic and Quest religious orientations as predictors of psychological and spiritual well being. She states that although considerable controversy has surrounded the intrinsic, extrinsic, and quest orientations they remain at the forefront of the psychological study of religion (Genia, 1996). Even those who insist on abandoning this line of research (Kirkpatrick, 1990), continue to use the I-E, and Quest scales in substantive research (e.g., Watson, Morris & Hood, 1992).

Genia (1996) found that Intrinsic scored higher on fundamentalism but were not susceptible to a social desirability response bias. Intrinsic religion emerged as the strongest predictor of psychospiritual health. Quest yielded negative correlations with social desirability and fundamentalism. High quest scorers also reported more personal stress and lower spiritual well being.

Personality versus Cognitive Style

Rokeach (1960) suggested that some individuals exhibit what he termed “closed belief systems”, which are impervious to change. He argued that this “dogmatism” often comes from belief in some ultimate authority. Rokeach (1960), viewed this dogmatism as a personality trait, calling it ‘highly resistant to change.’ Alternatively, Jelen and Wilcox (1991) have argued that dogmatism or “close-mindedness” should be seen as a style of reasoning rather than a personality trait.

Although previous research has tended to explore some of the more negative aspects of religion (e.g., dogmatism, closed-mindedness and prejudice), evidence from the research above seems to indicate a “shift” in this area of interest. The interest now seems to be on some of the more positive aspects of religion including well being, social competence, psychosocial maturity and open-mindedness. Taking into account the findings of Rokeach (1960) and Jelen and Wilcox (1991), it is not clear whether these positive outcomes could be the result of a “cognitive style” which is in turn influenced by religion; or whether happiness, well-being, and maturity are what Rokeach terms “personality traits”. Therefore, research into this area should focus on both the possibility of a “personality trait” and a “cognitive style of reasoning.” Measures such as the Religious Orientation Scale (Allport & Ross, 1967), Quest (Batson & Schoenrade, 1982), and Faith Maturity Scale (Benson et al., 1993), suggest a cognitive style of reasoning. Research, however, has also been done on the link between personality and religion.

Personality and Religious Belief

Research on personality and its various correlations is rich in the psychological literature. Among the first to study personality were Eysenck and Eysenck (1964). These two researchers identified two factors or domains in personality research; Neuroticism and Extraversion (Eysenck & Eysenck, 1964). These were seen as the ‘Big Two.’ A third factor was soon discovered using cluster analysis on Cattell’s 16 Personality Factors (Cattell, Eber & Tatsuoka, 1970; Costa & McCrae, 1976). Subsequent research confirmed and described this factor as “openness”. Thus, based on a three-factor conceptualisation of

the structure of personality, The NEO Inventory (Neuroticism, Extraversion, and Openness) emerged with impressive validity and reliability (Costa & McCrae, 1980). However, although these three dimensions seem to encompass many traits, there were some, like persistence and generosity, that did not fit well with the three factor conceptualisation of personality (Costa & McCrae, 1985).

Meanwhile Norman (1963) had earlier identified five factors that he labelled: Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Culture. Costa and McCrae (1985) interpreted Norman's "culture" factor in terms of "Openness of experience", and saw Agreeableness and Conscientiousness as incorporating some of those traits that did not fit well into the three factor model. Similarly, within the lexical approach, Goldberg (1981), using long adjective lists, was able to consistently support a five-factor model. Impressed by this research, Costa and McCrae (1985) began to develop scales that would tap the two additionally discovered dimensions.

Consequently, the NEO Inventory (Costa & McCrae, 1980) was expanded to include Agreeableness and Conscientiousness, resulting in the NEO Personality Inventory (NEO-PI: Costa & McCrae, 1985). McCrae and Costa (1989) provide the following summary descriptions of the five major NEO-PI scales: "Neuroticism" indicates the individual's proneness to experience unpleasant emotions. "Extraversion" concerns differences in the preferences for social and interpersonal interactions and lively activity. "Openness to Experience" refers to the receptiveness and exploration of new ideas, approaches, and experiences. "Agreeableness" refers to selfless concern for others and the expression of trusting and generous sentiments; and Conscientiousness" concerns

individual differences in organisation, persistence and motivation in goal directed behaviour.

In order to facilitate convenience and more widespread research, the NEO-PI was reduced from 181 items to 60 items, forming the shorter version called the NEO Five Factor Inventory (NEO-FFI): Costa & McCrae, 1989). This shorter version provides a brief and valid assessment of personality. Since the purpose of this study will be to look at open-mindedness and psychosocial maturity, the “Openness to Experience” portion of the NEO-FFI will be used.

Several studies have examined the relationship between personality traits and religion. Francis (1993) used the short form Revised Eysenck Personality Questionnaire and the Francis scale of Attitudes toward Christianity to study personality and religion among college students in the United Kingdom. He found there was an inverse relationship between Psychoticism and religiosity, while Neuroticism nor Extraversion was positively or negatively related to religiosity. Similarly, Francis and Wilcox (1996) studied the relationship between prayer, church attendance and personality among 16-19 year old girls. They again found an inverse relationship between Psychoticism and church attendance ($r = -.15$) and self reported prayer ($r = -.15$), with neither Extraversion nor Neuroticism showing a correlation with these indices of religiosity.

In a recent study, Hossack (1997) looked at the personality characteristics of late adolescents compared to their scores on Allport and Ross's (1967) Religious Orientation Scale. Using the Five Factor Model of personality (Costa & McCrae, 1989), Hossack found that Openness to Experience was the only factor that showed no significant difference among the Religious Types. However, differences did emerge between the

Intrinsics and the Nonreligious, with the Nonreligious having significantly higher means on Neuroticism than the Intrinsics, while the Intrinsics had significantly higher means on Extraversion, Agreeableness and Conscientiousness. When gender differences were looked at, females tended to have higher means on Neuroticism as well as Agreeableness (Hossack, 1997).

The Concept of Psychosocial Maturity

In a psychological context, maturity is often discussed with mental health or social adjustment. It is typically considered the end product of “natural growth trends” in personality, which will emerge, in reasonable benign and familial environments (Greenberger & Sorenson, 1974).

According to these authors, the concept of psychosocial maturity rests on three general or universal categories. The three categories represent general types of demands made by all societies on individuals (Greenberger & Sorenson, 1974).

The first general demand on mature individuals is that they have the capacity to function adequately on their own. Adults in most societies are expected to be self-sufficient; as well, children are expected to become more self sufficient during their development.

Erikson’s stages of development speak of this self-sufficiency, especially the stages culminating in autonomy, initiative and industry. As well, Lovinger’s model of ego development can be seen as a continuum of increasing capacity to determines one’s own path in life consistent with one’s self construct (Greenberger & Sorenson, 1974).

The second general demand on mature individuals is that they have the capacity to interact with others. In all societies, relationships cut across many domains: the family, the economy and social, political and religious (Greenberger & Sorenson, 1974). Individuals are born with a great variety of behaviour potentials. However, society has set apart certain values, codes and rules. Just as the biological process of natural selection favours those organisms that are adapted to life, society favours those individuals who can comprehend and function within the limits it sets (Greenberger & Sorenson, 1974). In the psychological framework, the capacity to interact adequately with others is explicit in many formulations of personality development. For example, Erikson's scheme of development treats this capacity in the stages of "trust, identity, intimacy" and "generativity." These stages all deal with a person's ability and trust (Greenberger & Sorenson, 1974).

The third general demand on mature individuals is the capacity to contribute to social cohesion. Social cohesion is sometimes threatened by outside factors (conflict among subgroups). Societies therefore need to recognise threats to social cohesion and to recognise individuals who will participate in efforts to restore solidarity (Greenberger & Sorenson, 1974). Although social cohesion is not one of the more developed topics in psychology, social involvement is a central feature of existential psychology's views of healthy personality development. In different societies the optimum balance among the capacities for self-maintenance, interpersonal effectiveness and enhancement of social cohesion will differ. Different levels of "adequacy" will be required (Greenberger & Sorenson, 1974).

Specific Attributes of Psychosocial Maturity

Greenberger and Sorenson (1974), have presented specific attributes which serve as indicators of the three general capacities in this society. These have been referred to as Individual Adequacy, Social Adequacy and Interpersonal Adequacy. The area of Social Adequacy would be an important one for researchers studying the link between religion, open-mindedness and psychosocial maturity.

The Social Adequacy subscale consists of three parts. The first scale, which contains eleven items, is termed Social Commitment. Greenberger and Sorenson (1974) refer to social commitment as feelings of 'community' with others, willingness to modify or relinquish personal goals in the interest of social goals, readiness to form alliances with others to promote social goals and investment in long term social goals. Organised religion is based on the willingness to form alliances with others to promote social goals. The religion that cannot sustain a sense of coherence among its members will ultimately fail.

The second part is termed Openness to Socio-political Change. According to Greenberger and Sorenson (1974), mature individuals having an openness to social and political change will possess: (1) general openness to change (2) recognition of costs of the status quo (3) recognition of the costs of change. A general disposition to be open to change is probably basic to attitudes toward socio-political change. Religion studies in the past have indicated religion to be linked to an intolerance for change. However, Thompson (1974) found that those with the intrinsic orientation were the most open-

minded. Therefore in a study of open-mindedness in religious individuals we would expect Openness to Socio-political Change to be an important factor.

A third factor is simply termed Tolerance. Individuals exhibiting 'tolerance' possess a willingness to interact with individuals and groups who differ from the norm, show sensitivity to the rights of individuals and groups who differ from the norm, and have an awareness of the costs and benefits of tolerance (Greenberger & Sorenson, 1974). One would expect 'tolerance' to be an important factor in studies of religion since the basic tenets of the worlds' religions are tolerance, forgiveness and acceptance.

As mentioned before, Greenberger and Sorenson, (1974) stated that one of the components of psychosocial maturity was the ability to interact adequately with others, and that in all societies relationships cut across many domains: the family, the economy, and the social, political and religious life of the individual.

In their discussion of religion and social competence, Thomas and Carver (1990) state "that religious involvement and commitment are consistently related to increasing the abilities and skills required for adequate functioning in society and to decreasing the tendency to develop attitudes and participate in activities that are devalued in society" (p. 202). This is one of the basic tenets of the concept of psychosocial maturity, which is closely related to the concept of social competence. Therefore, adolescents who view religion as important may find that it helps them in social adjustments. Although Thomas and Carver (1990) don't conclude that religious influence on social adjustment cuts across all domains, it seems to have a greater impact on educational setting.

We assume that, as the individual becomes integrated into the religious and social sphere and accepts the set of values surrounding those social

relationships, he or she becomes more sensitive to interpersonal expectations from significant others, finds it easier to develop goals, and more readily identifies personal abilities needed to achieve those goals (p. 205).

Thomas and Carver (1990) have also found that religion appears to have a positive impact on adolescent ability to plan for the future. In their study of Mormon adolescents, they found strong personal beliefs were a strong influence on making plans for the future. As well, the family's religious views and those of the "religious advisor" were also significant in influencing an adolescent's future plans.

Further, Thomas and Carver (1990) suggest additional research to examine the influence of commitment to social institutions (including religion) on social competence and psychosocial maturity and suggest that religion be studied using a multi-dimensional approach.

Religion and Work Orientation

Work orientation has been used by Greenberger and Sorenson (1974) to describe the following traits of the individual: (1) general task or work skill (2) standards of competent work performance (3) capacity to experience pleasure in work. Work orientation plays a role in three aspects of adequate individual functioning. First, all individuals must conduct the daily informal work of living. Second, all individuals must perform in formal work situations. Finally, in most societies, work is the major vehicle through which the adult attains self-sufficiency.

Having a work orientation implies that the individual applies these “general skills” in the service of a need to perform work competently. Competence, in a work oriented person, brings pleasure; occasionally so does the routine exercise of general work skill. Psychology theory and research suggest that a work orientation contributes to adequate individual functioning by preserving the individual’s mental health (Greenberger & Sorenson, 1974).

Most research has suggested that religion is largely irrelevant to the work experience (Davidson & Caddell, 1994). Nevertheless, most of these studies have been within the secularisation thesis, which Hadden (1987) says pervades the academy and which causes researchers to assume religion has no effect.

One of the proponents of religion and work has been Weber. Weber’s thesis is that the doctrine of predestination (the idea that God chooses the saved and the damned in advance) attributed to Calvinism, brought about the need for people to seek evidence that they were among the elect (Davidson & Caddell, 1994).

In a recent study, Davidson and Caddell (1994) looked at the relationship between religion and work. Their theory combined the elements of exchange theory (Lee, 1992) and symbolic interactionism (Wimberly, 1989). They assumed that people tended to act on the basis of both their rational self-interests and the values, beliefs, identities, and perceptions that could not be reduced to self interest (Davidson & Caddell, 1994).

Exchange theory was used to refer to five work-related factors: 1) The type of work one does (i.e., working with people or things). 2) Whether one works in the private or public sector. 3) One’s occupational status as a member of the capitalist class (i.e., business owner or manager), intermediate class (i.e., administrator, professional, or self-

employed in education, religion or other human services), and working class (lower white collar or blue-collar employee). 4) Whether one works full time or part time. 5) The extent of one's job security (Davidson & Caddell, 1994).

Symbolic interactionism assumes that people are influenced by the groups they belong to and the people they interact with and that they act on the basis of both their own concepts and those of the world around them (Davidson & Caddell, 1994). These authors used six religious variables to study symbolic interactionism: denominational norms and values, two pastoral influences, two measures of religious commitment (salience and participation) and religious beliefs.

They hypothesised that those belonging to Calvinist Protestant churches are more likely than other groups (especially Catholics) to stress the need for an ascetic lifestyle. They would be more likely to focus on their work as a "calling" rather than just a job. Similarly those whose pastor stressed the connection between faith and one's role in society would be more likely to see their job as a calling.

In the area of religious commitment and religious belief, two important points were considered. First, the importance people attach to religion or what Davidson and Knudsen (1977) refer to as Salience and secondly, that participation would also be important. Some church members are more religiously active than others. People who view their religion as integral to their identity and are religiously active tend to have a holistic view of life or foster a sense of faith in everything that they do. Thus, these people would be inclined to view their work as an extension of their faith (Davidson & Caddell, 1994).

Mock (1988) has conceptualised what are called social-justice beliefs. These stress human interdependence, the need to share resources and the need to close the gap

between the rich and the poor. Thus, churchgoers who stress social justice beliefs would tend to view work as part of their calling to build a more just world (Davidson & Caddell, 1994).

When Davidson and Caddell (1994) analysed their results they found just as they had predicted:

When religion is internalised, it causes people who are already inclined to think of work as important to take the additional step of viewing it as a calling, not just a career. Among people who are already receiving significant rewards at work, intrinsic religiosity often fosters a religious view of work as part of one's ministry. The more people think of themselves as religious, the more they are active in their churches, and the more they stress social justice beliefs, the more they will also view work as a calling (p. 145).

Thus, work orientation is an important part of the study of religion and religious belief.

Purpose and Rationale

Although researchers have begun to examine some of the more positive effects of religion, the literature is still lacking. As Frankel and Hewitt (1994) point out, the nature regarding the link between religion and well being as well as psychosocial maturity has been slow to emerge. As well Thomas and Carver (1990) point to the study of religiosity across several dimensions. Finally, most current studies on religion have tended to use only religious groups as in Thomas and Carver's (1990) study of Mormons. Only a few

studies to date have compared religious vs. non-religious individuals (e.g., Frankel & Hewitt, 1994; Hossack, 1997).

Taking these shortcomings into consideration, this study will have three main purposes:

1. The link between religion and open-mindedness will be assessed viewing open-mindedness as a “cognitive style of reasoning.” Open-mindedness will be assessed using the Social Adequacy subscale of the Greenberger and Sorenson’s Psychosocial Maturity Scale (1974).

Because open-mindedness has been viewed by some researchers (e.g., Rokeach, 1960) as a “personality trait”, the ‘Openness to Experience’ portion of the NEO-FFI (Costa & McCrae, 1989) will be used. The ‘Agreeableness’ and ‘Conscientiousness’ portions will also be used. However, these are not considered measures of ‘open-mindedness’; they are included here in more of an exploratory nature and not to justify any of the hypotheses.

Religion will be measured using a number of scales including the Religious Orientation Scale (Allport & Ross, 1967), Quest (Batson & Schoenrade, 1993), Christian Orthodoxy Scale (Fullerton & Hunsberger, 1982), Religious Maturity Scale (Dudley & Cruise, 1990), Global Faith Development Scale (Leak & Randall, 1995), and the Faith Maturity Scale (Benson, Donahue & Erickson 1993).

2. Since religious commitment and social justice beliefs have been shown to positively influence work orientation (Davidson & Caddell, 1994), the Work Orientation component of Greenberger and Sorenson’s Psychosocial Maturity Scale (1974) will be used to see if religion has any effect on work orientation

3. In order to assess the difference between religious versus nonreligious groups, one group of students will come from religiously oriented colleges (i.e., religious colleges) and the other group will be taken from a large secular university.

Hypotheses

Hypothesis 1: In the Social Adequacy portion of Greenberger and Sorenson's (1974) Psychosocial Maturity Scale, which measures Tolerance, Social Commitment and Social Change, the following are hypothesised.

a). Religious Orientation Scale (Allport & Ross, 1967) – those scoring higher on intrinsic religiosity will score higher on social adequacy. Research by Thompson (1974) suggests that those who possess an 'Intrinsic' orientation are the most open-minded.

b). Quest (Batson & Schoenrade, 1993) – those scoring higher on quest will score higher on social adequacy. This hypothesis stems from the nature of the Quest scale itself which measures 'openness to change'. Also, Hunsberger, Alisat, Pancer and Pratt (1996) found that the quest religious orientation was positively and significantly correlated with complexity scores for thinking about existential content.

c). Short Form Christian Orthodoxy Scale (Hunsberger, 1989) – those scoring higher on Christian orthodoxy will tend to score lower on social adequacy. Altemeyer and Hunsberger (1992) found that authoritarians generally possessed more orthodox Christian beliefs. It is the nature of the authoritarian to possess somewhat rigid belief structures that are impervious to change. As well, Hunsberger, Alisat, Pancer and Pratt (1996) found that

people with more orthodox religious orientations tended to think more simply about existential religious issues.

d). **Religious/Faith Maturity** – those scoring higher on the three measures of religious/faith maturity will tend to score higher on social adequacy. Research by Leak and Randall (1995) has shown that religious maturity is negatively correlated with authoritarianism or relatively ‘closed mindedness’.

Hypothesis 2: In the area of ‘open-mindedness’ as measured by the NEO-FFI (Costa & McCrae, 1989), the same hypotheses as above would apply. The only difference is that with the NEO-FFI (Costa & McCrae, 1989), ‘open-mindedness’ is being viewed as a personality trait, whereas with the Social Adequacy portion of Greenberger and Sorenson’s (1974) Psychosocial Maturity Scale, ‘open-mindedness’ is being assessed as a ‘cognitive style’.

Hypothesis 3: In the area of Work Orientation, assessed again by a portion of Greenberger and Sorenson’s (1974) Psychosocial Maturity Scale, it is hypothesised that those scoring higher on intrinsic religiosity would score higher on work orientation. As well, those possessing greater religious/faith maturity across all three measures would also show better work orientation. Work by Davidson and Caddell (1994) has shown that those internalising their religion view their work not only as important but as a calling as well.

Hypothesis 4: Several differences between the nonreligious and religious groups are expected. It is hypothesised that the religious group (i.e., religious college students) will

show higher scores on the Short Form Christian Orthodoxy Scale (Hunsberger, 1989), the three measures of religious/faith maturity, and score higher on intrinsic religiosity. As well, it is hypothesised that they will score higher on the Work Orientation of Greenberger and Sorenson's (1974) Psychosocial Maturity Scale.

Method

Subjects

Two samples of subjects were obtained for the study from two different populations. The first sample came from four small religiously oriented colleges ($N = 69$). These four colleges were located in Manitoba and of Evangelical Protestant Orientation. The other sample was obtained from a large secular university ($N = 485$). The subjects' ages ranged from 18 to 21 years, and were generally first-year students. The students from the secular university were enrolled in the Introductory Psychology course and their participation in this project allowed them to receive some credit for course work. Participation of subjects from the religiously oriented colleges was strictly voluntary.

Instrumentation

Preliminary Analyses

The data for this study were collected using two questionnaires that were colour-coded blue and yellow. All of the scales appear in the appendices.

After the data from this study was collected, the methodological properties of the scales were examined. Eliminating items refined the scales. The following criteria were used to eliminate unsuitable items: (1) items that had near zero correlations (i.e., between, $-.10$ and $+.10$) with most other items in the scale were eliminated from that particular scale. (2) The remaining items were then factor analysed using the principal-axes method (with squared multiple correlations as communality estimates). Factor loadings of $<.30$ were regarded as insignificant, $.30$ to $.39$ as marginal, $.40$ to $.49$ as significant, and $>.50$ as strong. Items, which loaded insignificantly, were eliminated from the scale. The remaining items were again factor analysed to assure the items had at least marginal loadings on the first principal axis factor. Scree plots were also constructed using eigen values of the reduced correlation matrix.

Background Information

Participants were asked to answer a series of demographic questions such as religious background, parents' ethnic background, parents' annual income, and parents' level of education.

Religious Orientation

Religious orientation was assessed with the widely used Religious Orientation Scale of Allport and Ross (1967). The scale measures the religious motivation of the individual and consists of 20 items with two subscales, the Intrinsic and Extrinsic (see Appendix A). Eleven of the items are worded intrinsically and nine of them worded extrinsically. An example of an intrinsic sample item is “My religious beliefs are what really lie behind my whole approach to life”. An example of an extrinsic sample item is “Though I believe in my religion, I feel there are many more important things in my life”. Subjects were asked to indicate how much they agreed or disagreed with each item using a five point Likert scale

Factor analyses of the data from the present study resulted in a **two-factor** principal-axes solution. The **two** factors were rotated according to the varimax criterion.

Items 1, 2, 5, 8, 10, 11, 12, 15, 16, 18 (see Appendix A) loaded from .51 to .84 on the **first** varimax factor, with insignificant loadings on the second varimax factor. Because of this factor pattern, these ten items were used to define the Intrinsic religiosity scale. Participants endorsing these items tend to internalise their religious beliefs and follow them fully. This scale has a minimum score of 10, a middle score of 30, and a maximum score of 50. The Cronbach’s alpha was .79.

On the other hand, items 3, 4, 7, 9, 13, 14, 17 loaded from .49 to .61 on the **second** varimax factor with insignificant loadings on the first varimax factor. Therefore, these items were used to define the Extrinsic religiosity scale. Participants endorsing these

items tend to use religion for their own personal benefits and to provide security, social ability and self-justification. This scale has a minimum score of 7, a middle score of 21, and a maximum score of 35. The Cronbach's alpha was .65.

One item (item 6) had to be eliminated entirely because it loaded marginally on both factors. The Intrinsic and Extrinsic religiosity scales correlated .23.

Quest

Batson's Quest Orientation, developed within an Allportian framework, was measured with the recently developed 12-item modification of the original Interactional Scale (Batson & Schoenrade, 1991). The Quest scale (see Appendix B) measures an approach to religious issues characterised by an openness to doubt and a willingness to examine religious issues without reducing their inherent complexity. Participants are asked to respond to each of the 12 items on a five point Likert scale ranging from 1= strongly disagree to 5= strongly agree. Evidence exists to support the validity of the original scale (Batson & Schoenrade, 1991a, 1991b), and arguments for the validity of the original scale also apply to the revised scale (Batson, Schoenrade, & Ventis, 1993).

Factor analysis of the data from the present study identified two items: 7, 8 (see Appendix B) with insignificant factor loadings. These scale items were eliminated. The remaining ten items had significant factor loadings on the first principal axes factor from .43 to .71.

The revised 10-item scale has a minimum score of 10, a middle score of 30, and a maximum score of 50. The Cronbach's alpha was .59.

Christian Orthodoxy

Christian Orthodoxy was measured using the Short Form Christian Orthodoxy Scale; (see Appendix C) developed by Hunsberger (1989). This is based on the longer 24-item version (Fullerton & Hunsberger, 1982). Respondents are asked to rate the degree to which they agree or disagree with the following statements about religious beliefs. The following scale is used.

- 5 if you strongly disagree with the statement
- 4 if you disagree with the statement
- 3 if you are neutral
- 2 if you agree with the statement
- 1 if you strongly agree with the statement

As example of an item is “Jesus Christ was the divine Son of God” (Hunsberger, 1989). Even though this scale only consists of six items, it retains most of the strong psychometric strengths of the original scale (Hunsberger, 1989).

This scale has a minimum score of 6, a middle score of 18, and a maximum score of 30. The first two items are buffer items and are therefore eliminated from the scoring of the scale. The Cronbach’s alpha was .86, and the items loaded from .67 to .91 on the first principal-axes factor.

Religious Maturity

Religious maturity was measured using the Religious Maturity Scale (Dudley & Cruise, 1990). This consists of 11 items (see Appendix D) designed to measure religious maturity as conceptualised by Allport (1950). Although the preliminary findings suggest that the internal consistency for this scale is only moderate (Cronbach's alphas = .55), "the point multiserial correlations on the individual items were all strong, ranging from .36 to .51" (Dudley & Cruise, 1990, p. 103). Each item calls for a response on a five-point scale from 1= strongly disagree to 5= strongly agree.

When the correlation matrix of the 11 items was calculated, 3 items: 5, 7, 11 had near-zero correlations with most other items. These items were eliminated from the scale. When the remaining 8 items were factor analysed, 3 further items (6, 9, 10) had insignificant factor loadings on the first principal-axes factor. These items were also eliminated. The scale was then defined by the five remaining items. This scale has a minimum score of 5, a middle score of 15, and a maximum score of 25. Cronbach's alpha was .65, and the 5 items loaded from .35 to .64 on the first principal-axes factor.

Horizontal Faith

Religious maturity was further measured using a scale developed by Benson, Donahue and Erickson (1993) called the Horizontal Faith Scale. The scale (see Appendix E) consists of 12 items on 8 dimensions: a) Trusts and believes. b) Experiences the fruits of the faith. c) Integrates faith and life. d) Seeks spiritual growth. e) Experiences and

nurtures faith in community. f) Holds life affirming values. g) Advocates social change. h) Acts and serves. Participants are asked to respond to each item on a five point scale ranging from 1= strongly disagree to 5= strongly agree.

When the items from the present study were factor analysed, they loaded from .41 to .73 on the first principal-axes factor. This scale has a minimum score of 12, a middle score of 36, and a maximum score of 60. The Cronbach's alpha was .63.

Global Faith Development

Faith maturity was further measured using the Global Faith Development Scale of Leak and Randall (1995). This brief 8-item scale measures relatively mature faith development. Initially these 8 items (see Appendix F) were placed in a provisional scale and arranged in a forced-choice format with one option keyed for relatively mature faith development while its alternative reflected less mature faith. An example is: "It is very important for me to critically examine my religious beliefs and values." (Greater faith development) versus "It is very important for me to accept the religious beliefs and values of my church."

The forced-choice nature of the original scale (see Appendix F) presented a variety of problems. First, factor analysis would be difficult as each scale item required participants to choose between two response alternatives. The scale is continuous but each of the 8 items has two heterogeneous (uncorrelated) components. Therefore, the forced choice format was not utilised in this study.

A revision of the Global Faith Development Scale was utilised (see Appendix G). The original scale has a forced choice format, where the reader has to choose between two religious statements. There were 8 items with two alternatives each. In the revision of the scale, the reader was asked to respond to each of the 16 items individually. Each of the 16 items had 5 response alternatives ranging for 1= strongly disagree to 5= strongly agree.

Factor analysis of the revised scale resulted in two clear factors. Eight items (i.e., 1, 3, 6, 8, 13, 2, 16 and 15) loaded significantly on the first principal-axes factor. These items were factor analysed and resulted in a bipolar factor with positive items loading from +.59 to +.84 and negative items loading from -.55 to -.59. This factor was labelled Faith Global 1 or (FG1). Faith Global 1 is meant to define a less mature stage of faith (stage 2 or 3) as put forth by Fowler (1982). The Faith Global 1 scale has a minimum score of 8, a middle score of 24, and a maximum score of 40. The Cronbach's alpha was .73.

The second principal-axes factor had only 3 items with substantial factor loadings, (4, 9, 10). These items again resulted in a bipolar factor with positive items loading from +.55 to +.73 and the lone negative item loading -.67. This factor was labelled Faith Global 2 or (FG2) and is meant to define a more mature stage of faith (i.e., Fowler's stage 4 or 5). This scale has a minimum score of 3, a middle score of 9 and a maximum score of 15. The Cronbach's alpha was .80.

The remaining four items of the sixteen item scale, (items 5, 7, 12, 14) had to be eliminated due to insignificant factor loadings.

The Faith Global 2 scale was used in this study as the indicator of mature faith. The higher the score on Faith Global 2, the more mature the faith. The lower the score on Faith Global 2 the less mature the faith.

Personality Traits

Personality traits were measured using the NEO-FFI Scale (Costa & McCrae, 1989). This scale taps the constructs of the Big Five personality dimensions; namely, Extraversion, Neuroticism, Openness to Experience, Agreeableness, and Conscientiousness and consists of 60 items. Only the dimensions of Openness to Experience, Agreeableness and Conscientiousness were used.

The NEO-FFI Scale is based on the longer 181 item NEO-PI. This shorter version provides a brief but valid assessment of the postulated five domains of personality. The response format involves a five-point scale ranging from, 1= strongly disagree to 5= strongly agree. Correlations with the parent NEO-PI scale ranged from .75 to .89 and inner item consistency revealed Cronbach's alphas of .89 for the Neuroticism scale, .79 for the Extraversion scale, .76 for the Openness scale, .74 for the Agreeableness scale and .84 for the Conscientiousness scale (Costa & McCrae, 1989).

Factor analysis was performed on the data from the present study on the Openness to Experience scale. Items 1, 2, 6, 7, and 8 were eliminated from the original scale because of insignificant factor loadings (see Appendix H). The remaining 7 items loaded from .35 to .63 on the first principal-axes factor. The revised Openness to Experience scale has a minimum score of 7, a middle score of 21 and a maximum score of 35. The Cronbach's alpha was .61.

When the Agreeableness scale was factor analysed, all items loaded significantly and ranged from .37 to .59 on the first principal-axes factor (see Appendix I). The

Agreeableness scale has a minimum score of 12, a middle score of 36 and maximum score of 60. The Cronbach's alpha was .53.

Factor analysis of the Conscientiousness scale resulted in one item (3) having to be eliminated since it did not load significantly (see Appendix J). The remaining items loaded from .42 to .69 on the first principal-axes factor. The revised Conscientiousness scale has a minimum score of 11, a middle score of 33 and a maximum score of 55. The Cronbach's alpha was .61.

Psychosocial Maturity

Psychosocial maturity was assessed using the Social Adequacy section of the Psychosocial Maturity Scale developed by Greenberger and Sorenson (1974). The Social Adequacy section consists of three scales: Social Commitment, Tolerance, and Acceptance of Social Change.

- (1) Social Commitment (eleven items) measures an individual's ability to form social goals within the community (see Appendix K). An example of an item from this scale is: "A person is responsible only for the happiness of his family, relatives, and close friends." Factor analysis of the Social Commitment scale using data from the present study resulted in one item (item 9) having to be eliminated since it did not load significantly. The remaining items loaded from .35 to .66 on the first principal-axes factor. This revised Social Commitment scale has a minimum score of 10, a middle score of 30, and a maximum score of 50. The Cronbach's alpha was .61
- (2) Tolerance (eleven items) measures an individual's tolerance of groups or others that

differ from the norm (see Appendix L). An example of a scale item is: "If a friend whose ideas about God are very different from mine gave me a religious magazine to read, I would not read it." Factor analysis of the Tolerance scale indicated three items, (1, 3, 9) which had to be eliminated due to insignificant factor loadings. The remaining items loaded from .37 to .65 on the first principal-axes factor. The revised scale has minimum score of 8, a middle score of 24 and a maximum score of 40. The Cronbach's alpha was .57.

(3) Acceptance of Social Change (eleven items) measures an open-minded attitude about change (see Appendix M). An example of a scale item is: " We should limit the number of women who can train for jobs usually held by men, such as dentist and engineer." Factor analysis of the Acceptance of Social Change scale indicated five items (5, 6, 7, 8, and 10) to be eliminated due to insignificant factor loadings. The remaining six items loaded from .38 to .76 on the first principal-axes factor. The revised scale has a minimum score of 6, a middle score of 18, and a maximum score of 30. The Cronbach's alpha was .68.

Upon viewing the correlational data it was found that the above three scales: Social Commitment, Tolerance and Social Change Acceptance had substantial intercorrelations with each other. When the set of three scales was factor analysed, all three scales loaded significantly on a single factor from .57 to .68 that was labelled the Social Adequacy factor. This factor is also used in the analysis as the variable Social Adequacy.

Work Orientation

In order to assess work orientation, the Work Orientation scale (see Appendix N) of the Individual Adequacy section of the Psychosocial Maturity Scale (Greenberger & Sorenson, 1974) was used. Work Orientation refers to the capacity to experience pleasure and competence from work. An example of a scale item is: "I seldom get behind in my work." All items are measured on a Likert type scale ranging from 1= 'not at all like me' to 5= 'very much like me'. Factor analysis of the Work Orientation scale, using data from the present study resulted in two items (4, 10) being eliminated due to insignificant factor loadings. The revised scale has a minimum score of 8, a middle score of 24, and a maximum score of 40. The remaining items loaded from .45 to .63 on the first principal-axes factor. The Cronbach's alpha was .63.

Procedure

The subjects were tested within groups ranging from 20 (in the smaller religious colleges) to more than 100 when the tests were conducted in the secular university setting. The questionnaires were contained in two booklets that were colour-coded blue and yellow. The subjects were instructed not to write in the booklets. On the first page of the questionnaire booklet was (a) a general statement of appreciation for volunteering to participate in the study, (b) a statement indicating the general nature of the study and the

availability of the results when the study was completed, and (c) general instructions regarding responding to the questionnaire. Machine-scorable answer sheets were made available (one for each questionnaire booklet) to record the subjects answers. The overall time required to complete the questionnaires was just under one hour.

Statistical Design and Data Analysis

A series of basic zero order correlations were conducted on all of the data. The correlations were conducted at the .0001 level of significance. This was done for several reasons. First, a more stringent level of significance will decrease the probability of the correlation being significant by chance. This was very important because of the large number of correlations being calculated. Finally, the large number of subjects ($N = 554$) makes it practical to use a more stringent level of significance.

The originally intention was to use a series of ANOVA's to test hypotheses one through three. This would have been possible for a few of the independent variables, namely the Religious Orientation Scale, as this scale can require the categorising of subjects into either endorsing extrinsic religiosity or intrinsic religiosity. However, scales such as the Quest, and Short Form Christian Orthodoxy Scale, are continuous. These could have been categorised into groups of two or three. For example, the Short Form Christian Orthodoxy Scale could have been split into high, medium and low orthodoxy. This would then have enabled the use of ANOVA's. However, this common procedure has been criticised by Maxwell and Delaney (1993), who have shown that this leads to a

reduction in the statistical power of tests as well as an increase in the number of Type I errors. Therefore, correlational analyses were used to test hypotheses one through three.

Hypothesis four involved a comparison between the religious college sample and the university sample. Because of the differences in size ($N = 485$ vs. $N = 69$) such comparisons would not be possible. To alleviate this shortcoming, the university sample was randomly divided into five equal subgroups ($N = 97$). ANOVA's were then run of the religious college sample versus the five subgroups of the university sample.

Results

Means and Standard Deviations

Means and standard deviations were obtained for the total sample which included both the university sample and the religious colleges sample ($N = 554$) and for males and females separately (see Table 1). Means and standard deviations were also obtained for the university sample ($N = 485$) (see Table 2), each of the five subgroups of the university sample ($N = 97$) (see Table 3), and for the religious colleges sample ($N = 69$) (see Table 4).

Gender Differences

Only a few significant gender differences were observed. For the religiosity variables, only one significant gender difference was observed. Females tended to score higher on Horizontal Faith. No other gender differences among the religious variables were observed.

Several gender differences were observed among the dependent variables. Gender differences were observed on the Social Commitment variable, Tolerance, Social Change Acceptance, Social Adequacy and Agreeableness variables. Each time it was the females who tended to score higher.

Correlations Among Variables

Using SAS, a correlation matrix was obtained to test the relationships among the variables. Product moment correlations were obtained for each variable. Correlations for the total sample are presented in Table 5 (p. 56). Correlations between .15 and .29 were interpreted as low; .30 to .39 as moderate; and .40 and above as high.

Table 1

Means and Standard Deviations of the Major Variables

<u>Variable</u>	<u>Total</u>		<u>Males</u>		<u>Females</u>		<u>ANOVA</u>	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>F</u>	<u>p</u>
IR	28.15	10.96	26.75	11.00	29.45	10.79	8.15	0.0037
QU	29.17	6.57	29.54	6.54	29.88	6.60	0.33	0.536
CO	22.01	6.68	21.11	7.12	22.85	6.04	9.72	0.0019
RM	17.49	3.35	17.11	3.45	17.85	3.22	6.79	0.0094
HF	37.25	7.83	35.44	7.97	38.94	7.32	28.93	0.0001*
FG1	5.61	1.33	5.59	1.40	5.63	1.27	0.12	0.7319
FG2	6.44	1.64	6.64	1.68	6.25	1.57	7.79	0.0054
SA	2.10	0.78	-0.28	0.84	0.26	0.61	77.42	0.0001*
SCM	38.58	6.20	36.68	6.04	40.35	5.82	53.12	0.0001*
SCA	27.64	3.21	26.49	3.93	28.72	1.76	76.07	0.0001*
TO	33.90	4.35	32.92	4.62	34.80	3.88	27.12	0.0001*
WO	29.10	5.76	28.74	5.89	29.43	5.64	1.99	0.1589
OP	24.99	4.73	24.73	4.61	25.22	4.84	1.52	0.2179
AG	32.24	6.57	30.82	6.79	33.56	6.07	25.07	0.0001*
CN	39.62	6.58	38.85	6.70	40.35	6.40	7.32	0.0070

Note: IR = Intrinsic Religiosity; QU = Quest; CO = Christian Orthodoxy;

RM = Religious Maturity; HF = Horizontal Faith; FG1 = Faith Global 1; FG2 = Faith

Global 2; SA = Social Adequacy; SCM = Social Commitment; SCA = Social Change

Acceptance; TO = Tolerance; WO = Work Orientation; OP = Openness;

AG = Agreeableness; CN = Conscientiousness

* $p < .0001$; $N = 554$ (males =267; females =287); (includes religious colleges, $N = 69$)

Table 2Means and Standard Deviations of the University Sample

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Minimum</u>	<u>Maximum</u>
IR	485	26.07	9.94	10.00	50.00
QU	485	29.39	6.63	12.00	48.00
CO	485	21.16	6.51	6.00	30.00
RM	485	17.47	3.30	5.00	25.00
HF	485	36.39	7.44	12.00	60.00
FG1	485	23.29	6.99	8.00	40.00
FG2	485	11.19	2.47	3.00	15.00
SCM	485	37.96	6.22	17.00	50.00
SCA	485	27.62	3.29	10.00	30.00
TO	485	33.72	4.44	12.00	40.00
WO	485	29.03	5.80	12.00	40.00
OP	485	24.81	4.63	10.00	35.00
AG	485	31.81	6.48	5.00	47.00
CN	485	39.77	6.50	16.00	55.00

Note: IR = Intrinsic Religiosity; QU = Quest; CO = Christian Orthodoxy;

RM = Religious Maturity; HF = Horizontal Faith; FG1 = Faith Global 1;

FG2 = Faith Global 2; SCM = Social Commitment; SCA = Social Change Acceptance;

TO = Tolerance; WO = Work Orientation; OP = Openness; AG = Agreeableness;

CN = Conscientiousness

Table 3

Means and Standard Deviations of the University Sample by Group**Group 1**

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Minimum</u>	<u>Maximum</u>
IR	97	25.70	9.23	10.00	47.00
QU	97	29.00	6.01	13.00	42.00
CO	97	21.71	6.07	6.00	30.00
RM	97	17.52	3.22	5.00	23.00
HF	97	35.77	6.70	22.00	52.00
FG1	97	23.87	7.06	9.00	40.00
FG2	97	11.12	2.34	6.00	15.00
SCA	97	27.54	3.07	13.00	30.00
SCM	97	38.15	6.30	23.00	50.00
TO	97	33.67	4.70	12.00	40.00
WO	97	28.48	5.80	13.00	40.00
OP	97	24.39	4.00	14.00	32.00
AG	97	32.49	6.16	19.00	47.00
CN	97	39.26	6.95	16.00	51.00

Group 2

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Minimum</u>	<u>Maximum</u>
IR	97	26.74	10.70	10.00	49.00
QU	97	29.96	6.55	14.00	43.00
CO	97	20.53	6.77	6.00	30.00
RM	97	17.61	3.51	8.00	25.00
HF	97	36.91	8.13	12.00	56.00
FG1	97	23.31	7.08	9.00	39.00
FG2	97	11.20	2.86	3.00	15.00
SCM	97	37.07	5.99	22.00	55.00
SCA	97	27.92	2.30	22.00	30.00
TO	97	34.55	3.60	25.00	40.00

Table 3 con't

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std Dev</u>	<u>Minimum</u>	<u>Maximum</u>
WO	97	28.90	5.16	15.00	39.00
OP	97	25.25	4.88	11.00	34.00
AG	97	32.08	6.33	11.00	44.00
CN	97	39.21	6.06	24.00	55.00

Group 3

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Minimum</u>	<u>Maximum</u>
IR	97	28.48	9.60	10.00	48.00
QU	97	29.57	6.97	14.00	48.00
CO	97	22.06	6.52	6.00	30.00
RM	97	18.32	2.91	5.00	25.00
HF	97	36.99	7.00	12.00	60.00
FG1	97	23.89	6.52	8.00	39.00
FG2	97	11.47	2.45	5.00	25.00
SCM	97	38.13	6.42	18.00	50.00
SCA	97	27.30	3.57	13.00	30.00
TO	97	33.25	4.38	17.00	40.00
WO	97	29.87	5.09	15.00	39.00
OP	97	25.36	4.98	10.00	35.00
AG	97	31.47	6.94	7.00	46.00
CN	97	40.61	6.08	24.00	55.00

Group 4

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std Dev</u>	<u>Minimum</u>	<u>Maximum</u>
IR	97	24.85	9.80	10.00	50.00
QU	97	29.62	6.99	12.00	45.00
CO	97	21.00	6.74	6.00	30.00
RM	97	17.14	3.58	9.00	25.00
HF	97	36.09	8.21	12.00	57.00
FG1	97	22.74	7.62	8.00	40.00
FG2	97	11.34	2.25	5.00	15.00
SCM	97	38.37	6.77	17.00	50.00

Table 3 cont'

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Minimum</u>	<u>Maximum</u>
SCA	97	27.82	3.61	10.00	30.00
TO	97	33.26	5.10	20.00	40.00
WO	97	29.77	6.60	12.00	40.00
OP	97	24.55	4.91	13.00	35.00
AG	97	30.98	6.85	5.00	43.00
CN	97	41.14	6.17	28.00	55.00

Group 5

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>Minimum</u>	<u>Maximum</u>
IR	97	24.58	9.94	10.00	40.00
QU	97	28.79	6.66	13.00	41.00
CO	97	20.51	6.68	6.00	30.00
RM	97	16.74	3.06	7.00	24.00
HF	97	36.18	7.12	20.00	50.00
FG1	97	22.64	6.64	8.00	40.00
FG2	97	10.80	2.39	5.00	15.00
SCM	97	37.44	5.65	23.00	49.00
SCA	97	27.51	3.71	10.00	30.00
TO	97	33.90	4.26	20.00	40.00
WO	97	28.11	6.13	13.00	40.00
OP	97	24.48	4.32	16.00	34.00
AG	97	32.02	6.08	18.00	46.00
CN	97	38.62	6.98	16.00	54.00

Note: IR = Intrinsic Religiosity; QU = Quest; CO = Christian Orthodoxy;

RM = Religious Maturity; HF = Horizontal Faith; FG1 = Faith Global 1;

FG2 = Faith Global 2; SCM = Social Commitment; SCA = Social Change Acceptance;

TO = Tolerance; WO = Work Orientation; OP = Openness; AG = Agreeableness;

CN = Conscientiousness

Table 4Means and Standard Deviations of the Religious Colleges Sample

<u>Variable</u>	<u>N</u>	<u>Mean</u>	<u>Std Dev</u>	<u>Minimum</u>	<u>Maximum</u>
IR	69	42.57	5.18	30.00	50.00
QU	69	32.01	5.63	19.00	47.00
CO	69	28.00	3.79	6.00	30.00
RM	69	17.70	3.70	7.00	24.00
HF	69	43.33	7.87	20.00	60.00
FG1	69	28.38	5.44	13.00	38.00
FG2	69	10.30	3.38	3.00	15.00
SCM	69	42.94	3.90	33.00	49.00
SCA	69	27.84	2.54	19.00	30.00
TO	69	35.11	3.44	26.00	40.00
WO	69	29.61	5.49	18.00	40.00
OP	69	26.26	5.23	13.00	35.00
AG	69	35.28	6.45	7.00	47.00
CN	69	38.62	7.05	20.00	53.00

Note: IR = Intrinsic Religiosity; QU = Quest; CO = Christian Orthodoxy;

RM = Religious Maturity; HF = Horizontal Faith; FG1 = Faith Global 1;

FG2 = Faith Global 2; SCM = Social Commitment; SCA = Social Change Acceptance

TO = Tolerance; WO = Work Orientation; OP = Openness; AG = Agreeableness

CN = Conscientiousness

Table 5**Correlation Matrix for Total Sample (including religious colleges)**

	IR	QU	CO	RM	HF	FG1	FG2	SA	SCM	SCA	TO	WO	OP	AG	CN
IR	-	.07	.73*	.25*	.47*	.67*	-.00	.10	.22*	-.03	.04	.06	.07	.13	.08
QU	.07	-	.04	.33*	.19*	-.21	.31*	.03	.06	-.01	.03	-.14	.29*	-.04	-.13
CO	.73*	.01	-	.29*	.36*	.68*	.09	.10	.20*	.02	.03	.07	-.03	.17*	.11
RM	.25*	.33*	.29*	-	.24*	.16*	.43*	.12	.10	.11	.07	-.04	.29*	.13	.02
HF	.47*	.19*	.37*	.24*	-	.25*	.17*	.35*	.41*	.15	.26*	.16*	.25*	.28*	.16*
FG1	.67*	-.21	.68*	.16*	.25*	-	-.04	-.00	.09	.00	-.08	.04	-.19	.13	.13
FG2	-.00	.32*	.09	.43*	.17*	-.04	-	.24*	.17*	.26*	.17*	-.01	.33*	.13	.02
SA	.10	.03	.10	.12	.35*	-.00	.24*	-	.76*	.73*	.86*	.29*	.31*	.39*	.13
SCM	.22*	.06	.20*	.10	.41*	.09	.16*	.76*	-	.35*	.48*	.35*	.26*	.37*	.17*
SCA	-.03	-.01	.02	.11	.15*	.00	.26*	.73*	.35*	-	.46*	.15	.17*	.28*	.10
TO	.05	.03	.03	.07	.26*	-.08	.16*	.87*	.48*	.46*	-	.19*	.28*	.29*	.05
WO	.06	-.13	.06	-.04	.16*	.04	-.01	.29*	.35*	.15	.19*	-	.06	.23*	.63*

Table 5 continued

	IR	QU	CO	RM	HF	FG1	FG2	SA	SCM	SCA	TO	WO	OP	AG	CN
OP	.07	.29*	-.03	.29*	.25*	-.19*	.33*	.31*	.26*	.17*	.28*	.06	-	.12	-.01
AG	.13	-.04	.17*	.13	.28*	.13	.13	.39*	.37*	.28*	.29*	.23*	.12	-	.20*
CN	.08	-.13	.11	.02	.16*	.13	.02	.13	.17*	.10	.05	.63*	-.01	.20*	-

Note: IR = Intrinsic Religiosity; QU = Quest; CO = Christian Orthodoxy; RM = Religious Maturity; HF = Horizontal Faith; FG1/FG2 = Faith Global 1 and 2; SA = Social Adequacy; SCM = Social Commitment; SCA = Social Change Acceptance; TO = Tolerance; WO = Work Orientation; OP = Openness; AG = Agreeableness; CN = Conscientiousness;

* $p < .0001$; $N = 554$ (includes religious colleges sample, $N = 69$); (males, $n = 267$; females, $n = 287$)

Hypothesis 1

Intrinsic Religiosity

It was originally hypothesised that those scoring higher on Intrinsic Religiosity would score higher on the Social Adequacy factor, which included Social Commitment, Tolerance and Social Change Acceptance.

Correlational analyses revealed no significant relationship between Intrinsic Religiosity and Social Adequacy. However, when the three components of Social Adequacy were examined, there was a weak but significant correlation between Intrinsic Religiosity and the Social Commitment variable, but not with the other two variables. $r = 0.22290$, $p < .0001$ (See Table 6).

Table 6

Correlations Between Scores on Intrinsic Religiosity and Social Adequacy

	Social Commitment	Tolerance	Social Change	Social Adequacy
Intrinsic Religiosity	0.22290 *	0.04739	-0.03154	0.09952

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Quest

It was originally hypothesised that those scoring higher on Quest would score higher on Social Adequacy and its three components: Social Commitment, Tolerance and Social Change Acceptance. Correlational analyses between Quest and Social Adequacy failed to reveal any significant findings either on Social Adequacy or its three individual components. Correlations ranged from -0.01 to 0.06. (see Table 5).

Christian Orthodoxy

It was originally hypothesised that those scoring higher on Christian Orthodoxy would score lower on Social Adequacy and its three components: Social Commitment, Tolerance and Social Change Acceptance. Examination of the correlation between Christian Orthodoxy and Social Adequacy revealed no significant relationship. However, a weak yet significant relationship did exist between the Social Commitment portion of Social Adequacy and Christian Orthodoxy, $r = 0.19687$, $p < .0001$. (see Table 7).

Table 7Correlations Between Scores on Christian Orthodoxy and Social Adequacy

	Social Commitment	Tolerance	Social Change	Social Adequacy
Christian Orthodoxy	0.19687*	0.02522	0.02105	0.09684

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Religious Maturity

It was originally hypothesised that those scoring higher on Religious Maturity would score higher on Social Adequacy and its three components: Social Commitment, Tolerance and Social Change Acceptance. Correlational analyses revealed no significant relationship between scores on Religious Maturity and Social Adequacy or its three components. Correlations ranged from 0.07 to 0.12. (see table 5).

Horizontal Faith

It was originally hypothesised that those scoring higher on Horizontal Faith would score higher on Social Adequacy and its three components: Social Commitment, Tolerance and Social Change Acceptance. When the relationship between Horizontal Faith

and Social Adequacy was examined, correlational analyses revealed weak to strong positive relationships both for Social Adequacy and its components (see Table 8).

Table 8

Correlations Between Scores on Horizontal Faith and Social Adequacy

	Social Commitment	Tolerance	Social Change	Social Adequacy
Horizontal Faith	0.40984 *	0.26472 *	0.15400 **	0.35020 *

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* p < .0001

** p < .0003

Faith Global 2

It was originally hypothesised that those scoring higher on Faith Global 2 would score higher on Social Adequacy and its three components: Social Commitment, Tolerance and Social Change Acceptance. Examination of the correlational analyses revealed weak, yet significant positive relationships between Faith Global 2 scores and Social Adequacy as well as its three components (see Table 9).

Table 9

Correlations Between Scores on Faith Global 2 and Social Adequacy

	Social Commitment	Tolerance	Social Change	Social Adequacy
Faith Global 2	0.16499 *	0.15859 *	0.25787 *	0.23782 *

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Hypothesis 2

Intrinsic Religiosity

It was originally hypothesised that those scoring higher on Intrinsic Religiosity would score higher on Openness. Correlational analyses between Intrinsic Religiosity and personality traits revealed no significant relationship between Openness, Agreeableness or Conscientiousness. Correlations ranged from 0.07 to 0.13. (see Table 5).

Quest

It was originally hypothesised that those scoring higher on Quest would score higher on Openness. Correlational analyses between Quest and personality traits revealed a moderately positive yet significant relationship between Quest and Openness, $r = 0.29173$, $p < .0001$ (see Table 10).

Table 10Correlations Between Scores on Quest and Personality Traits

	Openness	Agreeableness	Conscientiousness	
Quest	0.29173 *	-0.04124	-0.13313	

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Christian Orthodoxy

It was originally hypothesised that those scoring higher on Christian Orthodoxy

would score lower on Openness. Correlational analyses revealed no relationship between Christian Orthodoxy and Openness. A weak positive but significant correlation was found between Agreeableness and Christian Orthodoxy, $r = 0.16821$, $p < .0001$ (see Table 11).

Table 11

Correlations Between Scores on Christian Orthodoxy and Personality Traits

	Openness	Agreeableness	Conscientiousness	
Christian Orthodoxy	-0.02834	0.16821 *	0.10948	

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Religious Maturity

It was originally hypothesised that those scoring higher on Religious Maturity would score higher on Openness. Correlational analyses between Religious Maturity and Openness, Agreeableness, Conscientiousness revealed a weak but significant positive relationship with Openness, $r = 0.29000$, $p < .0001$ (see Table 12).

Table 12Correlations Between Scores on Religious Maturity and Personality Traits

	Openness	Agreeableness	Conscientiousness
Religious Maturity	0.29000 *	0.13044	0.02105

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Horizontal Faith

It was originally hypothesised that those scoring higher on Horizontal Faith would score higher on Openness. Correlational analyses between Horizontal Faith and Openness, Agreeableness and Conscientiousness revealed weak but positive correlations between Horizontal Faith and Openness, $r = 0.24887$, $p < .0001$, Agreeableness, $r = 0.28423$, $p < .0001$, and Conscientiousness, $r = 0.15845$, $p < .0002$ (see Table 13).

Table 13

Correlations Between Scores on Horizontal Faith and Personality Traits

	Openness	Agreeableness	Conscientiousness
Horizontal Faith	0.24887 *	0.28423 *	0.15845 **

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

** $p < .0002$

Faith Global 2

It was originally hypothesised that those scoring higher on Faith Global 2 would score higher on Openness. Examination of the correlations revealed a moderate positive correlation between Global Faith Development and Openness; $r = 0.32522$, $p < .0001$ (see Table 14).

Table 14

Correlations Between Scores on Faith Global 2 and Personality Traits

	Openness	Agreeableness	Conscientiousness
Faith Global 2	0.32522 *	0.12718	0.02106

Pearson Correlation Coefficients / Prob > | R | under Ho: Rho=0 / N = 554

* $p < .0001$

Hypothesis 3

It was originally hypothesised that higher scores on Intrinsic Religiosity and higher scores on Religious/Faith Maturity would predict higher scores on Work Orientation. Correlational analyses between Intrinsic Religiosity and Work Orientation revealed no significant relationship (i.e., $r = 0.06$) Correlational analyses between the three measures of faith/religious maturity and Work Orientation revealed a weak yet positive relationship between Work Orientation and Horizontal Faith, $r = 0.16001$, $p < .0002$.

Hypothesis 4

It was originally hypothesised that those from the religious colleges would score higher on a number of variables. These included Intrinsic Religiosity, Christian Orthodoxy, Religious Maturity, Horizontal Faith, Global Faith 2, and Work Orientation.

In order to facilitate comparisons between the two groups, the university sample was split into five equal groups ($n = 97$) to compare with the religious-colleges group ($N = 69$). When ANOVA's were run on the data, it was found that the religious college sample tended to score higher on Intrinsic Religiosity, Christian Orthodoxy and Horizontal Faith, than the university sample (see Table 15, 16 and 17).

Table 15

ANOVA of Religious Colleges versus University Sample for Intrinsic Religiosity

<u>Contrast</u>	<u>F</u>	<u>p</u>
Religious Colleges vs. Group 1	132.04	0.0001*
Religious Colleges vs. Group 2	116.41	0.0001*
Religious Colleges vs. Group 3	92.45	0.0001*
Religious Colleges vs. Group 4	145.63	0.0001*
Religious Colleges vs. Group 5	150.02	0.0001*

* significant, $n = 97$ for each group, $N = 69$ for Religious Colleges

The religious colleges also tended to score higher on Christian Orthodoxy (see

Table 16)

Table 16

ANOVA of Religious Colleges versus University Sample for Christian Orthodoxy

<u>Contrast</u>	<u>F</u>	<u>p</u>
Religious Colleges vs. Group 1	40.99	0.0001*
Religious Colleges vs. Group 2	57.91	0.0001*
Religious Colleges vs. Group 3	36.55	0.0001*
Religious Colleges vs. Group 4	50.79	0.0001*
Religious Colleges vs. Group 5	58.23	0.0001*

* significant, $n = 97$ for each group, $N = 69$ for Religious Colleges

Finally, the religious colleges tended to score higher Horizontal Faith (see Table 17).

Table 17

ANOVA of Religious Colleges versus University Sample for Horizontal Faith

<u>Contrast</u>	<u>F</u>	<u>p</u>
Religious Colleges vs. Group 1	40.86	0.0001*
Religious Colleges vs. Group 2	29.52	0.0001*
Religious Colleges vs. Group 3	28.77	0.0001*
Religious Colleges vs. Group 4	37.48	0.0001*
Religious Colleges vs. Group 5	36.63	0.0001*

* significant, $n = 97$ for each group, $N = 69$ for Religious Colleges

No other significant differences were found in the ANOVA's. There was no difference between the religious colleges and the university sample on Work Orientation, Religious Maturity, or Faith Global 2.

Committed versus Tentative Religiosity

A set of three religiosity measures had substantial intercorrelations with each other. These were Intrinsic Religiosity, Christian Orthodoxy and Faith Global 1. When these three measures along with Religious Maturity, Quest and Faith Global 2 were factor analysed, two clear factors appeared.

Intrinsic Religiosity, Christian Orthodoxy and Faith Global 1 loaded highly on factor 1. These three together were labelled Committed Religiosity. Religious Maturity, Quest, and Faith Global 2 loaded highly on factor 2. These three together were labelled Tentative Religiosity.

Summary of the Main Results

A summarisation of the main results from each of the four hypotheses appears below:

Hypothesis One: There was no correlation between Quest and Social Adequacy and Religious Maturity and Social Adequacy.

There was a significant positive correlation between:

- a). Intrinsic Religiosity and Social Commitment
- b). Christian Orthodoxy and Social Commitment.
- c). Horizontal Faith and Social Adequacy.
- d). Horizontal Faith and Social Commitment.
- e). Horizontal Faith and Social Change.
- f). Horizontal Faith and Tolerance.
- g). Faith Global 2 and Social Adequacy.
- h). Faith Global 2 and Social Commitment.
- i). Faith Global 2 and Social Change.
- j). Faith Global 2 and Tolerance.

Hypothesis Two: There was no correlation between:

a). Intrinsic Religiosity and Openness.

b). Christian Orthodoxy and Openness.

There was a significant positive correlation between:

c). Quest and Openness

d). Religious Maturity and Openness.

e). Horizontal Faith and Openness, Agreeableness and Conscientiousness.

f). Faith Global 2 and Openness.

g). Christian Orthodoxy and Agreeableness.

Hypothesis Three: A significant positive correlation was found only between Horizontal Faith and Work Orientation.

Hypothesis Four: The religious college students scored higher than the university students on Intrinsic Religiosity, Christian Orthodoxy, and Horizontal Faith.

Discussion

This study attempted to re-examine the relationship between religion and open-mindedness. Subjects were compared from ideologically homogeneous (religious) and ideologically heterogeneous (secular) academic environments. Since researchers disagree as to whether open-mindedness is a 'cognitive style of reasoning' or a 'personality trait', a dual approach, which utilised both, a 'cognitive style of reasoning' measure and a 'personality trait' measure was used. Religion was measured using a multi-dimensional approach, which included assessing such areas as intrinsic religiosity, quest, orthodoxy,

and several aspects of religious and faith maturity. This approach provided an opportunity to examine a broad realm of religion and not just church attendance. Comparison of the religious colleges versus the university sample was done to see what differences would emerge between the two groups.

Hypothesis One

The first hypothesis expected to find a number of relationships existing between scores on several religious measures and a measure of Social Adequacy and its three components. Social Adequacy was understood to measure open-mindedness as a 'cognitive style of reasoning'.

Intrinsic Religiosity

It was expected that higher scores on Intrinsic Religiosity would predict higher scores on Social Adequacy. This hypothesis was confirmed, however only partially. Higher scores on Intrinsic Religiosity did not relate to higher scores on Social Adequacy as a whole. Only part of the Social Adequacy scale produced significant results, that being Social Commitment.

In reviewing the definitions of Social Commitment, Social Change, and Tolerance, one may question as to whether Social Commitment should be regarded as a measure of 'open-mindedness'. In other words, is Social Commitment an accurate measure of 'open-mindedness'?

Greenberger and Sorenson (1974) refer to social commitment as feelings of 'community' with others, a willingness to modify or relinquish personal goals in the interest of social goals, readiness to form alliances with others to promote social goals and investment in long term social goals. The Social Change variable and the Tolerance variable refer to social attitudes which accept social differences. These could easily be seen as measures of 'open-mindedness'. The question here would be whether or not Social Commitment is an accurate measure of 'open-mindedness'.

Using the definitions given by Greenberger and Sorenson, it is not, but appears more to represent the promotion of social goals and pro-social values. In an unpublished paper (Schludermann, 1998) reported a pro-social values factor which was composed of five different variables including the Social Commitment variable. When this set of five variables was factor analysed, all five variables loaded on a single principal axis factor which he labelled the pro-social values factor (Schludermann, 1998). Therefore, it could be assumed that Social Commitment is more a measure of pro-social values than of open-mindedness. This is not to say that pro-social values are not an important factor in the study of religious beliefs. Bibby and Posterski (1992) found that compared with those who did not attend church, religiously active Canadian adolescents and adults endorsed more pro-social values such as honesty, forgiveness and generosity. They also noted that churches systematically teach these values. The link between religion and pro-social values is clear. Research has also shown a link between religion and open-mindedness. Using religion as a mediating variable, a link between pro-social values and open-mindedness may exist.

Quest

It was also expected that higher scores on Quest would correlate with higher scores on Social Adequacy. Batson has defined Quest in terms of a three dimensional framework: (1) readiness to face existential questions without reducing their complexity; (2) self-criticism and perceptions of religious doubts as positive; and (3) openness to change. According to Greenberger and Sorenson (1974), mature individuals having an openness to social and political change will possess: (1) general openness to change (2) recognition of costs of the status quo (3) recognition of the costs of change. Therefore, it would be expected that Quest would correlate with higher scores on at least the Social Change component of Social Adequacy.

Surprisingly, no relationship between Quest and Social Adequacy or any of its three components was found. One explanation for this may be some of the evidence against the empirical validity of the Quest scale itself. For example, Kojetin, McIntosh, Bridges and Spilka (1987) see Quest more in terms of measuring religious conflict and stress rather than open-minded searching. Similarly, Donahue (1985) sees Quest as less a form of maturity and more as a state of troubled religious doubt.

According to Greenberger and Sorenson (1974) Social Adequacy rests on three components. Although the first two are important, it is the third that may be the contributing factor to the failure to finding a relationship between Quest and Social Adequacy. The third general demand on mature individuals is their capacity to contribute

to social cohesion. Social cohesion is sometimes threatened by outside factors (conflict among subgroups or conflict with others). Perhaps it is a conflict with one's religion as measured by the Quest scale that prevents one from achieving a degree of social cohesion and adequacy.

Christian Orthodoxy

It was hypothesised that higher scores on Christian Orthodoxy would lead to lower scores on Social Adequacy. This hypothesis was not confirmed. In fact, a moderate yet positive correlation was found between Christian Orthodoxy and Social Commitment. There are perhaps some reasons for this. Again, Greenberger and Sorenson (1974) refer to Social Commitment as feelings of 'community' with others, willingness to modify or relinquish personal goals in the interest of social goals, readiness to form alliances with others to promote social goals and investment in long term social goals. Second, Christian Orthodoxy refers to the acceptance of well-defined, central tenets of the Christian religion. As well, the original Christian Orthodoxy Scale was an attempt to write attitude items, which could be used to assess the extent of which people accept these beliefs. Therefore the relationship found between Social Commitment and Christian Orthodoxy makes sense in light of these definitions as the Social Commitment is inherent in the commitment to one's religion as seen through the high scores on the orthodoxy scale. This is not to say that the original hypothesis was wrong, it could in fact still be proven, but a better hypothesis would have been a positive relationship between high scores of Christian Orthodoxy and high scores on Social Commitment.

Religious Maturity

It was hypothesised that high scores on Religious Maturity would predict high scores on Social Adequacy and its three components. This was not confirmed as no correlations were found between Religions Maturity and Social Adequacy or the three components of Social Adequacy. There are two possible explanations for this. First, the Cronbach's alpha of the original scale were quite low ($\alpha = .55$), indicating that perhaps the scale does not measure what it originally set out to do. Second, during factor analysis over half the scale was eliminated due to poor factor loadings. Of the original 11 scale items present, only 5 remained after factor analysis. This does say something about the internal validity of the scale itself. The scale should measure an open-mindedness approach to religious questions and openness to religious doubts. These definitions sound similar to the ones used for Quest, and no correlation between Quest and Social adequacy was found either

Horizontal Faith

It was hypothesised that higher scores on Horizontal Faith would correlate with higher scores on Social Adequacy. The results confirmed this for Social Adequacy and its three components. These results are in agreement with the original intent of the Faith Maturity Scale, which proposes to focus on indicators of faith rather than faith itself (Benson, Donahue, & Erickson, 1993). The main idea behind the horizontal component of

the Faith Maturity Scale is obligation and action on the human plane. It has to do with heeding the call to social service and social justice. These are components shared by the definitions of Social Adequacy and its individual components. According to Greenberger and Sorenson (1974), the concept of psychosocial maturity rests on three general or universal categories including the ability to function adequately with others and the capacity to contribute to social cohesion. Societies need to recognise threats to social cohesion and to recognise individuals who will participate in efforts to restore solidarity (Greenberger & Sorenson, 1974). This is exactly what those who place a strong emphasis on horizontal faith, believe.

Faith Global 2

It was hypothesised that higher scores on Faith Global 2 would correlate with higher scores on Social Adequacy and its three components. This hypothesis was confirmed. The idea behind Global Faith 2 is possessing a high degree of mature faith. Mature faith may be defined as accepting others differences without argument and realising that your own faith may grow and differ and that you may not always subscribe to the faith of your parents or you family. Likewise the individual possessing a high degree of Social Adequacy will recognise the differences inherent in society and work with, rather than against, them. Again it is the similarities between the definitions of Social Adequacy and Faith Global 2 that likely contributed to the positive relationship between the two.

Hypothesis 2

Hypothesis two expected to find a number of relationships existing between scores on these same religious measures and a measure of personality traits including Openness, Agreeableness and Conscientiousness. These traits were understood to measure open-mindedness as a “personality trait”, as opposed to a “cognitive style of reasoning”. Agreeableness and Conscientiousness obviously are not measures of openness. This not to say that Agreeableness and Conscientiousness are not traits worthy of study. It should be understood that the important trait here is Openness.

Intrinsic Religiosity

It was hypothesised that higher scores on Intrinsic Religiosity would correlate with higher scores on three personality traits, namely Openness, Agreeableness, and Conscientiousness. This hypothesis failed to be confirmed as no relationship between Intrinsic Religiosity and Openness, Agreeableness, and Conscientiousness was found. This is contrary to findings by Thompson (1974) which found Intrinsic to be the most open-minded.

This finding does deserve some comment. First it should be noted that there was a relationship between Intrinsic Religiosity and Social Adequacy or at least the Social Commitment portion. Although the correlation was only moderate, it was significant. This begs the question as to whether open-mindedness should be viewed as a ‘personality trait’

or a 'cognitive style of reasoning'. With this particular finding it seems that it should be viewed as a 'cognitive style of reasoning' at least for this particular religious measure. According to Costa and McCrae (1986) Openness refers to the receptiveness and exploration of new ideas, approaches, and experiences. For those scoring high on Intrinsic Religiosity this is not something that would be necessary. A high degree of Intrinsic Religiosity indicates a relative commitment to and stability with one's faith, not necessarily a desire to explore new options.

Quest

It was hypothesised that a higher score on Quest would correlate with higher scores on Openness. This hypothesis was confirmed. The nature of the Quest scale itself which is said to measure a readiness to face existential questions without reducing their complexity, self-criticism and perceptions of religious doubts as positive, and most importantly an openness to change. It is likely that a person who has no firm faith and therefore receives no direction from his or her religion would be more likely involved in obtaining answers to 'existential questions'. According to Bibby and Posterski (1992), obtaining these answers to existential questions may involve a pursuit of alternative religious quests (e.g., New Age). This may account for such a person's receptivity to and exploration of new ideas and approaches as defined by Costa and McCrae as a mark of 'openness' in personality characteristics.

Christian Orthodoxy

It was hypothesised that those scoring high on Christian Orthodoxy would score lower on Openness. This hypothesis failed to be confirmed. One result is worth noting though. There was a significant relationship between Christian orthodoxy and Agreeableness. Christian religious creeds (Nicene, Apostles) are seen as strongly affirming a number of points. First, they speak of a God who is the almighty power. Second, this God makes a costly personal sacrifice to grant forgiveness to his people, through the death and resurrection of his only son Jesus Christ. Third, the creed shows this God to be a “just” God as well as one who is generous beyond description. Fourth, the creeds teach that one can depend on this God to carry him or her through life difficulties and to build a relationship of trust. Similarly, Costa and McCrae’s (1986) definition of ‘agreeableness’ as a personality characteristic suggests a person who possesses a selfless concern for others and the expression of ‘trusting and generous’ statements in interpersonal relationships. One with a trust in their God could be seen as trusting others as well.

Religious Maturity

It was hypothesised that those scoring higher on Religious Maturity would score higher on Openness. This hypothesis was confirmed. Religious Maturity as defined by Dudley and Cruise (1990) shows a religiously mature person to possess a number of traits. First they are prepared to alter their religious belief, as new information becomes available. Second, they are open to new thoughts and ways of understanding the meaning of life and

to be willing to recognise that religion may be mistaken on some points. Finally, the religiously mature person recognises that 'important religious questions have no simple answers and that faith is a developmental process'. This is not to say that one should abandon one's faith in times of religious doubt. The religious person instead understands that even though we can't be sure that everything is true, it is worth acting on the probability that it may be (Dudley & Cruise, 1990). Costa and McCrae's Openness clearly fits in this orientation.

Horizontal Faith

It was hypothesised that those scoring higher on Horizontal Faith would score higher on the Openness. This hypothesis was confirmed. Horizontal Faith, as defined by Benson, Donahue and Erickson (1993) involves a person who: a) Experiences a nurturing faith. b) Holds life-affirming values. c) Advocates social change, and d) Acts and serves. According to Costa and McCrae's definition, an open-minded person is receptive to and explores new ideas, approaches and experiences. A person high in horizontally mature faith will be ready to resolve conflicting views, values and approaches and be ready to explore ways of resolving these. Such conflicts may occur as the individual works his/her faith in the community. Such a person could not ignore these conflicts and contradictions.

Faith Global 2

It was hypothesised that higher scores on Faith Global 2 would correlate with higher scores on Openness. Again this hypothesis was confirmed. The idea behind Faith Global 2 comes from the work of theologian James Fowler. Fowler (1982), has hypothesised what he calls 'stages' of faith. Those of a relatively mature stage of faith are at stage 4 or 5 while those of a less mature faith are at stages 2 or 3 (Fowler, 1982). Participants who score high on Faith Global 2 have a general openness both to their own religious beliefs and to other religions, which they believe may hold valuable insights. Persons holding these beliefs would be seen at stage 4 or 5. Those not endorsing Faith Global 2 are seen as having their beliefs rooted in church and family based teaching. They are firm but inflexible believers and would be at stage 2 or 3. Persons at stages 4 or 5 could be seen as endorsing the 'openness' personality characteristics put forth by Costa and McCrae.

Hypothesis 3

It was hypothesised that higher scores on Intrinsic Religiosity would predict higher scores on Work Orientation. As well, it was hypothesised that higher scores on the three measures of faith/religious maturity would predict higher scores on Work Orientation. The

first hypothesis failed to be confirmed, however the second was confirmed at least partially. A significant relationship between Horizontal Faith and Work Orientation was found. These findings deserve some explanation.

Horizontal Faith is meant to imply obligation and action on the human plane. It has to do with heeding the call to social service and social justice. This theme has been called horizontal, communal, or “love-of-neighbour” faith. Individuals high in horizontal faith are interested in political and social issues, helping the poor, the minority groups, and stressing the need to make the world a better place.

Having a work orientation implies that the individual applies these “general skills” in the service of a need to perform work competently. Competence, in a work oriented person, brings pleasure; occasionally so does the routine exercise of general work skills. Psychology theory and research suggest that a work orientation contributes to adequate individual functioning by preserving the individual’s mental health (Greenberger & Sorenson, 1974).

Mock (1988) has conceptualised what are called ‘social justice beliefs’. These stress human interdependence, the need to share resources and the need to close the gap between the rich and the poor. Thus, churchgoers who stress social justice beliefs would tend to view work as part of their calling to build a more just world. Thus a relationship begins to emerge between work orientation and religion. This relationship however is somewhat complex.

The idea of Horizontal Faith appears similar to what Mock calls ‘social justice beliefs’. For university or bible college students this could mean a number of things, including working in a soup kitchen, building a home for Habitat for Humanity, or

volunteering at the Salvation Army. These people would tend to view their work as a calling rather than just work. This may explain the relationship seen between Horizontal Faith and Work Orientation. Why, however, was there no relationship between Intrinsic Religiosity and Work Orientation?

To say that a relationship doesn't exist would not be correct. Perhaps its absence lies in the nature of the subjects in the study. Many if not all of the subjects were full-time university students in their first year of studies. They may have worked part time but other than that they devoted their time to their schoolwork. Most of the research on work orientation as it relates to internalised religion or intrinsic religion has been done with adult populations. Thus, it was not that a relationship between Intrinsic Religiosity and Work Orientation didn't exist, but rather it simply had yet to develop.

Hypothesis 4

It was hypothesised that several differences would be found between the religious college students and the university students. There were some differences noted but not all the hypotheses were confirmed. First the religious college students tended to score higher on Intrinsic Religiosity. This is not surprising. A high score on Intrinsic Religiosity represents a desire and a commitment to ones religion. The intrinsically religious individual "lives their religion" and strives to have it encompass all parts of their lives. The decision to attend a religious college is such a decision. Religious college students are required to attend religious services daily and to conduct themselves according to the rules and morals

set out by their particular religion. This may mean abstaining from alcohol, drugs or even premarital sexual relations. Such action should be seen as a full commitment to one's religion.

The religious college students also scored higher on the Christian Orthodoxy Scale than the university sample did. Again, this is not surprising. The Christian Orthodoxy Scale is based on the various creeds of the Christian religions (e.g., Nicene or Apostles creed). In order to embrace one's religion fully one must understand and embrace the creeds that religion follows. Through daily worship services and religious studies classes, religious college students learn and come to understand the creeds better than those just attending a regular university. This is not to say that those attending a regular university do not possess a knowledgeable understanding of the creeds. The opportunity to study the creeds is far better in a religious college.

Finally, the religious college students tended to score higher on Horizontal Faith. Most religious colleges require their students to perform a certain amount of community service work. This may come in the form of working at a soup kitchen, or volunteering to help the poor and the homeless. Horizontal Faith is said to measure ones involvement and belief in this type of work. Since these students may already have a strong belief, the added requirement of them having to do this work may account for them scoring higher on Horizontal Faith than the university sample.

Gender Differences

No gender differences between males and females were found on any of the four religiosity measures. This finding is in contrast to findings by Donahue (1985) who suggests females generally score higher on Intrinsic religiosity. However data from an unpublished study using 369 boys and 372 girls from three Catholic high schools yielded no significant gender differences on four religiosity measures (Schludermann, Schludermann & Huynh, 1997).

Gender differences were observed among some of the non-religious variables. Females tended to score higher on the Social Adequacy measure and its three components. Females also scored higher on the personality trait Agreeableness. Females also scored higher on Horizontal Faith. These findings are in line with research by Spence and Helmreich (1978) which proposes that instrumental traits such as aggression, ambition and independence are more closely related to males, whereas expressive traits such as gentleness, agreeableness and tact are more closely linked to females. Females have also been more inclined to endorse prosocial values (Schludermann, Schludermann & Huynh, 1997). This is not always the case, as some researchers have found no differences in personality traits between males and females (Mitchell, Baker, & Jacklin, 1989).

Personality Versus Cognitive Style

As mentioned before, there is still the dilemma as to whether open-mindedness should be viewed as a “personality trait” or a “cognitive style of reasoning”. Researchers such as Rokeach (1960), suggest that some individuals exhibit what he termed “closed belief systems”, which are impervious to change. He argued that this ‘dogmatism’ often comes from belief in some ultimate authority. Rokeach (1960), viewed this ‘dogmatism’ as a personality trait, calling it ‘highly resistant to change.’ Alternatively Jelen and Wilcox (1991), have argued that dogmatism or ‘close-mindedness’ should be seen as a style of reasoning rather than a personality trait.

Whether or not these theories would also apply to the idea of open-mindedness is not clear. This study however, did look into that possibility by including both a personality measure of open-mindedness and a ‘cognitive’ measure of open-mindedness. The major differences and the evidence for this argument seem to revolve around two measures. Intrinsic Religiosity tended to produce favourable results when open-mindedness was viewed as a ‘cognitive style of reasoning’ by using Greeneberger and Sorenson’s Social Adequacy measure. When open-mindedness was viewed as a personality trait by using Costa and McCrae’s Openness measure no relationship between Intrinsic Religiosity and Openness was observed. The opposite was seen for Quest. A significant relationship between Quest and Openness was observed, however, when Quest was compared with Social Adequacy, no such relationship existed.

A moderately significant correlation ($r = 0.30908$, $p < .0001$) does exist between Greenberger and Sorenson’s (1974) Social Adequacy scale and Costa and McCrae’s

(1986) Openness scale indicating at least some similarity between the two scales. Whether or not this is actually evidence for a 'two theory' approach to the area of open-mindedness is not clear. Future research into the area of religion and open-mindedness should include scales that measure open-mindedness as a personality trait and a 'cognitive style of reasoning'.

Contributions, Limitations and Future Considerations

This study set out to examine the relationship between religion and open-mindedness. Since open-mindedness can be viewed as both a 'cognitive style of reasoning', and a personality trait, this study utilised measures applicable to each view. Religion was measured using a multi-dimensional approach including scales relating to religious orientation, quest, orthodoxy, and degree of religious faith maturity. Two subject populations were also used in this study. One came from a large secular university and the other came from a series of small religious colleges.

On the positive side at least some of the hypotheses were confirmed. When open-mindedness was viewed as a 'cognitive style of reasoning, higher scores on Horizontal Faith, and Faith Global 2 correlated with higher scores on Social Adequacy. Intrinsic Religiosity and Christian Orthodoxy correlated with Social Commitment. However, Quest and Religious Maturity showed no relationship to Social Adequacy.

When open-mindedness was viewed as personality trait, higher scores on Quest, Religious Maturity, Horizontal Faith, and Faith Global 2 correlated with higher scores on

Openness. However, Intrinsic Religiosity and Christian Orthodoxy failed to correlate at all with Openness.

Higher scores on Work Orientation failed to correlate with higher scores on Intrinsic Religiosity although they did correlated with higher scores on Horizontal Faith. Finally, students from the religious colleges tended to score higher on Intrinsic Religiosity, Christian Orthodoxy and Horizontal Faith than university students.

The findings of this study have contributed to our knowledge by providing more information regarding the link between religion and open-mindedness, a topic largely ignored by researchers. Research in the past has typically focused on close-mindedness or 'dogmatism' present among religious populations. This study also contributed to the very few attempts at discriminating between the idea of open-mindedness as a 'cognitive style of reasoning', or 'personality trait'.

There were a number of limitations to the study. First, increasing the sample size from the religious colleges would have enabled a better comparison between the colleges and the secular university. Second, the use of a single multidimensional religious variable would eliminate the need to use many different scales to measure religion. Perhaps the use of a Committed and Tentative religiosity measure could be explored (see comments below).

There are a couple of things that could be considered in future research in this area. First, it was mentioned previously that two factors could be said to exist among the set of religious scales. One, Committed Religiosity would contain the factor set of Intrinsic Religiosity, Christian Orthodoxy, and Faith Global 1. The other, Tentative Religiosity would consist of the factor set of Quest, Religious Maturity and the Faith Global 2.

These two factors could be quite useful in further research on religion for a number of reasons. First, they eliminate the need to use a number of scales to tap the construct of religiosity. Secondly, and more importantly, they identify two distinct types of religious attitudes. Committed may refer to someone who is relatively secure in their faith. They have attended the same church for a number of years and perhaps their family attends as well. They tend not to question their beliefs. The tentative on the other hand may have questions about his or her beliefs and they may not be entirely secure in their faith. They might enjoy exploring religions or churches, and may not subscribe to one particular church or religion.

The argument of whether to view open-mindedness as a 'cognitive style of reasoning' or a personality trait is also worthy of further attention.

Lastly, the idea of viewing religious people as being open-minded as opposed to close-minded deserves attention. The contributions of religious research can and should be seen as positive.

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Appendix A

Religious Orientation Scale

Read each item and indicate your disagreement or agreement according to the scale below. There are no right or wrong answers. Note: if your religious faith is different from Christianity, please interpret “church” as a place of worship (e.g. synagogue or temple) and “Bible” as religious or sacred writings.

Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

- 1) It is important to me to spend periods of time in private religious thought and meditation. (I)
- 2) If not prevented by unavoidable circumstances, I attend church. (I)
- 3) The primary purpose of prayer is to gain relief and protection. (E)
- 4) The church is most important as a place to formulate good social relationships. (E)
- 5) I try hard to carry my religion over into all my other dealings in life. (I)
- 6) *What religion offers me most is comfort when sorrows and misfortune strike. (E)
- 7) I pray chiefly because I have been taught to pray. (E)
- 8) The prayers I say when I am alone carry as much meaning and personal emotion as those said by me during services. (I)
- 9) A primary reason for my interest in religion is that my church is a congenial social activity. (E)
- 10) Quite often I have been keenly aware of the presence of God or the Divine Being. (I)
- 11) I read literature about my faith (church or religion). (I)

- 12) If I were to join a church group I would prefer to join a Bible Study group rather than a social fellowship. (I)
- 13) Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being. (E)
- 14) One reason for my being a church member is that such membership helps to establish a person in the community. (E)
- 15) My religious beliefs are what really lie behind my whole approach to life. (I)
- 16) Religion is especially important to me because it answers many questions about the meaning of life. (I)
- 17) The purpose of prayer is to secure a happy and peaceful life. (E)
- 18) My faith involves all my life. (I)

Note:

(I) – denotes Intrinsic Item

(E) – denotes Extrinsic Item

* Items deleted from the scale definition

Scoring:

Intrinsic Religiosity = $\sum\#(1, 2, 5, 8, 10, 11, 12, 15, 16, 18)$

Extrinsic Religiosity = $\sum\#(3, 4, 7, 9, 13, 14, 17)$

Appendix B

Quest

This scale relates to religious development. There are no right or wrong answers to the following statements; some will agree and others will disagree with a given statement.

If your religious faith is different from Christianity, please remember to interpret “church” as a place of worship and “Bible” as sacred writings.

Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

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

* Items deleted from the scale definition

Scoring = $\sum \#(1, 2, 3, 4, 5, 6, 9, 10, 12) + 6 - (\text{item \#11})$

Appendix C

Christian Orthodoxy

This scale includes a number of statements related to specific religious beliefs. You will probably find that you agree with some of the statements, and disagree with others, to varying extents. Please mark your opinion according to the amount of agreement or disagreement, by using the following scale.

Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

- 1) *God exists as: Father, Son and Holy Spirit.
- 2) *Those who feel that God answered prayers are just deceiving themselves.
- 3) Jesus Christ was the Divine Son of God.
- 4) The Bible may be an important book of moral teachings, but it was more inspired by God than were other such books in human history.
- 5) The concept of God in an old superstition that is no longer needed to explain things in the modern era.
- 6) Through the life, death and resurrection of Jesus, God provided a way for the forgiveness of people's sins.
- 7) Despite what many people believe, there is no such thing as a God who is aware of our actions.
- 8) Jesus was crucified, died and was buried but on the third day He arose from the dead.

* Items eliminated from the scale definition.

Scoring = $\sum\#(3, 4, 6, 8) + 12 - \sum\#(5, 7)$

Appendix D

Religious Maturity Scale (Dudley and Cruise)

Here are some statements that show how people feel about religion. Please indicate how much you agree or disagree with the statement by selecting a number according to the key below.

Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

- 1) My religious beliefs provide me with satisfying answers at this stage of my development, but I am prepared to alter them as new information becomes available.
- 2) I am happy with my present religion but wish to be open to new insights and ways of understanding the meaning of life.
- 3) As best as I can determine, my religion is true, but I recognize that I could be mistaken on some points.
- 4) Important questions about the meaning of life do not have simple or easy answers; therefore faith is a developmental process.
- 5) *I could not commit myself to a religion unless I was certain that it is completely true.
- 6) *I have struggled in trying to understand the problems of evil, suffering, and death that mark this world.
- 7) *Churches should concentrate on proclaiming the gospel and not become involved in trying to change society through social or political action.

- 8) While we can never be quite sure that what we believe is absolutely true, it is worth acting on the probability that it may be.
- 9) *I have found that many religious questions to be difficult and complex so I am hesitant to be dogmatic or final in my assertions.
- 10) *In my religion my relationships with other people are as fundamental as my relationship with God.
- 11) *My religious beliefs are pretty much the same today as they were five years ago.

* Items eliminated from the scale definition

Scoring = $\sum \#(1, 2, 3, 4, 8)$

Appendix E

Faith Maturity Scale (Horizontal Faith)

How true are each of these statements for you? Mark one answer for each. Be as honest as possible, describing how true it really is and not how true you would like it to be. Choose from these responses.

Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

- 1) I am concerned that our country is not doing enough to help the poor.
- 2) In my free time, I help people who have problems or needs.
- 3) I do things to help protect the environment.
- 4) I am active in efforts to promote social justice.
- 5) I am active in efforts to promote world peace.
- 6) I feel a deep sense of responsibility for reducing pain and suffering in the world.
- 7) I give significant portions of time and money to help other people.
- 8) I speak out for equality of women and minorities.
- 9) I care a great deal about reducing poverty in Canada and throughout the world.
- 10) I try to apply my faith in political and social issues.
- 11) I go out of my way to show love to people I meet.
- 12) I think Christians must be about the business of creating international understanding and harmony.

Scoring = $\sum \# (1 - 12)$

Appendix F

Global Faith Development (Original)

This survey asks you to choose between two different ways of looking at religious issues. For the following items, both of the choices available may seem valid to you, or both may seem inadequate; however, it is important that you select the one of the two options that comes the closest to reflecting how you feel about the religious issues involved. If you think "1" reflects your viewpoint choose "1", if "2" is best, choose "2".

1) 1 = I believe totally (or almost totally) the teachings of my church.

OR

2 = I find myself disagreeing with my church over numerous aspects of my faith.

2) 1 = I believe that my church offers a full insight into what God wants for us and how we should worship him.

OR

2 = I believe that my church has much to offer, but that other religions can also provide many religious insights.

3) 1 = It is very important for me to critically examine my religious beliefs and values.

OR

2 = It is very important for me to accept the religious beliefs and values of my church.

4) 1 = My religious orientation comes primarily from my own efforts to analyze and understand God.

OR

2 = My religious orientation comes primarily from the teachings of my family and church.

- 5) 1 = It does not bother me to become exposed to other religious traditions and belief systems; there may be elements in them that I could benefit from.**

OR

2 = I don't find value in becoming exposed to other religious traditions and belief systems; I doubt that there will be elements in them that I could benefit from.

- 6) 1 = My personal religious growth has occasionally required me to come into conflict with my family and friends.**

OR

2 = My personal religious growth has not required me to come into conflict with my family and friends.

- 7) 1 = It is very important that my faith is highly compatible with or similar to the faith of my family.**

OR

2 = It isn't essential that my faith be highly compatible with the faith of my family.

- 8) 1 = The religious traditions and beliefs I grew up with are very important to me and do not need changing.**

OR

2 = The religious traditions and beliefs I grew up with have become less and less relevant to my current religious orientation.

Appendix G

Global Faith Development (Revised)

This survey concerns different ways of looking at religious issues. For the following items, use the scale below to choose how you best feel about the statements.

Strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5.

- 1) I believe totally (or almost totally) the teaching of my church.
- 2) I find myself disagreeing with my church over numerous aspects of my faith.
- 3) I believe that my church offers a full insight into what God wants for us and how we should worship him.
- 4) I believe that my church has much to offer, but that other religions can also provide many religious insights.
- 5) *It is very important for me to critically examine my religious beliefs and values.
- 6) It is very important for me to accept the religious beliefs and values of my church.
- 7) *My religious orientation comes primarily from my own efforts to analyze and understand God.
- 8) My religious orientation comes primarily from the teachings of my family and church.
- 9) It does not bother me to become exposed to other religious traditions and belief systems; there may be elements in them that I could benefit from.
- 10) I don't find value in becoming exposed to other religious traditions and belief systems; I doubt that there will be elements in them that I could benefit from.

- 11) ***My personal religious growth has occasionally required me to come into conflict with my family and friends.**
- 12) ***My personal religious growth has not required me to come into conflict with my family and friends.**
- 13) **It is very important that my faith is highly compatible with or similar to the faith of my family.**
- 14) **It isn't essential that my faith be highly compatible with the faith of my family.**
- 15) **The religious traditions and beliefs I grew up with are very important to me and do not need changing.**
- 16) **The religious traditions and beliefs I grew up with have become less and less relevant to my current religious orientation.**

*** Items eliminated from the scale definition**

Scoring:

$$\text{Faith Global 1} = \sum\# (1, 3, 6, 8, 13, 15) + 12 - \sum\# (2, 16)$$

$$\text{Faith Global 2} = \sum\# (4, 9) + 6 - (\text{item \#10})$$

Appendix H

Openness to Experience

Read each statement carefully. For each statement fill in the space with the response that best represents your opinion. Make sure that your answer is in the correct space. Fill in only one response for each statement. Respond to all of the statements, making sure that you fill in the correct response.

If you strongly disagree or the statement is definitely false = 1;

If you disagree or the statement is mostly false = 2;

If you are neutral on the statement, you cannot decide, or the statement is about equally true or false = 3;

If you agree or the statement is mostly true = 4;

If you strongly agree or the statement is definitely true = 5.

- 1) *I don't like to waste my time daydreaming.
- 2) *Once I find the right way to do something, I stick to it.
- 3) I am intrigued by the patterns I find in art and nature.
- 4) I believe letting students hear controversial speakers can only confuse and mislead them.
- 5) Poetry has little or no effect on me.
- 6) *I often try new and foreign foods.
- 7) *I rarely feel fearful or anxious.
- 8) *I believe we should look to our religious authorities for decision on moral issues.

- 9) Sometimes, when I am reading poetry or looking at a work of art, I feel a chill or a wave of excitement.
- 10) I have little interest in speculating on the nature of the universe or the human condition.
- 11) I have a lot of intellectual curiosity.
- 12) I often enjoy playing with theories of abstract ideas.

* Items eliminated from the scale definition

$$\text{Scoring} = \sum\#(3, 9, 11, 12) + 18 - \sum\#(4, 5, 10)$$

Appendix I

Agreeableness Scale

Read each statement carefully. For each statement fill in the space with the response that best represents your opinion. Make sure that your answer is in the correct space. Fill in only one response for each statement. Respond to all of the statements, making sure that you fill in the correct response.

If you strongly disagree or the statement is definitely false = 1;

If you disagree or the statement is mostly false = 2;

If you are neutral on the statement, you cannot decide, or the statement is about equally true or false = 3;

If you agree or the statement is mostly true = 4;

If you strongly agree or the statement is definitely true = 5.

- 1) I try to be courteous to everyone I meet.
- 2) I often get into arguments with my family and coworkers.
- 3) Some people think I am selfish and egotistical.
- 4) I would rather cooperate with others than compete with them.
- 5) I tend to be cynical and skeptical of others' inventions.
- 6) I believe that most people will take advantage of you, if you let them.
- 7) Most people I know like me.
- 8) Some people think of me as cold and calculating.
- 9) I am hard-headed and tough-minded in my attitudes.

10) I generally try to be thoughtful and considerate.

11) If I don't like people, I let them know it.

12) If necessary, I am willing to manipulate people to get what I want.

$$\text{Scoring} = \sum\# (1, 4, 7, 10) + 48 - \sum\# (2, 3, 5, 6, 8, 9, 11, 12)$$

Appendix J

Conscientiousness Scale

Read each statement carefully. For each statement fill in the space with the response that best represents your opinion. Make sure that your answer is in the correct space. Fill in only one response for each statement. Respond to all of the statements, making sure that you fill in the correct response.

If you strongly disagree or the statement is definitely false = 1;

If you disagree or the statement is mostly false = 2;

If you are neutral on the statement, you cannot decide, or the statement is about equally true or false = 3;

If you agree or the statement is mostly true = 4;

If you strongly agree or the statement is definitely true = 5.

- 1) I keep my belongings clean and neat.
- 2) I am pretty good about pacing myself so as to get things done on time.
- 3) *I am not a methodical person.
- 4) I try to perform all the tasks assigned to me conscientiously.
- 5) I have a clear set of goals and work toward them in an orderly fashion.
- 6) I waste a lot of time before settling down to work.
- 7) I work hard to accomplish goals.
- 8) When I make a commitment, I can always be counted on to follow through.
- 9) Sometimes, I am not as dependable or reliable as I should be.

10) I am a productive person who always gets the job done.

11) I never seem to be able to get organized.

12) I strive for excellence in everything I do.

* Item eliminated from the scale definition

Scoring = $\sum\# (1, 2, 4, 5, 7, 8, 10, 12) + 18 - \sum\# (6, 9, 11)$

Appendix K

Social Commitment Scale

This questionnaire tries to learn about the opinions and attitudes of young people. Try to go through the questionnaire quickly, without spending too much time on any one question. Answer the questions in order and do not omit any item. Remember this is not a test. There are no right or wrong answers. We are interested in your opinions. Feel free to answer exactly the way you feel. Indicate your answer to each item by marking the appropriate space on the answer sheet.

Disagree strongly = 1, disagree slightly = 2, undecided = 3, agree slightly = 4, agree strongly = 5

- 1) I would rather use my free time to enjoy myself than to help raise money for a neighborhood project.
- 2) Why work for something that others will enjoy, if you will not be alive to enjoy it too?
- 3) I would only give a large sum of money to medical research on cancer, if I knew they would find a cure in my lifetime.
- 4) If I felt strongly about something, like race relations or better medical care for the poor, I would work for it, if there were a chance things could be changed quickly.
- 5) It is not really my problem, if my neighbors are in trouble and need help.
- 6) Time you spend helping others get what they want would be better spent trying to get what you want.

- 7) It is much more satisfying to work for your own good than to work for the good of a group you belong to.
- 8) I would not like it, if they used some of my tax money to keep up a park that I never use.
- 9) *If there is only one copy of a book everyone wants to read, the person who gets it first should be able to keep it as long as he wishes.
- 10) If a sign in the park says "Do not pick the flowers - They are here for all to enjoy!" you can pick a few, if you have a good personal reason.
- 11) A person is responsible only for the happiness of his family, relatives and close friends.

* Item eliminated from the scale definition

Scoring = $60 - \sum\# (1, 2, 3, 4, 5, 6, 7, 8, 10, 11)$

Appendix L

Tolerance Scale

This questionnaire tries to learn about the opinions and attitudes of young people. Try to go through the questionnaire quickly, without spending too much time on any one question. Answer the questions in order and do not omit any item. Remember this is not a test. There are no right or wrong answers. We are interested in your opinions. Feel free to answer exactly the way you feel. Indicate your answer to each item by marking the appropriate space on the answer sheet.

Disagree strongly = 1, disagree slightly = 2, undecided = 3, agree slightly = 4, agree strongly = 5.

- 1) *If a friend whose ideas about God are very different from mine gave me a religious magazine to read, I would not read it.
- 2) You should avoid spending too much time with people who are not approved of, even though you think they are really all right.
- 3) *I would not mind being friends with a person whose father or mother was in trouble with the law.
- 4) I do not think I could be close friends with a crippled person.
- 5) Homeless teenagers should not move into neighborhoods where there are mostly older people and young children.
- 6) It would bother me to work for a person whose skin color is different from mine.
- 7) I would not make friends with a person who had very different manners from mine.

- 8) I would rather not live in a neighborhood where there are people of different races or skin colors.
- 9) *I would not mind working closely on a job with a person whose skin color is different from mine.
- 10) I would not like to spend the weekend in the home of a friend whose parents do not speak English.
- 11) If I had a choice, I would prefer a blood transfusion from a person of the same skin color as mine.

* Items eliminated from the scale definition

$$\text{Scoring} = 48 - \sum\# (2, 4, 5, 6, 7, 8, 9, 10, 11)$$

Appendix M

Acceptance of Social Change

This questionnaire tries to learn about the opinions and attitudes of young people. Try to go through the questionnaire quickly, without spending too much time on any one question. Answer the questions in order and do not omit any item. Remember this is not a test. There are no right or wrong answers. We are interested in your opinions. Feel free to answer exactly the way you feel. Indicate your answer to each item by marking the appropriate space on the answer sheet.

Disagree strongly = 1, disagree slightly = 2, undecided = 3, agree slightly = 4, agree strongly = 5.

- 1) A man should not cook dinner for his wife and children, unless the wife is sick.
- 2) We should limit the number of women who can train for jobs usually held by men, such as a dentist or engineer.
- 3) Women who decided not to be mothers are not doing what they should.
- 4) Women should not be elected to top government positions.
- 5) *Schools should not let new methods of teaching, like TV and tapes, take up too much time in school.
- 6) *I would like to talk to other students all over the world by way of satellite.
- 7) *Men should be able to train themselves for jobs usually held by women, such as elementary-school teacher, nurse and telephone operator.

- 8) *Children cannot be happy staying in day-care centers, while their mothers are at work.
- 9) I would not like it, if a lot of girls my age become lawyers, engineers and business managers.
- 10) *If we limit the amount of money people can earn, we take away some of their freedom.
- 11) If we do not encourage women to work, we are seriously reducing what the country could accomplish.

* Items eliminated from the scale definition

Scoring = (item #11) + 30 - \sum # (1, 2, 3, 4, 9)

Appendix N

Work Orientation Scale

This questionnaire tries to learn about the opinions and attitudes of young people. Try to go through the questionnaire quickly, without spending too much time on any one question. Answer the questions in order and do not omit any item. Remember this is not a test. There are no right or wrong answers. We are interested in your opinions. Feel free to answer exactly the way you feel. Indicate your answer to each item by marking the appropriate space on the answer sheet.

Disagree strongly = 1, disagree slightly = 2, undecided = 3, agree slightly = 4, agree strongly = 5.

- 1) When a job turns out to be much harder than I was told it would be, I don't feel I have to do it perfectly.
- 2) I find it hard to stick to anything that takes a long time to do.
- 3) I hate to admit it, but I give up on my work when things go wrong.
- 4) *I seldom get behind in my work.
- 5) I tend to go from one thing to another before finishing any one of them.
- 6) I often do not finish work I start.
- 7) Time you spend helping others get what they want would be better spent trying to get what you want.
- 8) I often leave my homework unfinished, if there are a lot of good TV shows on that evening.

- 9) I believe in working only as hard as I have to.
- 10) *It is more important for a job to pay well than for a job to be very interesting.
- 11) Very often I forget work I am supposed to do.

* Items eliminated from the scale definition

Scoring = $48 - \sum\#(1, 2, 3, 5, 6, 7, 8, 9, 11)$

Appendix O

Instructions to Students

We would like you to participate in this study of attitudes and experiences in college-age youth: e.g., attitudes toward oneself, others, life, religion, etc. and background variables related to these attitudes. Different attitudes and experiences will be assessed by different scales. There are no right or wrong answers. When you respond to a given item, do not spend too much time thinking about the item, but express the answer which comes to you first. Be sure to answer all of the items, even if you are not sure and have to guess. Use the machine-scorable answer sheets to record your answer. Before you start recording your answers on the answer sheet, please shade in the following information in your **student number box**, in the upper right hand corner of your answer sheet: **lines 1 to 7, shade in your student number; line 8 indicate your gender, male = 1, female = 2; line 9 shade in 1 for Questionnaire One.** Do not write your name on the answer sheet. We need your student number only to determine which set of two answer sheets belong together. We are not interested in your identity. Please answer all questions as honestly as you can. Answer the questionnaires in numerical order, i.e., Questionnaires One, Two. When you have finished, please be sure to hand in all the questionnaires and the answer sheets. Thank you for your cooperation!

Author Note

J. Korchoski, University of Manitoba. This manuscript was submitted in partial fulfillment for the requirement of the master's degree in psychology. This research is a sub-section of a larger study by Dr. S. Schludermann and Dr. E. Schludermann, Department of Psychology. Any questions concerning this article can be directed to Dr. S. Schludermann, Department of Psychology, University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2.