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Personality and religious values among adolescents: A three-wave longitudinal analysis

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Using three waves of data, we assessed the relationships between endorsement of religious values, some of the major personality dimensions, and social and emotional well-being amongst teenagers. Participants were 784 high school students at Time 1 (382 males and 394 females; 8 did not indicate their gender) and 563 provided data at each of Time 1, Time 2 and Time 3. We examined the impact of changes in (Eysenckian) psychoticism and conscientiousness from Time 1 to Time 2 on religious values assessed at Time 3. Both personality and personality change predicted religious values and the specific effects depended on gender. Participants higher in hope, joviality, psychological acceptance and mindfulness also tended to be higher in religious values. The implications of these results for adolescent well-being and resilience are discussed.

It is now generally agreed that one's religious beliefs and behaviours are part of an individual's 'psychological reality' (Spilka, Hood, & Gorsuch, 1985, p. 2) and a 'central theme of their identity' (Ozer & Benet-Martinez, 2006, p. 401). The 'search for the divine' as Pargament and Mahoney (2002, p. 648) put it or 'spiritual striving' has been identified as an integral part of one's motivational system (Emmons, 2005, p. 731). Religion provides a framework for setting personal goals and suggests preferred ways of achieving them (Park, 2005). Silberman (2005, p. 645) has likened religion to a meaning system which has the ability to '. . . function as a lens through which reality is perceived and interpreted' and which is capable of influencing one's goals, emotions and behaviour. Religion has the potential to provide meaning to an individual's life not only because of its motivational and empowering function (Emmons, 2005), but also because the spiritual meaning system is so different from other meaning systems, focusing as it does on the sacred (Silberman, 2005).

Many studies have been conducted into the links between religiousness and personality (for a useful review see, e.g. Emmons & Paloutzian, 2003), but the vast majority of these have been conducted among adults rather than school age adolescents. Given that adolescence is a time of transition, and given the unique challenges faced by adolescents (Smetana, Campione-Barr, & Metzger, 2006), it is appropriate to determine

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to what extent religious values are implicated in adolescents' psychological functioning. A further weakness of current research is the dearth of longitudinal research. The vast bulk of research thus far has been cross-sectional. Longitudinal research among teenagers presenting evidence on the extent to which personality predicts later religiousness appears to be non-existent. The present research was therefore designed to address this gap in the literature. We examine how personality change over time is predictive of religious values and we also take such personality change into account when examining subsequent cross-sectional relationships between religious values and indices of social and emotional well-being.

We report three waves of data from the Wollongong Youth Study in which we have been monitoring the psychological adjustment of several hundred teenagers located in a number of high schools. The study commenced when the group entered high school in 2003. We first assessed religious values 2 years after our initial data collection and are able to report longitudinal as well as cross-sectional data on the predictors of these values. The first part of the article assesses the impact of personality change from Time 1 to Time 2 on religious values using measures of (Eysenckian) psychoticism and conscientiousness. The second part of the article assesses the cross-sectional links between religious values and trait-based indices of social and emotional well-being assessed at Time 3, after taking prior personality change into account.

The importance of values

There are several different measures of religious attitudes and spirituality in existence (see the examples in Hood, Spilka, Hunsberger, & Gorsuch, 1996). We decided to focus on religious values because of the known importance of values in guiding one's outlook on life and the implications that this holds for one's behaviours. According to Schwartz (1994, p. 20), values pertain to 'desirable end states or modes of conduct' that guide the selection and evaluation of people, events and behaviour. Values are stable and have been likened to frames of reference directing one's behaviour (Feather, 1992; Rokeach, 1973). Feather argued that values are linked to one's self-concept and they are the primary determinants of social behaviour. Values provide the overarching framework within which one's ideological and belief system is located (Braithwaite, 1997; Feather, 1979; Heaven, 1991; Schwartz, 1994). As such, values are normative and transcend particular situations (Feather, 1992, 1995; Roccas, Sagiv, Schwartz, & Knafo, 2002; Schwartz, 1994). It is therefore to be expected that religious values will play a substantial role in shaping the behaviours and general levels of adjustment of adolescents.

Religion and the major personality dimensions

One line of inquiry by those interested in the psychology of religion is focused on the major personality dimensions; the vast majority of work adopting either the Eysenckian three-factor or the Big Five approach. Those using the Eysenckian approach agree that the primary predictor of a religious demeanour is psychoticism (P) (e.g. Eysenck, 1998; Francis, 1993, 1997; Francis & Pearson, 1985; Hills, Francis, Argyle, & Jackson, 2004; Jorm & Christensen, 2004; Maltby & Day, 2001; Smith, 1996; Svensen, White, & Caird, 1992), a finding that has been replicated in Muslim (Wilde & Joseph, 1997) and Israeli samples (Francis & Katz, 1992). Such findings are hardly surprising, given that the P dimension is said to comprise a cold, hostile and aggressive disposition (Eysenck & Eysenck, 1976).

A number of studies are now beginning to adopt the Big Five approach. One study, using data from the Terman longitudinal study, concluded that conscientiousness among adolescents was the only personality factor to predict adult religiousness 19 years later (McCullough, Tsang, & Brion, 2003). The authors reasoned that one possible explanation for this finding is that conscientious individuals are more likely to ' . . . seek out religious worldviews for the order and structure that such worldviews can afford' (p. 987). The importance of C in predicting religiousness has also been noted by Van Dierendonck (2004; Table 5) and Saucier and Skrzypinska (2006), although this has been disputed by Roccas and colleagues (Roccas *et al.*, 2002) in their small cross-sectional Israeli study.

Saroglou (2002) conducted the first meta-analysis of the relationships between religion and the Big Five factors. Thirteen papers were selected for review and religion was subdivided into 'general/intrinsic religiosity', 'open/mature religiosity and spirituality', 'religious fundamentalism' and 'extrinsic religiosity'. General and intrinsic religiosity was related most strongly to agreeableness (A) and conscientiousness (C), whereas open, mature religiosity was most strongly related to openness to experience (O), extraversion (E) and agreeableness (A). Contrary to expectations, religious fundamentalism was significantly related to A, low N and low O. Finally, extrinsic religiosity was significantly related to N. In general, Saroglou concluded that the strongest and most consistent predictors were A and C which he sees as being sub-factors of P (see also Eysenck & Eysenck, 1985).

Variables of interest in the present study

Our focus is on P and C for two reasons. First, C as measured during adolescence has been shown to have strong longitudinal importance in predicting religiousness in adulthood (McCollough *et al.*, 2003) as well as cross-sectional strength as evidenced in meta-analytic studies (Saroglou, 2002). Second, in the 'Big Three' personality paradigm P has consistently been shown to be implicated in religiousness. Based on our review, we expected both C and P to have longitudinal effects on religious values at Time 3. Specifically, we predicted that an increase in P over time would be predictive of low religious values, whereas an increase in C would be predictive of elevated religious values.

Religion and emotional well-being

Although a large proportion of the (adult) literature is suggestive of the mental health benefits of religion, some studies suggest otherwise. For instance, one review concluded that a religious demeanour is associated with intolerance of ambiguity, suggestibility and authoritarianism (Gartner, Larson, & Allen, 1991). Others have suggested that negative traits such as authoritarianism only characterize religious fundamentalists who have been found to be prejudiced towards members of out-groups and who support the torture and arrest of political extremists (Altemeyer & Hunsberger, 1992). More recently, it has been noted that religious fundamentalism is significantly related to various forms of ethnic and other prejudice (Hunsberger & Jackson, 2005).

The vast bulk of the contemporary psychological literature on religion is not focused on religious fundamentalism and, contrary to the results referred to above, has found evidence of the mental health benefits of religion. For example, religiousness has been found to be related to positive traits such as kindness, compassion and forgiveness

(Peterson & Seligman, 2004). Bjarnason (1998) observed that religious adolescents interpreted the world as socially cohesive, predictable and stable, whereas Miller and Kelley (2005) reported that religiousness is associated with increased hope and provides a buffer against early sexual activity and lowered rates of depression and anxiety. Ventis (1995) concluded that intrinsic religion, that is, an orientation where the belief and practice of religion is one's goal, rather than extrinsic (immature) or quest religion, is most likely to be associated with positive mental health indices. These include absence of illness, appropriate social behaviour, freedom from worry or guilt, competence and control and self-acceptance. In contrast, extrinsic religion (using religion as a means to an end) had no apparent mental health benefits leading Ventis (1995, p. 40) to conclude that this form of religion fails to 'engage critical life issues'.

In a review of the adolescent literature, Donahue and Benson (1995) found the links between religiousness and self-esteem to be equivocal. This situation continues to be highlighted in recent studies. Thus, whereas Francis and Jackson (2003) found no significant relationship between self-esteem and attitudes to Christianity, Williams, Francis, and Robbins (2006) found low self-esteem among adolescents to be significantly associated with rejection of Christianity. In a small cross-sectional study, Blaine and Crocker (1995) reported significant associations between religious belief salience and personal self-esteem among black, but not among white, respondents. Maltby and colleagues found high self-esteem to be associated with personal prayer and negatively related to extrinsic forms of religion and church attendance (Maltby, Lewis, & Day, 1999).

Variables of interest in the present study

We included a number of individual difference measures known to assess how effectively individuals deal with the vicissitudes of life. We selected a range of self-evaluative, yet quite distinct, variables designed to assess positive subjective experience (e.g. joviality), constructive cognitions about the future (e.g. hope) and process measures believed to lead to well-being (self-esteem, psychological acceptance and mindfulness). We also included a measure of social support to indicate levels of social integration of those with varying levels of religious values. The rationale for including these measures is given below.

We expected religious values to be significantly associated with positive affect, in particular joviality. It has been reported that an intrinsically held religious faith counters feelings of shame and guilt and many surveys among adults have found significant relationships between religiousness and happiness (Hood *et al.*, 1996). We also included hope (Snyder, Rand, & Sigmon, 2002), which is distinguishable from other personality traits and emotions by its cognitive element. These cognitive attributes assist not only with the selection of attainable goals (referred to as agency thinking), but also with the identification of strategies for attaining those goals (pathways thinking). Hope is proposed to be the major driving force that underpins an individual's positive emotions and psychological well-being (Snyder *et al.*, 2002). As religious individuals are characterized by elevated hope and optimism (Hood *et al.*, 1996; Miller & Kelley, 2005), and religion may assist in setting new and attainable personal goals (Emmons, 2005; Park, 2005), we expected trait hope to correlate positively with religious values among youth.

We measured self-esteem to assess global feelings of self-worth or self-acceptance. Our review highlighted the equivocal nature of some of the findings regarding

self-esteem but, in line with Hood *et al.* (1996), we expected religiosity to be positively and significantly associated with self-esteem.

We included two further process variables, namely, mindfulness and psychological acceptance. Our study focuses on intrinsic religious values and we believe that this type of religious belief gives people an inner strength, allowing them to face difficult emotions and thoughts (acceptance) and to stay in the present moment (mindfulness), as opposed to being preoccupied with memories, fantasies or worries. Put another way, one can think of low psychological acceptance and low mindfulness as indicative of attempts to escape unpleasant aspects of life. If, as we expect, religious values are a source of strength and courage, then they should be associated with higher acceptance and mindfulness.

Mindfulness refers to 'enhanced attention to and awareness of current experience or present reality' (Brown & Ryan, 2003, p. 822). It can be contrasted with states in which attention is focused elsewhere and behaving automatically without awareness of one's actions (Baer, Smith, & Allen, 2004). Adult research has demonstrated that people higher in mindfulness tend to experience higher levels of well-being (Hayes, Strosahl, & Wilson, 1999; Segal, Williams, & Teasdale, 2002).

Psychological acceptance refers to the willingness to remain in contact with unpleasant thoughts and feelings (as opposed to avoiding them), and the belief that one is able to have such thoughts and feelings and still act effectively (Hayes *et al.*, 1999). This construct has also been called 'Acceptance and Action' because it measures people's willingness to act effectively, even when experiencing negative emotions (Bond & Bunce, 2003; Hayes *et al.*, 2004). Research with adults suggests that people high in psychological acceptance also tend to experience higher well-being (Bond & Bunce, 2003; Hayes *et al.*, 2004).

Finally, we assessed teenagers' reports of their social support as an index of their integration into a supportive social network. Such networks serve as important buffers against stress and evidence shows that those with serious mental illness report less contact with friends or family members, fewer people who can be called on when needed and higher levels of dissatisfaction with the support that they do have (Coyne & Downey, 1991). Some writers maintain that religious activities assist with social integration (Hood *et al.*, 1996) leading us to predict that religious values would be positively associated with reports of social support networks and satisfaction with that support.

Method

Participants

Participants attended five high schools in a Catholic diocese of New South Wales, Australia. The Diocese is centred on the city of Wollongong (population approximately 250,000) and also reaches into south-western metropolitan Sydney, thereby ensuring that the socio-economic and cultural mix of the participants is diverse. In Australia, 33% of all students now attend non-government (including Catholic) schools, a proportion that continues to grow (Australian Bureau of Statistics (ABS), 2004).

At Time 1, our sample represented a diverse range of key demographic indicators. For example, the spread of occupations of the fathers of our participants closely resembled national distributions in some occupational groups: professionals 20.4% (16.5% nationally), associated professionals 15.1% (12.7%), intermediate production and transport 11.2% (13.4%), tradespersons 34.3% (21%), managers 4.8% (9.7%), labourers

3.3% (10.8%), advanced clerical 1.2% (0.9%), intermediate clerical 5.5% (8.8%) and elementary clerical 4.3% (6.1%). Additionally, 19.77% were exposed to a language other than English in the home, whereas nationally the figure is 15.8% (ABS, 2006).

At Time 1, 784 students (modal age = 13 years) completed the questionnaire (382 males and 394 females; 8 did not indicate their gender). Participants were excluded from data analysis if they did not complete at least 70% of items in a scale. We were able to directly match the Time 1, Time 2 and Time 3 data of 563 students.

Materials
Participants completed a number of measures in test booklet form. The following were completed at Time 1 and Time 2:

(1) *Psychoticism (Eysenck & Eysenck, 1976)*. We used Corulla's (1990) 12-item revision of the junior psychoticism scale because of its improved psychometric properties ($\alpha = .73$). This scale has known validity, having been found to distinguish high from low self-reported delinquents in Australia (e.g. Heaven & Virgen, 2001).
(2) *Conscientiousness (Mak, Heaven, & Rummery, 2003)*. We used a measure of C specifically designed for use with Australian high school students. It comprises 14 items derived from self-descriptors of this personality dimension provided by John (1990) and Norman (1963). Sample items are 'I am a well organised person' and 'I pay attention at school'. This measure has demonstrated good internal consistency and validity. For example, high C students were more likely (mean $r = .22$, $p < .01$) to identify with a so-called 'studious' crowd at school than with so-called 'rebels' (mean $r = -.20, p < .01$; Mak *et al.*, 2003). Responses were indicated on a 5-point Likert scale from 'not at all like me' (1) to 'a lot like me' (5), while negative items were reverse-scored, α coefficient was .83.

The following were completed at Time 3:

(1) *Religious values (Braithwaite & Law, 1985)*. We assessed intrinsic religious values by asking participants to indicate the extent to which they adhere to three guiding principles in their life: 'Being saved from your sins and at peace with God'; 'Being at one with God or the universe' and 'Following your religious faith conscientiously'. Responses were indicated on a 7-point scale ranging from 'I reject this as a guiding principle' (1) to 'I accept this as of the greatest importance' (7). Responses were summed to create a total religious values scale (α coefficient = .93).
(2) *Children's Hope Scale (Snyder et al., 2002)*. This 6-item scale measures agency and pathway aspects of hope and has demonstrated reliability and concurrent validity. Responses were indicated on a 6-point Likert scale ranging from 'none of the time' (scored 1) to 'all of the time' (6). On the present occasion Cronbach's coefficient α was .86.
(3) *Psychological acceptance (Greco, Murrell, & Coyne, 2004)*. This measure is derived from the validated adult version (Bond & Bunce, 2003; Hayes *et al.*, 1999). It focuses on one's acceptance of unpleasant thoughts and feelings and on one's willingness to strive towards one's goals even when one is feeling unpleasant. The scale consists of 15 items (e.g. 'It's OK for me to have thoughts and feelings

that I don't like') and were responded on a 5-point Likert scale with 0 (not at all true) and 4 (very true) at the end-points. Higher scores indicated higher acceptance of problematic thoughts (α coefficient = .84).

(4) *Mindfulness (Greco & Baer, 2006)*. This 14-item measure is derived from validated adult versions of the measure (e.g. Brown & Ryan, 2003). Sample items are 'I notice when my feelings begin to change'. On the present occasion, α coefficient was .68.

(5) *Joviality (PANAS-X; Watson & Clark, 1994)*. Students were asked to describe their feelings and emotions over the past month. Evidence shows strong convergence between trait and state indices of affect when using the PANAS-X (Watson & Clark, 1994). We assessed a broad range of emotions at the time, but our focus in this report is on the 8-item joviality scale (α = .94).

(6) *Self-esteem (Rosenberg, 1979)*. This well-known 10-item scale has demonstrated reliability and validity. Participants are asked to indicate their agreement with statements about the self. On the present occasion, α coefficient was .86.

(7) *Social support questionnaire (Sarason, Sarason, & Shearin, 1986)*. This instrument yields separate scores for total number and type of support available and the participant's satisfaction with that support. For each item, a situation is posed and respondents are asked to list the initials of the people who would be sources of support and their relationship to them, as well as their overall satisfaction with the support received. All sources of support were summed to yield a total support score, and the four satisfaction items were summed to yield a total satisfaction score with an α coefficient of .82.

Results

Preliminary analyses

There was no significant difference in religious values for boys and girls. For girls, the mean score was 14.13 ($SD = 4.65$), whereas for boys it was 14.15 ($SD = 5.05$), $t(742) = 0.03$, *ns*. The theoretical mid-point of the religious values scale is 12, suggesting that this sample is not particularly religious. Both kurtosis ($-.48$) and skewness ($-.49$) were within acceptable limits.

Although there were no significant gender differences in religious values, separate analyses will be done for boys and girls in order to assess any possible gender differences in the correlates and predictors of religious values.

Psychoticism and conscientiousness as longitudinal predictors of religious values

Table 1 shows the correlations between religious values and the two personality dimensions for both gender groups. As expected, religious values (Time 3) were significantly related in the expected direction to both P and C at Time 1 and Time 2 for boys and girls. Not surprisingly, the Time 2 correlations were stronger than the Time 1 correlations, the latter with small to medium effect sizes (Lipsey, 1990).

In order to assess the impact of personality change on religious values, we first calculated residual scores in the two personality dimensions by regressing Time 2 psychoticism and conscientiousness on their respective Time 1 counterparts (referred to as P_{change} and C_{change}). We then regressed religious values at Time 3 on the change scores. Overall models were significant for both groups: boys, $F(2, 270) = 8.15$, $p < .001$; girls, $F(2, 268) = 5.19$, $p < .01$. The significant predictors are shown in

Table 1. Correlations between religious values at Time 3 and personality dimensions at Time 1 and Time 2

	Religious values Time 3	
Personality	Boys	Girls
P Time 1	− .20**	− .16**
C Time 1	.16**	.14*
P Time 2	− .31**	− .17**
C Time 2	.22**	.23**

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

Table 2 and indicate important gender differences: for boys increases in P over time predicted lower religious values, whereas for girls, increases in C were associated with increases in religiosity.

Table 2. Changes in P and C as predictors of religious values

	Personality change	Adjusted R^2	β	t
Boys	P_{change}	.041	− 0.17	− 2.62**
	C_{change}	.050	0.12	1.85
Girls	P_{change}	.003	− 0.02	− 0.35
	C_{change}	.030	0.19	2.92**

**p < .01.

Cross-sectional analyses at Time 3

Table 3 shows the Time 3 Pearson correlations between religious values and the social and emotional variables. Religious values were significantly positively associated with all of the social and emotional variables for girls. The largest effect sizes were with hope and mindfulness with medium effect sizes for joy and acceptance. Among boys, religious values were significantly associated with hope, joy, acceptance and mindfulness. Effect sizes were small to medium, although the largest correlations were also with hope and mindfulness.

Table 3. Correlations between religious values and social and emotional variables at Time 3

	1	2	3	4	5	6	7	8
1 Religious values	–	.16**	.15*	.31***	.17**	.31***	.25***	.25***
2 Total social support	.05	–	.35***	.28***	.27***	.10	.24***	.37***
3 Satisfaction with social support	.09	.26***	–	.34***	.39***	.14*	.22***	.39***
4 Hope	.25***	.19**	.39***	–	.54***	.43***	.39***	.50***
5 Self-esteem	.03	.18*	.42***	.46**	–	.21***	.16**	.44***
6 Mindfulness	.24***	.19**	.21**	.36***	.16**	–	.26***	.19**
7 Acceptance	.21**	.21**	.33***	.36***	.20**	.28**	–	.33***
8 Joy	.15*	.16*	.36***	.49***	.47***	.22***	.29***	–

Note. boys are shown below the diagonal.
*p < .05; **p < .01; ***p < .001.

Table 4 shows the partial correlations between religious values and the social and emotional variables, after controlling for prior change in P and C. None of the variables were significantly related to religious values for boys. Among girls, religious values were significantly correlated with all variables except self-esteem. Large effect sizes were obtained for hope, mindfulness, acceptance and joy.

Table 4. Partial correlations between Time 3 religious values and social and emotional variables controlling for P change and C change

	Religious values	
Social and emotional variables	Boys	Girls
1 Total social support	.02	.16*
2 Satisfaction with social support	− .05	.14*
3 Hope	.08	.24**
4 Self-esteem	− .06	.12
5 Mindfulness	.08	.25**
6 Acceptance	.07	.26**
7 Joy	.04	.24**

*$p < .05$; **$p < .001$.

Discussion

Using three waves of data, the aim of this study was to determine the associations between religious values, some of the major personality dimensions and social and emotional well-being amongst adolescents. The main variables of interest in this study were (Eysenckian) psychoticism and conscientiousness as well as a number of diverse social and emotional variables known to be indicative of optimal well-being.

The longitudinal effects of P and C

We used changes in P and C from Time 1 to Time 2 to predict religious values at Time 3. Ours is the first study to include personality change as a factor in studies of religiosity. Noteworthy gender differences were obtained, in that increases in P over time among boys were predictive of low religious values, whereas among girls, increases in C were predictive of elevated religiosity.

How is one to explain this gender difference? Eysenck and Eysenck (1976) have pointed out that, not only do males usually obtain higher P scale scores than females, but they also suggest that P is associated with 'maleness'. This is by virtue of the fact that P is linked to higher testosterone levels as well as to higher levels of hostility and aggression (see also Davis, 1974; Zuckerman, 1989). The outcome of very high levels of P appears to be higher levels of criminality and antisocial behaviour (Eysenck & Eysenck, 1976), increased delinquency (Heaven, 1996) and a preference for deviant behaviours such as illicit drug use (Kirkcaldy, Siefen, Surall, & Bischoff, 2004). Among males, these behaviours, all of which are the antithesis of religious values, have been found to be exacerbated by the onset of male sexual maturity. Although we are not able to draw links between the onset of sexual maturity among our male participants and their scores on the religious values measure, our results do fit with the general antisocial and

anti-normative behavioural pattern that has been established for high P-scoring individuals. As we continue tracking our participants, we shall be able to assess the longer term impact of both P and C on changes in religious values.

Increases in C were predictive of higher religious values among the female respondents. Conscientiousness comprises not only orderliness, dependability and reliability, but also the drive to succeed (Paunonen & Jackson, 1996). Emmons (2005) sees religion as facilitating goal striving and as providing a framework within which individuals set personal goals for their lives. Thus, it functions very much as a 'goal-based meaning system' (Emmons, 2005, p. 742). It provides a purpose to one's life assisting the individual plan or devise strategies to achieve those goals. Thus, striving to attain these goals is not at odds with the core features of C. Indeed, the view is still held among some religious groups that hard work, diligence and achievement-striving go hand-in-hand with a Calvinist interpretation of Christianity (Wuthnow, 1994).

It is difficult to explain why changes in C were related to religious values among girls, but not boys. Clearly, the psychological bases of religious values differ across the gender groups with C being important for girls. It may simply be that, among our sample, high C girls are more likely to be attracted to religious values and a religious outlook on life. If religion facilitates goal striving (Emmons, 2005), then the possibility exists that high-C girls, but not high-C boys, are attracted to the order and structure that formal religion provides. This is highly speculative, and future waves of data are required to ascertain the robustness of this finding by examining the long-term effects of changes in conscientiousness on the religious values of our female respondents.

Social and emotional variables

Religious values were significantly cross-sectionally related to all the social and emotional variables among females, and significantly related to hope, mindfulness, joy and psychological acceptance among males. However, after controlling for changes in P and C, these significant correlates disappeared among boys, but not among girls. Thus, among boys, religious values can be entirely explained in terms of their scores on the psychoticism dimension, whereas among girls, social and emotional factors remain significant despite prior change in conscientiousness.

Much prior research has been of a cross-sectional nature and tended to focus either on the major personality dimensions (e.g. the Big Five) or on lower order individual difference constructs (e.g. self-esteem, authoritarianism, happiness, etc.). These studies have presented us with a limited view of the relationships between religiousness and individual differences. Our data reveal a much more complicated picture, at least among adolescents. The impact of some of the major personality dimensions is quite profound and their effects on lower order traits vary according to gender. Our data show that future research into the psychological correlates of religiousness needs to take account of prior personality change.

Why are religious values associated with 'positive' psychological constructs such as hope, mindfulness and acceptance, at least among young females? Following on the work of James (1961), Pollner (1989) has suggested that religious individuals, especially those with a strong intrinsic faith, tend to view the world, the self and others in a positive and optimistic way, a suggestion verified by our results. James referred to this outlook at 'healthy-mindedness', a frame of mind which excludes evil and views the world and all that is in it as good and essential. Thus, the positive mental health of those

who practice an intrinsic faith may simply reflect a disposition to view all situations and interpret daily events through a healthy-minded lens.

Implications for adolescents

The present data are very clear: youth espousing *intrinsic* religiousness such as the religious values assessed in this study manifest optimal well-being: among boys, this is reflected in low levels of (Eysenckian) psychoticism, whilst among girls, it is reflected in increases in C as well as their joy, hope, acceptance and mindfulness. Compared with other youth, these religious teenagers are better equipped to meet life's experiences and challenges and are therefore much less likely to be preoccupied with memories or worries, and much more likely to engage significant life issues (Ventis, 1995).

Should youth experience negative events, religious girls high on mindfulness, psychological acceptance and conscientiousness, and boys low on P are likely to be more adept at restoring their life meaning (Emmons, 2005; Park, 2005). Thus, the lens through which religious adolescents perceive and make meaning of the world is not only very different from that of less religious youth, but also able to provide the ability and inner strength and resources to deal successfully with life's experiences. This is a critical advantage as adolescents in the mid-high school years confront perplexing issues related to their future, their sexuality, faith and political orientation, as they approach the transition to early adulthood.

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