University of Wollongong

Research Online

2016

Is belief in God related to differences in adolescents' psychological functioning?

Lee Huuskes
University of Wollongong, lmh227@uowmail.edu.au

Patrick C. L Heaven
Australian Catholic University, pheaven@uow.edu.au

Joseph Ciarrochi
Australian Catholic University, joec@uow.edu.au

Philip Parker
Australian Catholic University

Nerina Caltabiano
James Cook University

Is belief in God related to differences in adolescents' psychological functioning?

Abstract

Many studies have documented links between positive psychological functioning and religiousness during the adolescent years, but very few have contrasted religious and nonreligious youth. The purpose of the present study was to examine differences in psychological functioning among adolescent atheists, agnostics, and believers using a profile analysis approach. The authors conducted a survey of Grade 8 students (N = 1,925) enrolled in Catholic schools in two Australian states. The survey included 10 measures of psychological functioning, broadly divided into three categories (positive adjustment, social well-being, and negative outcomes). Results indicated that belief in God was related to distinct profiles of psychological adjustment. The implications of these findings for understanding how differing value systems are related to particular developmental stages are discussed.

Keywords

adolescents, god, differences, belief, related, functioning, psychological

Disciplines

Education | Social and Behavioral Sciences

Abstract

Many studies have documented links between positive psychological functioning and religiousness during the adolescent years, but very few have contrasted religious and non-religious youth. The purpose of the present study was to examine differences in psychological functioning among adolescent atheists, agnostics, and believers using a profile analysis approach. The authors conducted a survey of Grade 8 students (N = 1925) enrolled in Catholic schools in two Australian states. The survey included 10 measures of psychological functioning, broadly divided into three categories (positive adjustment, social well-being, and negative outcomes). Results indicated that belief in God was related to distinct profiles of psychological adjustment. The implications of these findings for understanding how differing value systems are related to particular developmental stages are discussed.

Is belief in God related to differences in adolescents' psychological functioning?

Introduction

Although numerous studies have now found that domains of religious sentiment correlate with favorable psychological outcomes during adolescence (Yonker, Schnabelrauch, and DeHaan 2012), little research has systematically contrasted those who believe in God with those who do not, using both positive and negative indices. Indeed, the majority of studies to date have relied upon distal measures of religiousness such as church attendance and religious importance and have not normally contrasted religious and non-religious youth. Consequently, it is not clear whether youth who believe in God possess unique resources related to improved psychological adjustment, compared with agnostics and atheists. This study therefore aims to provide some much needed empirical evidence on the differences in psychological functioning that may exist between those youth who believe in God and those who identify as agnostics and atheists.

Theories of Religious Influence

Why would belief in God translate into psychological well-being? Religious youth are often discussed as having comparatively more resources that are favourable to adjustment (Wagener et al. 2003). For instance, religions provide a framework for understanding both existential concerns and the vicissitudes of daily life (e.g., Blaine and Crocker 1995). Thus believers may conceptualise personal adversity as being part of 'God's plan', and place faith in God to provide direction to meet future challenges. Indeed, at least one study has found that religious youth actively ask God for help in times of need (Dubow et al. 2000). As such, typical adolescent challenges such as increased cognisance of human mortality and changes in social networks are framed in such a way that makes them appear stable (Spilka, Shaver, and Kirkpatrick 1985).

In addition, this framework may be uniquely beneficial to adolescents in aiding identity development, perhaps the most important developmental process of adolescence (Erikson 1968). During the "identity confusions" (Erikson 1968:12) of adolescence, religions are said to facilitate the development of identity by encouraging believers to search for meaning and belonging (Hill et al. 2000), and provide answers to major life dilemmas (King and Benson 2006). Indeed, the experience of unconditional love from God may also be related to enhanced self-worth and self-esteem (Blaine and Crocker 1995). Those who believe in God may feel more secure in exploring their identity, and thus be more likely to commit to an identity compared to those without such a world view.

The Effects of Religious Sentiment

Negative Outcomes

Some evidence suggests that religious sentiment may be related to a reduction in both internalising (e.g., negative affect) and externalising problems (e.g., suicide, risk behaviour) (Donahue and Benson 1995; Gartner, Larson, and Allen 1991). Religious participation during adolescence has been linked to reduced depressive symptoms (Schapman and Inderbitzen-Nolan 2002) and risk of suicide (Stack and Wasserman 1992). Others have shown that positive religious social experiences were more influential on psychological functioning than religious participation *per se*, with negative religious experiences contributing to increased negative affect (Pearce, Little, and Perez 2003).

Religious sentiment also appears to buffer against externalising problems, such as risky behaviours and delinquency (Baier and Wright 2001; Regnerus and Uecker 2006). Studies have found that religious youth are relatively less likely to perform violent or delinquent behaviours (Donahue and Benson 1995; Regnerus 2003), and more likely to disapprove of delinquency (Johnson et al. 2001). Private religious practice has also been found to predict a

decrease in delinquency (Pearce et al. 2003). One explanation for this finding could be that most religions provide guidelines on underage drinking and conduct (Regnerus and Uecker 2006). Others have attributed findings to the expectations of one's (religious) community or network, as opposed to religious teachings themselves (Stark, Kent, and Doyle 1982).

Establishing the direction of these relationships has proven difficult. One study found that intrinsic religiousness - faith motivated by genuine internal devotion (Allport and Ross 1967) - predicted a decrease in depressive symptoms after four months, but the relationship was not bidirectional (Pössel et al. 2011). In contrast, Horowitz and Gerber (2003) found bidirectional relations between depression and church attendance over time. Thus, while religion may provide a source of meaning for some, mental ill-health could be influential on people's decision to become less religious. It is possible that, if adolescents engage in behaviours incongruous with the values of their community (i.e., delinquency, drinking), they might become less religious to reduce the cognitive dissonance (Yonker, Schnabelrauch, and DeHaan 2012).

Positive Outcomes

Explanations of the relationships between positive outcomes and religious sentiment tend to focus on benefits associated with belonging to a religious community. For instance, one study found that church attendance promoted self-esteem by providing avenues for positive social comparisons and reflected appraisals (Thompson, Thomas, and Head 2012). Although a recent meta-analysis found only a small relationship between religion and self-esteem (Yonker, Schnabelrauch, and DeHaan 2012), communication with God and a subjective experience of love may be more likely to influence self-esteem (Blaine and Crocker 1995; Maton 1989). Ellison (1993) found that private devotional practice fostered

self-esteem, suggesting that personal communion with God was associated with feelings of being part of a "unique plan", and being cared for.

Religious sentiment may also influence the development of trait hope, which reflects the extent that individuals feel their goals are attainable (Heaven and Ciarrochi 2007). Trait hope is a major influence on well-being (Snyder et al. 1997), related to both psychological and academic development (Ciarrochi, Heaven, and Davies 2007). Ciarrochi and Heaven (2012) found that intrinsic religious values during adolescence predicted increased hope, but not self-esteem. These findings are consistent with suggestions that religion provides guidance on personal strivings, and how to reach one's goals (Emmons 2005).

While there appear to be many positive outcomes associated with religious sentiment, its relationship with prosocial behaviour and moral development remains equivocal (Francis and Pearson 1987). A number of studies have found positive correlations with religiousness and altruism, but this tends to reflect aspects of religious behaviour rather the influence of religious teachings (e.g., Donahue and Benson 1995). For instance, findings of increased altruism in religious adolescents may reflect expectations of pro-sociality from the broader religious community, as opposed to an intrinsic, religiously-motivated desire to help others. Youniss, Mclellan, and Yates (1999) for instance, found that youth with intrinsic religiousness were more likely to volunteer, but in religious environments only. Others have suggested that religion fosters *existing* altruistic impulses, rather than making people more altruistic (Batson 1983). In addition, because religious variables are consistently correlated with prejudice (Bloom 2012), the impact of religious teachings on altruism remains equivocal.

The Present Study

The aim of this study was to ascertain the extent to which youth who identified as believers, agnostics, or atheists differed in their profiles of psychological adjustment. Specifically, we employed a profile analysis approach to address two central research questions. The first was whether belief in God was related to a wide range of individual differences in social and emotional functioning. This includes positive indices, such as subjective well-being, self-esteem, trait hope, and empathy; and negative indices, including mental health, and antisocial/rule-breaking behaviour. To our knowledge, no other studies have directly contrasted believers, agnostics, and atheists, although findings generally indicate that belief in God is related to well-being and improved coping (Yonker, Schnabelrauch, and DeHaan 2012). Thus, we expected adolescents who believe in God to report improved psychological functioning across all variables. Findings on adult non-belief and mental health are scarce and mixed (e.g., Ventis 1995; Wulff 1997), thus we were uncertain of the extent to which agnostics would systematically differ from atheists on all measures.

The second question pertains to whether the groups' profiles of psychological adjustment were parallel. In other words, do believers experience differing highs and lows to agnostics and atheists? If it is simply the case that believers are better off, then overall mean scores would be higher, and the rank order of variables would be the same for all groups. A finding of non-parallel profiles, however, will indicate which characteristics are more pertinent for a particular group. For instance, because religion is a meaning system capable of shaping one's experience and worldview (Silberman 2005) one might expect to find profile differences relating to subjective well-being, or self-esteem. As such, we expected to find non-parallel profiles.

Measures of parental, peer, and teacher support were included to examine the extent to which between-group differences can be attributable to improved social resources, as opposed to benefits related to belief itself. Few studies have examined the influence of social environments on religious development (Regnerus, Smith, and Smith 2004). Religious parents have been found to be more involved with (Smith 2003) and closer to their offspring (King and Furrow 2004). Conversely, Kim-Spoon, Longo and McCullough (2012a) found that youth who were less religious than their parents had increased internalising and externalising symptoms. This is important, as parent-offspring attachment is related to improved internalising and externalising symptoms (Fanti et al. 2008). In accord with these findings, it was expected that believers would display overall higher levels of social support. However, we expected religion to still explain significant variance in social and emotional functioning, even when controlling for social support.

Method

Sample and Procedure

Participants were drawn from an on-going longitudinal study of youth (ACS; Australian Character Study), attending seventeen Catholic high schools located in two dioceses in the states of New South Wales (NSW) and Queensland (QLD), Australia. Catholic schools represent 20% of all schools (Australian Bureau of Statistics; ABS 2012), and are funded primarily by federal and state government grants (70%), and tuition fees (20-30%) (Harrington, 2013).

The sample closely resembled the national Australian profile as judged by key demographic indicators such as parental occupation, the number of intact families in the study, and language other than English spoken in the home (ABS 2011). Participants were mostly Catholic (70%), with other denominations representing less than 6% of the sample.

The remainder indicated either 'no religion', or 'other'. For further demographic information, see Marshall et al. (2015).

Recent census data indicated that Australians are moving away from organised religion. From 2001 to 2011, those who chose the 'no religion' option grew by 7% to 22%, the second largest affiliation after Catholicism (25%) (ABS 2013). Of this group, 2% reported identification with secular groups such as atheists and humanists. Australian males were slightly less religious, although below the age of 20 no gender difference was found. In addition, only 15% of men and 18% of women reported actively participating in religious activity. It is important to acknowledge that the shift away from religion has been driven by young people (15 – 34), the cohort with the largest proportional increase of non-belief.

Data used for the present analyses were obtained in 2010, when students were in Grade 8. A total of 1925 students (Mean age = 13.92 years, SD = 0.35; 946 males, 979 females) completed relevant measures. Participants who believed in God accounted for 46% of the sample, followed by agnostics (42%), and atheists (12%). After obtaining consent from schools and parents, students were invited to participate in a study on "Youth Issues". Administration of the questionnaires took place during regular classes under the supervision of one of the authors. Students completed the questionnaires anonymously and without any discussion. Students were thanked and debriefed at the conclusion of the sessions.

Measures

Students were provided with a booklet containing the following measures. Alpha coefficients were acceptable and ranged between .74 and .94.

Belief in God. Participants were asked to indicate which of the following statements best reflected their beliefs about God: 1(*I do not believe there is a God*), 2 (*I am not sure if God exists or not*), 3 (*I firmly believe in the existence of God*).

Positive Adjustment

Subjective well-being (Keyes 2006). The 12-item SWB scale reflects participants' satisfaction with life, psychological functioning, and social functioning. Together this indicates the presence (flourishing) or absence (languishing) of mental health. Participants rated, on a 6-point scale, how frequently in the past month they experienced three indicators of emotional well-being, four indicators of psychological well-being, and five indicators of social well-being.

Self-esteem (Rosenberg 1979). Rosenberg's 10-item self-esteem scale is widely used to obtain general views of self-worth. Participants rated statements pertaining to the self on a 6-point scale.

Trait hope (Snyder, Rand, and Sigmon 2002). The Children's Trait Hope Scale was utilized to assess participants' hope, a 6-item scale that reflects agency (3 items) and pathways (3 items).

Basic Empathy Scale (Jolliffe and Farrington, 2006). This 20-item scale assesses affective (experiencing another's emotions) and cognitive (understanding another's emotions) empathy. Participants rated a 6-point scale whether items apply to them.

Social Well-Being

Social Support Scale (Malecki and Elliott 1999). This 21-item scale indicates parent (SsPar), teacher (SsTea), and friend (SsFri) support. For instance, on a 6-point scale participants indicated if parents "Give me good advice" or "Praise me when I do a good job".

Negative Outcomes

General Health Questionnaire (Goldberg and Hillier 1979). The GHQ-12 is a screening test for psychiatric illness. Participants responded to a range of questions on a scale of 1 (*Better than usual*) to 4 (*Much less than usual*). For example, items included "Been feeling unhappy and depressed", and "Been losing confidence in yourself".

Antisocial Rule-Breaking Behaviour (Achenbach 1991): The anti-social behaviour questionnaire consists of 31 questions from the Youth Self-Report for Ages 11-18 (YSR 11-18) of the ASEBA School-Age Forms and Profiles. These questions cover the rule-breaking and aggression sub-scales of the YSR 11-18. Example items include "I tease others a lot" (aggression), and "I hang around with kids who get in trouble" (rule-breaking). Participants indicated one of three possible responses to each question: 0 (*not true*), 1 (*somewhat or sometimes true*), 2 (*very true or often true*). Responses to each sub-scale were summed and an overall mean was calculated.

Plan of Analyses

We utilised a profile analysis approach to compare three groups of participants: those who do not believe in God (Atheist), those who are unsure if they believe in God (Agnostic), and those who do believe in God (Believer). The profile analysis involved three main steps. After standardising scores to make scales comparable, we examined the interaction between 'well-being', which is the average of our ten dependent variables, and 'belief'. This is the equivalent of the test of interaction in repeated-measures ANOVA, and allowed us to examine whether the segments between variables are identical for each group (Tabachnick and Fidell 2013). If the groups were found to be parallel, the 'flatness' of profiles was then tested. Second, the between-groups or 'levels' test was performed to systematically assess

whether one group scored higher than the others. If the levels test was found to be significant, parameter estimates were calculated to plot dependent variable means for our three groups.

To ensure robustness of findings, a number of possible covariates were included in our model, including school, gender, as well as parents' marital and employment status. Participants were also grouped according to religious affiliation – Catholics, and non-Catholics. This was then included as a covariate in the parallelism test, to determine whether effects were attributable to believing in God, or to having a normative belief, such as believing in God in a Catholic school. Last, we performed one-way ANCOVAs with parental support as a covariate to partial out the effects of participants' parents from the analysis.

Results

Parallelism

Wilks' criterion indicates whether group profiles had distinct shapes, reflected in differences in the rank order of variables. The overall profile was found to deviate significantly from parallelism, $F = 3.96$ (18, 2788), $p < .001$, partial $\eta^2 = .025$. Believers had higher subjective well-being than self-esteem, with the inverse pattern seen in agnostics and atheists. Atheists also scored lower on affective empathy relative to cognitive empathy. All groups reported having the most support from teachers, although believers had more support from parents than friends. Last, atheists had lower antisocial and rule-breaking scores than GHQ, with the inverse found for believers. No significant difference was found between the two variables for agnostics.

(Figure 1 about here)

Level Differences in Psychological Functioning

A MANOVA was conducted to assess effects of belief on psychological functioning and was found to be significant $F(2, 1404) = 32.72$, $p < .001$, partial $\eta^2 = .045$. Table 1 shows the multivariate effects of belief for our outcome variables. Only cognitive empathy (EmCog) was found not to differ between the three belief categories. Parameter estimates were calculated to examine the extent of group differences. Table 2 shows that believers scored significantly higher than atheists on all measures of psychological functioning excluding cognitive empathy. Finally, analyses were repeated to examine differences between agnostics and atheists, which was found to be significant $F(1, 739) = 14.78$, $p < .001$, partial $\eta^2 = .02$. Agnostics scored higher than atheists on SWB ($\beta = -.241$, $p < .01$), Se ($\beta = -.176$, $p < .05$), SsPar ($\beta = -.379$, $p < .001$), GHQ ($\beta = -.207$, $p < .05$), and ARB ($\beta = -.449$, $p < .001$).

(Table 1 about here)

(Table 2 about here)

Belief vs. Affiliation

A further multivariate test was conducted to examine whether effects were attributable to having similar values to one's peers, and not religious belief *per se*. Participants were split into two groups - those who identified as Catholics and those who did not. A dummy variable was created, and this variable was controlled in the analyses. No relationship was found between affiliation and psychological functioning $F(20, 2668) = 1.20$, partial $\eta^2 = .009$, while the effect of belief remained $F(20, 2668) = 3.44$, $p < .001$, partial $\eta^2 = .025$. Thus, observed effects were not attributable to religious affiliation.

Gender Differences

Of the covariates tested, only gender accounted for more variance than belief, $F = 37.019 (9, 1396)$, $p < .001$, partial $\eta^2 = .193$. To test its effect on the profiles, we examined a

three-way interaction between belief, well-being, and gender, which was found to be significant F=1.736 (18, 2788), $p < .05$, partial η^2 =.011. Inspection of parameter estimates revealed three differences between male and female atheists. Atheist males reported higher levels of subjective well-being (β =.354, $p < .05$), hope (β =.590, $p < .001$), and parental support (β =.339, $p < .05$), indicating that female atheists may be more likely to struggle, at least in some areas of functioning.

Control for Parental Support

We next examined the extent that parental support could explain the link between belief and social and emotional well-being. We utilized ANCOVAs to control for parental support on all outcome variables. While parental support did not significantly interact with belief category for any of our dependent variables, it was related to a significant and sizable effect on social and emotional well-being (see Table 3). After partialling out the effects of parental support, belief no longer predicted variance in self-esteem, cognitive empathy, and GHQ. Thus, for these variables effects appear to be attributable to parenting rather than belief *per se*. Effects were maintained for subjective well-being, hope, affective empathy, and antisocial behaviour. Parental support accounted for unique variance in all dependent variables with the exception of affective empathy.

(Table 3 about here)

Discussion

While it is well known that religious sentiment is related to positive social and emotional functioning, very few studies have contrasted a single cohort of adolescent believers, agnostics, and atheists according to levels of social and emotional functioning. Consequently, the role of belief in God in relation to psychological health remains poorly

understood, especially during the adolescent years. There is good reason, however, to expect that those who believe in God possess unique advantages related to their belief. Believers may be more likely to find meaning in uncertainty via religious teachings (King and Roeser 2009), or actively search for religious meaning (Pargament 2007).

The present research contributes to previous findings, indicating that believing in God is positively related to a number of domains of psychological functioning. Although we expected to find elevated scores for believers, we were surprised to find that for a number of variables, scores declined sequentially from believers to agnostics to atheists. In addition, our results suggest that even those who are unsure of God's existence may be better able to cope with the challenges of adolescence, compared to those who do not believe.

Profile differences also indicated that belief in God was related to different psychological 'highs and lows'. A number of these differences are in line with suggestions that religions provide a unique psychological meaning system that encourages the conceptualisation of adverse events as being part of God's plan (Blaine and Crocker 1995). For instance, the shape (rank order) of the first two variables seen in Figure 1 shows that those who believe in God had higher subjective well-being than self-esteem, with the inverse seen in agnostics and atheists. This indicates that subjective well-being is more pertinent to believers than the other two groups, and thus they may be more likely to flourish and less likely to experience mental health issues relative to the other two groups. Because subjective well-being reflects feelings of satisfaction about one's life, this difference may also reflect believers' improved ability at meaning making. The stability associated with religious attributions may also account for believers' elevated levels of hope, which reflects resilience and the extent to which youth feel their goals are attainable (Cheavens 2000).

Although our results appear to be suggestive of benefits related to belief in God, does it follow that not believing in God contributes to non-believers' generally low well-being scores? It is possible that atheists and agnostics find the world less predictable because they don't have a meaning system; and indeed atheists' low mental health scores (GHQ) are suggestive of an increased risk of mental illness. Similarly, atheists and agnostics may be less likely to internalise religious teachings on behaviour, which could account for our finding of elevated levels of antisocial behaviour (Regnerus and Uecker 2006). However, it is difficult to comment on these hypotheses given the cross-sectional nature of our data. Likewise, it is possible that a non-normative view - such as atheism in a Catholic school environment - can lead to feelings of isolation and rejection. This could be more influential for agnostics' and atheists' generally low scores, than disbelief *per se*. Further, our finding that disbelievers had reduced teacher support is aligned with this interpretation. We attempted to examine this effect by controlling for affiliation, but results need to be replicated in a secular environment to test the generalizability of our findings.

Similarly, it is difficult to interpret findings without considering the role of parenting. While believers reported similar levels of support from friends and parents, agnostics and atheists had relatively lower levels of parental support. In addition, once parenting was included as a covariate, between-groups differences in self-esteem and mental health (GHQ) were eliminated. These findings are in accord with research suggesting that religious youth have happier domestic lives and more supportive parents (King and Furrow 2004; Smith 2003). However, even after controlling for parental support, belief was related to well-being, hope, affective empathy, and antisocial behaviour, suggesting that belief in god may add something over and above parental support. Future longitudinal research is needed to examine how parental support predicts the development of belief in god, and how parenting and belief, in turn, predicts the development of social and emotional well-being.

Theories of gender differences in religion could also account for our observed differences in subjective well-being and parental support for male and female atheists. Miller and Hoffmann (1995) have argued that because males are more comfortable with risk, they are likely to feel comfortable in forgoing the supernatural rewards of religion. Sociological accounts on the other hand, propose that females are socialised to have behaviours amenable to religiousness such as submissiveness (Collett and Lizardo 2009). We were unable to determine the extent to which these processes account for our findings; however male atheists could be relatively more comfortable in not having a meaning system, or having values that deviate from the norm.

Alternatively, it is worth considering recent controversies whereby atheism was accused of sexism and misogyny. Atheists have predominately been white males, in the United States at least, and even Freud described "post-religious thinking as the ultimate masculinity". If atheists feel at odds in their environments, then this effect might be more pronounced amongst young female atheists.

Further research is needed to explore these issues.

We also found evidence that affective empathy contributed to the distinctiveness of atheists' profiles. Atheists had lower affective empathy relative to cognitive empathy, with the inverse seen in agnostics and believers. In terms of levels, no difference was found between groups for cognitive empathy. Thus, while capable of understanding others' emotions, atheists may have difficulty experiencing others' emotions.

In addition, this could have important implications for variables such as antisocial behaviour, as low affective empathy has been found to predict higher levels of aggression and bullying (Jolliffe and Farrington 2006). Further, antisocial behaviour not only contributed to the uniqueness of the atheist profile (see Fig. 1), but atheists also had higher antisocial

behaviour than agnostics and believers. While the extent to which affective empathy and antisocial behaviour are implicated is unclear, it might be fruitful for future research to examine these relationships more closely.

Findings are also in accord with identity hypotheses. Believing in God in a predominately religious environment could be an advantage for identity development, as it provides a secure environment to explore one's identity, and an ideological framework to guide the process. Atheists and agnostics on the other hand may find the search for identity more difficult. According to Marcia's (1980) model, 'moratoriums' or those who have not committed to an identity may express what they don't want to be by acting out. In accordance with this model, atheists and agnostics were not only found to be more antisocial than believers, but both also had less peer support.

This doesn't necessarily imply that believers had committed to an identity, nor would we expect them to, but rather that it could account for our finding that the irreligious youth were more likely to act out. They may feel more pressure to act in a way that is incongruous with how their self-concept.

Although we were unable to test the extent to which those who did not believe in God were actively discriminated against by their peers, it is possible that these groups may simply find it more difficult to make friends because of ideological differences.

Future research should also address whether atheists' lower empathy contributes to non-believers' lower levels of peer support, or whether they have difficulty empathizing because they have fewer friends, and are thus less experienced at empathetic behaviour.

It is also worth considering whether disbelievers may have become so in response to negative emotions or behaviours. Being educated in a Catholic environment, youth may find

that their behaviours are incongruent with values taught at school, and reduce their religiousness to resolve the dissonance (Yonker, Schnabelrauch, and DeHaan 2012). The direction of longitudinal findings suggests otherwise (Ciarrochi and Heaven 2012; Heaven and Ciarrochi 2007; Pössel et al. 2011), but further research is needed if we are to understand the relations between adolescent religious sentiment and psychological adjustment.

Limitations and conclusion

It is possible that agnostics and atheists feel less supported by their parents because of their belief. We were unable to test for congruency in parent-child religious sentiment, but given that our participants attended Catholic schools, it is reasonable to assume that a substantial proportion of students had parents who self-identified as Catholics. At least one study has shown that congruency in religious belief between parent and child influences the quality of the relationship (Kim, Longo, and McCullough 2012a).

In addition, parent-adolescent attachment has also been found to be more influential for psychological adjustment than shared religious beliefs (Kim-Spoon, Longo, and McCullough 2012b). Similarly, the differences we found between groups on peer and teacher support could be attributed to how much beliefs deviate from the norm, rather than the content of the belief *per se*. It would be useful to examine more closely the extent to which non-religious students feel ostracised in the home and school environment. We also did not specifically ask whether participants identified as atheists. It is possible that those who don't believe in God but don't identify as atheists differ from those who consider themselves to be atheists. A further limitation of this study was age. Demographics on non-belief in early adolescence are limited, although it is conceivable that as adolescents age and explore different identities, the variance we found between groups could also change.

The results of this study demonstrate that belief in God is related to significant differences in the lives of adolescents. Our findings indicate that youth who believe in God may be more likely to cope, while those who were unsure or did not believe, may struggle. Importantly, the shape of profiles provided an insight into key differences in psychological functioning between these groups. Importantly, our findings raise a number of important questions. First, it is apparent that many of the differences that were found between groups could be attributable to social support, especially from friends and parents. Fortunately, we are able to track our respondents over time, thus future research will investigate the developmental implications of these findings. Closer examination of the relationship between parental support and belief in God is of particular interest.

Second, more research is needed to understand the experience of non-religious youth attending secular schools. Because the non-believers in our sample attended Catholic schools, we assumed that their beliefs were incongruent with those expressed at home. It is reasonable to expect youth whose worldview differs from the environmental norm to be less likely to flourish. It would be interesting to ascertain whether our findings are replicated in a secular environment.

References

Achenbach, Thomas M. 1991. *Integrative guide for the 1991 CBCL/4-18, YSR, and TRF profiles*. Burlington, VT: University of Vermont, Department of Psychiatry.

Allport, Gordon W. and J. Michael Ross. 1967. Personal religious orientation and prejudice. *Journal of Personality and Social Psychology* 5(4): 432–43.

Australian Bureau of Statistics. 2012. *Schools, Australia 2012* (Document 4221.0). Canberra: Government Printer.

Australian Bureau of Statistics. 2013. *Australian Social Trends, Nov 2013*. (Document 4221.0). Canberra: Government Printer.

Baier, Colin J. and Bradley R. E. Wright. 2001. If you love me, keep my commandments: A meta-analysis of the effect of religion on crime. *Journal of Research in Crime and Delinquency* 38: 3-21.

Batson, Daniel. 1983. Sociobiology and the role of religion in promoting prosocial behavior: An alternative view. *Journal of Personality and Social Psychology* 45(6): 1380-1385.

Blaine, Bruce and James Crocker. 1995. Religiousness, race, and psychological well-being: Exploring social psychological mediators. *Personality and Social Psychology Bulletin* 21: 1031-1041.

Bloom, Paul. 2012. Religion, morality, evolution. *Annual Review of Psychology* 63: 179–199. doi: 10.1146/annurev-psych-120710-100334.

Cheavens, Jennifer. 2000. Hope and depression: Light through the shadows. In C. R. Snyder (Ed.), *Handbook of hope: Theory, measures, and applications* (pp. 321-340). San Diego: Academic Press.

Ciarrochi, Joseph and Patrick C. L. Heaven. 2012. Religious values and the development of trait hope and self-esteem in adolescents. *Journal for the Scientific Study of Religion* 51(4): 676–688. doi:10.1111/j.1468-5906.2012.01675.x.

Ciarrochi, Joseph, Patrick C. L. Heaven, and Fiona Davies. 2007. The impact of hope, self-esteem, and attributional style on adolescents' school grades and emotional well-being: A longitudinal study. *Journal of Research in Personality* 41: 1161–1178. doi:10.1016/j.jrp.2007.02.001.

Collett, Jessica L. and Omar Lizardo. 2009. A power-control theory of gender and religiosity. *Journal for the Scientific Study of religion.* 48(2): 213–231.

Donahue, Michael J. and Peter L. Benson. 1995. Religion and the well-being of adolescents. *Journal of Social Issues* 51(2): 145–160. doi:10.1111/j.1540-4560.1995.tb01328.x.

Dubow, Eric F., Kenneth I. Pargament, Paul Boxer, and Nalini Tarakeshwar. 2000. Initial investigation of Jewish early adolescents' ethnic identity, stress, and coping. *Journal of Early Adolescence* 20: 418-441.

Ellison, Christopher G. 1993. Religious involvement and self-perception among black Americans. *Social Forces* 71(4): 1027–1055.

Emmons, Robert A. 2005. Striving for the sacred: Personal goals, life meaning, and religion. *Journal of Social Issues* 61: 731–745. doi:10.1111/j.1540-4560.2005.00429.x.

Erikson, Erik H. 1968. *Identity: Youth and crisis*. New York: W. W. Norton.

Fanti, Kostas A., Christopher C. Henrich, Kathryn A. Brookmeyer, and Gabriel P. Kuperminc. 2008. Toward a transactional model of parent-adolescent relationship

quality and adolescent psychological adjustment. *The Journal of Early Adolescence* 28(2): 252-276. doi: 10.1177/0272431607312766

Francis, Leslie J. and Paul R. Pearson. 1987. Empathetic developments during adolescence: Religiosity the missing link? *Personality and Individual Differences* 8(1): 145-148.

Gartner, John. Dave B. Larson, and George D. Allen. 1991. Religious commitment and mental health: A review of the empirical literature. *Journal of Psychology and Theology* 19: 6-25.

Goldberg, David P. and Valerie F. Hillier. 1979. A scaled version of the general health questionnaire. *Psychological Medicine,* 9(1): 139-145. doi: 10.1017/s0033291700021644

Harrington, Marilyn. 2013. *Australian Government Funding for Schools Explained: 2013 Update*, Parliamentary Library, Canberra.

Heaven, Patrick C. L. and Joseph Ciarrochi. 2007. Personality and religious values among adolescents: A three-wave longitudinal analysis. *British Journal of Psychology* 98(4): 681–694. doi:10.1348/000712607x187777.

Hill, Peter C., Kenneth I. Pargament, Ralph W. Hood, Michael E. McCullough, James P. Swyers, David B. Larson, and Brian J. Zinnbauer. 2000. Conceptualizing religion and spirituality: Points of commonality, points of departure. *Journal for the Theory of Social Behaviour* 30(1): 51-77.

Horowitz, Jason L. and Judy Garber. 2003. Relation of intelligence and religiosity to depressive disorders in offspring of depressed and nondepressed mothers. *Journal of the American Academy of Child and Adolescent Psychiatry* 42: 578-586.

Jolliffe, Darrick and David P. Farrington. 2006. Development and validation of the basic empathy scale. *Journal of Adolescence* 29(4): 589–611. doi:10.1016/j.adolescence.2005.08.010.

Johnson, Byron R. Sung Joon Jang, David B. Larson, and Spencer De Li. 2001. Does adolescent religious commitment matter? A re-examination of the effects of religiosity on delinquency. *Journal of Research in Crime and Delinquency* 38: 22-43.

Keyes, Corey L. M. 2006. Mental health in adolescence: Is America's youth flourishing? *American Journal of Orthopsychiatry* 76(3): 395–402. doi:10.1037/0002-9432.76.3.395.

Kim-Spoon, Jungmeen, Gregory S. Longo, and Michael E. McCullough. 2012a. Adolescents who are less religious than their parents are at risk for externalizing and internalizing symptoms: The mediating role of parent-adolescent relationship quality. *Journal of Family Psychology* 26(4): 636-641. doi: 10.1037/a0029176

Kim-Spoon, Jungmeen, Gregory S. Longo, and Michael E. McCullough. 2012b. Parent-adolescent relationship quality as a moderator for the influences of parents' religiousness on adolescents' religiousness and adjustment. *Journal of Youth and Adolescence* 41(12): 1576–1587. doi:10.1007/s10964-012-9796-1.

King, Pamela Ebstyne and Peter L. Benson. 2006. Spiritual development and adolescent well-being and thriving. In E. C. Roehlkepartain, P. E. King, L. M. Wagener, and P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence*. Newbury Park, CA: Sage.

King, Pamela Ebstyne and James L. Furrow. 2004. Religion as a resource for positive youth development: Religion, social capital, and moral outcomes. *Developmental Psychology* 40(5):703–13.

King, Pamela Ebstyne and Robert W. Roeser. 2009. Religion and spirituality in adolescent development. In R. M. Lerner, and L. Steinberg (Eds.), *Handbook of adolescent psychology: Individual bases of adolescent development* (pp. 435- 478). Hoboken, NJ: John Wiley and Sons, Inc.

Malecki, C. K. and Stephen N. Elliott. 1999. Adolescents' ratings of perceived social support and its importance: Validation of the student social support scale. *Psychology in the Schools* 36(6): 473–483.

Marcia, James E. 1980. Identity in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology.* New York: Wiley.

Marshall, Sarah, Philip Parker, Joseph Ciarrochi, Baljinder Sahdra, Chris Jackson, and Patrick C. L. Heaven. 2015. Self-compassion protects against the negative effects of low self-esteem: A longitudinal study in a large adolescent sample. *Personality and Individual Differences* 74: *116-121.*

Maton, Kenneth I. 1989. The stress-buffering role of spiritual support: Cross-sectional and prospective investigations. *Journal for the Scientific Study of Religion* 28(3): 310–323.

Miller, Alan S., and John P. Hoffmann. 1995. Risk and Religion: An Explanation of Gender Differences in Religiosity. *Journal for the Scientific Study of Religion* 34(1): 63-75.

Pargament, Kenneth I. 2007. *Spiritually integrated psychotherapy: Understanding and addressing the sacred.* New York: Guilford.

Pearce, Michelle J., Stephanie M. Jones, Mary E. Schwab-Stone, and Vladislav Ruchkin. 2003. The protective effects of religiousness and parent involvement on the development of conduct problems among youth exposed to violence. *Child Development* 74(6): 1682–1696. doi:10.1046/j.1467-8624.2003.00631.x.

Pearce, Michelle J., Todd D. Little., and John E. Perez. 2003. Religiousness and depressive symptoms among adolescents. *Journal of Clinical Child and Adolescent Psychology* 32(2): 267-276. doi:10.1207/s15374424jccp3202_12.

Pössel, Patrick, Nina C. Martin, Judy Garber, Aaron W. Banister, Natalie K. Pickering, and Martin Hautzinger. 2011. Bidirectional relations of religious orientation and depressive symptoms in adolescents: A short-term longitudinal study. *Psychology of Religion and Spirituality* 3(1): 24-38. doi: 10.1037/a0019125

Regnerus, Mark D. 2003. Religion and Positive Adolescent Outcomes: A Review of Research and Theory. *Review of Religious Research* 44(4): 394–413.

Regnerus, Mark D., Christian Smith, and Brad Smith. 2004. Social context in the development of adolescent religiosity. *Applied Developmental Science* 8: 27-38.

Regnerus, Mark D. and Jeremy E. Uecker. 2006. Finding faith, losing faith: The prevalence and context of religious transformations during adolescence. *Review of Religious Research* 47(3): 217–237.

Rosenberg, M. 1979. *Conceiving the self*. New York: Basic Books.

Schapman, Ann M. and Heidi M. Inderbitzen-Nolan. 2002. The role of religious behaviour in adolescent depressive and anxious symptomatology. *Journal of Adolescence* 25(6): 631–643. doi:10.1006/jado.2002.0510.

Silberman, Israela. 2005. Religion as a meaning system: Implications for the new millennium. *Journal of Social Issues* 61(4): 641–663. doi:10.1111/j.1540-4560.2005.00425.x.

Smith, Christian. 2003. Theorizing religious effects among American adolescents. *Journal for the Scientific Study of Religion* 42(1): 17–30. doi:10.1111/1468-5906.t01-1-00158.

Snyder, Charles R., Betsy Hoza, William E. Pelham, Michael Rapoff, Leanne Ware, Michael Danovsky, Lori Highberger, Howard Rubinstein, and Kandy J. Stahl. 1997. The development and validation of the children's hope scale. *Journal of Pediatric Psychology* 22(3): 399–421. doi:10.1093/jpepsy/22.3.399.

Snyder, Charles R., David R. Sigmon, and David B. Feldman. 2002. Hope for the sacred and vice versa: Positive goal-directed thinking and religion. *Psychological Inquiry* 13(3): 234–238.

Spilka, Bernard, Phillip Shaver, and Lee A. Kirkpatrick. 1985. A general attribution theory for the psychology of religion. *Journal for the Scientific Study of Religion* 24(1): 1–20.

Stack, Steven, and Ira Wasserman. 1992. The effect of religion on suicide ideology: An analysis of the networks perspective. *Journal for the Scientific Study of Religion* 31(4): 457–466.

Stark, Rodney, Lori Kent, and Daniel P. Doyle. 1982. Religion and delinquency: The ecology of a "lost" relationship. *Journal of Research in Crime and Delinquency* 19(1): 4–24. doi:10.1177/002242788201900102.

Tabachnick, Barbara G., and Linda S. Fidell. 2013. *Using multivariate statistics*. Boston: Pearson Education.

Thompson, Maxine Seaborn., Melvin E. Thomas, and Rachel N. Head. 2012. Race, socioeconomic status, and self-esteem: The impact of religiosity. *Sociological Spectrum* 32(5): 385–405. doi:10.1080/02732173.2012.694792.

Ventis, W. Larry. 1995. The relationship between religion and mental health. *Journal of Social Issues* 51(2): 33–48. doi:10.1111/j.1540-4560.1995.tb01322.x.

Wulff, David H. 1997. *Psychology of religion: Classic and contemporary* (2nd ed.) New York: Wiley.

Yonker, Julie E. Chelsea A. Schnabelrauch, and Laura G. DeHaan. 2012. The relationship between spirituality and religiosity on psychological outcomes in adolescents and emerging adults: A meta-analytic review. *Journal of Adolescence* 35(2): 299-314. doi: 10.1016/j.adolescence.2011.08.010

Youniss, James, Jeffrey A. McLellan, and Miranda Yates. 1999. Religion, community service, and identity in American youth. *Journal of Adolescence* 22(2): 243-253.