

## **Is Belief in God Related to Differences in Adolescents' Psychological Functioning**

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### ***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:** *religious belief, adolescence, mental health, atheism.*

## **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 nonreligious 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 youth who believe in God and those who identify as agnostics and atheists.

Why would belief in God translate into psychological well-being? Religious youth are often discussed as having comparatively more resources that are favorable to adjustment. 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 conceptualize 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 cognizance 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 worldview.

## **THE EFFECTS OF RELIGIOUS SENTIMENT**

### **Negative Outcomes**

Some evidence suggests that religious sentiment may be related to a reduction in both internalizing (e.g., negative affect) and externalizing problems (e.g., suicide, risky behavior) (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 externalizing problems, such as risky behaviors 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 behaviors (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 Garber (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 behaviors 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 pro-social behavior 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 behavior rather than 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 aggressive/rule-breaking behavior. 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 nonbelief 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 than 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 nonparallel 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 nonparallel 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 internalizing and externalizing symptoms. This is important, as parent-offspring attachment is related to improved internalizing and externalizing 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.

## Sample and Procedure

Participants were drawn from an ongoing longitudinal study of youth (Australian Character Study (ACS)) attending 17 Catholic high schools located in two dioceses in the states of New South Wales (NSW) and Queensland (QLD), Australia. Catholic schools represent 20 percent of all schools (Australian Bureau of Statistics (ABS) 2012), and are funded primarily by federal and state government grants (70 percent), and tuition fees (20–30 percent) (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 2013). Participants were mostly Catholic (70 percent), with other denominations representing less than 6 percent of the sample. The remainder indicated either "no religion" or "other." For further demographic information, see Marshall and colleagues (2015).

Recent census data indicated that Australians are moving away from organized religion. From 2001 to 2011, those who chose the “no religion” option grew by 7 percent to 22 percent, the second largest affiliation after Catholicism (25 percent) (ABS 2013). Of this group, 2 percent 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 percent of men and 18 percent 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 nonbelief. Data used for the present analyses were obtained in 2010, when students were in Grade 8. A total of 1,925 students (mean age 13.92 years, SD .35, 946 males, 979 females) completed relevant measures. Participants who believed in God accounted for 46 percent of the sample, followed by agnostics (42 percent), and atheists (12 percent). The number of males and females within each category was comparable: for example, believers (males, 15.1 percent; females 9.3 percent), agnostics (males, 40.4 percent; females, 44.1 percent), atheists (males, 44.4 percent; females, 46.6 percent). 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 six-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 six-point scale.

*Trait hope* (Snyder, Sigmon, and Feldman 2002). The Children’s Trait Hope Scale was utilized to assess participants’ hope, a six-item scale that reflects agency (three items) and pathways (three 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 on a six-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 six-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.” Items on this scale were reverse-scored.

*Aggressive/Rule-Breaking Behavior* (Achenbach 1991). This 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 aggression and rule-breaking subscales 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). After reverse-scoring items, responses to each subscale were summed and an overall mean was calculated.

### **Analytic Plan**

We utilized 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 standardizing scores to make scales comparable, we examined the interaction between “well-being,” which is the average of our 10 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

Table 1: Between-groups variance for atheists, agnostics, and believers

Source	Dependent Variable	SS	df	Mean Square	<i>F</i>	$\eta^2$
Belief in God	Subjective well-being	47.777	2	23.888	29.90 <sup>**</sup> *	.037
	Self-esteem	.977	2	.489	7.57 <sup>**</sup> **	.010
	Hope	18.826	2	9.413	11.96 <sup>**</sup> *	.015
	Cognitive empathy	1.184	2	.592	2.27	.003
	Affective empathy	4.475	2	2.238	6.86 <sup>**</sup> **	.009
	Friend support	11.863	2	5.931	6.26 <sup>**</sup> **	.008
	Parental support	83.165	2	41.582	34.53 <sup>**</sup> *	.043
	Teacher support	46.478	2	23.239	17.35 <sup>**</sup> *	.022
	General Health Questionnaire	4.100	2	2.050	8.03 <sup>**</sup> **	.010
	Aggressive/rule-breaking behavior	4.101	2	2.050	26.13 <sup>**</sup> *	.033

\**p* ≤ .05; \*\**p* ≤ .01; \*\*\**p* ≤ .001.

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. 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's 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,  $F(18, 2788) = 3.96$ ,  $p < .001$ , 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 aggression and rule-breaking scores than GHQ, with the inverse found for believers. No significant difference was found between the two variables for agnostics.

**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 were 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 2: Between-groups contrasts and parameter estimates

Dependent Variable	Group	$\beta$	SE	T	Partial $\eta^2$
Subjective well-being	Atheist	-.558	.086	-6.53***	.029
Agnostic		-.318	.056	-5.72***	.023
Self-esteem	Atheist	-.299	.087	-3.42***	.008
Agnostic		-.125	.057	-2.20*	.003
Hope	Atheist	-.254	.085	-2.98**	.006
Agnostic		-.172	.055	-3.10**	.007
Cognitive empathy	Atheist	-.094	.086	-1.10	.001
Agnostic		-.086	.056		.002
		-1.55			.008
Affective empathy	Atheist	-.271***	.080	-3.38**	
Agnostic		-.144	.052	-2.76**	.005
Friend support	Atheist	-.260	.084	-3.11**	.007
Agnostic		-.085	.054		.002
		-1.57			.038
Parental support	Atheist	-.641***	.086	-7.45	

Agnostic		-.276	.056	-4.93 <sup>***</sup>	.017
Teacher support	Atheist	-.410	.086	-4.78 <sup>***</sup>	.016
Agnostic		-.274	.056	-4.92 <sup>***</sup>	.017
General Health Questionnaire	Atheist	-.324	.087	-3.72 <sup>***</sup>	.010
Agnostic		-.122	.057	-2.16 <sup>*</sup>	.003
Aggressive rule-breaking behavior	Atheist	-.551	.084		-6.60 <sup>***</sup>
Agnostic		-.207	.054	-3.80 <sup>***</sup>	.010

Note: Estimates are in comparison with believers.

\* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .

## Gender Differences

Of the covariates tested, only gender accounted for more variance than belief,  $F(9, 1396) = 37.019$ ,  $p < .001$ , 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  $F(18, 2788) = 1.736$ ,  $p < .05$ , partial  $\eta^2 = .011$ . Inspection of parameter estimates revealed three differences between male and female atheists. Atheist males reported higher levels of subjective well-being ( $\beta = .354$ ,  $p < .05$ ), hope ( $\beta = .590$ ,  $p < .001$ ), and parental support ( $\beta = .339$ ,  $p < .05$ ), 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, or 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 aggressive behavior. Parental support accounted for unique variance in all dependent variables with the exception of affective empathy.

Table 3: One-way ANCOVA with parenting as a covariate

Dependent Variable	Source	F	Partial $\eta^2$
Subjective well-being	Belief	9.94 <sup>****</sup>	.100
	Parenting	638.77 <sup>****</sup>	.249
Self-esteem	Belief	.08	.160
	Parenting	358.71 <sup>****</sup>	.000
Hope	Belief	3.38	.003
	Parenting	390.04 <sup>****</sup>	.167
Cognitive empathy	Belief	1.65	.002
	Parenting	38.37 <sup>****</sup>	.019
Affective empathy	Belief	13.29 <sup>****</sup>	.014
	Parenting	.74	.000
Friend support	Belief	3.542 <sup>**</sup>	.004
	Parenting	209.137 <sup>****</sup>	.097
Teacher support	Belief	11.43 <sup>****</sup>	.012
	Parenting	270.40 <sup>****</sup>	.122
General Health Questionnaire	Belief	.25	.000
	Parenting	294.04 <sup>****</sup>	.150
Aggressive rule-breaking behavior	Belief	18.07 <sup>****</sup>	.018
	Parenting	252.26 <sup>****</sup>	.116

Note: df (2,1); \*  $p < .05$ ; \*\*\*  $p < .001$ .

**DISCUSSION**

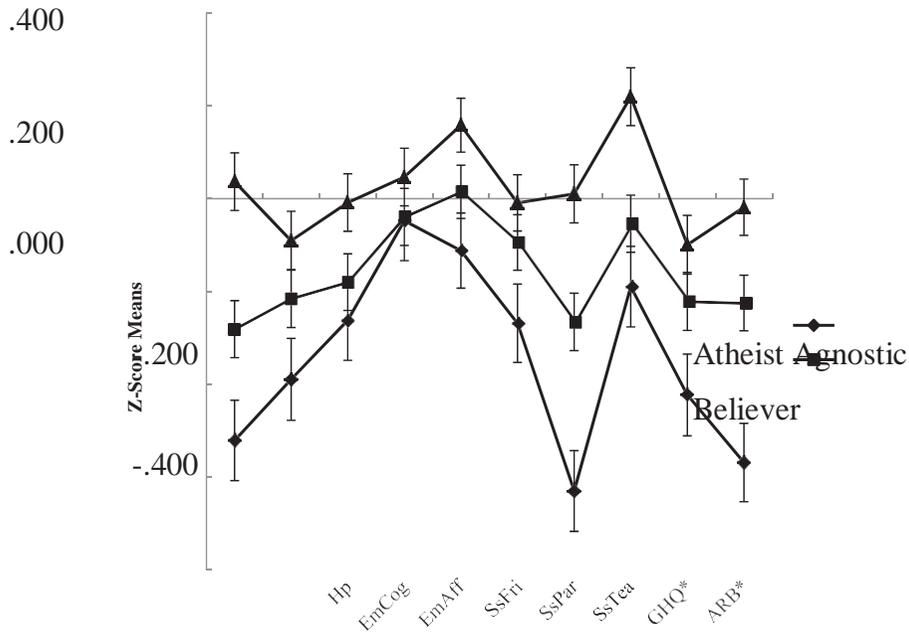
While it is well known that religious sentiment is related to positive social and emotional functioning, very few studies have contrasted a single cohort of adolescent believers, agnostics, and atheists according to levels of social and emotional functioning. Consequently, the role of belief in God in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

Figure 1  
Profiles for atheists, agnostics, and believers





-.600

-.800

SWB

SE

*Note:* Scores were standardized for all measures. SWB (subjective well-being), SE (self-esteem), Hp (hope), EmCog (cognitive empathy), EmAff (affective empathy), SsFri (friend support), SsPar (parental support), SsTea (teacher support), GHQ (General Health Questionnaire), ARB (aggressive and rule-breaking behavior). \*Reverse-scored items 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 nonbelievers' 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 internalize religious teachings on behavior, which could account for our finding of elevated levels of aggressive behavior (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 nonnormative 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. 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 aggressive behavior, 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 aren't likely to feel distressed in foregoing the supernatural rewards of religion. Sociological accounts, on the other hand, propose that females are socialized into developing behaviors 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 the absence of a meaning system, or with having values that deviate from the norm.

Alternatively, it is worth considering the "maleness" of atheism. The relevance of this becomes apparent when considering the recent controversy regarding sexism within the atheist movement (see Stinson et al. 2013). Although atheists endorse egalitarian values including women's rights (Zuckerman 2009), the majority are male (Hunsberger and Altemeyer 2006), and some have accused the movement of being a "boys' club" (McCreight 2012). Extended discussion of these issues is obviously beyond the scope of this study; however, we would suggest that feelings of isolation amongst irreligious youth could be more pronounced for females. This may not necessarily be the case for our sample, as males and females reported similar levels of nonbelief (males, 55.6 percent; females, 53.4 percent), comparable with national averages for those under the age of 20 (ABS 2013). We do think, however, that future research should account for gender differences in when examining psychological outcomes in irreligious youth.

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. Thus, while capable of understanding others' emotions, atheists may have difficulty experiencing others' emotions. These results accord with suggestions that atheists are more intellectually focused, while believers are more emotional (Hunsberger and Altemeyer 2006). Indeed, atheists have been found to experience positive and negative emotions less intensely, and to have less vivid emotional memories than believers (Burris and Petrican 2011). It has also been suggested that the atheist orientation arises out of a tendency towards deliberate mental effort (Barrett 2004).

Differences in empathy could have important implications for variables such as aggressive behavior, as low affective empathy has been found to predict higher levels of aggression and bullying (Jolliffe and Farrington 2006). Further, aggressive behavior not only contributed to the uniqueness of the atheist profile (see Figure 1), but atheists also had higher aggressive behavior than agnostics and believers. While the extent to which affective empathy and aggressive behavior are implicated is unclear, it might be fruitful for future research to examine these relationships more closely.

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 aggressive than believers, but both also had less peer support. These findings don't necessarily imply that believers had committed to an identity, nor would we expect them to at this age, but rather it could explain our finding that irreligious youth were more likely to act out. For instance, they may feel pressure to

act in a manner incongruous with their self-concept. Future research should also address whether lower empathy contributes to atheists' reduced peer support, or whether they have difficulty empathizing because they have fewer friends, and are thus less experienced at empathetic behavior.

It is also worth considering whether disbelievers may have become so in response to negative emotions or behaviors. Being educated in a Catholic environment, youth may find that their behaviors 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 nonreligious students feel ostracized 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.

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. 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 between-group differences 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 nonreligious

youth attending secular schools. Because the nonbelievers 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.

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