

# The Role of Spirituality Versus Religiosity in Adolescent Psychosocial Adjustment

Marie Good<sup>1</sup> and Teena Willoughby<sup>2</sup>

Received May 05, 2005; accepted June 17, 2005  
Published online: 16 February 2006

This study investigated the interaction between religiosity (defined as church attendance) and spirituality (defined as personal beliefs in God or a higher power) on psychosocial adjustment. Four groups were created capturing 4 different religious/spiritual orientations. Differences were assessed between the groups on a wide range of psychosocial indicators. Participants included 6578 adolescents ages 13–18 encompassing a school district in Ontario, Canada. Results were striking with regards to the consistency with which religious youth reported more positive adjustment than did non-religious youth, *regardless of level of spirituality*. Spirituality may not be as salient an influence on behavior as religiosity. The secondary analyses indicated that the advantage for religiosity may not be entirely unique to church attendance, but rather a function of being part of any community. However, where religiosity may be uniquely associated with adjustment (over and above benefits associated with participation in any community) is in lower levels of risk behaviors.

**KEY WORDS:** adolescent development; religiosity; spirituality; psychosocial adjustment; risk behaviors.

## INTRODUCTION

In the body of literature concerned with the impact of religious factors on adolescent adjustment, the 2 most commonly studied variables are religiosity and spirituality. Generally, religiosity is defined in terms of behavior such as church attendance, whereas spirituality is conceptualized as an individual's personal belief in religious teachings or intrinsic commitment to one's faith. When defined in these terms, religiosity and spirituality are highly correlated, and both are associated with positive psychosocial adjustment in adolescents. Research is limited, however, with regards to the role that spirituality may play in an adolescent's life when his or her spiritual be-

liefs do not have anything to do with traditional, organized religion. Consequently, the interactive influence between religiosity (that is associated with organized religion) and spirituality (that is separate from organized religion) has been ignored in this research. For example, adolescents who attend church regularly may not necessarily believe in God. Furthermore, someone may hold personal beliefs in a God or a higher power, but never attend church. This study addresses this limitation, as it attempts to tease apart the impact of religiosity (operationalized as church attendance) and spirituality (operationalized as belief in God or a higher power, as to be inclusive to individuals whose spiritual beliefs are not related to religion) on adolescent psychosocial adjustment.

## The Association Between Traditional Religious Variables and Adolescent Adjustment

Researchers have suggested that religious beliefs and behaviors may play a role in the promotion of positive adjustment in adolescents. A major area in which religiosity is considered to demonstrate its importance is through its association with reductions in risk behavior. Religious

<sup>1</sup>Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario, Canada. Research interests include adolescent psychosocial development, religiosity, and identity formation. To whom correspondence should be address at Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario, Canada N1G 2W1; e-mail: mgood@uoguelph.ca.

<sup>2</sup>Department of Psychology/Child and Youth Studies, Brock University, St Catharines, Ontario, Canada. Research interests include youth resilience, particularly with regard to academic underachievement and media/technology influence on lifestyle choices.

adolescents are considered less likely to display delinquent behaviors (e.g., Regnerus, 2003), use drugs and alcohol (e.g., Nonnemaker *et al.*, 2003; Regnerus and Elder, 2003; Youniss *et al.*, 1997), and more likely to practice sexual abstinence or to delay the onset of sexual activity (e.g., Holder *et al.*, 2000; Miller and Gur, 2002).

The association between adolescent religiosity and positive psychosocial well-being has also been demonstrated in the literature, although this relation has not received as much attention as the association between religiosity and risk behavior. Markstrom (1999) found that secondary school students who were highly involved in church activities, Bible studies, and/or youth groups, reported the greatest feelings of hope, love, and purpose in their lives. Religion has also been shown to be a means by which adolescents cope with stress (e.g., Schafer and King, 1990), and may be associated with increased self-esteem (e.g., Markstrom, 1999). Literature in the field of identity development has found that adolescents who possess religious beliefs are more likely to report a committed identity status (e.g., Hunsberger *et al.*, 2001; Markstrom-Adams and Smith, 1996).

Finally, religiosity has been associated with positive academic achievement (Regnerus, 2002; Regnerus and Elder, 2003). In fact, Regnerus and Elder (2003) demonstrated that religiosity does not act as a promoter of academic success solely among high-risk students where community organization and social networks may be lacking, but also decreases vulnerability for school failure in very low-risk adolescents from advantaged families and neighborhoods. Furthermore, Regnerus (2002) assessed in a sample of grade ten students whether the positive link between church involvement and achievement was specifically a function of general extracurricular participation rather than religious involvement. Regnerus found, however, that involvement in church activities had an independent, positive relation with educational expectations, and math and reading scores.

Generally, the findings from this literature imply that there may be something about “religiosity” which exerts a positive influence in the lives of young people. However, in a review of the literature, Donelson (1999) suggested that it is difficult to make solid conclusions about the exact nature of the relation between religiosity and adolescent well-being, due to the fact that “religiosity” tends to be conceptualized and measured inconsistently across studies. The vast majority of research on this topic has measured religiosity through a combination of adolescents’ self-reports of (a) frequency of attendance at religious services; and (b) internal religious devotion/personal spiritu-

ality (i.e., personal importance of one’s religious beliefs, private Bible-reading, prayer, etc).

Some studies use reports of church attendance alone to assess religiosity (e.g., Martin *et al.*, 2003; Steinman and Zimmerman, 2004), but these measures do not consider the more internal aspect of personal beliefs. To account for this problem, many researchers elect to measure both church attendance in addition to the more personal, internal belief systems or importance of religion in an individual’s life. Frequently, in such studies, measures of church attendance and personal beliefs are combined in order to derive a composite score for general religiosity (e.g., King and Furrow, 2004; Kerestes *et al.*, 2004; Regnerus, 2003; Wills *et al.*, 2003). Therefore, the religiosity score would be greater if high levels of church attendance *and* personal beliefs were reported than if only high levels of one and low levels of the other were reported. While this measurement of religiosity provides a more comprehensive assessment than church attendance alone, it assumes that church attendance and personal beliefs are the same construct. Although church attendance and personal beliefs (defined often in terms of the personal importance of religion practices or religious beliefs) demonstrate moderate to high correlations in most studies (e.g., Ball *et al.*, 2003; King and Furrow, 2004), it also may be that these 2 variables are not necessarily interrelated for every individual.

When church attendance and personal beliefs are conceptualized as the same construct, it is not possible to assess the potentially different relations these 2 factors may have with adolescent adjustment. Many researchers, recognizing the possible differential effects of personal beliefs and church attendance, have elected not to combine the 2 factors as a composite measure but rather to compare them with each other. Results from this literature, however, have been somewhat contradictory. Some results indicate that personal religious belief is a stronger predictor of positive academic outcomes, lower levels of substance use, and greater psychological well-being (Francis, 1997; Frankel and Hewitt, 1994; Ryan *et al.*, 1993; Wright *et al.*, 1993) than is church attendance alone. In contrast, other studies have found that church attendance is a stronger predictor of lower levels of risk behaviors and higher psychological well-being, when compared with more personal predictors of religious beliefs (e.g., Ball *et al.*, 2003; Miller and Gur, 2002; Regnerus, 2003). Similarly, Nonnemaker *et al.* (2003) found that public religiosity (church/youth group attendance) but not private religiosity (prayer and self-reported personal importance of religion) was associated with lower levels of emotional distress.

### Personal Religious Beliefs Versus Nonreligious Spirituality

In addition to the inconsistent findings for church attendance versus personal beliefs, the aforementioned studies are also limited in that they exclude individuals with nontraditional/nonreligious spiritual orientations. For example, the measures which are used to assess personal beliefs usually are comprised of questions regarding private Bible-reading, importance of religion, private prayer, “born-again” status, or “personal commitment to Jesus” (e.g., Meier, 2003). These questions assess personal beliefs that are specifically related to organized religion/religious teachings and do not take into account those adolescents who may believe in a higher power but whose beliefs do not fit in with the conventional focus on prayer, Jesus, and the Bible (i.e., Christianity). It is not surprising, therefore, that church attendance and personal beliefs are often highly correlated with each other. Ignored from this work are the youth who may be “spiritual” (i.e., they believe in God or a higher power) but not engage in religious practices (i.e., they do not attend church). Indeed, according to Kerestes and Youniss (2003) and Marler and Hadaway (2002), there is a resurgence of interest in spirituality among today’s youth, but not necessarily the kind of spirituality that has anything to do with organized or institutional religion.

Only 1 study of which the authors are aware, has examined nonreligious personal spirituality in young people. Ritt-Olsen *et al.* (2004) used a measure of spirituality which was comprised of questions such as “Do you enjoy attending functions held by your religious or spiritual group”; “How strongly do you believe that a life force is guiding us”; and “How spiritual of a person do you consider yourself to be?” Results indicated that higher levels of spirituality were related to lower substance use in both low and high risk adolescents. Church attendance, however, was not separately assessed in this study, and therefore no information was provided about the comparative impact of traditional religiosity versus nonreligious spirituality.

### The Present Study: Addressing the Interaction Between Nonreligious Spirituality and Church Attendance

A limitation exists in this body of literature in that the potential interaction between religion and personal spirituality of a nonreligious nature has not directly been examined in an adolescent population. In other words, spirituality and religiosity are most often analyzed as

2 separate independent variables. Some youth, however, may believe in God or a higher power but never attend church. In contrast, others may attend church but have no belief in a higher power. It is these 2 groups of youth that are ignored in the research literature. By disregarding the potential interaction between church attendance and nonreligious spirituality (the type that may be, but is not *necessarily* tied to organized religion), researchers have overlooked those adolescents who report more diverse or anomalous religious/spiritual profiles.

To address this limitation directly, a person-centered approach to investigating religious/spiritual profiles is needed. Therefore, the present study directly investigated the interaction between religiosity and spirituality by creating 4 groups capturing 4 different religious/spiritual orientations. Two of the groups consisted of individuals whose profiles are not represented in the literature (adolescents who do not believe in God or a higher power and attend church regularly; and adolescents who believe in God or a higher power but do not attend church regularly) and 2 groups whose religious/spiritual profiles are relatively well-represented in the literature (adolescents who profess a belief in God or a Higher Power and attend church regularly; and adolescents who do not believe in God or a Higher Power and do not attend church). We then assessed differences between these 4 groups on a wide range of adjustment variables. In this way, we could specifically differentiate which *combinations* of spirituality and religiosity (personal belief in some form of higher power and/or church attendance) are related to positive well-being in adolescence. It should be noted again that in the creation of these groups, religiosity is operationalized as church attendance, and spirituality is operationalized as belief in God or a higher power. These conceptualizations, however, are not exhaustive, and certainly there are other aspects of the constructs of religiosity and spirituality that are not assessed here.

A further extension of this study is the inclusion of a wide range of psychosocial adjustment indicators (Hawkins *et al.*, 1992; Petraitis *et al.*, 1995; Petraitis *et al.*, 1998). No study of which the authors are aware has assessed such diverse profiles of adolescent religiosity and personal spirituality across such a wide range of adjustment variables. The majority of studies have examined religiosity and spirituality solely in relation to risk behaviors, mental health, or academic achievement. In contrast, we examined each of the following variables: well-being, academic orientation, parental monitoring, parental relationships, relationship with friends, peer victimizations, attitudes and perceptions regarding risk behaviors (e.g., how wrong they feel it is to engage in risk behaviors) and

a variety of risk behaviors (alcohol, smoking, marijuana, sexual activity, minor delinquency, major delinquency, direct aggression, and indirect aggression).

## Hypotheses

The hypotheses are as follows:

1. Based on previous research which suggests that adolescents who report high scores on composite measures of religiosity (including church attendance and personal religious beliefs) report more positive psychosocial adjustment than adolescents who report lower scores on these measures (e.g., King and Furrow, 2004; Regnerus, 2003) it was hypothesized that (a) the group of adolescents who attend church regularly and believe in God or a higher power would demonstrate the most positive outcomes; and (b) the group of adolescents who do not attend church nor believe in God or a higher power would report the least positive outcomes.
2. Based on a limited amount of research which suggests nontraditional, nonreligious spirituality may be associated with positive outcomes (e.g., Ritt-Olsen *et al.*, 2004) it was hypothesized that the group of students who reported belief in God or a higher power but no church attendance would demonstrate positive outcomes when compared to the nonbelieving, non-church attending group.
3. There is virtually no empirical research conducted on adolescents who attend church regularly in the absence of belief in God or a higher power; however, it was hypothesized that this group of students might report more negative adjustment than their peers. This group may be forced to attend church by their parents – who, presumably, hold strong religious beliefs. Therefore, it is possible that the parents of this group of adolescents are overly authoritarian, or that this group of nonbelieving, church-attending adolescents may be experiencing internal and/or external conflict with regards to the discrepancy between their own beliefs and those of their families.

## METHOD

### Participants

Students from 25 high schools encompassing a school district in Ontario, Canada, took part in the study.

The overall participation rate was 76% of students enrolled in the participating schools ( $N = 7430$ ). A passive parental consent procedure was used in this study to ensure a representative sample (see Weinberger *et al.*, 1990 for a discussion on how active parental consent procedures may result in overrepresentation of well-functioning adolescents and families). Active informed assent, however, was obtained from the adolescent participants. Several strategies were applied in order to ensure parental awareness of the study. 1st, parents were provided with written correspondence mailed directly to each student's home prior to the survey administration outlining the study. This letter indicated that parents could request that their child not participate in the study. 2nd, several parent information sessions were held throughout the school district. 3rd, there was extensive media coverage outlining the study. In total, 3% of the parents and 4% of students chose not to participate. Additional nonparticipation was due to student absenteeism (17%). A total of 2% ( $n = 140$ ) of respondents were screened out due to acquiescent rating styles; these participants showed no variability on at least 3 out of 7 scales containing positively-worded and negatively worded items. An additional 7% of the total sample ( $n = 532$ ) were excluded from analyses because ratings on 1 of 2 variables (attachment to mother and attachment to father) were unavailable; these participants were legitimately not able to answer questions about parental attachment if they did not have contact with a mother or father figure. Therefore, the analysis sample contained 6578 participants, or 91% of the 7430 respondents. As detailed in Willoughby, Chalmers and Busseri (2004), differences between the analysis sample and the nonincluded students were minimal.

Participants (49% male) ranged in age from 13 to 18 years ( $M = 15.7$ ,  $SD = 1.4$ ). Consistent with the broader Canadian population (Statistics Canada, 2001), 91% of the adolescents were born in Canada; the most common ethnic background reported other than Canadian was British (18%), German (15%), French (13%), and Italian (11%). Data on socioeconomic status indicated mean levels of education for mothers and fathers falling between "some college, university or apprenticeship program" and "a college/apprenticeship/technical diploma."

### Procedure

A 23-page self-report questionnaire was administered to students in classrooms by trained research staff. A total of 2 h was allotted for survey administration at each school. Students were informed that their responses were completely confidential.

## Measures

The study questionnaire was developed as part of a larger project examining adolescent lifestyle choices. Risk behaviors were chosen based on a review of the adolescent risk behavior literature (see Willoughby *et al.*, 2004). To assess psychosocial adjustment, we included a comprehensive set of constructs from intrapersonal (well-being, academic orientation) and interpersonal (including family, friends, and peers) domains, see reviews by Petraitis *et al.* (1995; 1998) and Hawkins *et al.* (1992). Study measures are described later; additional scale properties are provided in Table I.

### *Demographic Information*

Single-item questions were used to assess participant age and gender; higher scores indicated older age and female gender respectively. Parental education was an average of 2 items (1 per parent); higher scores indicated greater parental education.

### *Peer Victimization*

Peer victimization was a composite of 2 subscale scores from Marini *et al.* (1999) assessing the frequency of experiencing direct and indirect forms of bullying in the past year; higher scores indicated greater victimization.

### *Friendship Quality*

Friendship quality was a composite of 2 scale scores. The 1st comprised items adapted from Gauze *et al.* (1996) relating to the quality of companionship, support, security, closeness, and conflict with one's "best friend;" the 2nd scale comprised items relating to attachment to one's friends, adapted from Armsden and Greenburg (1987). A composite score was formed by standardizing and combining the above scores such that higher scores indicated less positive ratings of one's friendships.

### *Parental Relationship*

Parental relationship was assessed in several ways. Paternal and maternal attachment were measured separately with items from the Inventory of Parent and Peer Attachment (Armsden and Greenburg, 1987); parental knowledge was assessed using items related to how much one's parents/guardians really know about how the respondent spends his/her free time; parental involvement

was assessed by 2 items measuring the frequency of talking with parents and having fun with parents. A composite score was formed by standardizing and combining the above scores such that higher scores indicated less positive relationships with one's parents.

### *Parental Monitoring*

Parental monitoring was a composite of 2 items assessing weekday and weekend curfew; higher scores indicated later curfew.

### *Academic Orientation*

Academic orientation was a composite of ratings of typical school grades, educational aspirations, frequency of planning ahead, frequency of being bored at school, and the perceived importance of doing well at school. A composite score was formed by standardizing and combining the above scores such that higher scores indicated a weaker academic orientation.

### *Well-Being*

Well-being was a composite of 5 standardized scores: depression-related symptoms were measured using the CES-D scale (National Institutes for Mental Health, 1972); social anxiety-related symptoms were assessed using items from Ginsburg *et al.* (1998); self-esteem was measured using the Rosenberg self-esteem scale (Rosenberg, 1965); daily hassles were assessed based on the frequency of experiencing 25 potential life stressors/hassles including finances, friends and peers, school work, and self-image; and life satisfaction, (e.g., "I am happy with my life"). A composite index was formed by standardizing each scale score and combining the scores such that higher values indicated less positive well-being.

### *Attitudes and Perceptions Regarding Risk Behavior*

Risk attitudes/perceptions were assessed using a composite score based on 5 scales: attitudes concerning how wrong it is to engage in unconventional and antisocial behaviors (Jessor, 1991); cognitive evaluations of how risky the respondent believed it was for them to engage in various behaviors (such as drinking alcohol and smoking cigarettes) and how risky the respondent believed it was for other people their own age to engage in these behaviors; perceived social approval of involvement in risk behaviors was assessed in terms of how upset one's

Table I Description of Study Measures

Domain	Variable	Items	Scale range	Sample items	<i>a</i>	<i>M</i>	<i>SD</i>
Age	Age	1	10-years old to 18 + years old	How old are you?	—	15.70	1.39
Gender	Gender	1	1 (male) or 2 (female)	Are you male or female?	—	1.52	0.50
Parental education	Parental education	2	1 ( <i>not finish high school</i> ) to 6 ( <i>professional/grad degree</i> )	What is the highest level of education your mother/stepmother completed?	—	3.46	1.14
Peer victimization	Direct victim	4	1 ( <i>never</i> ) to 5 ( <i>everyday</i> )	How often in the last school year have you been pushed and shoved?	0.81	1.82	0.85
	Indirect victim	4	1 ( <i>never</i> ) to 5 ( <i>everyday</i> )	How often in the last school year have you received hurtful and unsigned notes?	0.72	1.32	0.52
Friendship quality	Best friend	18	1 ( <i>almost always/always</i> ) to 4 ( <i>almost never/never</i> )	My best friend and I spend all our free time together	0.91	1.78	0.42
	Friendship attachment	18	1 ( <i>almost always/always</i> ) to 4 ( <i>almost never/never</i> )	My friends understand me	0.94	1.80	0.43
Parental relationship	Maternal attachment	17	1 ( <i>almost always/always</i> ) to 4 ( <i>almost never/never</i> )	My mother trusts my judgement	0.89	1.95	0.56
	Paternal attachment	17	1 ( <i>almost always/always</i> ) to 4 ( <i>almost never/never</i> )	My father can tell when I am upset about something	0.87	2.08	0.58
Parental knowledge	Parental knowledge	9	1 ( <i>they always know</i> ) to 4 ( <i>they never know</i> )	How much do your parents/guardians really know where you go at night?	0.90	2.19	0.71
	Talk with parents	1	1 ( <i>almost everyday</i> ) to 4 ( <i>almost never</i> )	I tell my mother about my problems and troubles	—	2.21	1.03
	Have fun with parents	1	1 ( <i>almost everyday</i> ) to 4 ( <i>almost never</i> )	How often does your family do something fun together?	—	3.00	0.82
Parental monitoring	Curfew	2	1 ( <i>not allowed out</i> ) to 9 ( <i>as late as I want</i> )	In a typical week, what is the latest you can stay out on a school night (Sunday through Thursday)?	—	4.81	1.41
Academic orientation	Grades	1	1 (A+) to 6 ( <i>below 50%</i> )	What marks do you usually get in school?	—	2.83	0.99
	Educational Aspirations	1	1 ( <i>not finish high school</i> ) to 6 ( <i>professional training</i> )	How far do you plan to go in school?	—	4.32	1.47
	Planfulness	1	1 ( <i>almost always/always</i> ) to 4 ( <i>almost never/never</i> )	Do you plan ahead for the things you have to do each day?	—	2.63	0.87
	Bored at school	1	1 ( <i>all the time</i> ) to 4 ( <i>never/almost never</i> )	How often are you bored in school?	—	2.20	0.84
	Importance of academic success	1	1 ( <i>very important</i> ) to 5 ( <i>not at all important</i> )	How important is it to you that you do well in school?	—	1.70	0.82
Well-being	Depression	20	1 ( <i>none of the time</i> ) to 5 ( <i>most of the time</i> )	I felt that I was just as good as other people	0.92	1.99	0.52
	Social anxiety	14	1 ( <i>almost never/never</i> ) to 4 ( <i>almost always/always</i> )	I only talk to other people my age that I know really well	0.92	1.73	0.47
	Self-esteem	10	1 ( <i>strongly agree</i> ) to 5 ( <i>strongly disagree</i> )	I feel that I have a number of good qualities	0.90	2.24	0.63
	Daily hassles	25	1 ( <i>almost never bothers me</i> ) to 3 ( <i>often bothers me</i> )	How often does it bother you to have problems with classmates?	0.72	1.79	0.32
	Life satisfaction	1	1 ( <i>almost always/always</i> ) to 4 ( <i>almost never/never</i> )	I am happy with my life	—	1.79	0.82
Risk attitudes	Tolerance of Deviance	11	1 ( <i>very wrong</i> ) to 4 ( <i>not at all wrong</i> )	How wrong do you think it is to break into a place that is locked just to look around?	0.89	1.94	0.54
	Risky for you	7	1 ( <i>very high</i> ) to 5 ( <i>very low</i> )	How risky do you believe it is for you to smoke marijuana?	0.84	2.92	0.83
	Risky for others	7	1 ( <i>very high</i> ) to 5 ( <i>very low</i> )	How risky do you believe it is for other people your age to smoke marijuana?	0.88	2.76	0.77
	Parents upset	6	1 ( <i>very upset</i> ) to 4 ( <i>not at all</i> )	If you were ever to smoke marijuana, how upset would your parents be?	0.79	1.67	0.50
	Friends upset	6	1 ( <i>very upset</i> ) to 4 ( <i>not at all</i> )	If you were ever to smoke marijuana, how upset would your friends be?	0.89	2.74	0.71

Table I Continued.

Domain	Variable	Items	Scale range	Sample items	<i>a</i>	<i>M</i>	<i>SD</i>
Risk behaviors	Alcohol – frequency	1	1 ( <i>never</i> ) to 8 ( <i>everyday</i> )	How often do you do drinking or have a drink?	—	2.16	1.48
	Alcohol – amount	1	1 ( <i>less than 1 drink</i> ) to 6 ( <i>10 + drinks</i> )	On average, when you are drinking alcohol, about how many drinks do you have?	—	2.57	1.71
	Smoking	1	1 ( <i>none</i> ) to 8 ( <i>more than a pack</i> )	How many cigarettes do you usually smoke each day?	—	1.10	1.71
	Marijuana (past year)	1	1 ( <i>never</i> ) to 6 ( <i>everyday</i> )	In the past 12 months, how often did you use hash or marijuana?	—	2.12	1.55
	Hard drugs (past year)	6	1 ( <i>never</i> ) to 6 ( <i>everyday</i> )	In the past 12 months, how often did you use uppers, beans, speed (stimulants)?	0.92	1.19	0.57
	Sexual activity	3	1 ( <i>never</i> ) to 6 ( <i>everyday</i> )	In the last 12 months, how often have you had sexual intercourse?	0.93	2.37	1.23
	Delinquency—minor	4	1 ( <i>never</i> ) to 4 ( <i>more than 5 times</i> )	In the last 12 months, how often have you shoplifted?	0.62	1.40	0.51
	Delinquency—major	3	1 ( <i>never</i> ) to 4 ( <i>more than 5 times</i> )	In the last 12 months, how often have you joined a gang?	0.71	1.09	0.32
	Aggression—direct	4	1 ( <i>never</i> ) to 5 ( <i>everyday</i> )	How often in the last school year have you pushed and shoved someone?	0.83	1.75	0.83
	Aggression—indirect	4	1 ( <i>never</i> ) to 5 ( <i>everyday</i> )	How often in the last school year have you spread rumors and untrue stories?	0.77	1.22	0.47
Religiosity	Church attendance	1	1 ( <i>everyday</i> ) to 5 ( <i>never</i> )	How often in the last month have you gone to church?	—	4.28	0.99
Spirituality	Spirituality	1	1 ( <i>yes</i> ) to 3 ( <i>no</i> )	I believe in God or a higher power	—	1.45	0.69
Club activities	In-school clubs	1	1 ( <i>everyday</i> ) to 5 ( <i>never</i> )	How often the last month have you participated in clubs inside of school?	—	4.28	1.16
	Out-of-school clubs	1	1 ( <i>everyday</i> ) to 5 ( <i>never</i> )	How often the last month have you participated in clubs outside of school?	—	4.24	1.10

parents would be by one’s involvement with problem behaviors and how upset one’s friends would be by one’s involvement in these behaviors. Scales were scored such that higher scores indicated more permissive attitudes, beliefs, and expectations.

*Risk Behaviors*

Alcohol use was measured by frequency of use and average consumption per drinking episode. Smoking was indicated by the typical number of cigarettes smoked each day. Marijuana use was assessed by the frequency of use in the past year as was hard drug use (based on ratings of cocaine, stimulants, depressants, heroin, acid, and club drug use). Sexual activity was assessed by a composite measure of the frequency of sexual touching, oral sex, and intercourse in the previous 12 months. For minor delinquency, ratings were combined for sneaking out at night, joyriding, shoplifting, and wrecking other’s property based on past year involvement. Major delinquency was assessed in terms of joining a gang, carrying a gun as a weapon, and carrying a knife as a weapon. Aggressive behaviors were assessed based on the past year in terms of direct aggression acts (e.g., pushed and shoved someone) and

indirect aggression acts (e.g., spread rumors and untrue stories). For each risk behavior, higher scores indicated greater involvement.

*Religiosity*

Religiosity was assessed in terms of frequency of church/synagogue/temple attendance in the past month using a 5-point scale (1—*every day*, to 5—*never*). Participants were categorized as high in religiosity if they attended church/synagogue/temple attendance once a week or more in the past month, and as “no” religiosity if they “never” attended. All other respondents were not included in the study.

*Spirituality*

Spirituality was assessed in terms of whether respondents believed in a God or a Higher Power. This question used a 3-point scale (1—*yes*, 2—*not sure or never thought about it*, 3—*no*). Participants were categorized as high in spirituality if they answered yes to believing in a God or a Higher Power, and as “no” spirituality if they reported

that they did not believe. All other respondents were not included in the study.

Given the large number of variables examined and the expected covariation among predictors within a given domain, the study measures were grouped and combined according to content overlap as detailed in the Measures section above (see also Table I). Results from principle components analysis (available from the 2nd author) indicated that individual measures comprising each composite index had loadings of 0.50 or greater on a principle component for that domain. Analysis was based on the standardized scores for each study measures.

## RESULTS

Some students did not finish the entire study questionnaire. We were not able to counterbalance the order of measures presented because the questionnaire was created in a scantron format. Having additional orders of presentation would have incurred exorbitant costs. The amount of missing data was directly related to survey length, i.e., missing values were greatest towards the end of the survey. Further, as detailed in Willoughby *et al.* (2004), the amount of missing data per participant was largely unrelated to scores on the study measures. Composite (average) scale scores were computed for participants who responded to at least 50% of the items within a scale. For students who did not give a sufficient number of responses within a scale, composite scores were imputed. In total, 14% of the data was missing due either to nonresponse or an insufficient number of responses. Missing data were imputed using the EM (expectation-maximization) algorithm in SPSS. Methodological research has demonstrated that this method of dealing with missing data is preferable to more common methods such as pair-wise deletion, list-wise deletion, or mean substitution (see Schafer and Graham, 2002). Table I displays the means and standard deviations for each of the study measures.

### Group Profiles

Two hundred and eight students (3.1% of 6758) were classified as the no spirituality/high church (NSHC) group. A group of 1109 students (16.4% of 6758) comprised the high spirituality/high church (HSHC) group. Four-hundred and forty students (6.5% of 6758) were classified as the no spirituality/no church attendance (NSNC) group. Finally, 2,686 (39.7% of 6758) were classified as the high spirituality and no church attendance (HSNC) group. The remaining 2,315 (34.3% of 6758) students re-

ported low to moderate levels of spirituality and/or low to moderate levels of church attendance and were not included in the analyses.<sup>3</sup> The four groups differed in terms of age,  $F(3, 4439) = 7.72, p < 0.001$ , with the NSHC group being significantly younger than the NSNC group; gender,  $F(3, 4439) = 13.22, p < 0.001$ , with the HSNC group having more males than the HSHC and NSHC groups, as well as the NSNC group having more males than the NSHC group; and level of parental education,  $F(3, 4439) = 17.89, p < 0.001$ , with the no church attendance groups (NSNC and HSNC) reporting parents with lower education levels than the HSHC group.

### Univariate Group Comparisons

Univariate group comparisons (1-way ANOVAs) and follow-up pair-wise contrasts (Tukey) were used to examine differences between the groups on each of the study measures. Means and standard deviations for each group on each study measure are shown in Table II. Given the age, gender and parental education level differences among the groups, age, gender, and levels of parental education were included in the analyses as covariates. Given the large number of comparisons, a Bonferonni correction was used to maintain an overall alpha level of 0.05. Across the set of comparisons,  $ps < 0.003$  were considered statistically significant.

Overall group differences were significant on each index (smallest  $F(3, 4436) = 8.28, p < 0.001$  for the hard drugs comparison) with the exception of peer victimization, indirect aggression, and major delinquency (largest  $F(3, 4436) = 0.66, p > 0.05$  for the peer victimization comparison).<sup>4</sup> Further, with the exception of well-being and hard drug use, follow-up Tukey analyses revealed that both church attendance groups (HSHC and NSHC) reported more positive scores on each index than did the no church attendance groups (HSNC and NSNC)

<sup>3</sup> The univariate analyses also were conducted including the five additional groups that reported moderate levels of either religiosity or spirituality (i.e. moderate religiosity and moderate spirituality, no religiosity and moderate spirituality, high religiosity and moderate spirituality, moderate religiosity and no spirituality, and moderate religiosity and high spirituality). Identical to the main findings of the study, group differences were significant on each index (smallest  $F(8, 6746) = 4.70, p < .001$  for the wellbeing comparison) with the exception of peer victimization, indirect aggression, and major delinquency (largest  $F(8, 6746) = 1.50, p > .05$  for the major delinquency comparison).

<sup>4</sup> The follow-up results also indicated a consistent pattern of findings, with only the religiosity scores separating the groups. The high religiosity groups consistently reported the most positive adjustment, the no religiosity groups reported the least positive adjustment, and the moderate religiosity groups reported scores in the middle.

**Table II** Univariate and Multivariate Results

Adjustment Indicators	ANOVA results				DFA		
	Group 1 (NSHC) <i>M</i> ( <i>SD</i> )	Group 2 (HSHC) <i>M</i> ( <i>SD</i> )	Group 3 (NSNC) <i>M</i> ( <i>SD</i> )	Group 4 (HSNC) <i>M</i> ( <i>SD</i> )	Partial $\eta^2$	SC	SCFC
Well-being	-0.08 (0.62) <sub>a,b</sub>	-0.06 (0.67) <sub>a,b</sub>	0.06 (0.65) <sub>c,d</sub>	0.05 (0.70) <sub>b,c</sub>	0.01	0.192	0.026
Academic orientation	-0.09 (0.66) <sub>a</sub>	-0.17 (0.62) <sub>a</sub>	0.04 (0.64) <sub>b</sub>	0.10 (0.68) <sub>b</sub>	0.03	0.440	0.047
Parental monitoring	-0.15 (0.86) <sub>a</sub>	-0.21 (0.84) <sub>a</sub>	0.07 (0.90) <sub>b</sub>	0.08 (0.94) <sub>b</sub>	0.02	0.353	0.088
Parental relationship	-0.20 (0.68) <sub>a</sub>	-0.18 (0.71) <sub>a</sub>	0.079 (0.68) <sub>b</sub>	0.11 (0.71) <sub>b</sub>	0.03	0.473	0.176
Friendship quality	-0.13 (0.84) <sub>a</sub>	-0.14 (0.85) <sub>a</sub>	0.08 (0.88) <sub>b</sub>	0.07 (0.89) <sub>b</sub>	0.01	0.272	0.133
Peer victimization	-0.04 (0.86) <sub>a</sub>	0.01 (.91) <sub>a</sub>	0.03 (0.98) <sub>a</sub>	0.004 (0.89) <sub>a</sub>	0.00	0.012	-0.122
Risk attitudes	-0.30 (0.66) <sub>a</sub>	-0.30 (0.65) <sub>a</sub>	0.16 (.64) <sub>b</sub>	0.15 (0.69) <sub>b</sub>	0.09	0.774	0.412
Alcohol	-0.34 (0.86) <sub>a</sub>	-0.40 (0.91) <sub>a</sub>	0.17 (0.91) <sub>b</sub>	0.16 (0.92) <sub>b</sub>	0.07	0.701	0.379
Smoking	0.55 (0.99) <sub>a</sub>	0.66 (1.28) <sub>a</sub>	1.17 (1.72) <sub>b</sub>	1.36 (1.91) <sub>b</sub>	0.03	0.467	0.052
Marijuana	1.57 (1.16) <sub>a</sub>	1.59 (1.22) <sub>a</sub>	2.34 (1.61) <sub>b</sub>	2.36 (1.65) <sub>b</sub>	0.05	0.583	0.211
Hard drugs	1.21 (.55) <sub>a,b</sub>	1.11 (.48) <sub>a</sub>	1.20 (0.55) <sub>a,b</sub>	1.23 (0.62) <sub>b</sub>	0.01	0.193	-0.150
Sexual activity	2.04 (1.13) <sub>a</sub>	1.97 (1.02) <sub>a</sub>	2.48 (1.20) <sub>b</sub>	2.57 (1.30) <sub>b</sub>	0.05	0.550	0.251
Minor delinquency	1.28 (.43) <sub>a</sub>	1.31 (.48) <sub>a</sub>	1.42 (.51) <sub>b</sub>	1.44 (0.54) <sub>b</sub>	0.01	0.304	-0.179
Major delinquency	1.08 (.35) <sub>a</sub>	1.07 (.27) <sub>a</sub>	1.10 (.35) <sub>a</sub>	1.11 (0.33) <sub>a</sub>	0.00	0.135	-0.048
Direct aggression	1.61 (.70) <sub>a</sub>	1.61 (.72) <sub>a</sub>	1.77 (.85) <sub>b</sub>	1.81 (0.86) <sub>b</sub>	0.01	0.280	0.068
Indirect aggression	1.18 (.42) <sub>a</sub>	1.18 (.38) <sub>a</sub>	1.25 (.53) <sub>a</sub>	1.23 (0.48) <sub>a</sub>	0.00	0.114	-0.142
Age	6.57 (1.35) <sub>a</sub>	6.60 (1.37) <sub>a</sub>	6.95 (1.36) <sub>b</sub>	6.80 (1.40) <sub>a,b</sub>	0.01	0.143	-0.141
Gender	1.62 (0.49) <sub>c,d</sub>	1.58 (0.49) <sub>b,c</sub>	1.51 (0.50) <sub>a,b</sub>	1.48 (0.50) <sub>a,b</sub>	0.01	-.231	-0.086
Parental education	-0.003 (0.90) <sub>a,b</sub>	0.14 (0.89) <sub>b</sub>	-0.14 (0.81) <sub>a</sub>	-0.07 (0.87) <sub>a</sub>	0.02	-0.262	-0.168

Notes. Means with different subscripts are significantly different at  $p < 0.003$ . SC = structure coefficients. SDFC = standardized discriminant function coefficients. For the ANOVA results, standardized results are shown.

regardless of the level of spirituality. For well-being, the NSHC group reported more positive scores than did both of the no church attendance groups, and the HSHC group reported more positive scores than did the NSNC group. In addition, the HSHC reported less use of hard drugs than did the HSNC group. Figure 1 displays the means for each group across study measures. In terms of the magnitude of the group differences, the partial eta-squared results (see Table II) indicated small to moderate effect sizes (ranging from 0.01 for well-being to 0.09 for risk behavior values/beliefs/attitudes).

**Multivariate Group Comparisons**

To examine which variables best discriminate among the 4 groups, all variables including age, gender and level of parental education were simultaneously entered into the discriminant function analysis. Unlike the univariate analysis, DFA provides an estimate of the relative importance of each of the study measures to the separation between analysis groups when examined simultaneously. The relative importance of each measure to the discriminant function was indexed by the standardized discriminant function coefficients. Correlations between each variable and the function (i.e., structure coefficients) were also examined.

The 1st discriminant function explained 91.6% of the separation among groups, Wilks’s  $\Lambda = 0.85$ ,  $\chi^2(60) = 700.55$ ,  $p < 0.001$ , and was the only significant function. An examination of the discriminant function means for the HSHC, NSHC, NSNC, and HSNC groups (-0.614, -0.560, 0.216, and 0.261, respectively) clearly indicated that the function discriminated between the church attendance groups and the non-church attendance groups.

As shown in Table II, study measures having the strongest correlations with the discriminant function (i.e., structure coefficients of 0.30 or greater) included risk behavior values/beliefs/attitudes, alcohol use, marijuana use, sexual activity, parental relationship, smoking, academic orientation, parental monitoring, and minor delinquency. Variables making notable, unique contributions to the discriminant function in the context of all study measures (i.e., standardized discriminant function coefficients of 0.10 or greater) included: risk behavior values/beliefs/attitudes, alcohol use, sexual activity, marijuana use, parental relationship, and friendship quality.

**Secondary Analyses**

The above results suggest that solely church attendance (and *not* personal belief in God or a higher power) is associated with the reporting of more positive psychosocial adjustment. It is not clear, however, whether this

advantage for church attendance is, in fact, unique to church, or if similar results could be found for other activities. For example, it may be that any community activity might be associated with the reporting of positive adjustment due to the fact that these activities might promote a sense of community and connectedness among youth. A further analysis was conducted, therefore, in order to examine this possibility. As the present study was part of a larger project examining youth lifestyle choices, we were able to access 2 additional questions related to involvement in club activities for this sample. Students were asked to indicate frequency of involvement in club activities outside and inside of school (rated on a 5-point scale from *never* to *everyday*).

For this supplementary analysis, therefore, 4 groups were created based on the following criteria: 1st, a group of 358 students (5.3% of 6758) reported weekly or more participation in clubs and weekly or more church attendance. Respondents in this group were classified as the high clubs/high church group. Seven-hundred and fifty (11.1% of 6758) reported no involvement in clubs but weekly or more church attendance, and were classified as the no clubs/high church group. Four-hundred and sixty students (6.8% of 6758) reported weekly or more club involvement and no church attendance, and were classified as the high clubs/no church attendance group. Finally, 2652 (39.2% of 6758) students reported no club participation and no church attendance, and were classified as the no clubs/no church attendance group. The remaining 2538 (37.6% of 6758) students reported low to moderate levels of club participation and/or low to moderate

levels of church attendance and were not included in the analyses.

Univariate comparisons among these 4 groups were performed for each of the study measures (at  $p < 0.003$ ). Again, group differences were significant on each index (smallest  $F(3, 4213) = 7.81, p < 0.001$  for the hard drugs comparison) with the exception of peer victimization, indirect aggression, and major delinquency (largest  $F(3, 4213) = 3.70, p > 0.01$  for the peer victimization comparison). Results are presented in Table III. Of particular interest for the supplementary analyses were the follow-up Tukey comparisons between the no clubs/high church group and the high clubs/no church group. If church attendance has a unique contribution over and above that which would be provided with having a connection with a community activity, we would expect to find similar patterns of findings as those reported for the follow-up comparisons above (i.e., more positive results for the church-attending adolescents as compared to those who only attend clubs). This pattern, however, was only partially supported. More specifically, this pattern was found for alcohol use, marijuana use, sexual activity, risk attitudes/perceptions, and parental monitoring, but not for other aspects of psychosocial adjustment (e.g., well-being, friendship quality, parental relationship, direct aggression, minor delinquency, smoking). In the latter cases, adolescents in the no clubs/high church group did not report significantly different scores from the high clubs/no church group. In only 1 case, academic orientation, did the high clubs/no church group report significantly higher scores than did the no clubs/high church group.

**Table III** Univariate Results for the Supplementary Analyses

Adjustment indicators	Group 1 (HCLHC) M (SD)	Group 2 (NCLHC) M (SD)	Group 3 (HCLNC) M (SD)	Group 4 (NCLNC) M (SD)	Partial $\eta^2$
Well-being	-.17 (0.62) <sub>a</sub>	-.04 (0.66) <sub>a,b</sub>	-.10 (0.69) <sub>b</sub>	0.07 (0.68) <sub>c</sub>	0.02
Academic orientation	-.37 (0.59) <sub>a</sub>	-.02 (0.64) <sub>b</sub>	-.22 (0.62) <sub>c</sub>	0.19 (0.66) <sub>d</sub>	0.06
Parental monitoring	-.15 (0.79) <sub>a</sub>	-.20 (0.91) <sub>a</sub>	.09 (0.90) <sub>b</sub>	0.07 (0.95) <sub>b</sub>	0.01
Parental relationship	-.33 (0.70) <sub>a</sub>	-.09 (0.72) <sub>b</sub>	-.01 (0.70) <sub>b</sub>	0.15 (0.71) <sub>c</sub>	0.04
Friendship quality	-.19 (0.87) <sub>a</sub>	-.04 (0.86) <sub>b</sub>	-.02 (0.90) <sub>b</sub>	0.11 (0.87) <sub>c</sub>	0.01
Peer victimization	.08 (1.05) <sub>a</sub>	-.02 (0.89) <sub>a</sub>	.00 (0.88) <sub>a</sub>	0.01 (0.90) <sub>a</sub>	0.00
Risk attitudes	-.42 (0.68) <sub>a</sub>	-.21 (0.66) <sub>b</sub>	.02 (0.71) <sub>c</sub>	0.20 (0.68) <sub>d</sub>	0.09
Alcohol	-.43 (0.94) <sub>a</sub>	-.37 (0.89) <sub>a</sub>	.13 (0.91) <sub>b</sub>	0.20 (0.92) <sub>b</sub>	0.07
Smoking	.52 (1.25) <sub>a</sub>	.73 (1.30) <sub>a</sub>	.76 (1.34) <sub>a</sub>	1.51 (2.01) <sub>b</sub>	0.04
Marijuana	1.47 (1.04) <sub>a</sub>	1.69 (1.31) <sub>a</sub>	1.95 (1.39) <sub>b</sub>	2.50 (1.71) <sub>c</sub>	0.06
Hard drugs	1.10 (0.50) <sub>a</sub>	1.15 (0.59) <sub>a</sub>	1.18 (0.64) <sub>a,b</sub>	1.24 (0.60) <sub>b</sub>	0.01
Sexual activity	1.95 (1.07) <sub>a</sub>	2.02 (1.05) <sub>a</sub>	2.48 (1.33) <sub>b</sub>	2.58 (1.30) <sub>b</sub>	0.04
Minor delinquency	1.25 (0.38) <sub>a</sub>	1.34 (0.47) <sub>b</sub>	1.38 (0.48) <sub>b</sub>	1.46 (0.55) <sub>c</sub>	0.00
Major delinquency	1.06 (0.27) <sub>a</sub>	1.08 (0.30) <sub>a,b</sub>	1.09 (0.35) <sub>a,b</sub>	1.11 (0.36) <sub>b</sub>	0.00
Direct aggression	1.58 (0.71) <sub>a</sub>	1.64 (0.75) <sub>a,b</sub>	1.72 (.83) <sub>b</sub>	1.84 (.87) <sub>c</sub>	0.01
Indirect aggression	1.21 (0.47) <sub>a</sub>	1.17 (0.37) <sub>a,b</sub>	1.22 (.46) <sub>a,b</sub>	1.24 (.52) <sub>b</sub>	0.00

Notes. HCLHC: high clubs/high church; NCLHC: no clubs/high church; HCLNC: high clubs/no church; NCLNC: no club/no church; Means with different subscripts are significantly different at  $p < 0.003$ . Standardized results are shown.

## DISCUSSION

The purpose of this study was to investigate the interaction between religiosity (operationalized as church attendance) and spirituality (operationalized as belief in God or a higher power), by creating 4 groups capturing 4 different religious/spiritual profiles and comparing them on measures of psychosocial adjustment. Our hypotheses were partially supported. 1st, the prediction that adolescents who attended church and believed in God or a higher power would report the most positive pattern of outcomes was supported by the data, as was the prediction that those who neither attended church nor believed in God or a higher power would report less positive adjustment outcomes. However, the finding that church-attending, nonbelieving adolescents reported nearly identical patterns of adjustment to the church-attending youth who did believe in God, was unexpected. Finally, the prediction that the group of adolescents who believed in God or a higher power but did not attend church would display more positive outcomes than their nonbelieving, non-church attending peers, was not supported, as those who believed in God or a higher power but did not attend church displayed nearly identical outcomes to the nonbelieving adolescents who did not attend church.

Results were striking with regards to the consistency with which the 2 church-attending groups reported more positive levels of psychosocial adjustment than did the 2 non-church attending groups, *regardless of belief in God or a higher power*. In fact, this pattern was consistent across all measures, with the exception of peer victimization, indirect aggression, and major delinquency. More specifically, group 2 (personal belief/weekly church attendance) and group 1 (no personal belief/weekly church attendance) reported more positive scores than did group 3 (no personal belief/no church attendance) and group 4 (personal belief/no church attendance) on measures of academic orientation, relationship with parents, parental monitoring, friendship quality, sexual activity, substance use (smoking, alcohol, and marijuana), and perceptions of risk. In contrast, groups 1 and 2 did not differ significantly from each other on any of the above adjustment variables, nor did groups 3 and 4 differ significantly from each other. These results suggest that regular church attendance, regardless of personal belief in God or a higher power, is associated with the reporting of more positive adolescent adjustment. Conversely, it also suggests that among those individuals who do not attend church, holding a personal belief in God or a higher power is not associated with additional benefits to positive adjustment.

The pattern of adjustment found in the nonbelieving, church attending group was especially surprising. It was

hypothesized that church-attending adolescents who did not believe in God might report more adjustment difficulties than adolescents whose beliefs matched their church attendance. For instance, it was assumed that this group would largely be comprised of individuals who were forced to attend religious services by church-attending parents, and therefore may report strained parental relationships. This group, however, reported more positive parental relationships than did those in both non-church-attending groups.

It is possible that positive parental relationships could be partly responsible for the results reported by the church-attending, nonbelieving adolescents. Supportive relationships with parents would not only promote good adjustment, but also might help explain why nonbelieving youth would attend church in the first place. More specifically, nonbelieving adolescents who have good relationships with their church-attending parents may attend church in order to maintain family harmony. In addition, higher levels of parental monitoring were reported in this group. Adolescents who are closely monitored by their parents may not only be more likely to display positive psychosocial adjustment (e.g., Fletcher and Jefferies, 1999; Steinberg *et al.*, 1992), but they also may be more likely to attend religious services against their own beliefs.

The experience of regularly attending church services may also be beneficial for adolescent development even in the absence of personal belief, as, through formal and informal means such as sermons and social approval, religious institutions generally discourage involvement in risk behaviors. Our results would support this interpretation, as adolescents in the 2 church-attending groups reported less permissive attitudes toward risk behaviors than did the non-church-attending groups. In fact, differences in risk perceptions between the groups yielded the largest effect size of all dependent variables in the analysis.

Findings from the multivariate analysis support the above interpretations regarding the importance of parental factors and risk behaviors to the observed pattern of results, as differences in smoking, marijuana, alcohol, sexual activity, risk attitudes/perceptions, and parental relationships were the most notable discriminators among the groups.

Even in the absence of belief in God or a higher power, being part of a church community could act as a strong asset in the life of a young person, through the promotion of important developmental factors associated with being part of a community such as cultural capital, social capital, intergenerational networks, and extra-community links (King, 2003; Smith, 2003). The secondary analysis explored the possibility that these

community-related benefits of church attendance were at least partly responsible for the reporting of more positive psychosocial adjustment by the church-attending students, and that these benefits could be gained through participation in any organized group or club. In the secondary analysis, where the sample was split into 4 additional groups based upon levels of church attendance and club participation, there was not such a distinct split between the “church-attending” and “non-church-attending” groups. Most notably, on indices of positive adjustment (e.g., well-being, friendship quality, parental relationship), significant differences were not found between the group of students who attended church weekly but did not participate in any clubs and the group who participated weekly in clubs but did not attend church. This finding indicates that church attendance may not have a unique relation to positive adjustment, but rather may provide a sense of community for adolescents, similar to that of club involvement. Indeed, findings from a large body of literature indicate that participation in extracurricular clubs is associated with academic success (e.g., Bartko and Eccles, 2003), and increased psychosocial well-being (e.g., Mahoney *et al.*, 2003; Bartko and Eccles, 2003). The benefits of extracurricular activities may be quite similar to the benefits of being part of a church community, as some research has shown that extracurricular clubs foster developmental assets such as positive connections with peers and adults, and learning to work as a member of a team (e.g., Dworkin *et al.*, 2003).

However, the secondary analysis also indicates that where church attendance may indeed exert a unique association with adolescent adjustment (over and above the benefits that would be associated with participation in any kind of community) is in the area of risk behaviors. On the measures of alcohol consumption, marijuana, and sexual activity, the church-attending adolescents (regardless of whether or not they participated in extracurricular clubs) scored significantly lower than did the adolescents who participated in clubs but did not attend church. Also, as was the case in the primary analyses, both church-attending groups reported less permissive attitudes towards risk behaviors. This pattern may be related to parental monitoring among families who regularly attend church, as in the secondary analysis it was again demonstrated that church-attending adolescents reported the highest parental monitoring scores.

A further explanation for these results could be group-level differences in adolescent compliance and/or temperament. The group of individuals who reported attending church weekly in the absence of personal beliefs may on average simply be compliant to parental requests and seek to live up to parental standards for appropriate

behavior. This kind of compliance may also produce the reporting of positive academic orientation and low levels of substance use. A more positive interpretation may be that the adolescents in this group simply represent a collection of well-adjusted young people with easy temperaments, who strive to do their best at home and school and who avoid risks for reasons related to the importance of personal well-being rather than simple parental compliance. Further research is needed to address this possibility.

The fact that spirituality was not an important factor in discriminating psychosocial adjustment may be related to the possibility that for high school students, the presence or absence of belief in God or a higher power may not be nearly as salient a characteristic in their lives as the presence or absence of regular church attendance. Adolescence is a period of ideological exploration (Erikson, 1968), and firm commitments to a set of personal beliefs tend to increase as individuals move into young adulthood (e.g., Adams *et al.*, 1989). For example, longitudinal studies of college students have demonstrated that ideological identity commitments generally increase from the beginning of 1st year to the end of 3rd year (e.g., Adams and Fitch, 1982). These findings suggests that it might be beneficial for future researchers to attempt to replicate this study in a sample of upper-year university students, when identity-related commitments are more solid. In the present study’s sample, many students may still be figuring out what they believe with regards to religiosity and spirituality. At this point in life, it is possible that self-reported belief in God or a higher power may even change from day to day.

Information concerning the covariates included in the analyses adds further clarification to the pattern of results, as age, gender, and parental education were all found to differ significantly among groups. For students who did not believe in God, those who reported frequent church attendance were significantly younger than those who did not attend church. Younger students, in turn, may be more likely than older students to attend church against their own beliefs, and might be less likely to engage in risk behaviors. In addition, tests for gender differences revealed that males were less likely than females to be in the church-attending groups. This divergence may further help explain why the church-attending groups reported lower levels of participation in risk behaviors, as males generally are more likely to be risk takers (e.g., Corwyn and Benda, 1999). Students in the church-attending groups also reported that their parents had higher levels of education than did the non-church-attending groups. The discrepancy in socioeconomic status between the church attending and non-church attending groups adds further clarity to our understanding of their consistent differences

on adjustment indicators, as SES often is associated with adjustment (e.g., Schneiders *et al.*, 2003). Although information regarding differences among the 4 groups on the covariates is pertinent to our understanding of the results, differences among groups on adjustment indicators were found to be significant even after controlling for age, gender, and parental education. Simple demographic factors, therefore, were clearly not the only important considerations in the observed pattern of results.

The pattern of findings favoring religiosity was not found for peer victimization, indirect aggression, and major delinquency. The entire sample of students in the study, however, reported low levels of all 3 of these behaviors. Given that most students do not engage in these activities at high levels, it is perhaps not a surprise that religiosity and spirituality did not play a role with these measures.

Our exploration of these patterns of religious behavior, spiritual belief, and psychosocial adjustment is not without limitations. Given our reliance on self-report data, results may have differed if information from other sources about risk behaviors or psychological adjustment (i.e., parent or teacher ratings) had been considered. In addition, because of the length of the questionnaire and the fact that counterbalancing the order of measures presented was not possible, respondent fatigue (or boredom) and insufficient time to complete the questionnaire may have contributed to the missing data pattern and may have biased results.

Furthermore, the measure used here to assess the construct of “nontraditional spirituality” was limited in that it was solely comprised of one item inquiring about one’s belief in God or a higher power. Though this study represents an important step towards understanding the differences between individuals who report traditional religious behavior (i.e., church attendance), versus those who report spiritual beliefs that are not (necessarily) related to traditional religion, it is possible that the simple belief in a higher power may not exert a great deal of influence in an adolescent’s life (particularly for those who do not attend church). Our definition of spirituality was also a theist conceptualization, and therefore, individuals not professing a belief in a God or higher power were excluded. A comprehensive, inclusive measure of nontraditional spirituality may be able to more accurately assess the effects of specific nontraditional, or nontheist spiritual beliefs (i.e., Humanism, Atheism, Wiccan, New Age, Goth) on adolescent adjustment. For instance, Piedmont’s (1999, 2004) work on spiritual transcendence provides a culturally universal definition of spirituality wherein the focus is on an individual’s capacity to view life within the perspective of a larger, transcendent reality, and to identify with or reflect upon the underlying sense of unity among

all human reality and living beings. Piedmont’s research suggests that spiritual transcendence is a good predictor of important variables related to psychosocial functioning, such as social support, prosocial behavior, and substance abuse recovery. Future research should consider investigating the interaction between Piedmont’s conceptualization of spirituality and measures of church attendance or traditional religious beliefs.

Our measure of religiosity was also limited in the sense that it only included 1 item assessing frequency of church attendance. It may be beneficial for future research to also consider the *nature of church involvement*, rather than just the presence of church attendance. For instance, it would be interesting to compare subsets of church attending youth based upon their frequency of attendance as well as their level of involvement in church-related extracurricular activities. It may be that an individual who is highly involved in the network of church activities—whether or not they believe in God—might reap more “church-related” benefits than someone who simply shows up once a week for Sunday church services.

Clearly, there is a need for researchers to develop valid and reliable measures which would adequately capture nontraditional patterns of spiritual beliefs and behaviors among adolescents. The scientific community must seek to produce indicators that accurately reflect how youth today experience spirituality in their own lives, rather than trying to categorize them according to outdated indicators of “religiosity.”

A further limitation of this study is that the generally small effect sizes present in the analyses indicate that not a great deal of the overall variability in adolescent adjustment can be attributed to one’s placement in the 4 groups. However, the consistency with which differences were demonstrated between the groups lends greater weight to the overall association that being in a church-attending group versus a non-church attending group may exert on the lives of young people, regardless of personal belief in God or a higher power.

Finally, our data do not speak to the causes of the differences between the 4 groups. Without longitudinal data on this sample of adolescents, inferences about the long-term trajectories for the groups are not warranted. Perhaps as young people attain independence and move out of their family homes, the effect of parent-enforced church attendance may become negligible and the effect of personal, internal beliefs on behavior may be a more salient predictor of adjustment. In the future, it would be beneficial for researchers to conduct longitudinal investigations in order to assess developmental trajectories that may exist for the associations between church attendance, personal spiritual beliefs, and psychosocial development. The findings

of this study also are applicable to policies and programs concerned with promoting positive youth development. 1st, because these results suggest that involvement in club activities is related to positive psychosocial adjustment, it may be beneficial for communities to actively promote and provide funding for youth programs. 2nd, these results suggest that secular programs such as school and community clubs might want to consider ways in which they could more directly discourage young people from participating in risk behaviors.

## ACKNOWLEDGMENTS

This research was supported by grants from the Social Sciences and Humanities Research Council of Canada and Human Resources Development Canada.

## REFERENCES

- Adams, G. R., and Fitch, S. A. (1982). Ego stage and identity status development: A cross-sequential analysis. *J. Pers. Soc. Psychol.* 43: 574–583.
- Adams, G. R., Bennion, L., and Huh, K. (1989). *Objective Measure of Ego Identity Status: A Reference Manual*. Department of Family Relations and Applied Nutrition. University of Guelph, Guelph, Ontario.
- Armsden, G. C., and Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *J. Youth Adolesc.* 5: 427–453.
- Ball, J., Armistead, L., and Austin, B. J. (2003). The relationship between religiosity and adjustment among African-American, female, urban adolescents. *J. Adolesc.* 26: 431–446.
- Bartko, W. T., and Eccles, J. E. (2003). Adolescent participation in structured and unstructured activities: A person-oriented analysis. *J. Youth Adolesc.* 32: 233–241.
- Corwyn, R. F., and Benda, B. B. (1999). Multiple contingency table analyses of the deviance syndrome: How much overlap is there? *J. Child Adolesc. Subst. Abuse* 9: 39–56.
- Donelson, E. (1999). Psychology of religion and adolescents in the United States: Past to present. *J. Adolesc.* 22: 187–204.
- Dworkin, J. B., Larson, R., and Hansen, D. (2003). Adolescents' accounts of growth experiences in youth activities. *J. Youth Adolesc.* 32: 17–26.
- Erikson, E. H. (1968). *Identity: Youth and Crisis*. W.W. Norton, New York.
- Fletcher, A. C., and Jefferies, B. C. (1999). Parental mediators of associations between perceived authoritative parenting and early adolescent substance use. *J. Early Adolesc.* 19: 465–487.
- Francis, L. J. (1997). The impact of personality and religion on attitude towards substance use among 13–15 year olds. *Drug Alcohol Depend.* 44: 95–103.
- Frankel, B. G., and Hewitt, W. E. (1994). Religion and well-being among Canadian university students: The role of faith groups on campus. *J. Sci. Stud. Relig.* 33: 62–73.
- Gauze, C., Bukowski, W. M., Aquan-Asse, J., and Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self perceived well-being during early adolescence. *Child Dev.* 67: 2201–2216.
- Ginsburg, G., LaGreca, A., and Silverman, W. (1998). Social anxiety in children with anxiety disorders: Relation with social and emotional functioning. *J. Abnorm. Child Psychol.* 26: 175–185.
- Hawkins, J. D., Catalano, R. F., Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychol. Bull.* 112: 64–105.
- Holder et al. (2000). The association between adolescent spirituality and voluntary sexuality activity. *J. Adolesc. Health* 26: 295–302.
- Hunsberger, B., Pratt, M., Pancer, S. M. (2001). Adolescent identity formation: Religious exploration and commitment. *Identity: Ann. Int. J. Theor. Res.* 1: 356–386.
- Jessor, R. (1991) Risk behavior in adolescence: A psychosocial framework for understanding and action. *J. Adolesc. Health* 12: 597–605.
- Kerestes, M., and Youniss, J. E. (2003). Rediscovering the importance of religion in adolescent development. In Lerner, R. M., Jacobs, F., and Wertlieb, D. (eds.), *Handbook of Applied Developmental Science*. Sage, London, pp. 165–184.
- Kerestes, M., Youniss, J., and Metz, E. (2004). Longitudinal patterns of religious perspective and civic integration. *Appl. Dev. Sci.* 8: 39–46.
- King, P. E. (2003). Religion and identity: The role of ideological, social, and spiritual contexts. *Appl. Dev. Sci.* 7: 197–204.
- King, P. E., and Furrow, J. L. (2004). Religion as a resource for positive youth development: Religion, social capital, and moral outcomes. *Dev. Psychol.* 40: 703–713.
- Mahoney, J. L., Cairns, B. D., and Farmer, T. W. (2003). Promoting interpersonal competence and educational success through extracurricular activity participation. *J. Educ. Psychol.* 95: 409–418.
- Marini, Z., Spear, S., and Bombay, K. (1999). Peer victimization in middle childhood: Characteristics, causes, and consequences of bullying. *Brock Ed.* 9: 32–47.
- Markstrom, C. A. (1999). Religious involvement and adolescent psychosocial development. *J. Adolesc.* 22: 205–221.
- Markstrom-Adams, C., and Smith, M. (1996). Identity formation and religious orientation among high school students from the United States and Canada. *J. Adolesc.* 19: 247–261.
- Marler, P. L., and Hadaway, C. K. (2002). “Being religious” or “being spiritual” in America: A zero-sum proposition? *J. Sci. Stud. Relig.* 41: 289–300.
- Martin, T., Kirkaldy, B., and Siefen, G. (2003). Antecedents of adult well-being: Adolescent religiosity and health. *J. Manage. Psychol.* 18: 453–470.
- Meier, A. M. (2003). Adolescents' transition to first intercourse, religiosity, and attitudes about sex. *Soc. Forces* 81: 1031–1052.
- Miller, L., and Gur, M. (2002). Religiosity and sexual responsibility in adolescent girls. *J. Adolesc. Health* 31: 401–406.
- National Institute for Mental Health. (1972). Center for Epidemiological Studies-Depression (CES-D) Scale. Durham, NC: National Institute for Mental Health.
- Nonnemaker, J. M., McNeely, C. A., and Blum, R. W. (2003). Public and private domains of religiosity and adolescent health risk behaviors: Evidence from the national longitudinal study of adolescent health. *Soc. Sci. Med.* 57: 2049–2054.
- Petraitis, J., Flay, B. R., and Miller, T. Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychol. Bull.* 117: 67–86.
- Petraitis, J., Flay, B. R., Miller, T. Q., Torpy, E. J., and Greiner, B. (1998). Illicit substance use among adolescents: A matrix of prospective predictors. *Subst. Use Misuse* 33: 2561–2604.
- Piedmont, R. L. (1999). Does spirituality represent the sixth factor of personality? Spiritual transcendence and the five-factor model. *J. Pers.* 67: 985–1013.
- Piedmont, R. L. (2004). Spiritual transcendence as a predictor of psychosocial outcome from an outpatient substance abuse program. *Psychol. Addict. Behav.* 18: 213–222.
- Regnerus, M. D. (2002). Shaping schooling success: Religious socialization and educational outcomes in metropolitan public schools. *J. Sci. Stud. Relig.* 39: 363–370.
- Regnerus, M. D. (2003). Moral communities and adolescent delinquency: Religious contexts and community social context. *Soc. Quarterly* 44: 523–554.

- Regnerus, M. D., and Elder, G. H. (2003). Religion and vulnerability among low-risk Adolescents. *Soc. Sci. Res.* 32: 633–658.
- Ritt-Olsen, A., Milam, J., Unger, J. B., Trinidad, D., Teran, L., Dent, C. W., and Sussman, S. (2004). The protective influence of spirituality and “health as a value” against monthly substance use among adolescents varying in risk. *J. Adolesc. Health* 34: 192–199.
- Rosenberg, M. (1965). *Society and the Adolescent Self Image*. Princeton University Press, Princeton, NJ, pp. 17–18
- Ryan, M., Rigby, S., and King, K. (1993). Two types of religious internalization and their relations to religious orientations and mental health. *J. Pers. Soc. Psychol.* 65: 586–596.
- Schafer, J. L., and Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychol. Methods* 7: 147–177.
- Schafer, W. E., and King, M. (1990). Religiousness and stress among college students: A survey report. *J. Coll. Student Dev.* 31: 336–341.
- Schneiders, J., Drukker, M., van der Ende, J., Verhulst, F. C., van Os, J., and Nicolson, N. A. (2003). Neighbourhood socioeconomic disadvantage and behavioral problems from late childhood into early adolescence. *J. Epidemiol. Community Health* 57: 699–703.
- Smith, C. (2003). Religious participation and network closure among American adolescents. *J. Sci. Stud. Relig.* 42: 259–267.
- Statistics Canada. (2001) Canadian census data. Ottawa, Canada: Author.
- Steinberg, L., Lamborn, S. D., Dornbusch, S. M., and Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Dev.* 63: 1266–1281.
- Steinman, K. J., and Zimmerman, M. A. (2004). Religious activity and risk behavior among African American adolescents: Concurrent and developmental effects. *Am. J. Community Psychol.* 33: 151–161.
- Weinberger, D., Tublin, S., Ford, M., and Feldman, S. (1990). Preadolescents’ social-emotional adjustment and selective attrition in family research. *Child Dev.* 61: 1374–1386.
- Willoughby, T., Chalmers, H., and Busseri, M. A. (2004). Where is the syndrome? Examining co-occurrence among multiple adolescent problem behaviors. *J. Consult. Clin. Psychol.* 72: 1022–1037.
- Wills, T. A., Yaeger, A. M., and Sandy, J. M. (2003). Buffering effect of religiosity for adolescent substance use. *Psychol. Addict. Behav.* 17: 24–31.
- Wright, L. S., Frost, C. J., and Wisecarver, S. J. (1993). Church attendance, meaningfulness of religion, and depressive symptomatology among adolescents. *J. Youth Adolesc.* 22: 559–568.
- Youniss, J., Yates, M., and Su, Y. (1997). Social integration: Community service and marijuana use in high school seniors. *J. Adolesc. Res.* 12: 245–262.