

# Just Another Club? The Distinctiveness of the Relation Between Religious Service Attendance and Adolescent Psychosocial Adjustment

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**Abstract** This study used hierarchical linear modeling to compare longitudinal patterns of adolescent religious service attendance and club attendance, and to contrast the longitudinal relations between adolescent adjustment and religious service versus club attendance. Participants included 1050 students (47% girls) encompassing a school district in Canada, who completed the survey first in grade nine and again in grades 11 and 12. Results demonstrated that patterns of religious service attendance over time were quite different from other clubs. Religious attendance was uniquely associated with several indicators of positive as well as negative adjustment. Club involvement, conversely, was only associated with positive adjustment—particularly for individuals who reported sustained involvement over time. Findings suggest that religious services may provide some unique experiences—both positive and negative—over and above what may be provided in other clubs, and that sustained, rather than sporadic participation in clubs, may be especially important for adolescent adjustment.

**Keywords** Religious service attendance · Extracurricular club involvement · Positive youth development · Hierarchical linear modeling

## Introduction

Within the emerging Positive Youth Development (PYD) framework (e.g., Lerner et al. 2003) where priority is placed on understanding and promoting positive developmental features, both religious service attendance and involvement in other structured, prosocial clubs may be seen as environments that foster intrapersonal and interpersonal assets (e.g., Dworkin et al. 2003; King and Furrow 2004; Smith 2003a). Attendance at religious services and involvement in other extracurricular clubs are common adolescent activities. Reports from nationally representative surveys have indicated that 34% percent of Canadian adolescents and 54% percent of U.S. adolescents attend religious services at least once a month (Clark 2003; Smith et al. 2002) while 83% percent of Canadian adolescents and 69% of U.S. adolescents report participating in at least one type of in-school or out-of-school structured activity (Eccles and Barber 1999; Statistics Canada 2001a). There may be important differences between these two environments, however, that have been largely overlooked within the existing literature. In the present study, we review research that points towards the usefulness of examining religious service attendance independently from other types of extracurricular club involvement. Further, we empirically evaluate the differential longitudinal correlates of religious service attendance compared to involvement in other clubs, using a sample of adolescents assessed three times between grades nine and 12.

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In studies of adolescent extracurricular activities, structured, prosocial clubs such as community groups (e.g., Boys and Girls Clubs), service-focused groups (e.g., Interact), and school leadership groups (e.g., student council) have been consistently and strongly associated with positive adolescent adjustment (e.g., Bartko and Eccles 2003). There is some evidence, however, that adolescents who regularly attend religious services may be overrepresented among those individuals who are highly involved in structured, prosocial clubs. For example, Youniss et al. (1997) found that the more frequently students attended religious services, the more they were involved in community service activities. Students who are highly involved in community groups, school clubs, and volunteering have also reported fairly high levels of participation in religious activities (e.g., Bartko and Eccles 2003). Furthermore, a nationally representative study of U.S. adolescents also indicated that 74% of youth who stated that religion was important to them regularly volunteered in their communities compared to 24% of nonreligious young people (Youniss et al. 1999). The significant number of religious adolescents among those involved in other prosocial clubs is important to consider, as many of the correlates of religious service attendance are similar to the correlates of involvement in other clubs. Namely, religious service attendance and involvement in prosocial clubs are both associated with good mental health (e.g., Barber et al. 2001; Ryan et al. 1993), positive interpersonal relationships (e.g., Good and Willoughby 2006; Mahoney et al. 2003), academic success (e.g., Mahoney 2000; Regnerus and Elder 2003), and lower rates of substance use (e.g., Youniss et al. 1999).

Despite the similar correlates of religious service attendance and other clubs, as well as the potential overrepresentation of adolescents who are part of religious congregations among individuals who are engaged in prosocial clubs, religious services typically are not examined as a unique type of extracurricular club. Instead, religion-based activities have been largely subsumed under the umbrella of “community,” “structured,” “prosocial,” or “service/civic” club categories (e.g., Darling 2005). It is possible, therefore, that the association between involvement in structured, prosocial clubs and positive psychosocial adjustment may be partially confounded by religious involvement. Alternatively, if religious service attendance and club involvement are not analyzed independently, it may be difficult to infer if religious service attendance uniquely contributes to positive adjustment over and above its function as a structured prosocial activity. Although religious services may be thought of as just another type of structured, prosocial club in many respects, religious service attendance may also offer some unique experiences that are not provided in other types of clubs.

### The Uniqueness of Religious Service Attendance

Perhaps the most unique aspect of religious service attendance in comparison with other clubs is that religious congregations generally present their adherents with a moral order or worldview about the purpose of life and a set of moral directives regarding what is right and wrong (Larson et al. 2006; Smith 2003a). Consequently, religious services may present a unique type of motivation for avoiding common adolescent risk behaviors such as the use of illicit substances (e.g., Regnerus and Uecker 2006). Religious teachings may also offer adolescents a unique set of coping strategies for dealing with major life stressors (Mahoney et al. 2006). These coping strategies could include the beliefs that a loving deity is in control, that evil behavior will ultimately be punished and good deeds rewarded, or that believers will be reunited after death (Smith 2003b).

Another unique aspect of involvement in religious services in comparison to other clubs is the spiritual experiences they may provide for some adolescents. Spiritual experiences include group rituals, individual prayer, meditation, or the perception of receiving divine guidance, among others (Good and Willoughby 2007; Newberg and Newberg 2005). Research has indicated that these experiences are not uncommon among adolescents. Using data from a nationally-representative survey (the National Study of Youth and Religion) that employed a random digit-dial telephone survey of U.S. households, Smith and Denton (2005), p. 45) found that 51% of teenagers reported “having an experience of spiritual worship that was very moving and powerful.” Moreover, 50% reported “having experienced a definite answer to prayer or specific guidance from God,” and 46% reported “having witnessed a miracle from God.” These types of experiences may represent positive, powerful turning points in the lives of youth (e.g., Good and Willoughby 2007).

Religious services could also foster unique interpersonal experiences over and above the benefits that would be associated with participation in any kind of structured, prosocial club. For example, religious congregations are one of the few remaining communities in Western society in which adolescents participate that are not rigidly age-stratified (Smith 2003a). While many other clubs geared towards adolescents are led by adults and thus provide young people with important extra familial social connections, intergenerational networks within religious congregations may be unique for several reasons. First, some adolescents may view certain adults within the congregation (particularly their youth group leaders) as friends or acquaintances rather than authority figures (e.g., Good and Willoughby 2007). Second, adolescents may also come into contact with a greater age range of individuals (i.e.,

children and the elderly) within religious communities than in other clubs, where leaders are typically adults in their working years.

Social network closure is another interpersonal factor that may be unique to religious attendance. Network closure occurs when an individual is embedded within a system of interconnected individuals and communities (Coleman 1988). As an illustration, an adolescent whose parents interact regularly with the parents of his/her friends as well as his/her teachers and principals, would have a high degree of network closure. Smith (2003a) hypothesized that religious communities are ideal settings for the facilitation of network closure, because within these congregations adolescents may form relationships with many individuals (such as rabbis/ministers/imams, youth leaders, choir directors, and Sunday school teachers,) who know each other and who also may have a relationship with the adolescents' parents. Indeed, Smith (2003b) found that participation in religious congregations was associated with greater connections between parents of adolescents, their children's friends, and the parents of their children's friends. In effect, researchers have suggested that network closure may facilitate better parental monitoring and supervision (e.g., Fletcher et al. 2001). Because parental monitoring and parental knowledge about their adolescents' activities is associated with less involvement in risk-taking (e.g., Fletcher et al. 2004; Kerr and Stattin 2000; Stattin and Kerr 2000), social network closure facilitated by religious involvement may be indirectly related to lower levels of involvement in adolescent risk behaviors such as substance use.

Network closure facilitated by involvement in religious congregations (in comparison to other clubs) may be particularly unique during adolescence. Typically, the amount of time that children spend with their families tends to decrease during the teenage years (e.g., Larson et al. 1996). Parents who are very involved in their young children's extracurricular clubs (i.e., as a Brownie leader or sports coach), therefore, may become less involved as their children enter adolescence and become more independent (e.g., Meeus et al. 2005). Religious service attendance, however, is an activity from which parents may be unlikely to decrease their own involvement. Smith and Denton (2005), in fact, found that 90% of adolescents who attended religious services attended with one or both parents. Because religious services are intergenerational, therefore, parents are likely to attend along with their teenagers.

While there are clearly some unique positive experiences that religious service attendance may offer adolescents (also see Maton and Wells 1995, for a discussion of the unique role of religious groups in promoting empowerment), it is possible that it may also be associated with some distinct negative experiences. For example, while attendance at

religious services has been associated with healthy general identity exploration (e.g., examination of values, morality, purpose in life, see Larson et al. 2006), religious ideological exploration may be obstructed in congregations where adherents are encouraged to accept the tenets of their faith unquestioningly. Indeed, some studies have found that religiously-committed adolescents are less likely than their nonreligious peers to report engaging in identity exploration and are more likely to report ideological foreclosure (e.g., Hunsberger et al. 2001). Some researchers have also suggested that involvement in religious congregations may be associated with heightened feelings of guilt, particularly when individuals engage in activities that conflict with the moral order of their religion (e.g., Albertsen et al. 2006).

Few studies, however, have explored the potentially unique role of religious service involvement over and above its role as another type of structured club. In a comparison of developmental experiences that youth report in several types of clubs, Larson et al. (2006) found that participants in community and service-oriented groups reported high rates of positive interpersonal experiences (positive relationships, teamwork, and social capital). In contrast, participants in faith-based groups reported high levels of positive interpersonal *and* intrapersonal experiences (initiative, emotional regulation, and identity work). Interestingly, although faith-based activities stood out as the setting in which youth reported the greatest amount of positive experiences, adolescents reported having an equal amount of negative experiences (e.g., stress, social exclusion, and negative group dynamics) during participation in faith-based activities as they did during participation in other types of clubs. In another study, Markstrom et al. (2005) found that student government and volunteerism, but not religious service attendance, was related to ego strengths (positive psychosocial qualities based on Erikson's (1964) theory of lifespan development).

In a previous study (Good and Willoughby 2006), we examined whether the association between religious service attendance and the reporting of more positive psychosocial adjustment was unique to religious service attendance, or if similar results could be found for other structured clubs. Participants were divided into four groups based upon their level of religious service attendance and club involvement: (a) weekly religious service attendance and weekly club participation; (b) weekly religious service attendance and no club participation; (c) no religious service attendance and weekly club participation; (d) no religious service attendance and no club involvement. We found no significant differences on indices of positive psychosocial adjustment (intrapersonal well-being, friendship quality, and quality of parental relationship) between adolescents in the weekly religious service/no clubs group and the no religious services/weekly clubs. We did find,

however, that adolescents who attended religious services, regardless of their level of participation in clubs, reported lower involvement in risk-taking behavior than did those who were involved in clubs, but who did not attend religious services. Therefore, although religious service attendance and club involvement were equally associated with positive developmental assets, religious service attendance was uniquely associated with less risk-taking (see also Fauth et al. 2007).

Overall, therefore, the unique characteristics of involvement in religious congregations as compared to other clubs include moral guidance, spiritual experiences, intergenerational contacts, social network closure, and identity exploration. Furthermore, these characteristics may be related to unique patterns of psychosocial adjustment. At the same time, however, there may be changes in these patterns of relations across the adolescent period.

#### Developmental Considerations: Involvement Across Adolescence

Religious service attendance may also differ significantly from involvement in other clubs in terms of trajectories of participation over the course of adolescence. It may be normative for the frequency of religious service attendance to decrease considerably in high school (e.g., Smith et al. 2002). In contrast, levels of involvement in other clubs may remain fairly stable as adolescents explore the wide range of activities available to them in high school or select one or two activities on which to focus intensely (Busseri et al. 2006; Raymore et al. 2001). Because decreases in attendance at religious services over the course of adolescence may be common, individuals who consistently attend religious services throughout high school (or who regularly attend religious services in late adolescence), may be quite different from individuals who sustain their involvement in other extracurricular activities throughout high school (or those who engage in these activities in the later years of adolescence). The correlates of religious service attendance, therefore, may differ from the correlates of club involvement depending on the age of the adolescent and/or degree of sustained involvement over the course of high school.

The benefit of involvement over time in religious services versus club involvement may also be highly dependent upon the *particular indicator* under consideration. Take into consideration the construct of intrapersonal well-being. While religious service attendance and club involvement have been found to be negatively correlated with indicators of intrapersonal well-being such as depression (i.e., Mahoney et al. 2002; Frankel and Hewitt 1994), sustained involvement in religious services (and/or involvement in religious services in late adolescence) versus club involvement may show a different relation with

intrapersonal well-being. Indirect support for this possibility comes from studies based on late adolescent and college student samples. Specifically, researchers have found that individual increases in religiosity are linked to the reporting of more personal problems (Zinnbauer and Pargament 1998), low self-esteem (Kox et al. 1991), and insecure adult attachments (Kirkpatrick 1998; Zinnbauer and Pargament 1998). These findings could be related to the fact that many faith groups present their adherents with religious coping strategies for dealing with stressors (e.g., Smith 2003a), and some individuals may be drawn towards these comforting strategies in times of trouble (Pendleton et al. 2002). Participation in other types of clubs in late adolescence (or sustained participation), however, may not be expected to be linked to negative intrapersonal well-being or stressful life events. Furthermore, increasing autonomy has been associated with greater positive intrapersonal well-being (Ryan and Deci 2002; Soenens et al. 2007) as well as with decreases in attendance at religious activities (Regnerus and Uecker 2006). It is possible, then, that discontinuation (that is, non-sustained attendance over time) in religious attendance could actually show a positive correlation with intrapersonal well-being for some adolescents.

A similar conjecture could be made with regard to family relationships. While results from our previous study revealed that participation in religious services and other clubs were concurrently correlated with the reporting of more positive parent-adolescent relationships, it may be expected that discontinuation of religious service attendance—but not club involvement—would be associated with the reporting of less positive parent-adolescent relationship. Most adolescents who attend religious services have parents who also attend (e.g., Smith and Denton 2005). Therefore, an adolescent's decision to stop accompanying his or her family to church/temple/synagogue may create friction in the parent-child relationship. Alternatively, family conflict may prompt an adolescent to decrease his or her involvement in all family-oriented activities, including religious services. Because other clubs may not be as strongly tied to family affairs, decreases over time in club involvement may be less strongly linked to quality of family relationships. Similarly, adolescents who attend religious services regularly, particularly in the late adolescent years, may have very positive relationships with their parents.

Furthermore, sustained religious service attendance may be more strongly associated with lower risk-taking over time than sustained club participation because of the emphasis religious institutions place on risk avoidance. The more exposure an adolescent has to religious teachings, the less he or she would be expected to engage in prohibited behaviors such as drinking alcohol or smoking (e.g., Regnerus and Uecker 2006). Adolescents who report more sustained religious service attendance, therefore, may

be expected to engage in less risk-taking than their peers whose attendance is not sustained over time.

When considering different aspects of an adolescent's interpersonal environment—for instance, relationships with friends—attendance at religious services and other clubs may be more similar in their relations with positive outcomes, regardless of age of the adolescent or degree of sustained involvement. Religious service attendance and other clubs may both facilitate positive friendships, as both of these activities provide young people with opportunities to engage in healthy interactions with like-minded peers (e.g., King and Furrow 2004; Larson et al. 2006).

Similarly, because both religious services and other structured, prosocial clubs are thought to foster skills that could promote school success (such as responsibility and respect for rules; Mahoney 2000; Regnerus and Elder 2003) club participation and religious services attendance may both be associated with academic success, at all stages of adolescence. A greater degree of sustained involvement may promote more extensive development of these skills and foster even greater academic success.

### The Present Study

Using data where frequency of religious service attendance, club involvement, and various indicators of psychosocial adjustment (specifically, intrapersonal well-being, substance use, academic success, and quality of relationships with parents and friends), were measured at three time points from grade nine to grade 12, this study explored three research questions. For the first question, we asked whether the average pattern of change over time in attendance at religious services differed from the average pattern of change over time in club involvement. Based on research that suggests religious service attendance may be more likely to decrease over the course of adolescence than other nonreligious clubs (e.g., Busseri et al. 2006; Smith et al. 2002), we hypothesized that the participants would report an overall pattern of decline in frequency of religious attendance from grade nine to grade 12, but that this pattern would not be reported for frequency of involvement with other clubs.

For the second research question we asked whether the frequency of religious service attendance and the frequency of club involvement independently predict psychosocial adjustment over time, and whether the strength of these relations change as adolescents get older. Five specific hypotheses were made for this research question. First, given the strong family-religion connection (Smith and Denton 2005), we predicted that religious service attendance would be uniquely associated with more positive parental relationships. We also expected this effect to be stronger for participants when they were in the later years

of high school, as adolescents who frequently attend religious services at a developmental period when it is not normative to do so may choose to attend because they enjoy spending time with their families, and/or they want to please their parents (e.g., see Good and Willoughby 2006). Second, given the emphasis that religious communities place on the avoidance of risk behaviors such as substance use (e.g., Regnerus and Uecker 2006), we predicted that religious service attendance would be uniquely associated with less substance use, and that this association would be the same for individuals in grade nine, grade 11, and grade 12. Third, we predicted, based on research that has generally found religiosity to be linked to positive intrapersonal/emotional well-being (e.g., Mahoney et al. 2002), that there would be an overall negative association between religious service attendance and intrapersonal well-being; however, given that a decrease in religious service attendance over adolescence is normative, this relation was expected to be weaker in the later years of high school. Fourth, given the evidence that religious attendance and club involvement may promote healthy friendships (e.g., King and Furrow 2004; Larson et al. 2006), we hypothesized that both religious service and club participation would be positively associated with the reporting of good friendship quality. This effect was expected to remain constant over time. Finally, based on research that has linked both extracurricular clubs and religious service attendance to higher marks (Mahoney 2000; Regnerus and Elder 2003), it was hypothesized that both club involvement and religious attendance would be positively associated with academic success at all three time points.

For our final question, we examined whether sustained attendance over time at religious services, compared to sustained club involvement over time, predicts positive psychosocial adjustment. Based on the consistency with which previous research has reported the positive effects of sustained involvement in extracurricular activities (Mahoney et al. 2003; Persson et al. 2007), we hypothesized that greater sustained participation in nonreligious extracurricular clubs would be positively associated with academic success and quality of peer relationships, and negatively associated with risk-taking and intrapersonal well-being. There is a lack of research on the unique effects of sustained religious service attendance, but based on the literature reviewed above, it was expected that more sustained religious service attendance would be negatively associated with risk-taking and positively associated with quality of parental relationships.

Given that gender differences have been found consistently for rates of attendance at religious services (e.g., Eccles and Barber 1999; Miller and Hoffman 1995; Stark 2002) and involvement in club activities (e.g., Eccles and

Barber 1999), we controlled for the effect of gender in all analyses. Religious attendance and club involvement may also be associated with socioeconomic status (e.g., Beehley et al. 1981; Csikszentmihalyi et al. 1993; Hood and Belzen 2005; Mahoney et al. 2003); therefore, we also controlled for the effect of socioeconomic status in all analyses.

## Method

### Participants

Students from eight high schools encompassing a school district in Ontario, Canada took part in the study. This study was part of a larger project examining youth lifestyle choices and involved three waves of survey data collection. A total of 1471 grade nine students completed the survey at Time 1. The overall participation rate at Time 1 was 83%; nonparticipation was due to student absenteeism (14.2%), parental refusal (2.1%), or student refusal (0.7%). The present results are based on 1050 students who completed the survey first when they were in grade nine and then again in grades 11 and 12. Five hundred and forty-five students completed the survey at all three time periods and 505 students completed the survey at two time periods (all of these latter students completed the survey at Time 1 but 347 completed the survey again only at Time 2 and 158 completed the survey again only at Time 3).

At Time 1, participants (53% boys) were in grade nine and had an average age of 14.27 ( $SD = 0.53$ ). At Time 2 and 3, these participants generally were in grades 11 and 12 and had an average age of 15.99 ( $SD = 0.37$ ) and 17.29 ( $SD = 0.50$ ), respectively. Consistent with the broader Canadian population (Statistics Canada 2001b), 92.7% of the adolescents were born in Canada and the most common ethnic backgrounds reported other than Canadian were Italian (30%), French (18%), British (15%), and German (10%). The religious affiliation of the population in this region include 37% Catholic, 42% Protestant, 14% no religious affiliation, and 17% other (e.g., Muslim, Hindu, Jewish) (Statistics Canada 2001c). Data on socioeconomic status indicated mean levels of education for mothers and fathers falling between “some college, university or apprenticeship program” and “completed a college/apprenticeship/technical diploma.” Further, 76% of the longitudinal respondents reported living with both birth parents, 9% with two parents (including one birth parent), 10% with one birth parent (mother or father only), and the remainder with neither parent (e.g., other relatives, foster parents, guardians etc.).

Participants who completed the survey only in Time 1 did not significantly differ from the longitudinal participants with respect to demographic variables (e.g., parent

education, gender), or frequency of religious service attendance or club involvement. Differences between groups were significant ( $ps < .001$ ), however, for risk behavior involvement and academic marks, such that the longitudinal participants reported less risk behaviour involvement and higher marks than participants who only completed the survey at Time 1. Magnitudes of the between group differences, however, were small (mean difference of .24 for both measurement scales; individual  $\eta^2$  values were .018; measures only explained a total of 3% of the difference between groups in a discriminant function analysis). Participants who completed three waves of the survey significantly differed from students who completed two waves of the survey only on risk behavior involvement, such that the two-wave participants reported more risk behaviour involvement than three-wave participants. The magnitude of the difference, however, was small (mean difference of .13;  $\eta^2$  value was .007). Furthermore, none of the measures were significant in distinguishing between the groups in a discriminant function analysis.

The first and third waves of the survey were conducted in April, and the second wave was conducted in December. All three survey waves, therefore, were conducted at times of significant religious holidays for Catholics and Protestants (i.e., Christmas and Easter). To ensure, however, that there were no cohort differences because of the timing of our survey implementations, we examined grade differences in religious services and club attendance across the three waves using the larger sample from which the present study was drawn. There were no significant differences in religious service or club attendance with the exception that students who were in grade 10 in the first wave indicated significantly higher religious attendance than students who were in grade 10 in the second or third waves. Since the first wave was conducted at the same time of year as the third wave and there were no significant differences between the second and third wave results, we do not expect that changes in religious attendance over time in the present study are due to the time of year that we implemented the survey.

### Procedure

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 was obtained from the adolescent participants. Several strategies were applied in order to ensure parental awareness of the study. First, parents were provided with written correspondence mailed 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 (an automated phone message was also left at each student’s home phone number). Second, parent information sessions were held throughout the school district. Third, there was extensive media coverage outlining the study. At all time periods, the self-report questionnaire was administered to students in classrooms by trained research staff. To ensure standardization of procedures across classrooms, at least one research staff person was present in each classroom during survey administration. 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. All measures used in the present study were assessed at all three time points, (with the exception of socioeconomic status which was assessed only at Time 1). Study measures are described below; additional scale properties are provided in Table 1. 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 1).

Demographic Information

Participant age was assessed with the question “How old are you?;” ethnicity was assessed with the question “What culture or ethnic background does your family belong to?” A single-item was used to assess participant gender (0 = *male*; 1 = *female*). Socioeconomic status was assessed by the average of two questions measuring paternal and maternal education level (“What is the highest level of education your mother/father completed”); questions were responded to on a 6 point scale (1 = *did not finish high school*, 6 = *professional/graduate training*). The correlation between paternal and maternal education was  $r = .50$  ( $p < .001$ ).

Friendship Quality

Friendship quality was assessed by an 18-item scale measuring attachment to one’s friends (e.g., “My friends understand me”) adapted from Armsden and Greenberg (1987). Students were instructed to “think about your friends and answer the following questions.” Four response categories were used ranging from *almost never/never* to *almost always/always*. Higher scores indicated more positive ratings of one’s friendships. Alpha values were .89, .91, and .90 for time one, two and three, respectively.

**Table 1** Description of study measures

Domain	Variable	Gr 9 M (SD)	Gr 11 M (SD)	Gr 12 M (SD)
Parental education	Paternal education	2.86 (1.32)	–	–
	Maternal education	2.78 (1.28)	–	–
Gender	Gender	.47 (.50)	–	–
Intrapersonal well-being	Depression	3.15 (.59)	3.02 (.66)	2.98 (.66)
	Social anxiety	2.26 (.56)	2.29 (.54)	2.26 (.58)
	Self esteem	2.16 (.65)	2.18 (.76)	2.13 (.67)
	Daily hassles	1.29 (.34)	1.22 (.36)	1.24 (.39)
	Life satisfaction	1.56 (.72)	1.77 (.84)	1.24 (.79)
	Intrapersonal well-being composite (standardized estimates)	.09 (.91)	–.07 (1.07)	–.05 (1.02)
Academic success	School grades	3.39 (.84)	3.30 (.87)	3.46 (.81)
Friendships	Friendship attachment	2.21 (.47)	2.21 (.49)	2.12 (.51)
Parental relationships	Maternal attachment	2.08 (.56)	2.01 (.60)	2.02 (.57)
	Paternal attachment	1.99 (.58)	1.86 (.65)	1.88 (.60)
	Parental attachment composite	2.03 (.53)	1.94 (.56)	1.94 (.52)
Substance use	Alcohol-frequency	1.92 (1.89)	2.68 (1.44)	3.14 (1.65)
	Alcohol-amount	2.14 (1.33)	3.20 (1.52)	3.60 (1.56)
	Smoking	1.10 (.56)	1.25 (.89)	1.56 (1.35)
	Marijuana	1.58 (1.11)	2.22 (1.48)	2.44 (1.63)
	Substance use composite (standardized estimates)	–.38 (.70)	.10 (.95)	.44 (1.21)
Religious service attendance	Religious service attendance	1.98 (.91)	1.71 (.93)	1.67 (.92)
Club activities	In-school clubs	3.06 (1.18)	2.85 (1.29)	2.75 (1.41)
	Out-of-school clubs	2.95 (1.17)	3.00 (1.18)	3.04 (1.24)

### Parental Relationship

Parental relationship was measured by 17 items from the Inventory of Parent and Peer Attachment (Armsden and Greenberg 1987). Participants completed this scale for both mother and father. Items (e.g., “My mother trusts my judgment”; “My father can tell when I’m upset about something”) were responded to on a 4 point scale ranging from *almost never/never* to *almost always/always*. Higher scores indicated more positive relationships with one’s parents. Alpha values for paternal attachment, maternal attachment, and the composite measure were, .89, .89, and .86 at time 1; .92, .91, and .80 at time 2; and .91, .89, .89, and .75 at time 3, respectively. The overall correlation between the mother and father scales was  $r = .68$  ( $p < .01$ ).

### Academic Success

Academic success was measured by the item “what grades do you typically get in school?” Participants responded on a 6-point scale where 1 = *below 50%* and 6 = *A+*. Higher scores indicated the reporting of higher typical grades.

### Intrapersonal Well-Being

Intrapersonal well-being was a composite of five scales. Depression-related symptoms were measured using the Centre for Epidemiological Studies Depression (CES-D) scale (Radloff 1977). Participants responded to 20 items (e.g., “I felt that I was just as good as other people”) on a 5-point scale ranging from *most of the time* to *never*. The respective alpha values for time one, two and three were .90, .92, and .92. Social anxiety-related symptoms were assessed using 14 items (e.g., “I only talk to other people my age that I know really well”) from Ginsburg et al. (1998). Items were responded to on a 4-point scale ranging from *almost never/never* to *almost always/always*. Alpha values were .92, .92, and .93. Self-esteem was measured using the Rosenberg self-esteem scale (Rosenberg 1965). This scale consists of 10 items (e.g., “I feel that I have a number of good qualities”) that are responded to on a 5-point scale ranging from *strongly disagree* to *strongly agree*. Alpha values were .88, .90, and .88. Daily hassles were assessed based on the frequency of experiencing 25 life stressors including finances, friends/peers, school work, and self-image; and life satisfaction, (e.g., “How often does it bother you to have problems with peers?”). Items were responded to on a 3-point scale where 1 = *almost never bothers me* and 3 = *often bothers me*; alpha values were .86, .89, and .88. Life satisfaction was measured with one item (“I am happy with my life”) that participants responded to on a 4-point scale ranging from *almost never/never* to *almost always/always*. A composite index was formed by standardizing each scale score and

combining the scores such that higher values indicated more positive intrapersonal well-being. Reliability for the composite index was .77 at time one, .83 at time two, and .79 at time three. To establish the validity of a one-factor solution, a factor analysis was conducted using principal component analysis. The results revealed a one-factor solution (factor loadings of .5 or higher), supporting our decision to create a composite for this construct. In the interest of parsimony, our analyses were conducted with the composite index.

### Substance Use

Alcohol use was measured by two items: (a) typical frequency of alcohol use on an eight point scale, where 1 = *never*, and 8 = *every day*; and (b) average consumption per drinking episode on a six point scale, where 1 = *less than one drink*, and 6 = *more than 10 drinks*. Smoking was indicated by the typical number of cigarettes smoked each day on an eight point scale where 1 = *none* and 8 = *more than a pack*. Marijuana use was assessed by the typical frequency of use in the past year on a six point scale where 1 = *never* and 6 = *every day*. A composite index was formed by standardizing each item score and combining the scores such that higher values indicated more substance use. Reliability for the composite index was .74 at time one, .75 at time two, and .76 at time three. Results from principal component analysis revealed a one-factor solution (factor loadings of .5 or higher), supporting our decision to create a composite for these constructs. Combining these scores into a composite is also consistent with previous research (Jessor and Jessor 1977; Donovan et al. 1988; Willoughby et al. 2004).

### Religious Service Attendance and Club Involvement

Religious service attendance (church/synagogue/temple) was measured by one item assessing the frequency of attendance in the past month using a 5-point scale ranging from *never* to *every day*. Club involvement was measured by two items assessing the frequency of attendance in the past month, using a 5-point scale ranging from *never* to *every day*, for (a) school clubs, and (b) community clubs. These scores were combined to create an average score for club involvement.

### Missing Data

Some adolescents did not finish the survey at each time period. To ensure that any missing data was missing at random, we included three versions of the survey at each time period so that the same scales were not always near the end of the survey. The majority of adolescents had either complete data or less than 10% missing data at each time period and only 11, 5, and 3% of adolescents with missing data in Time

1, Time 2, Time 3, respectively, had more than 35% missing. Missing data within each wave were imputed using the EM (expectation-maximization) algorithm in SPSS. EM is an iterative maximum-likelihood (ML) procedure in which a cycle of calculating means and covariances followed by data imputation is repeated until a stable set of estimated missing values is reached. Methodological research has demonstrated that ML estimation is preferable to more common methods such as pair-wise deletion, list-wise deletion, or means substitution (Schafer and Graham 2002). Missing data across waves was not imputed.

## Results

Research Question 1: What is the Pattern of Change Over Time in Religious Service Versus Club Attendance?

### Descriptive Trajectory Groups

To describe the average patterns of change in religious service attendance and involvement in other clubs over time, participants were classified into one of five trajectory groups for both religious service and club involvement. To create these groups, at each time point, individuals were assigned a score (high, moderate, or low) on two variables: one that reflected their level of religious service attendance, and one that reflected their level of club participation. Individuals whose frequency of involvement was in the top 33% were classified as “high”, those in the middle 33% were classified as “moderate”, and those in the bottom 33% were classified as “low”. These variables were used to create two sets of trajectory groups—one representing the pattern of religious service attendance over time, and one representing the pattern of club involvement over time. Participants were labeled with the following classifications for both religious services and clubs: stable high involvement (individuals whose reported frequency of participation was in the top 33% of the sample at all assessment points); stable moderate involvement (individuals whose frequency of participation was in the middle 33% of the sample at all assessment points); stable low involvement (frequency of participation in the bottom 33% of the sample at all assessment points); increased involvement (individuals who reported movement from low to moderate, low to high, or moderate to high participation over the course of the study); and decreased involvement (movement from high to moderate, high to low, or moderate to low participation over the course of the study).

For religious service attendance, 38.6% of participants were classified into the “decreasing involvement” group, 9.4% were in the increased involvement category, 22.7% were categorized into the stable low

involved group, 7.3% into the stable moderate involved group, and 12.7% into the stable high involved group. Due to a mixed pattern of involvement, 9.3% of the sample could not be classified. For club attendance, 27.5% of participants decreased their involvement, 28.9% reported increased involvement, 12.6% were categorized as stable low involved, 15.5% as stable moderately involved, and 6.4% as stable high involved. Due to mixed patterns, 12.7% could not be classified.

### Multi-level Analyses

All further analyses were conducted with multi-level modeling using the Hierarchical Linear Modeling (HLM) program (Raudenbush et al. 2005). In multi-level modeling, two levels of equations are specified for each outcome variable. The level-1 equation (also called the *within-person model*) describes within-individual change in the outcome variable as a function of time (for the present study, school grade was used as the index of time). Time-varying covariates also can be added to the equation. A time-varying covariate is a variable that is measured at all time points, and its addition to a model allows us to estimate the overall relation (i.e., across all time points) between the time-varying covariate and the time-varying dependent variable.

The interaction between time and the time-varying covariate is also commonly estimated in multi-level models. The interaction estimates whether the relation between the time-varying covariate and the dependent variable is constant across time points. Therefore, there may be an overall significant relation between a time-varying covariate and a dependent variable (i.e., a main effect), but this effect may be stronger or weaker at one or more assessment points. To illustrate, the relation between parental monitoring and substance use may be negative across adolescence overall; however, this relation may be stronger in early adolescence than in late adolescence. The equation for a within-person model is presented in Eq. 1. The coefficients ( $\pi_{0i}, \pi_{1i}, \pi_{2i}, \pi_{3i}$ ) are interpreted similarly to a regular regression equation.

$$\begin{aligned} \text{Dependent}_{ij} = & \pi_{0i} + \pi_{1i}(\text{TIME}) + \pi_{2i} \\ & (\text{TimeVaryingCovariate}) + \pi_{3i} \\ & (\text{TimeVaryingCovariate}_X\text{TIME}) + e_{ij} \end{aligned} \quad (1)$$

The level-2 equations (also called the *between-persons model*) predict the level and the rate of change in the outcome variable as a function of predictors that vary between individuals. Level-2 predictors are measured at one time point, and are therefore *fixed predictors*. The equations for the between-person model are presented in Eqs. 2 and 3. These equations specify that the level of the

outcome variable ( $\pi_{0i}$ ) and the rate of change in the outcome variable ( $\pi_{1i}$ ) is a function of *between-persons differences* in (a) certain variable(s).

$$\pi_{0i} = \gamma_{00} + \gamma_{01}(\text{BetweenPersonsVariable}) + r_{0j} \quad (2)$$

$$\pi_{1i} = \gamma_{10} + \gamma_{11}(\text{BetweenPersonsVariable}) + r_{1j} \quad (3)$$

Model fitting for these analyses followed guidelines set by Singer and Willett (2003), where several nested models are fitted and models are respecified in order to determine the best-fitting model. For all analyses, our index variable was centered on grade nine, the grade at which all participants in this sample entered the study. We conducted a preliminary analysis assessing whether age or grade would be the most appropriate index of time, with results from latent growth curve analyses indicating that grade provided the best model fit. Results of these analyses are available from the first author. In addition, predictor variables were standardized. Therefore, coefficients also can be interpreted as measures of effect size, such that a one standard deviation change in the predictor variable corresponds to a one unit change in the outcome variable.

To further clarify results for the first research question, two multi-level analyses were conducted to estimate average trajectories for religious service attendance and club involvement. The final within-person (level-1) model was specified as:  $Y_{ij} = \pi_{0i} + \pi_{1i}(\text{GRADE}) + e_{ij}$ , while the between-persons (level-2) model was specified as:  $\pi_{0i} = \beta_{00} + r_{0j}$ ;  $\pi_{1i} = \beta_{10} + r_{1j}$ . Results from these analyses indicated that there was a significant decrease in religious service attendance over the course of the study,  $\pi_{1i} = -.13$ ,  $SE = .01$ ,  $p < .001$ . Club involvement, conversely, increased slightly but significantly over the course of the study,  $\pi_{1i} = .04$ ,  $SE = .01$ ,  $p = .008$ .

#### Research Question 2: Do Religious Service Attendance and Club Involvement Independently Predict Psychosocial Adjustment Consistently Over Time?

To address the second research question, five series of multi-level models were fitted, with indicators of adjustment (substance use, intrapersonal well-being, friendship quality, parental relationship, and academic success) as outcome variables. Predictor variables included frequency of religious service attendance and club involvement, as well as their interaction with grade. The level-1 equation template for this set of analyses is presented in Eq. 4.

$$\begin{aligned} \text{Dependent}_{ij} = & \pi_{0i} + \pi_{1i}(\text{GRADE}) + \pi_{2i}(\text{CLUBS}) \\ & + \pi_{3i}(\text{CLUBS}_X\text{GRADE}) + \pi_{4i} \\ & (\text{RELIG}) + \pi_{5i}(\text{RELIG}_X\text{GRADE}) + e_{ij} \end{aligned} \quad (4)$$

The level-2 equations are presented in equations two and three. Gender and parental education were covariates for

each model, and entered as fixed predictors in the equations.

$$\begin{aligned} \pi_{0i} = & \gamma_{00} + \gamma_{01}(\text{GENDER}) \\ & + \gamma_{02}(\text{PARENT\_EDUCATION}) + r_{0j} \end{aligned} \quad (5)$$

$$\begin{aligned} \pi_{1i} = & \gamma_{10} + \gamma_{11}(\text{GENDER}) \\ & + \gamma_{12}(\text{PARENT\_EDUCATION}) + r_{1j} \end{aligned} \quad (6)$$

These equations specify that the level of the outcome variable ( $\pi_{0i}$ ) and the rate of change in the outcome variable ( $\pi_{1i}$ ) is a function of between-person differences in gender and parental education. Although parental education could change over time, in the present study it was measured only at the first wave of data collection and is therefore treated as a fixed predictor. The error components of these equations allow individuals to differ randomly from each other.

First, an unconditional means model was specified to establish whether systematic variation existed in each outcome variable. Second, an unconditional growth model was specified to establish whether significant change over time occurred in the outcome variable. In the final model, demographic covariates (gender and parental education) were added to the level-2 equations and the time varying covariates (religious service attendance and club involvement) and their interactions with grade were entered in the level-1 equation. By entering religious service attendance and club involvement into the model simultaneously, the coefficients for each independent variable represent the independent relation (i.e., accounting for the shared variance between involvement in both types of activities) between religious service attendance/club involvement and the outcome variables.

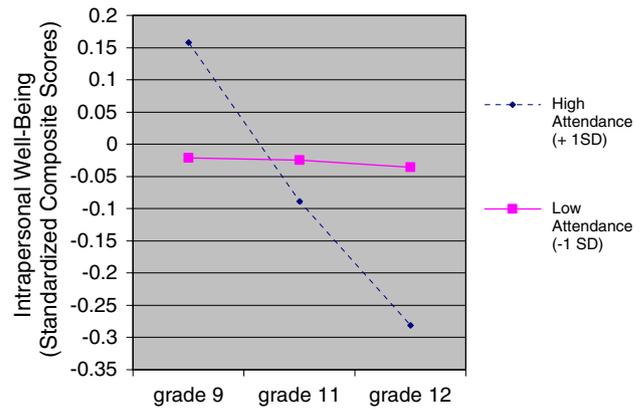
#### Substance Use

The unconditional means model demonstrated significant variability in within and between person sources of variation in levels of substance use. The unconditional growth model showed that there was a significant increase in substance use over the course of the study ( $\gamma_{10} = .28$ ,  $SE = .01$ ,  $p < .001$ ). The final model (see Table 2) showed that neither club involvement ( $\gamma_{20} = -.01$ ,  $SE = .02$ ,  $p > .05$ ) nor the interaction between clubs and grade ( $\gamma_{30} = -.001$ ,  $SE = .01$ ,  $p > .05$ ) predicted substance use. The main effect of religious service attendance was significant ( $\gamma_{40} = -.05$ ,  $SE = .02$ ,  $p < .01$ ), demonstrating that higher frequency of religious service attendance predicted lower levels of substance use at each grade. The interaction between religious service attendance and grade was not significant. Gender was a significant level-2 predictor for slope ( $\gamma_{11} = -.09$ ,  $SE = .02$ ,  $p < .001$ ), indicating that girls reported slower increases in substance

use. Parental education was not a significant level-2 predictor.

*Intrapersonal Well-Being*

The unconditional means model demonstrated that significant variability existed in intrapersonal well-being for within and between person sources of variation. The unconditional growth model showed that there was a significant decrease in positive intrapersonal well-being across the course of high school ( $\gamma_{10} = -.06, SE = .01, p < .001$ ). The final model (see Table 2) showed that neither club involvement ( $\gamma_{20} = .01, SE = .02, p > .05$ ) nor the interaction between clubs and grade ( $\gamma_{30} = .004, SE = .01, p > .05$ ) predicted intrapersonal well-being. The main effect of religious service attendance was significant ( $\gamma_{40} = -.04, SE = .02, p > .05$ ), and the interaction between attendance at religious services and grade was significant ( $\gamma_{50} = -.01, SE = .01, p < .001$ ). To characterize the nature of this interaction, prototypical growth plots were plotted using model-predicted outcomes based on the final model (See Fig. 1). Growth plots were constructed following instructions set by Singer and Willett (2003). These plots present predicted values for intrapersonal well-being for individuals with high (one standard deviation above the mean) and low (one SD below the



**Fig. 1** Prototypical growth plot illustrating the time-varying relation between religious service attendance and intrapersonal well-being

mean) religious service attendance at each time point. By examining the plots, therefore, we can examine how the relation between intrapersonal well-being and grade differs for individuals with differing levels of religious service attendance. The plots indicated that, in grade nine, higher frequency of religious service attendance was associated with the reporting of more positive intrapersonal well-being, but this effect was much weaker in grade 11, and by grade 12, more frequent attendance at religious services

**Table 2** Results for full models

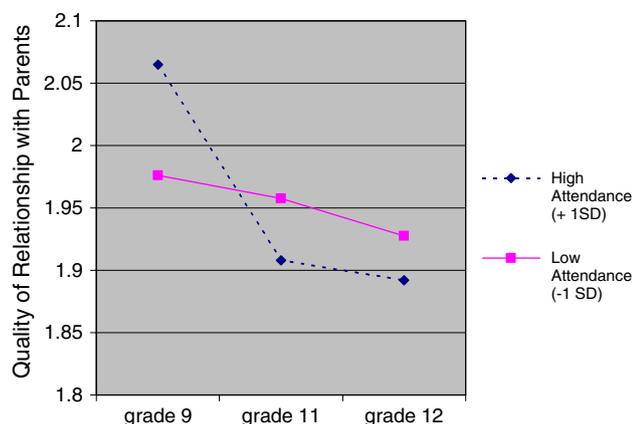
Parameter	Variable	Substance use	Intrapersonal	Parent relationship	Friendship	Grades
		Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
<i>Fixed effects</i>						
Intercept	$\gamma_{00}$	-.24*** (.06)	-.29*** (.08)	1.78*** (.05)	1.99*** (.04)	3.23*** (.07)
Gender	$\gamma_{01}$	-.07 (.04)	.21*** (.05)	.01 (.03)	.30*** (.02)	.17*** (.04)
Parent Education	$\gamma_{02}$	-.03 (.02)	.21*** (.02)	.06*** (.01)	.02 (.01)	.16*** (.02)
Grade (rate of change)	$\gamma_{10}$	.30*** (.04)	.07 (.05)	-.05* (.02)	-.02 (.03)	.01 (.04)
Gender	$\gamma_{11}$	-.09*** (.02)	.05 (.03)	.03* (.01)	-.03 (.02)	.10*** (.02)
Parent Education	$\gamma_{12}$	.003 (.01)	.01 (.01)	-.002 (.01)	-.002 (.01)	.01 (.01)
Clubs	$\gamma_{20}$	-.01 (.02)	.02 (.02)	-.01 (.01)	.02* (.01)	.06*** (.02)
Clubs × Grade	$\gamma_{30}$	-.003 (.02)	.004 (.02)	.01 (.01)	-.01 (.01)	.02 (.01)
Rel. Services	$\gamma_{40}$	-.05** (.02)	-.04* (.02)	-.002 (.01)	-.03** (.01)	.06*** (.02)
Rel. Services × Grade	$\gamma_{50}$	-.01 (.01)	-.06*** (.02)	-.03** (.01)	-.01 (.01)	-.01 (.01)
Variance components		Variance (SD)	Variance (SD)	Variance (SD)	Variance (SD)	Variance (SD)
Level-1: within-person	$\sigma_e^2$	.37* (.61)	.66* (.44)	.10* (.32)	.12* (.34)	.29* (.54)
Level-2: between-person						
In intercept	$\sigma_0^2$	.13*** (.22)	.13*** (.35)	.19*** (.43)	.08*** (.29)	.33*** (.58)
In rate of change	$\sigma_1^2$	.05*** (.22)	.02*** (.16)	.01*** (.11)	.02*** (.12)	.02*** (.16)

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . SE = Standard Error, SD = Standard Deviation. As all the predictors were standardized before entering the model, coefficients can be interpreted as measures of effect size, such that a one standard deviation change in the predictor variable corresponds to a one unit change in the outcome variable

was actually associated with *less* positive intrapersonal well-being. Gender was a significant predictor for level of intrapersonal well-being ( $\gamma_{01} = -.21, SE = .05, p < .001$ ); girls reported less positive adjustment than boys. Parent education significantly predicted level of intrapersonal well-being ( $\gamma_{02} = .11, SE = .02, p < .001$ ); higher education was associated with more positive intrapersonal well-being.

### Relationship with Parents

The unconditional means model demonstrated that significant variability existed in within and between person sources of variation. The unconditional growth model showed that there was a significant decrease in perceived quality of parental relationship across the course of high school ( $\gamma_{10} = -.03, SE = .01, p < .001$ ). The final model (see Table 2) showed that neither club involvement ( $\gamma_{20} = -.01, SE = .01, p > .05$ ) nor the interaction between clubs and grade ( $\gamma_{30} = .01, SE = .01, p > .05$ ) predicted quality of parental relationship. The main effect of religious service attendance was not significant but the interaction between religious service attendance and grade was significant ( $\gamma_{50} = -.03, SE = .01, p = .002$ ). To characterize this interaction, prototypical growth plots were plotted using model-predicted outcomes based on the final model (See Fig. 2). The nature of this interaction was similar to that of intrapersonal well-being. In grade nine, more frequent religious service attendance was associated with the reporting of more positive parent relationships, but in grade 11 and 12, more frequent attendance at religious services was associated with *less* positive parent relationships. Gender was not significantly associated with level of parental relationship quality, but girls reported significantly faster decreases in perceived quality of parental relationship



**Fig. 2** Prototypical growth plot illustrating the time-varying relation between religious service attendance and quality of relationship with parents

( $\gamma_{11} = .03, SE = .01, p < .05$ ).<sup>1</sup> Higher parental education was associated with the reporting of more positive relationships with parents, ( $\gamma_{02} = .06, SE = .01, p < .001$ ), but was not significantly associated with rate of change in parent relationship.

### Friendship Quality

The unconditional means model demonstrated significant variability in within and between person sources of variation in friendship quality. The unconditional growth model showed that there was a significant decrease in perceived quality of friendships over the course of the study ( $\gamma_{10} = -.02, SE = .01, p < .001$ ). The final model (see Table 2) showed that club involvement ( $\gamma_{20} = .02, SE = .01, p = .03$ ) significantly predicted friendship quality; higher frequency of club involvement predicted the reporting of more positive friendships at each grade. The interaction between clubs and grade was not significant. The main effect of religious service attendance was significant ( $\gamma_{40} = -.03, SE = .01, p = .007$ ); higher frequency of attendance at religious services predicted lower reported quality of friendships. Gender was a significant predictor for level of friendship quality ( $\gamma_{11} = .30, SE = .02, p < .001$ ); girls reported more positive scores, but was not a significant predictor of rate of change; parent education was not a significant predictor of level or rate of change.

### Academic Marks

The unconditional means model demonstrated that significant variability existed in both within and between person sources of variation. The unconditional growth model showed that there was not a significant change in academic marks from grade nine to grade 12 ( $\gamma_{10} = -.01, SE = .01, p > .05$ ). The final model (see Table 2) revealed that more frequent club involvement was significantly associated with higher academic marks,  $\gamma_{20} = .06, SE = .02, p < .001$ . The interaction between clubs and grade was not significant. The main effect of religious service attendance was also significant ( $\gamma_{40} = .06, SE = .02, p < .001$ ); more frequent attendance at religious services was associated with higher marks. Gender was significantly associated with level ( $\gamma_{01} = .16, SE = .04, p < .001$ ) and rate of change in marks ( $\gamma_{11} = .10, SE = .02, p < .001$ ), wherein girls reported higher marks and faster increases in marks over

<sup>1</sup> While gender was not a focus of this paper, in a supplementary analysis we tested cross-level interactions for gender between religious service/club attendance and the outcome variables. The only outcome variable for which the cross-level interaction was significant was parental relationship. Specifically, for parental relationship, the interaction between religious service attendance and time was significant only for girls.

time than boys. Higher parental education levels were significantly associated with a higher level of marks ( $\gamma_{02} = .16$ ,  $SE = .02$ ,  $p < .001$ ), but was not associated with rate of change in marks.

### Research Question 3: What is the Effect of Sustained Involvement in Religious Services Versus Other Clubs?

To create the variables used to answer the final research question, participants were first assigned scores indicating the total number of waves in which they reported involvement (yes or no) in religious services and club activities. Second, participants were assigned a score indicating the total number of waves in which they participated (two or three). Third, these variables were used to calculate a fixed variable (i.e., at the between-persons level) representing the ratio of number of waves of participation in religious services or clubs to number of total waves in which a participant completed.

These two variables (one for religious services, one for club activities) ranged from 0 to 1, with a score of 0 reflecting no participation at any wave, a score of .33 indicating completion of 3 waves and religious service/club involvement reported at one wave, a score of .5 indicating participation in two waves and religious service/club involvement reported at one of those waves, a score of .67 indicating participation in three waves and religious service/club involvement reported at two waves, and a score of 1 indicating religious service/club involvement reported at all waves of participation. Calculating the variables in this way allowed us to control for the possible effects of the number of waves in which an adolescent participated. It also accounted for the fact that an individual who reported religious service or club involvement in half of the waves in which s/he participated (i.e., one out of two), for example, technically represents a greater degree of “sustained” participation than an individual who reported involvement in only one-third of the waves (one out of three) in which s/he participated.

The variables for sustained religious services and sustained club activities were entered simultaneously into the between-persons model for each outcome variable. Gender and parent education were entered as covariates, as was total waves of participation. Results revealed that a greater degree of sustained involvement in clubs was significantly associated with higher level of marks ( $\gamma_{03} = .10$ ,  $SE = .03$ ,  $p < .001$ ), friendship quality ( $\gamma_{03} = .04$ ,  $SE = .01$ ,  $p < .01$ ), and intrapersonal well-being ( $\gamma_{03} = .07$ ,  $SE = .03$ ,  $p < .01$ ), and lower levels of substance use ( $\gamma_{03} = -.09$ ,  $SE = .02$ ,  $p < .001$ ). Sustained club involvement did not predict the slopes for the outcome variables; thus the effect of sustained club involvement was constant across grades. A greater degree of sustained religious services attendance

was associated with lower levels of substance use ( $\gamma_{04} = -.06$ ,  $SE = .02$ ,  $p = .007$ ), slower increases in substance use ( $\gamma_{14} = -.02$ ,  $SE = .01$ ,  $p = .01$ ), and higher level of marks ( $\gamma_{04} = .09$ ,  $SE = .03$ ,  $p < .001$ ). Full results for the final sustained models are presented in Table 3.

## Discussion

Results from the present study revealed that differences existed in patterns of change in religious service attendance versus club involvement over the course of high school. Our first hypothesis was supported, as participants reported a significant mean decrease in attendance at religious services from grade nine to grade 12, while there was a small mean increase in participation in clubs. Percentages of religious service and club increasers and decreasers further clarified these divergences. There was a striking difference in the percentage of adolescents who increased their frequency of religious service attendance (9.4%) compared to the percentage of adolescents who increased their frequency of involvement in clubs (28.9%), and in the percentage of participants who decreased their religious service attendance (38.6%) compared to those who decreased their frequency of participation in clubs (27.5%). These findings suggest that religious attendance and other clubs follow different patterns of involvement during the teen years. It is less normative to remain committed to religious services or increase religious participation, whereas sustained or increased commitment to other clubs appears more common.

The hypotheses for our second research question were partially supported, as religious service attendance was uniquely associated with less risk-taking at all time points, and club involvement was uniquely associated with more positive friendship quality and higher academic marks at all time points. Contrary to our predictions, however, religious service attendance was associated with less positive parental relationships and intrapersonal well-being in grades 11 and 12. The hypotheses for our third research question were largely supported, as sustained club involvement predicted positive intrapersonal well-being, higher academic marks, good friendship quality, and less substance use. Sustained religious service attendance, as predicted, was associated with significantly lower substance use (with sustained attendees also reporting slower increases in substance use over time). It was not associated with positive relationships with parents, however, but a positive association was found between sustained attendance and academic marks.

Some of the unique positive and negative experiences that adolescents may have in religious services (over and above what it provides as another type of extracurricular

**Table 3** Results for model with sustained religious service and clubs variables

	Parameter	Variable				
		Substance use Coefficient (SE)	Intrapersonal Coefficient (SE)	Parent relationship Coefficient (SE)	Friendship Coefficient (SE)	Grades Coefficient (SE)
<i>Fixed effects</i>						
Intercept	$\gamma_{00}$	-.30*** (.07)	-.16 (.09)	1.85*** (.05)	2.00*** (.04)	3.16*** (.08)
Gender	$\gamma_{01}$	-.06 (.04)	-.27*** (.06)	.03 (.04)	.34*** (.03)	-.04 (.05)
Parent education	$\gamma_{02}$	-.02 (.02)	.11*** (.02)	.06*** (.01)	.02 (.01)	.15*** (.02)
Sustained clubs	$\gamma_{03}$	-.09*** (.02)	.07** (.03)	.01 (.02)	.04** (.01)	.10*** (.03)
Sustained rel. services	$\gamma_{04}$	-.06** (.02)	.04 (.3)	.02 (.02)	.01 (.01)	.09*** (.03)
Total waves	$\gamma_{05}$	-.06** (.02)	.01 (.03)	.01 (.02)	.01 (.01)	.02 (.02)
Grade (rate of change)	$\gamma_{10}$	.32*** (.04)	.05 (.04)	.04* (.02)	.01 (.02)	.02 (.03)
Gender	$\gamma_{11}$	-.10*** (.02)	.05* (.02)	.02* (.01)	.03* (.01)	.08*** (.02)
Parent Education	$\gamma_{12}$	.001 (.01)	.01 (.01)	.002 (.01)	.001 (.01)	.002 (.01)
Sustained clubs	$\gamma_{13}$	.003 (.01)	.002 (.01)	.001 (.01)	.01 (.01)	.01 (.01)
Sustained rel. services	$\gamma_{14}$	-.03* (.01)	.02 (.01)	.01 (.01)	.001 (.01)	.001 (.01)
Total waves	$\gamma_{15}$	-.01 (.01)	.02* (.01)	.001 (.01)	.002 (.01)	.02 (.01)
Variance components		Variance (SD)	Variance (SD)	Variance (SD)	Variance (SD)	Variance (SD)
Level-1: within-person	$\sigma_e^2$	.36* (.60)	.45* (.67)	.10* (.31)	.12* (.35)	.29*
Level-2: between-person						
In intercept	$\sigma_0^2$	.14*** (.36)	.38*** (.61)	.19*** (.43)	.07*** (.27)	.37*** (.60)
In rate of change	$\sigma_1^2$	.05*** (.22)	.02*** (.13)	.01*** (.09)	.01*** (.10)	.01*** (.11)

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . SE = Standard Error, SD = Standard Deviation. As all the predictors were standardized before entering the model, coefficients can be interpreted as measures of effect size, such that a one standard deviation change in the predictor variable corresponds to a one unit change in the outcome variable

club) could help explain the mixed results (i.e., associations with both positive and negative adjustment) for religious service attendance, as well as the results that did not support our hypotheses. Religious groups often discourage behavior such as substance use, and encourage conventional conduct such as school success (Dworkin et al. 2003; Smith 2003a; 2003b). Alternatively, high levels of parental monitoring and/or control may explain why religiously-involved adolescents attend these services in the first place, as well as why they report less risk-taking and better grades. Findings from several studies have indicated that greater parental monitoring may be negatively related to risk-taking (Pettit et al. 2001; Soenens et al. 2006) and positively related to school grades (Crouter et al. 1990).

The negative associations between religious service attendance and intrapersonal adjustment (specifically, the reporting of less positive intrapersonal well-being in grades 11 and 12 and lower quality of friendships) may seem somewhat counterintuitive in light of research that has linked religious service attendance with positive mental health (e.g., Ryan et al. 1993). However, there is evidence to suggest that it may make sense in some circumstances for adolescents who frequently attend religious services (particularly in the later years of high school) to report less

positive intrapersonal well-being. For example, increases in religious service attendance have been associated with negative life events (Kox et al. 1991; Zinnbauer and Pargament 1998). Because decline in religious service attendance has been found in other studies to be common over the course of adolescence (e.g., Smith et al. 2002) and was indeed the case in the present study, a deviation from that pattern at this developmental stage could imply that an individual is going through a difficult time (i.e., parents' divorce), and they are turning to religion for comfort.

Another possibility is that adolescents who attend religious services consistently across high school may be experiencing a sense of general lack of autonomy granted to them by their parents. Decline in attendance at religious services has been linked to increasing personal autonomy (e.g., Regnerus and Uecker 2006), which in turn is associated with positive psychosocial adjustment (e.g., Soenens et al. 2007). Among the group of regular attendees in later adolescence may be young people who are forced to attend by their parents. Parents who do not allow their teenagers to choose whether or not they attend religious services may also be less likely to grant them autonomy in other areas of life. Adolescents who do not have a great deal of personal autonomy may report a decline in intrapersonal well-being

as they get older. The issue of autonomy may also help to interpret the relation between religious service attendance and lower satisfaction of relationships with parents in grades 11 and 12. Analyses demonstrated that although religious service attendance was positively associated with quality of parental relationships in grade nine, in grades 11 and 12 it was associated with lower perceived quality of relationships with parents. It is possible that some teenagers who attend religious services regularly in the later years of adolescence may resent the lack of independence granted to them by their parents. Forced attendance at religious services may be a small part of the dissatisfaction some adolescents may feel with this lack of independence. It is important to qualify, however, that there is a great degree of heterogeneity among religious groups and religiously-committed parents. Certainly, many congregations and families foster more restrictive religious practices that discourage adolescent autonomy, but others are much more empowering (e.g., see Maton and Rappaport 1984). Conversely, as was explored above, older adolescents who attend religious services frequently may be experiencing greater amounts of intrapersonal problems such as depression and low self-esteem, which may cause them to perceive all of their interpersonal relationships more negatively than their peers.

Previous research has indicated that one of the ways in which religious groups and clubs may be quite similar is in the promotion of positive friendships (e.g., Dworkin et al. 2003). Results of the present study, however found that only club involvement was associated with the reporting of more positive friendships, and in fact, religious service attendance was associated with the reporting of slightly less positive friendships. Again, this finding may be related to potentially elevated levels of intrapersonal problems among sustained attendees, and the corresponding negative perceptions of relationships that may accompany negative thought patterns. Alternatively, this finding could be related to limitations of our measure of religious service attendance, which only assessed frequency of attendance at church/temple/synagogue. It would have been beneficial to have considered other aspects of religious service attendance, such as participation in youth group or involvement in activities that are provided by religious congregations. An individual who is highly involved in a variety of religious activities would have more opportunities to develop positive relationships with their religiously-committed peers than someone who simply shows up once a week for Sunday services. Among adolescents who attend religious services regularly, two groups of individuals would therefore be represented: the “Sunday only” attendees, and the highly involved participants. The measure of religious service involvement used in the present study, however, did not differentiate between these two types of individuals.

These two typologies of attendees may be less likely to exist for other extracurricular activities. In other clubs, an adolescent would be unlikely to be able to passively show up once or twice a month and still be considered a member. Because school and community clubs are typically related to an adolescent’s personal interests (Hansen et al. 2003), it is likely that young people would want to interact with and create relationships with their fellow club members.

It is interesting that club involvement, as a time-varying predictor, was only significantly associated with friendship quality and academic marks, but sustained club involvement was significantly related to friendship quality, substance use, marks, and intrapersonal well-being. While at first these findings may seem to challenge other studies that have reported significant cross-sectional associations between clubs and positive adjustment (including our own previous research), it is important to consider this apparent contradiction in light of the interpretation of clubs as a time-varying predictor versus our measure of sustained club involvement. A significant main effect for a time-varying predictor indicates that a relation exists between the time-varying predictor and the outcome variable at each grade. The group of individuals who reported club participation in grade nine, however, may be a different group from those who participated in grade 11, which in turn may be comprised of different individuals from the grade 12 participators. Within every grade, therefore, there would be sustained participators and sporadic participators.

Our sustained measure of club and religious service involvement, in contrast, allowed us to specifically distinguish the sporadic and sustained participants and hence, we were able to differentiate between involvement at only one grade versus involvement at several grades. Our results for sustained involvement are consistent with other longitudinal studies that have found sustained, intense participation in extracurricular clubs to be more strongly related to positive adjustment than sporadic involvement (e.g., Mahoney et al. 2003).

Sustained club involvement in high school may be more likely than religious attendance to represent a commitment to self-development within a self-selected activity. Adolescents who are consistently involved with an activity over many years may have more opportunities to gain valuable skills and social connections, to develop positive friendships with peers who have similar interests, and to acquire activity-based identity commitments. These benefits may give adolescents an advantage in many areas of life, including academics, social relationships, emotional regulation, and decision-making skills (e.g., Larson et al. 2006). At the same time, one can imagine that some adolescents may be part of a particular club because their parents want them to be; similarly, some adolescents may participate in self-selected religious activities that differ from their

parents' religious affiliation. We assume, however, that these adolescents may represent a small group of individuals. Future research should explore the effect of involvement in self- versus parent-selected activities on adolescent adjustment.

Adolescents who are less well-adjusted may also be more likely to drop out of extracurricular clubs, thus decreasing their chances for reaping the benefits of sustained participation. Researchers have suggested that all adolescents do not have equal access to extracurricular activities, and that gatekeeping practices exist within many clubs (Mahoney and Cairns 1997). Sustained participation in activities is often contingent upon social skills and/or talent in a particular area. For instance, young people who participate in marching band throughout high school are likely to be the more musically talented students. Students who report a greater degree of sustained involvement may be, on average, slightly more talented and popular than other students who may not have the social skills, discipline, intelligence, or self-confidence required to remain engaged in one or more activities for many years. Religious services, conversely, may not have the same set of gatekeeping practices as clubs. Theoretically, there are no competence requirements for attending religious services. Individuals who are less socially skilled, talented, or who are less confident than their peers may be less likely to self-select out of religious activities than they would be to discontinue their involvement in other clubs.

The finding that sustained religious service involvement was related to less risk-taking and better academic marks across grades may reflect the possibility that adolescents who conform to conventional expectations of behavior are less likely to stop attending religious services than are individuals who do not conform to these conventions (e.g., Benda and Corwyn 1997). These findings for sustained religious involvement could also be related to the aforementioned lack of autonomy that some adolescents who regularly attend religious services may experience. These adolescents may be more likely to conform to the expectations of their parents and society, which would include going to religious services, getting good grades, and avoiding substance use.

There were several limitations of this study. First, religious service attendance and club involvement were measured by one and two items, respectively, and may limit the validity of the results. However, religious service attendance is typically quite strongly correlated with broader measures of spirituality or religiosity (e.g., Ball et al. 2003; Dowling et al. 2003; King and Furrow 2004). Also, we were specifically interested in investigating the role of religious service attendance as a unique structured activity, as opposed to the much broader construct of "religiosity." Often, in scales of "religiosity," religious service attendance is

assessed along with questions that measure intrapersonal aspects of faith such as private prayer, solitary reading of sacred texts, and personal importance of religion (e.g., Kerestes et al. 2004; King and Furrow 2004; Koenig et al. 2008). These broader scales would not answer the core question that we wished to explore in the present study—the role of religious service attendance (independent of personal/private faith or belief). Presumably, however, the effects of religious service attendance would be stronger for adolescents who attended religious services and who had a strong personal faith/spirituality. Our results, therefore, may represent a conservative estimate of the impact of religious service attendance. In addition, we specifically examined *only* community and school club involvement, as they are the activities where religiously-involved adolescents may be overrepresented.

Similarly, because we did not include religiously-based youth groups within our measure of religious service attendance, it is possible such groups may have been subsumed within a community-based club. However, frequency of attendance at religious youth groups is strongly correlated with frequency of attendance at church/temple/synagogue (Smith et al. 2002). Also, to diminish the possibility of this limitation strongly influencing our results, in the analyses we examined the independent effects of both religious services and community/school clubs by simultaneously controlling for the effect of the other.

Another important shortcoming stems from our reliance on self-report measures. In particular, self-reported school grades may have been affected by participant bias or social desirability. It would have been beneficial to have measured academic access via students' school records; however, the policies of the Ministry of Education do not permit school records to be disclosed for research purposes. Finally, although the longitudinal participants in the present study did not differ substantively from the participants who only completed the survey in grade nine, the longitudinal sample did report significantly less risk behaviour involvement and higher academic marks than the grade nine-only participants. It may be that the students who did not complete the later surveys dropped out of school—a sample that previous research consistently has indicated is more likely to be involved in risky behaviors such as substance use (Townsend et al. 2007). Results obtained in the present study, therefore, may not apply to students characterized by less positive scores on these measures in grade nine. Also, although the participants in the present study included a large sample of enrolled students from a school distinct, findings may not generalize to other geographic, ethnic and/or demographic contexts.

Despite these limitations, the present study offers a much needed examination of differences between religious service attendance and club involvement with regard to

their longitudinal trajectories and relation to psychosocial adjustment over time. The results suggest that religious service attendance may provide some unique experiences—both positive and negative—over and above what may be provided in other clubs; adolescents who attend religious services consistently throughout high school may also represent a distinct group of individuals who are drawn towards religion as a means of coping with life stressors. An additional strength of this study was the examination of sustained involvement in clubs versus religious services, revealing that sustained participation in clubs may be a particularly strong indicator of positive adjustment. These findings support our proposition that it is important for researchers to examine these activities independently, and highlight the importance of examining these issues longitudinally. It would be beneficial for future research to use advanced longitudinal modeling techniques (i.e., growth mixture modeling) to identify and classify adolescents into unique trajectory groups for both religious service attendance and club involvement, and to identify the longitudinal predictors of membership in these groups. It would also be useful to conduct similar analyses with children and adults, to identify how trajectories of religious service attendance versus club involvement (as well as the predictors of those trajectories) may differ over the lifespan.

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