

*Interdisciplinary Journal of
Research on Religion*

Volume 5

2009

Article 10

Religion and Academic Achievement
Among Adolescents

Benjamin McKune*

Doctoral Student
Department of Sociology
The Pennsylvania State University
University Park, Pennsylvania

John P. Hoffmann

Professor of Sociology
Department of Sociology
Brigham Young University
Provo, Utah

* bam389@psu.edu

Religion and Academic Achievement Among Adolescents

Benjamin McKune

Doctoral Student
Department of Sociology
The Pennsylvania State University
University Park, Pennsylvania

John P. Hoffmann

Professor of Sociology
Department of Sociology
Brigham Young University
Provo, Utah

Abstract

In this article, we examine the association between religiosity and academic achievement among adolescents. Recent research demonstrates a positive association between religiosity and academic success. However, some studies show that this association is due to family and community factors; for example, variation in levels of family capital among religious affiliates could explain it. Yet whether religious factors affect academic achievement among adolescents might also be due to the concordance or discordance of religiosity between parents and their children. Using data for two years from the National Longitudinal Study of Adolescent Health, we examine the association between adolescents' religiosity, parents' religiosity, and academic achievement in light of the effects of family and community capital. The results indicate that the association between adolescents' religiosity and academic achievement is largely due to family social capital, but the association between academic achievement and religious homogamy between parents and adolescents is largely independent of family and community social capital. In particular, the highest achievement is predicted when parents and adolescents report similar levels of religiosity; the lowest achievement is predicted when parents report high religiosity and adolescents report low religiosity.

The term *religiosity* refers to various aspects of religious devotion, activity, and belief. Previous research has focused mostly on the effects of religiosity among adults, yet its effect on adolescent behaviors has also earned significant attention. Much of this attention has addressed delinquency and other forms of deviant behavior, such as drug use and premarital sexual activity; few studies have assessed the association between religiosity and academic achievement. Given the effects that academic achievement during adolescence can have on future educational attainment, occupational success, and socioeconomic status, it is unfortunate that more research has not addressed this area. The few studies that have addressed the topic show that adolescents' church participation is positively associated with their own educational expectations, which expectations then lead to higher math and reading scores on standardized tests (Regnerus 2000; Regnerus, Smith, and Fritch 2003). In addition, the religious involvement of adolescents in tenth grade is consistently and positively associated with subsequent academic achievement (Muller and Ellison 2001). This association holds for African-American and Latino youths (Brown and Gary 1991; Jeynes 2002; Sikkink and Hernandez 2003) and for both urban and nonurban students (Jeynes 2003).

Some researchers have suggested that the relationship between religiosity and academic outcomes is spurious and can be explained by variations in family income. In this view, adolescents who live with affluent parents are more likely to be religious and to have more academic success. This alleged relationship has been refuted, however, by research that has examined broader measures of academic achievement, family income, and neighborhood income levels (Regnerus, Smith, and Fritch 2003).

Other research has suggested that the relationship between academic performance and religious commitment can be explained by whether or not a student attends a private religious school. This line of research contends that private religious schools are more likely to have religiously committed students and that these schools promote self-discipline, moral training, and high standards (Bryk, Lee, and Holland 1993; Coleman, Hoffer, and Kilgore 1982). However, subsequent research has demonstrated that the relationship between academic achievement and religious commitment remains virtually unaffected when the type of school (whether private religious or not) is taken into account (Jeynes 2003).

There is, nonetheless, evidence that fundamentalist affiliation and belief have a significant negative influence on educational attainment (Darnel and Sherkat 1997). Proponents of this position claim that many fundamentalist Christians and Evangelicals are suspicious of the usefulness of secular education because it "serves to undermine both secular and divine authority by promoting 'humanism' and denigrating faith" (Darnell and Sherkat 1997: 307). However, Beyerlein and

Smith (2004) have demonstrated that the negative association between fundamentalist beliefs and educational attainment does not persist when thorough measures of religious beliefs and a sufficient number of Protestant denominations are examined.

A more compelling argument is that that effect of religiosity on academic achievement can be explained by variations in family capital and community capital (Muller and Ellison 2001). The evidence that family social capital positively influences academic achievement is persuasive (e.g., Parcel and Dufur 2001). Moreover, students who come from favorable family and community backgrounds not only are more likely to earn better grades, but also tend to be more religious. Muller and Ellison (2001), in a comprehensive assessment of this view, found that the effects of religiosity on students' educational expectations, time spent on homework, number of mathematics courses taken, and probability of graduation are partially mediated by family capital and community capital.

Nevertheless, Muller and Ellison's (2001) analysis had several shortcomings that raise questions about their results. First, their measures of family and community capital were limited. For example, the measure of family social capital was based on questions about the following three issues: (1) what parents expected of their children, (2) how often parents discussed school with their children, and (3) how often parents and children discussed things that were studied in class. Although these were solid elementary measures of family capital, Muller and Ellison looked simply at how involved a parent was in the child's education and not at the overall quality of the relationship between parent and child (Coleman 1988). Muller and Ellison's measure of community capital was also limited. They used questions that asked about (1) how well the parents knew their teens' friends' parents and (2) how much the adolescents' peer group valued academic success. It is clear that these were assessments of peer associations rather than of community capital.

Second, Muller and Ellison's operationalization of religious involvement was not sufficient. They assessed religious involvement on the basis of three questions about (1) frequency of religious attendance, (2) participation in religious activities, and (3) whether or not students considered themselves to be religious. These give a truncated view of religiosity; other variables such as prayer or views of scripture were not available in their dataset.¹ Moreover, this measurement scheme provides only a limited picture, since it ignored the issue of parents' religiosity. Yet it is clear that adolescents' religiosity is affected in a large degree by their parents' religiosity in that religious parents provide an environment that socializes adolescents to family norms and practices. Research demonstrates that parents'

¹ In their study, Muller and Ellison (2001) use the National Educational Longitudinal Study dataset, which includes limited measures of religiosity.

religiosity has a direct effect on their children's religiosity (Myers 1996; Regnerus, Smith, and Smith 2004).

There are other reasons for presuming that religiosity ought to have an effect on academic achievement regardless of family and community social capital. First, religious involvement provides opportunities for youths to gain skills that help them to succeed in school, such as discipline, respect for authority, and a tendency to take responsibility for their own actions (Jeynes 2003). Similarly, religious institutions, in the main, "largely reinforce traditional paths to success" (Regnerus 2000: 364). Religious involvement also provides a context in which students can develop social contacts that help them in their education, and it puts them in contact with religious leaders and youth group coordinators, who often serve as positive role models (Gardner 2004). Religious involvement also deters involvement in deviant activities. Students who spend more time in religious activities tend to spend less time involved in deviant activities (Johnson et al. 2000), and this pattern might foster conventional behaviors such as working on school projects, doing homework, seeing education as a worthwhile pursuit, and avoiding deviant peer networks.

In addition, religion has a causal influence on the moral and actions of adolescents that is not entirely reducible to nonreligious explanations involving social control, solidarity, deterrence, or other social phenomena (Nonnemaker, McNeely, and Blum 2006). Indeed, "there is something particularly religious in religion, which is not reducible to nonreligious explanations" (Smith 2003: 19). Perceived relationships with the divine exert "pro-social influences in the lives of youth not by happenstance or generic social process, by precisely as an outcome of American religions' particular theological, moral, and spiritual commitments" (Smith 2003: 20). These observations about academic achievement and adolescent religiosity lead to our first hypothesis:

Hypothesis 1: Religiosity and academic achievement are associated even when adjusting for the effects of family and community social capital.

A recent study helps to illuminate some additional ways in which religiosity might promote academic achievement among adolescents. Although this study focused on delinquency, the consistent negative association between delinquency and academic achievement suggests that its results could also inform studies of the latter outcome (Maguin and Loeber 1996; McGloin, Pratt, and Maahs 2004). Pearce and Haynie (2004) demonstrated that higher levels of mother *and* child religiosity by themselves had modest attenuating effects on delinquency. Nonetheless, their key finding was that the concordance between parent religiosity and child religiosity was negatively associated with delinquency. This occurred regardless of whether the concordance favored religiosity or irreligiosity. In

particular, they found that mother-child religious homogamy was as strongly and as consistently associated with subsequent delinquency or lack thereof as was an adolescent's own religiosity.

One might be tempted to assume that the connection between parent-child religious homogamy and positive adolescent outcomes was the result of an improvement in the quality of the parent-child relationship. However, the negative relationship between religious homogamy and delinquency was shown to hold even when dimensions of family well-being were taken into account (Pearce and Haynie 2004).

In our analysis, we drew on Muller and Ellison's (2001) model as a baseline, but we utilized more complete measures of religiosity, family capital, and community capital than those used in their study. We also considered the model of religious homogamy to further explore the association between religiosity, social capital, and academic achievement. In addition, we examined change in academic achievement over time to ensure the reliability of our findings and to carefully specify the temporal nature of religion and academic achievement.

Hypothesis 2: Religious homogamy between parents and children is positively related to increasing levels of academic achievement among adolescents, even after adjusting for the effects of family and community social capital.

DATA AND MEASURES

We examined the hypothesis with data for two years from the National Longitudinal Study of Adolescent Health (Add Health). These data were collected in the 1994–1995 and 1995–1996 academic years and included information from approximately 20,000 adolescents in grades 7 through 12. The students were asked a number of questions about their background, general health, schoolwork, community, home life, social relationships, and religious beliefs and practices. Their parents were asked a number of questions about relationships with their children and their community, family, and religious lives. After omitting adolescents who did not participate in Wave 2 of the study (because they were in twelfth grade in Wave 1 and then graduated, because they dropped out of school between Wave 1 and Wave 2, or because they were otherwise unavailable) and adolescents whose parents had not participated in the study, we were left with a subsample of approximately 14,000 adolescents. Further, after removing cases representing respondents who did not respond to the complete battery of questions regarding grades, religiosity, family and community social capital, and demographic characteristics, we were left with an analytic subsample of 8,051. Approximately 4,000 cases were lost because of the large amount of missing data on the variable that measured family income. A major drawback of the data could be that they

disproportionately exclude those at the bottom of the socioeconomic strata, who are more likely to drop out of school and are more reluctant to report their income.²

The outcome variable, academic achievement in the 1995–1996 school year, was gauged by students' self-reported grades in mathematics, science, history/social sciences, and English/language arts. The possible responses were "A," "B," "C," and "D or lower." The variables were recoded to a scale ranging from 0 to 3, where higher scores indicated that students had reported receiving a higher grade. The means of the four variables were used to create an overall measure of academic achievement. The scale had a Cronbach's α score of .75. Although some research has recommended the use of standardized scores to assess academic achievement (or ability), several studies have indicated that the reliability of self-reported grades is high and that this is generally a valid assessment of differences in academic achievement among adolescents. Moreover, students' self-reported grades were strongly associated with other objective academic outcomes across groups, such as test scores (Anaya 1999; Pace, Barahona, and Kaplan 1985; Pike 1995, 1996). However, the Add Health dataset did not include test scores, so we could not determine the validity of this claim in this study.

The first independent variable that we included in the model, academic achievement in the 1994–1995 school year, was measured in the same way as academic achievement in the 1995–1996 school year. The scale had a Cronbach's α of .75. By including Wave 1 academic achievement in the statistical model, we assessed changes over time in academic achievement and specified more clearly the association between the predictor variables and the outcome variable.

We assessed various aspects of religiosity on the basis of questions that inquired (1) how often the student attended religious services, (2) how important religion was to the student, (3) how often the student prayed, and (4) whether or not the student agreed that the sacred scriptures of his or her religion were the work of God and were completely without mistake. Although recent research suggests that public and private religiosity could have different effects on adolescent outcomes (Nonnemaker, McNeely, and Blum 2003), we chose to combine these four measures of religiosity into one scale for three main reasons. First, the only other aspect of public religiosity that could be included in the scale besides frequency of religious service attendance was how often the adolescent attended youth groups. However, not all congregations provided youth groups for their adolescent members. Second, to make the adolescent religiosity scale directly comparable to the parent religiosity scale, the measure of youth group attendance had to be dropped from the analysis, since there was no equivalent

² Indeed, we found that while families in which neither parent has more than a high school education constitute only 33.0 percent of our sample, they make up 41.6 percent of those who refused to report their income.

measure of religiosity in the parent survey. Third, a factor analysis revealed that the four remaining measures of religiosity loaded onto a single factor, with component matrix coefficients of .750, .822, .772, and .537 for church attendance, the importance of religion, the frequency of prayer, and biblical inerrancy, respectively. The scale had a Cronbach's α of .67. When the variable measuring public religiosity was removed from the scale, the overall scale Cronbach's α was reduced to .58.

The first two variables of the religiosity scale—religious service attendance and importance of religion—ranged from 1 to 4 but were recoded to a scale that ranged from 0 to 3, where higher numbers were indicative of higher levels of religiosity. This was to make the measures consistent, so a student who reported no religious behavior or beliefs had a score of 0 on the scale. The third variable, frequency of prayer, was measured on a scale from 1 to 5 but was recoded to a scale of 0 to 3, where the responses “at least once a month” and “less than once a month” were combined (moreover, few respondents selected these options). The final religion variable was a dichotomous variable that was recoded so that a score of 3 indicated that a student believed that the sacred scriptures of his or her religion were the work of God and were completely without mistake and a score of 0 indicated that the student did not hold this belief. Students who reported belonging to a religion that had no sacred scriptures were assigned a score of 2.4, which was the average score reported by students who belonged to religions that had sacred scriptures. The mean of the four variables was then used as the measure of religiosity. We used the same items, with identical coding procedures, to measure parental religiosity. The resulting scale for parents had a Cronbach's α of .86.³

We also included a product term in the model, consisting of the child religiosity scale multiplied by the parent religiosity scale. This allowed us to examine the relationship between parent religiosity and child religiosity and allowed a direct test of the question of parent-child religious homogeneity. Previous research has indicated a strong interaction between parent religiosity and child religiosity. Therefore we believed that the inclusion of this product term in the model would account for the interaction between parent religiosity and child religiosity and would avoid specification error in the form of omitted variable bias. Along the same lines, the inclusion of the product term offered a more accurate estimation of the relationship between the dependent and independent variables, and it explained more of the variation in the dependent variable. Although it might have

³ As a test of validity, we tried creating the religiosity scale by means of a factor analysis. We also tried recoding the scriptural inerrancy and frequency of prayer variables in different ways before creating the scale. In each case, the resulting scale was highly and significantly associated with the scale that we used in our analysis, indicating that different coding strategies did not change the nature of the latent variable being measured.

been feasible to examine the absolute value of religious heterogeneity between parent and child, we believed that it was more instructive to examine whether the religious homogamy score was positive or negative, to determine whether the parent or the child was more religious. Hence the product term approach was used.

We also examined family social capital and community social capital. The term *social capital* in general refers to the resources that one gains from various networks of relationships. In this context, family social capital refers to the resources that the adolescent gains from his or her relationship with his or her parents. Family social capital is distinguished from family financial capital (the family's income or wealth) and human capital (the cognitive environment that parents provide for their children). According to Coleman (1988: 110), family social capital can be measured by examining "the strength of the relations between parents and children." Therefore the variables that we used to gauge family social capital came from a scale developed by Ward and Laughlin (2003). This was based on eighteen questions that asked respondents about issues such as how close they felt to their mother or mother figure, how much they felt their mother cared about them, how close they felt to their father or father figure, how much they felt their father cared about them, and whether they talked to their mother or father about school. (See Appendix A for a complete list of questions about family social capital.) The variables were coded so that all were on a scale from 0 to 4, where a higher score indicated a higher level of family social capital. The mean of the eighteen variables was used to create the measure of family social capital (Cronbach's $\alpha = .80$).

Community social capital refers to resources that one gains from relationships with members of the local community. To gauge this issue, we examined variables that measured the quality of adolescents' relationship in the community and adolescents' and parents' perception of the overall cohesiveness of the local community (Ward and Laughlin 2003). We used six questions that were asked of the adolescents and eleven questions that were asked of their parents. The questions that were asked of adolescents included how happy they were overall living in their neighborhood, how happy or unhappy they would be if they had to move from their neighborhood, and how many people they knew in their neighborhood; the questions that were asked of parents included whether they lived in their current neighborhood because there was less crime there than in other neighborhoods, whether they lived in their neighborhood because it was closer to their relatives or friends, and whether they lived in their neighborhood because the schools were better there than in other neighborhoods. (See Appendix A for a complete list of questions about community social capital.) All the variables were coded so that higher values indicated greater community capital.

The mean of the seventeen items was then used to assess community social capital (Cronbach's $\alpha = .69$).

We also incorporated several control variables into our model, including parental education, sex, race/ethnicity, family structure, family income, religious denominational group, urbanity, and grade level. Parental education was measured on a nine-point scale on which higher values indicated higher levels of education. If both parents reported their education, we used the highest level reported. The race/ethnicity categories included white, black, Hispanic, Asian/Pacific Islander, Native American, and other. Total family income was measured in thousands of dollars per year. Family structure included two-parent families, single-parent families, stepfamilies, and other families (cf. Jeynes 2007). Consistent with recent studies of religious affiliation, religious preference categories included mainline Protestant, Evangelical, Black Protestant, Catholic, and other (Steensland et al. 2000).⁴ Urbanity was measured by three dummy variables: rural, suburban, and urban. Grade level was measured by using a continuous variable ranging from 7 to 12.

Because the students' self-reported grades closely followed a normal distribution,⁵ we used ordinary least squares regression to examine the empirical model. However, we adjusted for the multistage, clustered sampling design of Add Health, using software that allowed for poststratification adjustment and weighting. Hence the standard errors in the regression model were corrected for the sampling design.

RESULTS

To assess the first hypothesis, we first estimated a linear regression model in which academic achievement was the dependent variable and religiosity was the independent variable (as well as the control variables that we previously mentioned). Given the cross-lagged panel design, this model examined the effects of student religiosity on changes in self-reported grades. The results are shown in Table 1.

⁴ Because previous research shows a strong correlation between an Evangelical religious affiliation and a belief in scriptural inerrancy (one of the control variables), a cross-tabulation was run to ensure that the two variables were not measuring the same thing. The percentages of members of Evangelical, mainline Protestant, Black Protestant, Catholic, and other religious groups who believed in the inerrancy of their sacred scripture(s) were 91 percent, 74 percent, 87 percent, 70 percent, and 74 percent, respectively, suggesting that variation in scriptural literalism exists within the Evangelical religious affiliation.

⁵ A kurtosis statistic of $-.654$ reveals that the variable has a slightly flat distribution that is nevertheless within normal limits. In addition, a skewness statistic of $-.251$ (with a mean of 1.79 and a standard deviation of 0.76) indicates an acceptable deviation from the normal curve.

Table 1: Regression Coefficients for Religiosity Predicting Academic Achievement (Partial Model), Add Health, 1994–1996

Variable	Unstandardized Coefficient	Standard Error	<i>p</i> -Value
Intercept	.388	.069	<.001
Grades — Wave 1	.606	.012	<.001
Student religiosity	.025	.012	.045

Adjusted $R^2 = .441$.

Note: The model controls for the effects of parental education, gender, race/ethnicity, religious group, family structure, grade level, and urbanity.

The results showed that religiosity had a significant positive relationship with changes in self-reported grades. Next, we added family and community social capital to the model (see Table 2). Although the unstandardized coefficient for religiosity remained positive, it decreased from .025 to .020, and the *p*-value increased from .045 to .106. These results failed to support the first hypothesis, which was that student religiosity and academic achievement would be significantly related, even when controlling for family and community social capital.

Table 2: Regression Coefficients for Religiosity Predicting Academic Achievement (Full Model), Add Health, 1994–1996

Variable	Unstandardized Coefficient	Standard Error	<i>p</i> -Value
Intercept	.282	.080	.001
Grades — Wave 1	.601	.013	<.001
Student religiosity	.020	.012	.106
Family capital	.054	.013	<.001
Community capital	-.022	.027	.410

Adjusted $R^2 = .443$.

Note: The model controls for the effects of parental education, gender, race/ethnicity, religious group, family structure, grade level, and urbanity.

To test the second hypothesis in an elementary fashion, we regressed grades during Wave 2 on the following variables: Wave 1 grades, adolescent religiosity, parent religiosity, and a religiosity product term (adolescent religiosity \times parent religiosity). We also included several control variables to determine whether these results depended on parents' education, student gender, race/ethnicity, religious

group, grade level, or urbanity. This model examined the effects of religiosity on changes in self-reported grades. Table 3 provides the results of this model.

**Table 3: Religious Homogamy and Academic Achievement
(Partial Model), Add Health, 1994–1996**

Variable	Unstandardized Coefficient	Standard Error	<i>p</i> -Value
Intercept	.579	.101	<.001
Grades — Wave 1	.607	.013	<.001
Parent religiosity	−.073	.037	.051
Student religiosity	−.073	.039	.064
Religiosity product term	.044	.017	.010

Adjusted $R^2 = .445$.

Note: The model controls for the effects of parental education, gender, race/ethnicity, religious group, family structure, grade level, and urbanity.

The significant religiosity product term indicated that the highest grades were reported by adolescents whose religiosity scores were concordant with their parents' scores; the lowest occurred among those who religiosity scores were most discrepant. The religiosity coefficients were only modestly attenuated by the inclusion of the control variables, with a product term that continued to be significantly different from 0.

Table 4 shows the results of the model after including not only the control variables, but also family and community capital. Recall that earlier research suggested that these sources of social capital partially mediate the effects of religiosity on academic achievement. However, our results failed to support these findings. Rather, even though family social capital had the expected positive association with self-reported grades, the religiosity effects remained at roughly the same levels as in the previous model.⁶

⁶ Since some previous research suggests that the results may vary depending on religious group affiliation (Darnell and Sherkat 1997), we also estimated differences by denominational group (e.g., Evangelical, mainline Protestant). However, we found no consistent patterns. For example, the results applied as much to Evangelical families as to the whole sample. We also examined whether discrepancies in the child and parent reports of affiliation mattered, but we determined that they did not.

**Table 4: Religious Homogamy and Academic Achievement
(Full Model), Add Health, 1994–1996**

Variable	Unstandardized Coefficient	Standard Error	<i>p</i>-Value
Intercept	.477	.109	<.001
Grades — Wave 1	.603	.013	<.001
Parent religiosity	−.069	.037	.062
Student religiosity	−.078	.039	.048
Religiosity product term	.044	.017	.011
Family capital	.048	.015	.001
Community capital	−.017	.029	.555

Adjusted $R^2 = .466$.

Note: The model controls for the effects of parental education, gender, race/ethnicity, religious group, family structure, grade level, and urbanity.

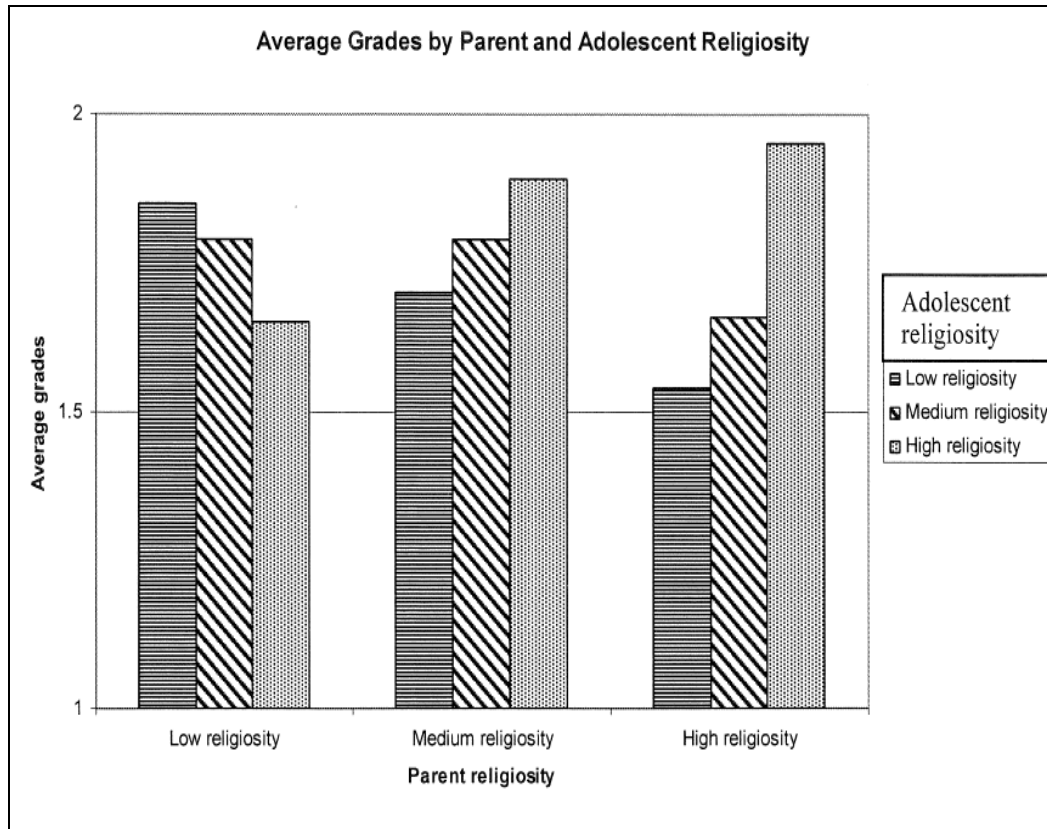
To understand more fully the association between religiosity and academic achievement, we computed predicted scores based on variations in parental and adolescent religiosity. Figure 1 shows the predicted scores that corresponded to low (one or more standard deviations below the mean), medium (at the mean), and high (one or more standard deviations above the mean) levels of religiosity. These results showed that the highest expected grades occurred when there was correspondence between religiosity scores, whether on the high or the low end. The lowest expected grades occurred when there was a discrepancy between the religiosity of parents and that of their adolescent children. This supported Pearce and Haynie's (2004) result but extended it to academic achievement.

DISCUSSION

The results appear to provide evidence against the first hypothesis, which is that student religiosity and academic achievement are related even when controlling for family and community social capital. However, the results do provide support for the second hypothesis: that the association between religiosity and academic achievement depends on the concordance or discordance of religious involvement between adolescents and their parents. Moreover, this association is not mediated by variations in family or community social capital. In fact, although family capital has a strong and consistent positive association with academic achievement (cf. McNeal 1999), its effects are relatively independent of the effects of religiosity. Additional analyses using the Add Health data indicate a positive association between family capital and religiosity among parents and adolescents,

but this association does not affect the direct effects of religious homogeneity on academic achievement.

Figure 1: Predicted Average Grades, by Parent and Adolescent Religiosity



The results also suggest that Pearce and Haynie's (2004) model of religious homogeneity among parents and adolescents provides an interesting explanation not only for delinquency, but also for prosocial outcomes such as school success. As they speculate, "religious similarity may be important because it brings about the type of parent-child closure described in social control and differential association theories, and perhaps this closure is necessary to provide adolescent religiosity its protective power through dimensions such as moral order, learned competencies, and social and organizational ties" (Pearce and Haynie 2004: 1567). Consistent with these findings, Carbonaro (1998) identifies a positive association between parent-child closure and academic achievement that holds even when controlling for social and background characteristics.

However, it is also possible that religious homogeneity provides a form of social capital that general measures of family relations or family involvement fail

to assess. For example, religious homogamy could indicate additional resources available to adolescents, such as trusting relationships and a network of positive peer and adult ties. These arguments are attractive explanations because both networks of positive ties and trusting relationships have been shown to be related to higher levels of academic achievement (Bank, Slavings, and Biddle 1990; Goddard 2003). Networks of positive ties “provide opportunities for the exchange of information that can facilitate outcomes desirable to group members” (Goddard 2003: 60). Trusting relationships make the open exchange of information more likely and give group members the confidence that other members are dependable and competent (Goddard 2003). Unfortunately, we were not able to examine trusting relationships and peer networks directly, owing to the design of the study.⁷

Another explanation is that low levels of religious homogamy between parents and children may cause stress and strain, which then lead to lower academic outcomes. Some studies show that strain is more likely to occur in parent-child dyads in which there is a low level of agreement on values, attitudes, and religious beliefs. It is important to note that mental strain and disagreement still occur in relationships that are characterized by high levels of social integration (Pruchno, Burant, and Peters 1994). In addition, it has been demonstrated that higher levels of stress and strain are associated with poorer academic performance for both white and minority students (Smedley, Myers, and Harrell 1993). It is also notable that the only part of our model in which increased religious homogamy does not follow the expected pattern of heightened academic achievement is in the medium parental religiosity category, in which discrepancies between parent religiosity and child religiosity are less pronounced and the relationship is less likely to be strained.

In general, then, religiosity by itself does not necessarily benefit adolescents. Rather, it is the similarity of religious practices and beliefs between parent and child that most profoundly affects academic achievement and perhaps even other prosocial behaviors. We recommend that future research on adolescent religiosity consider how parent-child concordance or discordance of beliefs and practices affect various positive and negative outcomes.

⁷ To gather peer network data, the designers of Add Health asked each student to name his or her five best male friends and five best female friends. The students were then asked a few questions about each of these friends. We did not use these data for three main reasons: First, because the five questions relating to peer relationships could be answered only by checking a box or leaving it blank, we were unable to determine whether students who did not check the box intended to give a negative response, skipped the question, did not know the answer, or refused to answer the question altogether. Second, many respondents did not have five friends of each sex and therefore could not be directly compared to those who did. Third, it is possible that many respondents had more than five friends of either given gender who had a significant effect on their behavior.

CONCLUSION

Although the convergence of our results with previous research offers persuasive evidence of the effects of religious homogamy on adolescent behavior, additional research is needed to validate these results. Moreover, future research should consider additional forms of social capital, such as school capital and resources, as well as networks of affiliations among adolescents (Parcel and Dufur 2001). Research should also consider additional academic outcomes, such as high school graduation, college attendance, dropping out of school, and educational expectations or aspirations. Furthermore, it is not clear whether these results generalize to different gender or racial/ethnic groups. The role of family income should also be considered in more detail, since the Add Health data are plagued with missing value problems on this key variable. Other aspects of the family, such as family structure, as well as whether the models generalize across gender and racial subgroups, should also be considered in future research (Jeynes 2007). Finally, although community capital does not have significant effects in the model, neighborhood-level characteristics might affect how religiosity or family capital is channeled into academic success.

The present study, however, contributes to the current literature in several respects. First, in analyzing the relationship between religiosity and academic achievement among adolescents, it uses more complete measures of family capital, community capital, and religiosity than have been used in the past. Second, the analysis examines changes in academic achievement over time both to examine the temporal nature of academic achievement and to ensure the reliability of the results. Third, we demonstrate that the relationship between religiosity and academic achievement is significantly attenuated when more thorough measures of family and community social capital are taken into account. Fourth, we examine and lend credence to Pearce and Haynie's (2004) study on the association between parent-child religious homogamy and delinquency by examining how adolescent academic achievement relates to intergenerational religious dynamics between parents and children. Consistent with Pearce and Haynie's conclusions, we find a positive association between academic achievement and parent-child religious homogamy. However, we also find that this relationship cannot be explained entirely by including measures of family and community social capital, which examine the quality of the parent-child relationship as well as the resources available to students at home and in the community. Therefore other factors that involve the religious climate of the home and relationships among parents and children should be explored in greater detail.

REFERENCES

- Anaya, Guadalupe. 1999. "College Impact on Student Learning: Comparing the Use of Self-Reported Gains, Standardized Test Scores, and College Grades." *Research in Higher Education* 40(5): 499–526.
- Bank, Barbara J., Ricky L. Slavings, and Bruce J. Biddle. 1990. "Effects of Peer, Faculty, and Parental Influence on Students' Persistence." *Sociology of Education* 63(3): 208–225.
- Beyerlein, Kraig K., and Christian Smith. 2004. "Specifying the Impact of Conservative Protestantism on the Perceived Value of a College Education." *Journal for the Scientific Study of Religion* 43(4): 505–518.
- Brown, Diane R., and Lawrence E. Gary. 1991. "Religious Socialization and Educational Attainment Among African Americans: An Empirical Assessment." *Journal of Negro Education* 60(3): 411–426.
- Bryk, A., V. Lee, and P. Holland. 1993. *Catholic Schools and the Common Good*. Cambridge, MA: Harvard University Press.
- Carbonaro, William J. 1998. "A Little Help from My Friend's Parents: Intergenerational Closure and Educational Outcomes." *Sociology of Education* 71(4): 295–313.
- Coleman, James S. 1988. "Social Capital and the Creation of Human Capital." *American Journal of Sociology* 94: 95–120.
- Coleman, J., T. Hoffer, and S. Kilgore. 1982. *High School Achievement: Public, Catholic, and Private Schools Compared*. New York: Basic Books.
- Darnell, Alfred, and Darren E. Sherkat. 1997. "The Impact of Protestant Fundamentalism on Educational Attainment." *American Sociological Review* 62(2): 306–315.
- Gardner, Nancy Augustine. 2004. *Does Religious Participation Help Keep Adolescents in School?* Washington, DC: American Youth Policy Forum. Retrieved May 15, 2007, from <http://www.aypf.org/publications/DoesReligiousParticipation.pdf>.
- Goddard, Roger D. 2003. "Relational Networks, Social Trust, and Norms: A Social Capital Perspective on Students' Chances of Academic Success." *Educational Evaluation and Policy Analysis* 25(1): 58–77.
- Jeynes, William H. 2002. "A Meta-Analysis of the Effects of Attending Religious Schools and Religiosity on Black and Hispanic Academic Achievement." *Education and Urban Society* 35(1): 27–49.
- Jeynes, William H. 2003. "The Effects of Religious Commitment on Academic Achievement of Urban and Other Children." *Education and Urban Society* 36(1):44–62.
- Jeynes, William H. 2007. "Religion, Intact Families, and the Achievement Gap." *Interdisciplinary Journal of Research on Religion* 3: 1–24.
- Johnson, Byron R., Spencer De Li, David B. Larson, and Michael McCullough. 2000. "A Systematic Review of the Religiosity and Delinquency Literature: A Research Note." *Journal of Contemporary Criminal Justice* 16(1): 32–52.
- Maguin, Eugene, and Rolf Loeber. 1996. "Academic Performance and Delinquency." *Crime and Justice: An Annual Review of Research* 20: 145–264.

- McGloin, Jean Marie, Travis C. Pratt, and Jeff Maahs. 2004. "Rethinking the IQ-Delinquency Relationship: A Longitudinal Analysis of Multiple Theoretical Models." *Justice Quarterly* 21(3): 603–635.
- McNeal, Ralph B. 1999. "Parental Involvement as Social Capital: Differential Effectiveness on Science Achievement, Truancy, and Dropping Out." *Social Forces* 78(1): 117–144.
- Muller, Chandra, and Christopher G. Ellison. 2001. "Religious Involvement, Social Capital, and Adolescents' Academic Progress: Evidence from the National Longitudinal Study of 1988." *Sociological Focus* 34(2): 155–183.
- Myers, Scott M. 1996. "An Interactive Model of Religiosity Inheritance: The Importance of Family Context." *American Sociological Review* 61(5): 858–866.
- Nonnemaker, James, Clea McNeely, and Robert Blum. 2003. "Public and Private Domains of Religiosity and Adolescent Health Risk Behaviors: Evidence from the National Longitudinal Study of Adolescent Health." *Social Science & Medicine* 57(11): 2049–2054.
- Nonnemaker, James, Clea McNeely, and Robert Blum. 2006. "Public and Private Domains of Religiosity and Adolescent Smoking Transitions." *Social Science & Medicine* 62(12): 3084–3095.
- Pace, C. Robert, Doris Barahona, and David Kaplan. 1985. *The Credibility of Student Self-Reports*. Report of the Center for the Study of Evaluation. Los Angeles: University of California.
- Parcel, Toby L., and Mikaela J. Dufur. 2001. "Capital at Home and at School: Effects on Student Achievement." *Social Forces* 79(3): 881–911.
- Pearce, Lisa D., and Dana L. Haynie. 2004. "Intergenerational Religious Dynamics and Adolescent Delinquency." *Social Forces* 82(4): 1553–1572.
- Pike, Gary R. 1995. "The Relationship Between Self-Reports of College Experiences and Achievement Test Scores." *Research in Higher Education* 36(1): 1–22.
- Pike, Gary R. 1996. "Limitations of Using Students' Self-Reports of Academic Development as Proxies for Traditional Achievement Measures." *Research in Higher Education* 37(1): 89–114.
- Pruchno, Rachel, Christopher Burant, and Norah D. Peters. 1994. "Family Mental Health: Marital and Parent-Child Consensus as Predictors." *Journal of Marriage and the Family* 56(3): 747–758.
- Regnerus, Mark. 2000. "Shaping Schooling Success: Religious Socialization and Educational Outcomes in Urban Public Schools." *Journal for the Scientific Study of Religion* 39(3): 363–370.
- Regnerus, Mark, Christian Smith, and Melissa Fritsch. 2003. *Religion in the Lives of American Adolescents: A Review of the Literature*. Report of the National Study of Youth and Religion. Chapel Hill, NC: University of North Carolina. Retrieved May 15, 2007, from <http://youthandreligion.org/publications/docs/litreview.pdf>.
- Regnerus, Mark, Christian Smith, and Brad Smith. 2004. "Social Context in the Development of Adolescent Religiosity." *Applied Developmental Science* 8(1): 27–38.
- Sikkink, David, and Edwin I. Hernandez. 2003. *Religion Matters: Predicting Schooling Success Among Latino Youth*. Report of the Institute for Latino Studies. Notre Dame, IN: University of Notre Dame.

- Smedley, Brian D., Hector F. Myers, and Shelly P. Harrell. 1993. "Minority-Status Stresses and the College Adjustment of Ethnic Minority Freshmen." *Journal of Higher Education* 64(4): 434–452.
- Smith, Christian. 2003. "Theorizing Religious Effects Among American Adolescents." *Journal for the Scientific Study of Religion* 42(1): 17–30.
- Steensland, Brian, Jerry Z. Park, Mark D. Regnerus, Lynn D. Robinson, W. Bradford Wilcox, and Robert D. Woodberry. 2000. "The Measure of American Religion: Toward Improving the State of the Art." *Social Forces* 79: 291–318.
- Ward, Catherine L., and James E. Laughlin. 2003. "Social Contexts, Age and Juvenile Delinquency: A Community Perspective." *Journal of Child and Adolescent Mental Health* 15(1): 13–26.

Appendix A: Items Used in Family and Community Capital Scales*FAMILY SOCIAL CAPITAL*

- (1) How close do you feel to your mother (or mother figure)?
- (2) How much do you feel your mother cares about you?
- (3) How close do you feel to your father (or father figure)?
- (4) How much do you feel your father cares about you?
- (5) How warm or loving is your mother toward you most of the time?
- (6) How satisfied are you with your relationship with your mother?
- (7) How warm or loving is your father toward you most of the time?
- (8) How satisfied are you with your relationship with your father?
- (9) How much do you feel your parents care about you?
- (10) How much do you feel your family understands you?
- (11) How much do you feel your family pays attention to you?
- (12) How much has your mother encouraged you to be independent?
- (13) Have you talked to your mother about schoolwork or grades?
- (14) Has your mother worked with you on a school project?
- (15) Have you talked with your mother about what you were doing in school?
- (16) Have you talked to your father about schoolwork or grades?
- (17) Has your father worked with you on a school project?
- (18) Have you talked with your father about what you were doing in school?

*COMMUNITY SOCIAL CAPITAL**Student Responses:*

- (1) How happy are you overall living in your neighborhood?
- (2) How happy or unhappy would you be if you had to move away from your neighborhood?
- (3) How many of the people in your neighborhood do you know?
- (4) Have you stopped to talk with someone on the street in your neighborhood in the last month?
- (5) Do you think that people in the neighborhood look out for each other?
- (6) Do you usually feel safe in your neighborhood?

Parent Responses:

“Do you live in this neighborhood because ...”

- (1) There is less crime there than there is in other neighborhoods?
- (2) There is less drug use and other illegal activities there than there is in other neighborhoods?

- (3) You are closer to your relatives or friends?
- (4) The schools are better there than they are in other neighborhoods?
- (5) There are children who are the same age as your children?
- (6) You or your spouse was born in this neighborhood?
- (7) How much would you like to move away from this neighborhood?
- (8) How large a problem is litter or trash on the streets and sidewalks?
- (9) How large a problem are drug dealers and drug users in your neighborhood?
- (10) Would you tell a neighbor if you saw that neighbor's child getting in trouble?
- (11) Would your neighbors tell you if they saw your child getting in trouble?