ISSN 1556-3723 (print)

*Interdisciplinary Journal of Research on Religion*

Volume 9 2013 Article 9

# The Assessment of Various Dimensions of Religious Faith Based on Four Meta-Analyses

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# The Assessment of Various Dimensions of Religious Faith Based on Four Meta-Analyses

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Abstract

Four meta-analyses were undertaken to assess various expressions of religious faith and family. The meta-analyses examined the effects of Bible literacy, faith-based schools when compared to charter and other public schools, family factors, and means of reducing the achievement gap. The results of the meta-analyses indicate that many of the variables that were examined are associated with positive academic and behavioral outcomes.

Over the last fifteen or more years, academics have become increasingly willing to talk about issues of faith (Jeynes 1999; Prothero 2007). There is a certainly degree of irony in this fact, considering that there has also been an enormous amount of disheartening news in the worldwide media (Jeynes 2010; Van Biema 2007), which may cause people to reconsider the place of religious faith in contemporary society (Prothero 2007; Van Biema 2007). In such a poor economic and moral environment, it can be easy for individuals who adhere to religious and family values to get discouraged or lose their moral compass (Greenawalt 2005). Nevertheless, the pervasive presence of moral problems and the dilapidated condition of some of the pillars of American society are causing a growing number of politicians, academics, and other leaders to reacquaint themselves with the strengths that religious faith can bring to society (Jeynes 2010). This trend is taking place not only among people who have an existing propensity to embrace religion, but also among those who previously did not have a penchant for religion (Greenawalt 2005).

A seemingly limitless number of studies have been done on personal faith and topics related to religion. However, it is difficult to discern what the effects of various dimensions of faith are. For one thing, there are numerous expressions of religion and spirituality, and it is difficult to even peruse the vast quantity of literature that addresses this topic (Koenig 2005). Furthermore, a prodigious number of studies have been undertaken on aspects of each of these faith-based dimensions (Jeynes 2003; Koenig 2005). Consequently, the total number of studies that have been performed on issues related to religion, spirituality, churches, and faith-based schools is quite substantial (Koenig 2005). It is difficult to examine studies that have been performed on any issue related to faith and family, let alone the entire gamut of analyses that have been run on the aggregated sum of all the faith- and family-related topics.

To help deal with this mass of data, some researchers have conducted meta-analyses to address whether the overall body of research on the influence of faith- and family-related factors indicates that there is a relationship between these factors and positive academic and behavioral outcomes. In doing a meta-analysis, the researcher quantitatively combines all of the studies that have been done on a particular issue to determine statistically what the overall body of research indicates about a particular topic. Meta-analyses are especially popular among government leaders and academics, who do not have the time to read the 50 or 100 individual studies that a meta-analysis comprises. It is much more efficient to read a meta-analysis, which summarizes an entire body of relevant research.

In this article, I present the results of four different meta-analyses on faith and family values. The first examines the effects of Bible literacy on students. The second compares faith-based schools with traditional public schools and public charter schools. The third examines factors that reduce the achievement gap. The

fourth addresses the effects of family structure and parental involvement on children's academic achievement.

## *METHODS AND DATA SOURCES*

### *Data Collection Method (Coding and Rater Reliability)*

For this study, I focused on Christian schools, in particular grades K–12. To obtain the studies to be used in the four meta-analyses, I undertook a search to locate the relevant studies on the effects of Bible literacy, Christian schools, and of family factors. The first procedures that I used to locate these studies involved a computer search using sixty research databases (e.g., Psych Info., ERIC, Dissertation Abstracts International, Wilson Periodicals, Sociological Abstracts) to find studies that examined the relationship between the relevant faith and family variables (Bible literacy, the effects of Christian schools, the effects of family factors) on the one hand and behavioral and academic achievement outcomes on the other. The search terms included Bible literacy, Bible knowledge, Bible study, religious instruction, religious knowledge, religion, catechism, religiosity, religious commitment, Christian schools, faith-based schools, religious schools, charter schools, competition, public school choice, divorce, family structure, single parent families, parental involvement, and many other faith and family terms. I also examined reference sections from journal articles on Bible literacy and other faith and family variables to find additional research articles.

Although this search yielded thousands of articles and papers on Bible literacy, the effects of Christian schools, the effects of family factors, and the achievement gap, the vast majority of these articles were not quantitative in nature. This process yielded the following totals of nonduplicate quantitative studies: 11 studies on Bible literacy; 30 studies, including 1,075,000 subjects, on the achievement gap; 252 studies on divorce and remarriage, including 1,200,000 subjects and 77 studies examining the relationship between parental involvement and academic and behavioral outcomes; and 90 studies that compared faith-based schools to traditional public schools and public charter schools. In this last meta-analysis, I was the author of two of the 90 studies (Jeynes 2002a, 2002b). Therefore to ensure objectivity, analyses were undertaken both with and without these two studies.

A number of different characteristics of each study were included for use in this study, including report characteristics, sample characteristics, intervention type, research design, grade level or age of the students, outcome and predictor variables, attrition rate, and estimate of the relationship between Bible literacy and behavioral and academic outcomes.

*Statistical Methods and the Effect Size Statistic*

For each of the series of meta-analyses, I procured effect sizes from data in such forms as *t*-tests, *F*-tests, *p*-levels, frequencies, and *r*-values, which were computed via conversion formulas provided by Glass, McGaw, and Smith (1981). When results were not significant, studies sometimes reported only a significance level. In the unusual case in which the direction of these nonsignificant results was not available, I calculated the effect size to be zero.

For studies with manipulations, I used the standardized mean difference to estimate the effects of these faith and family variables. The *d*-index (Cohen 1988) is a scale-free measure of the separation between two group means. Calculating the *d*-index for any comparison involves dividing the difference between the two group means by either their average standard deviation or the standard deviation of the control group. In the meta-analysis, I subtracted the group control mean from the experimental group mean and divided the difference by their average standard deviation.

For studies that involved cross-sectional measures of the effects of faith and family variables and related these to behavioral and achievement outcomes, I undertook the following procedures. For studies that attempted to statistically equate students on other variables, my preferred measure of relationship strength was the standardized beta weight, $\beta$. These parameters were determined from the output of multiple regression analyses. In a few instances, beta weights could not be obtained from study reports, so the most similar measures of effect (e.g., unstandardized regression weights) were retrieved.

For studies that involved cross-sectional measures but included no attempt to statistically equate students on third variables, I used the results from the *t*-tests, *F*-tests, and correlation studies provided by the researchers who performed the original study. I used probability values as a basis for computation only if the researchers did not supply any information on these test statistics.

*Calculating Average Effect Sizes*. I also used two sets of statistical procedures to distinguish between analyses that included sophisticated controls (socioeconomic status, race, gender, or previous achievement) and analyses that did not include them. The results of these procedures are listed in different columns or rows in Tables 2 through 5. I used a weighting procedure to calculate average effect sizes across all the comparisons. First, each independent effect size was multiplied by the inverse of its variance. The sum of these products was then divided by the sum of the inverses.

*Fixed and Random Error*. As recommended by Hedges and Vevea (1998), I conducted all the analyses using fixed-error assumptions in one analysis and applied

random-error assumptions in the other. The advantage of undertaking both fixed-error and random-error analyses is that we can examine the effects of different assumptions on the outcomes of the synthesis. Tests of homogeneity were completed on the different studies to gain a sense of the consistency of Bible literacy measures across studies.

### *Study Quality Rating*

Two researchers coded the studies independently for quality, the presence of randomization, and whether the definitional criteria for Bible literacy were met. Study quality and the use of random samples were graded on a 0-to-3 scale. Quality was determined according to the answers to the following questions: (1) Did the study use randomization of assignment? (2) Did it avoid mono-method bias? (3) Did it avoid mono-operation bias? (4) Did it avoid selection bias? (5) Did it use a specific definition of parental involvement?[1]

Inter-rater reliability was calculated by computing the percentage of agreement on a variety of faith and family measures. On all the measures of inter-rater reliability, the degree of agreement was between 90 and 100 percent.

To ascertain whether the quality of the study influenced the effect sizes that emerged, a supplementary analysis was done to include only the studies that had quality ratings of 2–3 and 1–3.

### *Defining of Variables*

*Independent Variable*. For the purposes of this study, the term *Bible literacy* was defined as a high level of Bible knowledge or Bible study in comparison to other individuals or in comparison to a previous point in time for a given individual.

*Dependent Variables*. The term *behavior* was defined as actions or attitudes that are generally regarded as morally or socially either positive or negative. For example, helpfulness, cooperation, and appropriate school behavior would be regarded as positive behaviors, and drug abuse and verbally abusive behavior would be regarded as negative behaviors.

*Academic achievement* was defined as measures such as grade point average (GPA), standardized test scores, class rankings, and teacher ratings.

For the purposes of this study, a *religious school (faith-based school)* was defined as a private school that was sponsored by a religious group and was defined

[1] Mono-method bias occurs when only a single method of measurement is used. Mono-operation bias pertains to using only one variable or suggesting only one way of dealing with a problem. Selection bias is an error in choosing the study's participants such that the experimental group cannot be fairly compared with the control group.

to meet certain religious and educational goals. A *charter school* was defined as a public state-legislated school that operates independently from the local school board and operates under a separate charter.

Regarding the factors that were used to assess some of the distinguishing factors (strengths and weaknesses) in comparing public and religious schools, the following definitions were utilized:

*Taking harder courses*: Students were defined as such when they were more likely to take higher-level courses such as Advanced Placement and honors courses when compared to students at the same academic level.

*High expectations*: Teachers were defined in this manner when they anticipated that students could achieve and accomplish at higher levels when compared to teachers who instructed students at the same academic levels in other schools.

*Achievement gap*: For the purposes of this study, the achievement gap was defined as the difference in academic achievement that exists between the average white student and the average African-American and/or Latino student.

*Classroom flexibility*: This factor reflected the degree to which students reported that they could engage in classroom discussions that took place in the class or could easily choose electives as their course choices.

*Religious faith*: A student was classified as "very religious" if the student described herself or himself as both (1) very religious and (2) attending church or house of worship at least three or four times a month.

*Religious schools*: This term was used to indicate private faith-based schools.

*Religious orientation*: This term includes variables for both religious faith and religious schools.

*Religious factors*: This term includes all measures of religious faith, schools, and character-based curriculum.

*Government policy*: This refers to an intervention by federal or state officials designed to reduce the achievement gap.

*Family factors*: This term defines parental marriage status and/or level of parental involvement.

*High expectations*: This term refers to the belief by teachers and/or parents that children can excel.

*Curriculum*: This refers to classroom content that was specifically designed to help reduce the achievement gap.

*Classroom structure*: This factor involves the arrangement of the class in such a way to be sensitive to the ethnic and racial background of the students.

*Cultural factors*: These are strategies that are designed to be more sensitive to the students' cultures represented in the class.

### *Types of Analyses and Models Utilized for Analyses of Schools*

Two sets of statistical procedures were performed to distinguish between studies. One analysis distinguished between analyses that included sophisticated controls in their analyses (e.g., socioeconomic status, race, and gender) and those that did not. This was the primary way in which studies were distinguished in comparing school types. Second, supplementary analyses were undertaken to distinguish between two models. Model A included all the studies that examined the impact of religious versus public schools. Model B looked at a similar sample of studies but excluded studies that controlled for some of the educational emphases that are often used to explain the differences in achievement. These studies were excluded because if a study controlled for some of the specific educational emphases that often explain the academic differences, then that study would tend to understate differences that exist between religious schools and public schools. Specifically, studies were excluded from model B if they controlled for whether a school had a high percentage of students on the academic track and if they controlled for parental involvement. The problem with controlling for these variables is that many social scientists believe that the fact that religious schools insist that more of their students be on the academic track and that parents be strongly involved in education are two of the reasons why religious students outperform their counterparts in public schools (Gamoran 1992; Sander 1996). Although academic achievement was the primary focus for the purposes of this meta-analysis, behavioral variables were also examined.

## *RESULTS*

### *Meta-Analysis 1: The Effects of Bible Literacy on Students*

Table 1 lists the results of different components of the first meta-analysis, which examined the effects of Bible literacy. The first meta-analysis included determining effect sizes for the overall Bible literacy variable for all the studies that were included in the analysis, that is, for all studies that examined either behavioral or academic outcomes. Table 1 shows that the overall effect size for Bible literacy is about a 21 percent advantage in the outcome measures that were utilized. This percentage is quite substantial. One should keep in mind that there are numerous other expressions of religious faith. Bible literacy is simply one component of religious orientation.

**TABLE 1: The Meta-Analysis Effect Sizes for Overall Bible Literacy, Bible Literacy on Behavior, and Bible Literacy on Academic Achievement for Both the Primary Analysis and Specific Analyses**

| | Including All Eleven Studies (%) | Including Only High-Quality Studies (%) | Including Only Data Since 1980 (%) |
|---|---|---|---|
| Overall Bible literacy on behavior and academic achievement combined | 21 | 21 | 20 |
| Bible literacy on behavior | 20 | 20 | 20 |
| Bible literacy on academic achievement | 36 | 36 | 28 |

Table 1 also indicates that when only studies with high quality ratings were included (studies that were rated 2 or 3 on a 0-to-3 scale), the effect size was still precisely 21 percent. High-quality studies, then, showed the same strength of relationship between Bible literacy and behavioral and scholastic outcomes that the entire group of studies did. Moreover, to demonstrate that the findings reflect current trends, an analysis of only studies that included data gathered since 1980 (nine studies) was done. The overall Bible literacy effect size changed only slightly, to 20 percent, a difference that is not significant.

The second analysis addressed the relationship between Bible literacy and behavioral outcomes. Table 1 indicates that the overall effect size for Bible literacy is 20 percent. This analysis is particularly salient because many people are even more interested in the influence of Bible literacy on behavioral outcomes than they are in its influence on scholastic outcomes. The same supplemental analyses regarding quality that were done to assess the effects of the overall Bible literacy variable were done to determine the specific effects of Bible literacy on behavioral results. When only high-quality studies were included in the analysis, the effect size was 20 percent. When only studies that were undertaken since 1980 were included, the effect size was also 20 percent. The pattern of results that emerged for the relationship between Bible literacy and behavior specifically was very similar to that for the overall Bible literacy variable.

The third analysis focused on the relationship between Bible literacy and academic achievement. Table 1 indicates that the association between Bible literacy and academic outcomes was 36 percent, which is larger than the association between Bible literacy and behavioral outcomes. However, it should be noted that all eleven studies examined behavioral outcomes and only three studies focused

on academics. Nevertheless, this effect size is quite substantial. When only high-quality studies were included in the analysis, the effect size was also 36 percent. When only studies that were undertaken since 1980 were included, the effect size was 28 percent.

### *Meta-Analysis 2: Comparing Faith-Based Schools with Public Schools and Public Charter Schools*

The second meta-analysis examined data from studies around the globe that compared faith-based schools with public schools and public charter schools. The findings indicated that students at religious schools outperformed their counterparts in both types of public schools by significant margins. The academic advantage was approximately the equivalent of one half of a grade point. Tables 2 and 3 list the differences in achievement test scores in terms of the percentage advantage or disadvantage that accrued to students from religious school students in comparison to their counterparts in either public charter schools or traditional public schools.

Table 2 lists the effects for students attending religious schools and public charter schools, using overall academic achievement, standardized tests specifically, and behavioral outcomes. The most notable overall result is that 100 percent of the effect sizes for faith-based schools were statistically significant. However, none of the effect sizes for public charter schools were statistically significant in either the positive or the negative direction. For U.S. and foreign schools combined, the effect sizes for religious schools for models A and B were 8.7 percent and 8.8 percent, respectively, for all the measures of academic achievement combined and 9.1 percent and 9.0 percent, respectively, for standardized tests specifically. For U.S. schools alone, the effect sizes were a bit higher: for models A and B, the effect sizes were 9.4 percent and 9.3 percent, respectively, for overall achievement and 9.4 percent and 9.3 percent, respectively, for standardized tests specifically. For studies that used sophisticated controls, the effect sizes were smaller but still statistically significant. For U.S. and foreign schools combined, the effect sizes for religious schools for models B and A were 4.8 percent and 4.0 percent, respectively, for all measures of academic achievement combined and 5.0 percent and 4.3 percent, respectively, for standardized tests. For U.S. schools alone, the effect sizes were somewhat higher; in this case, the effect sizes for religious schools for models B and A were 5.0 percent and 4.3 percent, respectively, for all measures of academic achievement combined and 5.3 percent and 4.7 percent, respectively, for standardized tests.

**TABLE 2: Effect Sizes for Religious School Students and Public Charter School Students Compared to Students in Traditional Public Schools (*N* = 90)**

| | Religious Schools | | Charter Schools | |
|---|---|---|---|---|
| | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** |
| U.S. and foreign schools without sophisticated controls using model B | 8.8 | 9.1 | 0.3 | 0.3 |
| U.S. and foreign schools without sophisticated controls using model A | 8.7 | 9.0 | 0.3 | 0.3 |
| U.S. schools without sophisticated controls using model B | 9.4 | 9.8 | 0.3 | 0.3 |
| U.S. schools without sophisticated controls using model A | 9.3 | 9.7 | 0.3 | 0.3 |
| U.S. and foreign schools using sophisticated controls using model B | 4.8 | 5.0 | −1.0 | −1.0 |
| U.S. and foreign schools using sophisticated controls using model A | 4.0 | 4.3 | −1.0 | −1.0 |

| | Religious Schools | | Charter Schools | |
|---|---|---|---|---|
| | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** |
| U.S. schools using sophisticated controls using model B | 5.0 | 5.3 | −1.0 | −1.0 |
| U.S. schools using sophisticated controls using model A | 4.3 | 4.7 | −1.0 | −1.0 |
| Behavioral measures without sophisticated controls | 11.7 | 11.7 | N/A | N/A |
| Behavioral measures with sophisticated controls | 11.3 | 11.3 | N/A | N/A |

*Notes*: Effect sizes include those for overall achievement and for standardized tests. All the charter schools were in the United States.
N/A = Not applicable.

In the case of behavioral outcomes, students attending Christian and other faith-based schools were more likely to show more positive behavior than were their counterparts in traditional public schools. For studies that did not utilize sophisticated controls, the effect size was 10.7 percent. For studies that did utilize sophisticated controls, the effect size was 10.3 percent.

The results comparing public charter schools with traditional public schools yielded no statistically significant differences. All the studies that were done on charter schools focused on schools in the United States. When the studies did not use sophisticated controls, the effect sizes were near zero; when the studies used sophisticated controls, the effect sizes were slightly negative but not to a statistically significant degree at 1 percent.

Table 3 lists results for the same analyses as in Table 2 except that Table 3 includes only studies that were rated 2–3 in quality. When these high-quality studies

were analyzed, the effect sizes for religious schools were a little higher than those in Table 2. For U.S. and foreign schools combined, when sophisticated controls were not used, the effect sizes for religious schools for models B and A were 9.3 percent for all measures of academic achievement combined and 9.7 percent for standardized tests specifically. For U.S. schools alone, the effect sizes were somewhat higher. For models B and A, the effect sizes were 10.0 percent for overall achievement and 10.3 percent for standardized tests specifically. For U.S. and foreign schools combined, studies that used sophisticated controls for model B yielded an effect size of 5.0 percent for all measures of academic achievement combined and 5.3 percent for standardized tests. For U.S. school studies that used sophisticated controls, for model B the effects were 5.3 percent for all measures of academic achievement combined and 5.8 percent for standardized tests.

In the case of behavioral outcomes, assessing only the studies rated 2–3 in the analysis did not change any of the effect sizes. For charter schools, including only the studies rated 2–3 in the analysis did not change any of the effect sizes in any noticeable way. This is largely because so many of the studies of charter schools were rated 2 and were similar to each other in quality.

**TABLE 3: Effect Sizes for Religious School Students and Public Charter School Students Compared to Students in Traditional Public Schools for the Studies Rated 2–3 in Quality (*N* = 65)**

| | Religious Schools | | Charter Schools | |
|---|---|---|---|---|
| | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** |
| U.S. and foreign schools without sophisticated controls using model B | 9.3 | 9.7 | 0.3 | 0.3 |
| U.S. and foreign schools without sophisticated controls using model A | 9.3 | 9.7 | 0.3 | 0.3 |
| U.S. schools without sophisticated controls using model B | 10.0 | 10.3 | 0.3 | 0.3 |

| | Religious Schools | | Charter Schools | |
|---|---|---|---|---|
| | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** | **Overall Academic Achievement (%)** | **Achievement on Standardized Tests (%)** |
| U.S. schools without sophisticated controls using model A | 10.0 | 10.3 | 0.3 | 0.3 |
| U.S. and foreign schools using sophisticated controls using model B | 5.0 | 5.3 | −1.0 | −1.0 |
| U.S. and foreign schools using sophisticated controls using model A | 4.4 | 4.7 | −1.0 | −1.0 |
| U.S. schools using sophisticated controls using model B | 5.3 | 5.8 | −1.0 | −1.0 |
| U.S. schools using sophisticated controls using model A | 4.7 | 5.1 | −1.0 | −1.0 |
| U.S. and foreign schools without sophisticated controls using model B excluding author's two studies | 9.3 | 9.7 | 0.3 | 0.3 |
| U.S. and foreign schools using sophisticated controls using model B excluding author's two studies | 4.7 | 5.0 | −1.0 | −1.0 |
| Behavioral measures | 11.7 | 11.3 | N/A | N/A |

*Notes*: Effect sizes include those for overall achievement and for standardized tests. All the charter schools were in the United States.
N/A = Not applicable.

*Meta-Analysis 3: Factors That Reduce the Achievement Gap*

The third meta-analysis focused on the factors that reduce the achievement gaps related to race and socioeconomic status. The results indicate that two of the most important contributions to reducing the achievement gap were the student's personal religious faith and family factors, including a home with two biological parents and high parental expectations. In fact, there was evidence that if children from racial minorities or low socioeconomic backgrounds were religious and came from homes that included two biological parents, the achievement gap disappeared. In fact, just students having religious faith alone, aside from other religious factors, reduced the achievement gap by about 61 percent (see Table 4). This was considerably larger than any of the other variables under study. Attending a religious school reduced the achievement gap by 16 percent, religious orientation reduced it by 38 percent, and other religious factors reduced it by 37 percent. The term *religious orientation* meant that respect for religious was shown by attending church or another house of worship, demonstrating respect for religious values, or some similar manifestation of admiration or tolerance for a life of faith. Naturally, there is some covariation among the religious factors. Family factors, which are often esteemed by people of faith, reduced the achievement gap by 34 percent. All of these percentages were considerably higher than the average reduction in the achievement gap by all of the variables examined in this study. The average reduction did not even reach statistical significance.

**TABLE 4: Percent Reduction in the Achievement Gap for Factors Differentiated in the Meta-Analysis**

| Variables Examined in the Reduction of the Achievement Gap | Overall Effect Size for Reduction in Racial Achievement Gap (%) | Effect Size for Reduction in Racial Achievement Gap Without Sophisticated Controls (%) | Effect Size for Reduction in Racial Achievement Gap with Sophisticated Controls (%) |
|---|---|---|---|
| Religious faith | −61 | −67 | −55 |
| Religious orientation | −38 | −42 | −34 |
| Religious factors | −37 | −41 | −33 |
| Religious schools | −16 | −24 | −10 |
| Government policy | +0.05 | +0.05 | N/A |
| Family factors | −34 | −0.33 | −0.35 |
| High expectations | −40 | −0.40 | N/A |
| Curriculum | −35 | −34 | N/A |
| Classroom structure | −40 | −40 | N/A |
| Cultural factors | −10 | −10 | N/A |

N/A = Not applicable.

*Meta-Analysis 4: The Effects of Family Structure and Parental Involvement on Children's Academic Achievement*

The fourth meta-analysis indicated that parental family structure and level of parental involvement have significant effects on how well children perform in school and how well they behave. These findings indicate that the farther parental family structure departs from the two-biological-parent ideal, the more the family structure is associated with negative academic outcomes for students. The data presented in Table 5 focus on the effects of parental divorce and parental remarriage following divorce. The effects for these family structures are about four tenths of a grade point. Table 5 also presents the effects of parental involvement. The impact of parental involvement varied a good deal, depending on whether the study examined the elementary or secondary school level. These differences translate into four tenths to eight tenths of a grade point. Along related lines, the more a mother and father are involved in their children's school, the more the children benefit.

**TABLE 5: Effect Sizes for Divorce, Remarriage Following Divorce, and Parental Involvement**

| | Effects of Parental Divorce (%) | Effects of Parental Remarriage Following Divorce (%) | Effects of Parental Involvement for Elementary School Students (%) | Effects of Parental Involvement for Secondary School Students (%) |
|---|---|---|---|---|
| Without sophisticated controls | −10.2 | −8.4 | +15.7 | +15.2 |
| With sophisticated controls | −6.2 | −9.7 | +12.3 | +11.5 |

As one would expect, family structures other than the intact family were negatively associated with scholastic outcomes, while parental involvement was related to improved results. When sophisticated controls were not employed in the analyses, parental divorce was associated with a 10.2 percent decline in academic outcomes; and when sophisticated controls were used, that decline was 6.2 percent. In the case of parental remarriage following divorce, a different trend emerged: The addition of sophisticated controls caused the extent of the decline to increase. Without sophisticated controls, the average difference in scores was −8.4 percent; with sophisticated controls, however, that percentage rose to −9.7

percent. The overall average was slightly higher for the parental remarriage following divorce than it was for parental divorce alone.

For the parental involvement measures, the effect sizes for elementary school students were 15.7 percent when no sophisticated controls were used and 12.3 percent when they were. In the case of secondary school students, the effect sizes were 15.2 percent when no sophisticated controls were used and 11.5 percent when they were.

## *DISCUSSION*

### *Meta-Analysis 1: The Effects of Bible Literacy on Students*

The findings that emerged from the first meta-analysis demonstrate that Bible literacy is related to positive behavioral and academic outcomes. The relationship between Bible literacy and academic outcomes was especially strong. It is striking that every study that examined Bible literacy indicated positive effects.

To the extent to which a cause-and-effect relationship exists between Bible literacy on the one hand and behavior and scholastic outcomes on the other, there may be a number of reasons why this relationship exists. First, a sufficient degree of Bible knowledge might help a student to comprehend numerous other works of literature that cite the Bible or allude to it. Moreover, significant knowledge of the Bible may help the student to understand many trends and events that have definitive historical roots. Furthermore, reading, studying, and applying the Bible could make a student more intellectually sophisticated, in much the same way that reading Shakespeare or the "great books" is thought to do (Hutchins and Adler, 1963).

One of the most salient aspects of the findings is that there was a stronger relationship between Bible knowledge and achievement than there was between Bible knowledge and behavior. Nevertheless, there was a definitive relationship between Bible knowledge and behavior. This relationship most likely developed as a result of a different set of factors than those that account for the association between Bible knowledge and achievement. Although many individuals read and study the Bible for its educational value, others peruse it for its moral instruction and wisdom. One can reasonably argue that students who study the Bible for its educational value are more likely to obtain academic benefits and those who study it for its moral and religious value are more likely to obtain behavioral benefits.

### *Meta-Analysis 2: Comparing Faith-Based Schools with Public Schools and Public Charter Schools*

The results of the second meta-analysis show rather mixed results for schools that are not traditional public schools. This meta-analysis indicates that students who

attend religious schools perform better than their counterparts who are in public schools. Religious school students achieve better in terms of both academic and behavioral outcomes at statistically significant levels. In contrast, youths attending charter schools on average did not do any better than their counterparts in traditional public schools.

These results clearly have significance in their own right, but the findings also have ramifications for the school choice debate. Over the last few decades, this debate has emerged as one of the most intriguing discussions in education (Chubb and Moe 1990; Jeynes 2000, 2012b). Two concurrent realities have caused the school choice debate to intensify. First, student achievement in public schools dropped for seventeen consecutive years from 1963 to 1980 (U.S. Department of Education 2011). Second, taxes to support U.S. public schools have soared from the 1950s until the present time, far outpacing rises in inflation (U.S. Department of Education 2011). This made private schools unaffordable to many citizens who otherwise would have utilized them (Glenn 2011; Peterson 2006; Wells 2002). As a result, the calls increased for some relief from the tax burden imposed on U.S. parents (Chubb and Moe 1990; Peterson 2006; Wells 2002). The results of this meta-analysis call into question the current trajectory of school choice that emphasizes only public school choice without due diligence in pursuing the inclusion of private religious schools (Jeynes 2012a).

*Meta-Analysis 3: Factors That Reduce the Achievement Gap*

The results of the third meta-analysis suggest that personal religious faith among Latinos and African-Americans might play a prominent role in bridging the achievement gap. Of all the variables included as potentially bridging the achievement gap, religious faith was the one that produced the largest effect size. The effect size is big enough that parents, educators, and community leaders should view it as a viable tool that can be used to help reduce the achievement gap. The fact that all the religious variables in the meta-analyses yielded statistically significant results is notable and may well indicate that faith can have an ameliorative impact whether it exists in the individual student, is evident in a character-based curriculum, or is manifested in the philosophical orientation of the school. Nevertheless, it should be noted that of all the religious variables, it is religious faith that appears to be the most important.

The meta-analytic findings also indicate that there are other factors that may work to reduce the achievement gap. These factors include family factors and changing the curriculum. The fact that other variables yielded positive effect sizes suggests that the combination of certain of these variables might lead to a substantial narrowing of the educational achievement gap that frequently exists between white students and students of color.

The fact that religious faith, especially in conjunction with family structure, may be associated with such a significant reduction in the achievement gap has three major implications for educational policy. First, it is important for educators, parents, and community leaders to be aware of the strength that religious faith can provide. Second, the fact that these two factors go beyond the educational sphere, as do some of the other factors that have the greatest effect on the gap, should encourage Americans to broaden their approach to the achievement gap and include consideration of these factors both within and beyond schools (Byfield 2008; Jeynes 2006a).

These findings should encourage members of the scholarly community to examine the achievement gap in a broader fashion, looking beyond the purview of their own disciplines to consider other ways in which the gap might be reduced. There are several reasons why religious commitment could have a positive impact on academic outcomes that could ultimately narrow the achievement gap. The first of these reasons, and historically probably the most acknowledged, deals with a religious work ethic. This is often referred to as the Protestant work ethic. However, recent research indicates that it may extend beyond the Protestant sphere to other religious groups. For example, Mentzer (1988) has found that Catholics in the United States possess a strong work ethic. Research in the social sciences has consistently indicated the existence of a religious work ethic (Gerhards 1996; Giorgi and Marsh 1990; Mudrack 1992).

A second reason why religious commitment could positively affect academic outcomes stems from the finding of some studies that religious individuals are more likely to have an internal locus of control (Jackson and Coursey 1988). Educational researchers have found a rather consistent relationship between having an internal locus of control and performing well in school (Johnson 1992).

A third reason to believe that there might be a correlation between religious commitment and academic outcomes emerges from the propensity of people of faith to eschew behaviors that are typically regarded as undisciplined and harmful to educational achievement. A number of studies have indicated that religiously committed teens are less likely to become involved in drug and alcohol abuse (Bahr, Hawks, and Wang 1993; Nylander, Tung, and Xu 1996). Other studies have shown that religiously committed teens are less likely to engage in sexual behavior or to become pregnant while they are still teenagers (Beck, Cole, and Hammond 1991; Holman and Harding 1996).

### *Meta-Analysis 4: The Effects of Family Structure and Parental Involvement on Children's Academic Achievement*

The results of the fourth meta-analysis indicate that family structure and parental involvement are strongly related to student school outcomes. In light of these

findings, depending solely on factors outside the family to bridge the gaps is likely to be a rather ineffectual approach. Family factors are so closely associated with the alleviating of the education outcome gap because few social forces influence a person's life more than family dynamics (Cowan et al. 2009; Pong, Dronkers, and Hampden-Thompson, 2003). In fact, both family structure and parental involvement are among the influences related to academic achievement that yield the most consistent statistically significant effect sizes (Jeynes 2005; Sy 2006). Family structure is so consistently related to educational outcomes that each successive family structure change (e.g., from intact to divorced and from divorced to remarried), on average, appears to exert downward pressure on educational outcomes (Jeynes, 2006b; Wallerstein and Lewis, 1998). Parental involvement has a similarly reliable association with school outcomes (Sy 2006).

The results of the meta-analysis examining family structure and parental involvement provide a reminder that it is unwise for teachers, governments, and the public to underestimate the prominent role that parents play in helping children reach their fullest potential. One might even go a step further and declare that it is in a society's best interests to promote policies that strengthen rather than weaken the family.

## *CONCLUSION*

The findings of these four meta-analyses suggest that religious faith and family values can produce major benefits to society as the result of improved academic performance. The primary limitation of these meta-analyses or any meta-analyses is that they are restricted to analyzing the existing body of literature. Therefore even if the researcher who conducts the quantitative integrations sees ways in which the included studies could have been improved, there is no way to implement those changes. A second limitation of a meta-analysis is that the social scientist is limited to addressing the same research questions that were addressed in the aggregated studies. For example, it would be advisable to have parental expectations measures from all the studies included, but one can aggregate only the existing results Future work in this area could address how the factors examined in these meta-analyses can potentially work in conjunction with one another to maximize positive academic and behavioral outcomes. Longitudinal studies might be especially helpful for understanding the role these variables play in helping youth and might prove to be useful supplements to the results of this meta-analysis.

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