

# *A Systematic Review of the Religiosity and Delinquency Literature*

A Research Note

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The influence of religion on delinquency has been debated for more than 30 years, and yet, there remains a lack of consensus about the nature of this relationship. In an effort to bring some clarity to this area, this study assesses the religion-delinquency literature by using a methodological approach to reviewing a body of literature that is new to the social sciences—the systematic review (SR). This SR revealed that the literature is not disparate or contradictory, as previous studies have suggested. Religious measures are generally inversely related to deviance, and this is especially true among the most rigorous studies. As criminologists continue to examine the neglected topic of religion or what has been referred to as the forgotten factor, this article is a warning that measurement issues around a complex topic like religion, or even spirituality or forgiveness, is of paramount concern. The findings further indicate that future research on delinquency may gain explanatory power by incorporating religious variables in relevant theoretical models.

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**T**hroughout the history of delinquency research, researchers have dedicated minimal, yet consistent, attention to the relationship between religiosity and delinquency. Therefore, this relationship has been an area lacking explanatory consensus (Evans et al., 1995; Johnson, Marcos, & Bahr, 1987; Tittle & Welch, 1983). Dating back to Hirschi and Starks's (1969)

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“Hellfire and Delinquency,” there has been an interest in knowing if religion has beneficial, harmful, or essentially no association with delinquency. Hirschi and Stark discovered essentially no association between levels of religious commitment among youths and measures of delinquency. Subsequent replications both supported (Burkett & White, 1974) and refuted Hirschi and Stark’s original finding (Albrecht, Chadwick, & Alcorn, 1977; Higgins & Albrecht, 1977; Jensen & Erickson, 1979).

Stark et al. (1982) later suggested that these contradictory findings were the result of the moral makeup of the community being studied. Stark et al. suggested that areas with high church membership and attendance rates represented “moral communities,” whereas areas with low church membership typified “secularized communities.” Consequently, studies of delinquency in moral communities, such as Mormon wards in Utah and Idaho, yielded an inverse relationship between religious commitment measures and delinquency (Albrecht et al., 1977). Conversely, areas with low church membership rates like Richmond, California, failed to generate the inverse relationship (Hirschi & Stark, 1969). In other words, one would expect to find an inverse relationship between religiosity and delinquency in moral communities and find little or no effect of religiosity on individuals in secularized communities. Additional research supports a strong negative relationship (Benda, 1995; Brownfield & Sorenson, 1991; Johnson, Larson, Jang, & Li, in press; Tittle & Welch, 1983), whereas other results suggest only a weak or insignificant effect on delinquency (Bahr, Hawks, & Wang, 1993; Cochran, Wood, & Arneklev, 1994).

Another issue that is equally important but often overlooked in the research on religion and delinquency is the appropriate measurement of religion, spirituality, religious commitment, or other related topics such as forgiveness. Religion, often conceptualized as religiosity or religious commitment, can be a very elusive concept and could be operationalized in several different ways. To provide an accurate and unbiased summary of the research on religion and delinquency, we need a review method that is systematic yet flexible enough to encompass a wide range of studies based on diverse methodologies and using different measures of religion.

The purpose of this study is to systematically review and assess the state of recent and current research concerning the relationship between religiosity and juvenile delinquency. Recognizing the diversity in both research meth-

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odologies and the empirical findings found in this research, we begin with a discussion of how the literature in potentially controversial areas, such as religion, should be more systematically reviewed. To that end, we will focus on and highlight the methodology of review rather than the methodology of research studies to be reviewed. We will then assess the research on religion and delinquency in that light and interpret our findings. Our review objective is to find out how researchers treat measures of religiosity in published studies of delinquency and whether the research methodology employed affects the research findings. We will then provide suggestions regarding the direction of future delinquency research concerning the assessment and measurement of religion and religiosity.

### REVIEWING RESEARCH LITERATURE

Although there are several approaches to reviewing research literature, traditional reviews tend to rely on the reviewer's expertise to gather key sources in a given field, assess their strengths and weaknesses, integrate the research findings, and then make specific recommendations about what future research is needed, and possibly, what is not needed (Light & Pillemer, 1984; Mulrow, 1987). These reviews could be described as more art than science in that the review process is, for the most part, determined by each reviewer's skill and expertise.

Traditionally, the reviewer must exercise his or her individual judgment to make, in essence, subjective decisions about which studies will be included, which portions of those articles are of most significance, and how the findings will be interpreted. This strategy offers flexibility and allows for the individual expression of expert opinion within a given field. Although these are important advantages, a disadvantage to this approach is the potential for introducing personal biases, both in study selection as well as in each study's review. Furthermore, because the review process is relatively unstructured, even if biases are suspected, it may be difficult if not impossible to replicate the review and thus assess it objectively for potential biases. Alternatively, even if the review is an accurate reflection of a field of research, it will be vulnerable to criticism by others who may have different perspectives. The disadvantages of the more traditional, unsystematic review become particularly relevant when the topic of interest is potentially controversial. The study of religion and, in this case, its relationship with delinquency is such an area, and thus, more traditional reviews are vulnerable to criticisms of subjectivity in both the selection and the interpretation of the many studies to be reviewed.

## SYSTEMATIC REVIEWS OF RESEARCH

An innovative review strategy, called a systematic review (SR), uses a method that permits a quantitative or replicable review of a specific research literature. In this way, the SR minimizes the opportunity for bias. The SR could be considered a cousin of meta-analysis in that both owe their conceptualization to work by Light and Pillemer (1984). Larson, Pattison, Blazer, Omran, and Kaplan (1986) further developed some of Light and Pillemer's general concepts by narrowing the focus and making the SR technique sufficiently simple to undertake without extensive statistical or methodological expertise. SRs essentially take an epidemiological look at the methodology and results sections of a specific population of studies to reach a research-based consensus on a given study topic.

In the SR, key aspects of the review design are quantified, including inclusion and exclusion criteria regarding the published studies, or the subjects to be sampled, and the method for analyzing the methods of each study sampled and determining and specifying interrater reliability. The results are then summed across all reviewed studies. Results can be simply presented and understood as numeric items. Thus, the review and its results, like any good research protocol, are replicable. In areas of controversy, the replication of a literature review should be an available option.

The SR surveys a specified sample of representative research, usually over a specified period and using the field's leading journals (Bareta, Larson, Zorc, & Lyons, 1990; Beardsley et al., 1989; Larson et al., 1989; Lyons et al., 1990) because these are the most frequently cited journals and often define or at least provide the lead for clarifying the state of research in a certain field. In addition, an SR can sample various types of studies with diverse samples and different research methodologies as long as they all have the factor of interest (e.g., religion) in common.

In this study, our goal is to follow up on previous SRs, such as Larson et al.'s pioneering work (1986, 1989, 1992), to gain insights on religion by using this strategy to review and critique the state of research on religiosity and juvenile delinquency.

## METHODOLOGY

### *Article Selection*

To undertake a SR, one must first select the target or study population. The population of interest for the SR is a specified group of study publications rather than a population of individuals. Our population consists of journal

articles that examined the effect of religion on juvenile delinquency published from January 1985 to December 1997.

By using the Online Computer Library Center (OCLC), an online database service, we searched articles with the key terms *religion*, *spirituality*, *church*, *delinquency*, and *deviant behavior*. After identifying articles using the database, we checked the references of each article to determine if additional articles could be identified. Previous SRs, such as those conducted by Larson et al. (1986, 1989, 1992), usually selected articles from the leading journals in a field. In this study, however, we decided to review all relevant peer-reviewed journals because the leading journals in criminology published very few studies on religion and delinquency. Excluded from consideration in this review were dissertations, theses, unpublished articles, and technical reports. Although some reviews include a wide range of research, we believe that published studies are the most critical in influencing a field and best reflect how research in that particular field handles a certain variable.

To be selected for our SR, an article must have met the following criteria:

1. Analyzed the relationship between religiosity and juvenile delinquency
2. Contained at least one quantified variable of any kind, where a quantified variable was defined as one about which data were collected for a group of subjects, thus, individual case studies were excluded
3. The sample consisted of only juvenile and/or young adults (most typically under the age of 18, although some studies looked at young adults up to age 20)
4. Published in a peer-reviewed journal in the United States between January 1985 and December 1997
5. Used a sample collected from the United States; studies using international and cross-national samples were excluded

We located 362 articles from the fields of criminology, sociology, and psychology.<sup>1</sup> Each of the 362 studies were read independently by two different reviewers to determine how many of the studies contained any measures of religion or religious variables. Forty articles out of the pool of 362 studies examined the relationship between religiosity and juvenile delinquency. The focus of this SR was to examine these 40 studies rather than the remaining studies that did not include religious variables (see Appendix A for a listing of these studies). Our sample of 40 articles provides us with the opportunity to assess how religion was treated across the criminological and sociological literatures in the recent 13-year period.

### *Characteristics of the Study Sample*

The average sample size of the 40 studies reviewed is 2,324, with a maximum sample size of 34,129 and a minimum sample size of 123. Only 5 stud-

ies used samples smaller than 300, and 10 studies had samples smaller than 500. None of the studies used a small group sample—a sample smaller than 50.

The samples studied in these published articles varied in scope. Eighteen studies used samples collected from a population within the boundaries of a state. Sixteen studies were based on regional samples drawn from the populations of two or more states. Only six studies used national representative samples.

There were notable differences in sampling methods and sample response rates. The majority of the studies (25 of 40) failed to adopt a random sampling procedure. Fourteen studies did not report sample response rates. Of those that specified sample response rates, 14 studies had response rates higher than 70%, 9 studies had response rates between 50% and 70%, and only 3 studies had response rates less than 50%.

## MEASURES

### *Quality of Research*

Specific criteria were used to measure the quality of research methodology in the sample of articles to be systematically reviewed. These criteria were derived primarily from Cook and Campbell's (1979) text on quasi-experimental research. Eleven of Cook and Campbell's items or criteria are used to rate the methodology of the articles in this SR. These eleven items were chosen because they represent criteria from which researchers are able to draw an acceptable causal inference and to achieve an optimal reduction of measurement errors; these items are higher than criteria that are prone to cause inferential ambiguities and construct irrelevancies in the research process (Cook & Campbell). For coding purposes, the 11 criteria are dichotomized, thus facilitating the construction of an index that quantifies the quality of research methodology. If a study includes or uses one of these 11 methodological procedures (or criteria), it is coded as 1, whereas the absence of a procedure resulted in the coding of 0.

Cook and Campbell's (1979) 11 items used to create an index of quality of research include the following:

1. No ambiguity about causal inference (i.e., clear conceptualization about the causal order and strategies for drawing causal inference from the empirical evidence)
2. Use of prospective data (i.e., use of longitudinal data to test hypothesis)
3. Specification of response rate (i.e., survey response rates are clearly specified)
4. Specification of missing data (i.e., missing data are clearly specified)

5. Specification of race of subjects (i.e., racial distribution of the subjects are specified)
6. Specification of gender of subjects (i.e., gender distribution of the subjects are specified)
7. Specification of reliability of measures (i.e., the reliability of measurement is tested and specified)
8. No mono-operation bias (i.e., use of multiple measures to represent a particular possible cause or effect construct)
9. No mono-method bias (i.e., use of diverse methods to collect data for operational representation of a construct)
10. Use of multivariate statistics (i.e., multivariate statistics are used to make causal inference)
11. Interpretation of statistical findings (i.e., empirical findings are interpreted and discussed, thereby leading to conclusive arguments).

A brief description of each of these criteria and of our coding scheme can be found in Appendix B.

### *Religious Measures*

In parallel with a previous review (Larson et al., 1986), the focus of this review is on the measurement of religious variables and their evaluated relationship with delinquency. Studies were reviewed to determine whether they contained at least one quantified variable of delinquency. Delinquency refers to any criminal or status offense committed by a juvenile (and, in several instances, by young adults). Studies were also reviewed to determine whether they reported at least one quantified religious variable. This approach permits a comparison of the occurrence of religious variables with delinquency variables.

### ROLE OF RELIGIOUS MEASURES

The articles in the sample were reviewed to determine the role assigned to the religious variable or variables. As an independent variable, religion can be treated in one of three ways: (a) a central explanatory variable, (b) a peripheral explanatory variable, or (c) a covariate used for statistical control. We reviewed every article in our sample to determine how religious measures were treated by researchers over the past 13 years.

### EFFECT OF RELIGIOUS MEASURES

Each of the articles was examined with a view toward identifying the relationship, if any, of the religiosity measure on the dependent variable of delin-



quency. Specifically, we were interested in identifying (a) if the relationship between religiosity and delinquency was not specified, (b) if there was no relationship between religiosity and delinquency, (c) if there was an inverse or salutary relationship between religiosity and delinquency, (d) if there was a positive or deleterious relationship between religiosity and delinquency, or (e) if there was a mixed or reciprocal relationship between religiosity and delinquency.

## DIMENSIONS OF RELIGIOUS MEASURES

Six categories of religious measures were examined in this SR:

- **Attendance:** This is a straightforward measure; church or synagogue attendance is one of the most commonly used single-item measure for religious commitment.
- **Salience:** Researchers sometimes incorporate measures of religious salience into studies, whereby survey respondents indicate, for example, the importance of God in their own life. Such measures of religiosity can operate independently of other religiosity measures that focus on religious participation and church attendance.
- **Denomination:** This particular variable refers to the denominational affiliation of the study subjects (e.g., Catholic, Baptist, Jewish, etc.).
- **Prayer:** This variable typically refers to the degree to which one indicates that prayer is an active and/or meaningful part of one's spiritual life.
- **Bible study:** This measure refers to the tendency to participate in the independent study of sacred texts.
- **Religious activities:** This generally refers to the recognition that an individual participates in various religious activities both inside and outside of typical church settings.

## NUMBER OF FACTORS USED TO MEASURE RELIGIOUS COMMITMENT

Often times, religious commitment or religiosity has been measured with a single-item, such as church attendance or level of participation in various religious activities. In fact, much of the previous research in the religiosity and delinquency area has used church attendance as the sole measure of religious commitment (see Evans et al., 1995; Johnson et al., 1987; Tittle & Welch, 1983). A continuing debate among researchers deals specifically with the question of whether religiosity is best measured as a unidimensional or multidimensional concept. Although we recognize that single-item measures like church attendance remain important within the literature, it is important



to acknowledge that treating religion as a multidimensional concept should be a more methodologically desirable goal (Gorsuch & McFarland, 1972). Therefore, this SR examined the 40 published studies to determine how many factors were used to measure religious commitment. For example, we were interested in determining if church attendance only was used (one factor), if salience and prayer were both used (two factors), or if several indicators were used to develop a multidimensional measure of religiosity (i.e., three factors, or four or more factors).

### *Religious Dimensions and the Effects of Religiosity on Delinquency*

One of the goals of this study is to examine the differences in methodologies between published studies in the area of religion and delinquency and to assess if these differences affect researcher conclusions in regards to the relationship between religiosity and delinquency. The issue of effect size is an important feature when examining any body of literature, although the 40 studies reviewed in our sample do not all contain data necessary to compute a statistical effect size that can be generalized across these studies. As an alternative, we will compute cross-tabulations to determine if research methodology affects research outcomes. Although this approach limits our ability to assess levels of significance and the impact of sample size due to insufficient data, it does allow us to gain important insights into how research on religiosity and delinquency may potentially be affected by research methodology.

### RELIABILITY OF MEASUREMENT AND THE EFFECTS OF RELIGION

We sought to determine whether studies that assessed the reliability of religious measurement would generate results systematically different from those produced by studies that did not administer reliability tests.

### OBSERVER TRAINING AND RELIABILITY

Data collection was performed by two trained raters, who reviewed all 40 articles independently. Rater reliability was calculated as the percentage of agreement between the two raters for decisions made independently about dimensions of religious measures, the effect of religiosity, and the quality of research methodology. Interrater reliability averaged 0.83 for all measures assessed. Interrater reliabilities for the separate variables were as follows: the

**TABLE 1**  
*Quality of Research*

	<i>Yes</i>		<i>No</i>	
	<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>
No ambiguity about causal inference	34	85.00	6	15.00
Use prospective longitudinal data	5	12.50	35	87.50
Specification of response rate	26	65.00	14	35.00
Specification of missing data	23	57.50	17	42.50
Specification of race	16	40.00	24	60.00
Specification of gender	29	72.50	11	27.50
Specification of reliability of measures	20	50.00	20	50.00
No mono-operation bias	30	75.00	10	25.00
No monomethod bias	2	5.00	38	95.00
Use multivariate statistics	37	92.50	3	7.50
Interpret statistical finding	40	100.00	0	0.00

quality of research methodology = 0.75, dimensions of religious measures = 0.83, and the effect of religiosity = 0.91.

## RESULTS

### *Quality of Research*

As mentioned earlier, the quality of research is assessed using the 11 items specified by Cook and Campbell (1979). Data distributions on the 11 items are summarized in Table 1. Although most of the frequencies in Table 1 are in the moderate range, there were extreme high and low scores, indicating that this group of articles performed well against some criteria but underperformed in some other areas. On the positive side, most of the studies had no ambiguity about the causal order that they were intended to test. Most studies used multivariate statistics to test the causal relationship. Furthermore, all of these studies interpreted the statistical results that led to the conclusions in the articles. These studies showed weakness in several areas. First, only 5 studies used prospective, longitudinal data, whereas the remaining 35 studies were all based on cross-sectional data. Second, very few studies (2 out of 40) controlled for monomethod bias. Third, half of the studies did not test the reliability of the measurements.

A composite measure of the quality of research methodology is computed by taking the average of these individual items. The scale of this composite

**TABLE 2**  
*Role of Religious Measure(s)*

	<i>Frequency</i>	<i>Percentage</i>
Covariate	4	10.0
Peripheral	9	22.5
Central	27	67.5
Total	40	100.0

**TABLE 3**  
*Effect of Religious Variables on Delinquency*

	<i>Frequency</i>	<i>Percentage</i>
Not specified	1	2.5
No effect	5	12.5
Negative effect	30	75.0
Positive effect	1	2.5
Mixed effect	3	7.5
Total	40	100.0

measure ranges from 0 to 1. The 40 articles as a whole had an average score of .59 on the quality index.

### *Religious Measures*

#### THE ROLE OF RELIGIOUS MEASURES

As Table 2 shows, most of these studies treated religious variables as the central focus of the study. Of 40 studies, only 9 studies treated religion as a peripheral variable, and 4 studies treated it as a control variable. The remaining 27 articles (67%) treated religion as the central explanatory variable.

#### THE EFFECT OF RELIGIOUS MEASURES

The majority of the studies conclude that religion had an inverse or beneficial effect on delinquency. As can be seen in Table 3, only 1 of the 40 studies suggested that religiosity had a positive or deleterious impact on delinquency. This lone study, however, used religion as a control variable, whereas 80.6% of the studies treated religion as either a peripheral or central variable and found that religion had a negative effect on delinquency. The remaining

**TABLE 4**  
*Dimensions of Religiosity*

	<i>Yes</i>		<i>No</i>	
	<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>
Attendance	26	65.00	14	35.00
Salience	34	85.00	6	15.00
Denomination	9	22.50	31	77.50
Prayer	14	35.00	17	65.00
Bible study	9	22.50	31	77.50
Religious activities	11	27.50	29	72.50

studies found that the effect of religion was either not significant or inconclusive, depending on its interaction with other variables.

#### DIMENSIONS OF RELIGIOUS MEASURES

Table 4 shows the number of dimensions of religiosity measured by these studies. As shown in this table, salience and attendance were the two most frequently used variables to measure religion (85% and 65%, respectively). Prayer was used to measure religious commitment in 35% of the studies. Participation in religious activities was used in 27.5% of the studies to measure religiosity, whereas denomination and Bible study were used in only 22.5% of the 40 articles.

For the sample as a whole, only three studies took account of all six dimensions. Five studies included five variables, and only one study examined four different dimensions. The majority of the studies (24 or 60%) measured only one or two dimensions, usually religious participation and/or religious salience. Twenty-one studies included measures of both religious participation and religious salience.

#### NUMBER OF FACTORS USED TO MEASURE RELIGIOUS COMMITMENT

Although it has been suggested that it is preferable to use multiple factors to measure religion (Gorsuch & McFarland, 1972), most of these studies failed to do so. Table 5 shows that less than half of the studies (19 of 40) used more than two factors to measure religion. Slightly more than half of the articles (21 of 40) reviewed in this study measure religiosity with one or two factors.

**TABLE 5**  
*Number of Factors Used to Measure Religiosity*

<i>Number of Factors</i>	<i>Frequency</i>	<i>Percentage</i>
1	8	20.0
2	13	32.5
3	4	10.0
4+	15	37.5
Total	40	100.0

### RELIGIOUS DIMENSIONS AND THE EFFECTS OF RELIGIOSITY ON DELINQUENCY

Using a cross-tabulation analysis, we examined the interaction between the dimensions of religion and the effects of religious variables on delinquency. As can be seen in Table 6, studies that measured four or more dimensions of religion all found that religion had a negative or beneficial effect on delinquency. The effect was mixed or inconclusive only when three or fewer measures of religious dimensions were included. Among those 31 studies that measured three or fewer dimensions, 21 (67.74%) found that religion negatively affects (i.e., lowers) delinquency, 5 (16.13%) found that religiosity had no association with delinquency, 3 (9.67%) found interactive, mixed effects, and only 1 (3.13%) found religion to positively affect (i.e., increase) delinquency.

### RELIABILITY OF MEASUREMENT AND THE EFFECTS OF RELIGION

We sought to determine whether studies that assessed the reliability of religious measurement would generate results systematically different from those produced by the studies that did not administer reliability tests. Table 7 is a contingency table showing the relationship between these two variables.

The 13 studies that assessed the reliability of their religious measures all found that religion had a negative effect on juvenile delinquency. In contrast, the 27 studies that did not administer reliability tests yielded somewhat mixed results. Among those studies, 17 (62.96%) found that religion had a negative effect on delinquency, 5 (18.52%) found no effect, 3 (11.11%) found mixed effect, and 1 article (3.70%) found a positive effect. The result reveals that studies based on demonstrated reliable measures of religious commitment are more likely to find a negative or beneficial relationship between

**TABLE 6**  
*Religious Dimensions × Effect of Religiosity on Delinquency*

<i>Religious Dimension</i>	<i>Effect of Religious Variables on Delinquency</i>					<i>Total</i>
	<i>Not Specified</i>	<i>No Effect</i>	<i>Negative Effect</i>	<i>Positive Effect</i>	<i>Mixed Effect</i>	
1	1	2	9	1	1	13
2	0	1	8	1	1	11
3	0	2	4	0	1	7
4	0	0	1	0	0	1
5	0	0	5	0	0	5
6	0	0	3	0	0	3
<b>Total</b>	<b>1</b>	<b>5</b>	<b>30</b>	<b>1</b>	<b>3</b>	<b>40</b>

**TABLE 7**  
*Religious Measures × Effect of Religiosity on Delinquency*

<i>Religious Dimension</i>	<i>Effect of Religious Variables on Delinquency</i>					<i>Total</i>
	<i>Not Specified</i>	<i>No Effect</i>	<i>Negative Effect</i>	<i>Positive Effect</i>	<i>Mixed Effect</i>	
No	1	5	17	1	3	27
Yes	0	0	13	0	0	13
<b>Total</b>	<b>1</b>	<b>5</b>	<b>30</b>	<b>1</b>	<b>3</b>	<b>40</b>

religiosity and juvenile delinquency than those studies that failed to access the reliability of their measurement.

## CONCLUSION

The impact of religion on delinquency has been debated for more than 30 years, dating back to the "Hellfire and Delinquency" study by Hirschi and Stark (1969). This review of the treatment of religion in peer-reviewed journals in the sociological and criminological literature should inform the future academic study of the role of religion in social science disciplines. From the above review, it is apparent that the role of religiosity in explaining and understanding juvenile delinquency has been an overlooked factor in many studies. Although religion is one of the major social institutions, most studies in our target population of articles did not include a measure of religious commitment or religiosity. In general, researchers do not include religious measures in their study unless they have a keen interest in the research on religion.

Of all the articles we reviewed, only four of them included religiosity as a control variable. By excluding religious measures from their studies, researchers may have misspecified theoretical models, especially if religiosity serves as a common cofounder to a target relationship.

Although there exist some good studies, research on religiosity and delinquency has often been plagued with many methodological problems. Many studies in our sample did not use random sampling, did not use multiple indicators to control measurement errors, and did not test the reliability of their measures. Almost all of the studies had monomethod bias. In addition, very few studies were based on longitudinal data. This review reminds us that research methodology can have an important effect on research findings.

Studies that adopted multiple indicators to measure religion consistently found that religiosity was inversely related to delinquency. Likewise, studies that selected religious measures by means of reliability tests also found that religion consistently had a negative effect on delinquency. In contrast, of the studies that generated mixed findings regarding the impact of religiosity on delinquency, not one used multiple indicators or administered reliability tests. The results of this review suggest that the inconsistent findings regarding the role of religion in explaining delinquency are due at least in part to the different research strategies employed in sociological and criminological research. With improvements in measurement and analytic methods, we should expect more consistent empirical results.

Most of the studies that we reviewed showed that religion had a negative impact on delinquency. This was especially true with the studies that demonstrated a higher quality of research methodology. The results of our review suggest that future research on delinquency and crime may gain explanatory power by incorporating the effects of religious variables in theoretical models. Survey research has long indicated that a majority of American youth is exposed to religion early in their lives. A commitment to religious values and beliefs can have both an immediate and a long-term impact on their behavior. In this regard, religion could be treated as both a proximate cause of delinquency and a time-stable individual trait that influences an individual's inclination toward antisocial behavior. Religion is a large part of many people's lives, but it is not a large part of criminological research. Unless this disparity is reconciled, researchers will unnecessarily limit their ability to understand this complex phenomenon in delinquency and crime.



## APPENDIX A

## Articles Comprising the Systematic Review

- Bahr, S. J., Hawks, R. D., & Wang, G. (1993). Family and religious influences on adolescent substance abuse. *Youth and Society, 24*, 443-465.
- Barnes, G. M., Farrell, M. P., & Banerjee, S. (1994). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. [Special issue: Preventing alcohol abuse among adolescents: Preintervention and intervention research]. *Journal of Research on Adolescence, 4*, 183-201.
- Benda, B. B. (1994). Testing competing theoretical concepts: Adolescent alcohol consumption. *Deviant Behavior, 15*, 375-396.
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- Benda, B. B. (1997). An examination of a reciprocal relationship between religiosity and different forms of delinquency with a theoretical model. *Journal of Research in Crime and Delinquency, 34*, 163-186.
- Benda, B. B., & Whiteside, L. (1995). Testing an integrated model of delinquency using LISREL. *Journal of Social Service Research, 21*, 1-32.
- Bliss, S. K., & Crown, C. L. (1994). Concern for appropriateness, religiosity, and gender as predictors of alcohol and marijuana use. *Social Behavior & Personality, 22*, 227-237.
- Brownfield, D., & Sorenson, A. M. (1991). Religion and drug use among adolescents: A social support conceptualization and interpretation. *Deviant Behavior, 12*, 259-276.
- Carlucci, K., Genova, J., & Rubackin, F. (1993). Effects of sex, religion, and amount of alcohol consumption on self-reported drinking-related problem behaviors. *Psychological Reports, 72*, 983-987.
- Chadwick, B. A., & Top, B. L. (1993). Religiosity and delinquency among LDS adolescents. *Journal for the Scientific Study of Religion, 32*, 51-67.
- Cochran, J. K. (1988). The effect of religiosity on secular and ascetic deviance. *Sociological Focus, 21*, 293-306.
- Cochran, J. K. (1989). Another look at delinquency and religiosity. *Sociological Spectrum, 9*, 147-162.
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## APPENDIX B

### Index of Quality of Research Methodology

<i>Item Coding</i>	<i>Description</i>	<i>Description</i>
No ambiguity about causal inference	Clear conceptualization about the causal order and strategies for drawing causal inference from the empirical evidence	0 (ambiguity exists) and 1 (no ambiguity)
Use of prospective data	Use prospective, longitudinal data to test hypothesis	0 (no prospective data) and 1 (prospective data)
Specification of response rate	Survey response rates are clearly specified	0 (not specified) and 1 (specified)
Specification of missing data	Missing data are clearly specified	0 (not specified) and 1 (specified)
Specification of race of subjects	Racial distribution of the subjects are specified	0 (not specified) and 1 (specified)
Specification of gender of subjects	Gender distribution of the subjects are specified	0 (not specified) and 1 (specified)
Specification of reliability of measures	The reliability of measurement is tested and specified	0 (not specified) and 1 (specified)
No mono-operation bias	Use multiple measures to represent a particular possible cause or effect construct	0 (mono-operation bias) and 1 (no mono-operation bias)
No monomethod bias	Use diverse methods to collect data for operational representation of a construct	0 (monomethod bias) and 1 (no monomethod bias)
Use multivariate statistics	Multivariate statistics are used to make causal inference	0 (no multivariate statistics) and 1 (multivariate statistics used)
Interpret statistical findings	Interpret and discuss empirical findings that lead to conclusive arguments	0 (no interpretation) and 1 (interpretation)

## NOTE

1. Space limitations prevent the inclusion of reference information for all 362 studies, although complete citations are available on request from the first author.

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