

Religion and Behavior

Are you healthier, happier,
and more moral if you are religious?

A N D R E W B E R N A R D I N

ONE DAY IN 2005, WHILE I WAS READING *Why the Crime Rates Fell*,¹ my wife flipped open an article in *Better Homes and Gardens* and said "You might be interested in this." The July issue featured the article, "Eight Signs the Kids are Fine." The sixth sign read, "Your Teenager Goes to Religious Services." The point of the article was made in large type: "researchers...found that religion positively influences how young people handle their problems."²

This concatenation of clashing literature led me to the website scienceblog.com, where I found a report titled "More Religion Means Fewer Drugs in Adolescence." According to the article, "When adolescents perceive religion as important in their lives, it may lower rates of cigarette smoking, heavy drinking and marijuana use."

Continued research led me to a March 30, 2003 press release provided by the American Psychological Association (APA), and a study entitled "Adolescents' Perceived Importance of Religion Found to Lessen Their Drug Use." The abstract read: "Those adolescents who viewed religion as a meaningful part of their life and a way to cope with problems were half as likely to use drugs than adolescents who didn't view religion as important."³

In a 2003 issue of the journal *Psychology of Addictive Behaviors*, Thomas A. Wills, Alison M. Yaeger, and James M. Sandy published a study on religiosity and adolescent substance abuse.⁴ In the discussion section of their paper they state, "Thus, this research demonstrates that buffering effects of religiosity for adolescent substance use are a real phenomenon and are of a magnitude that may have preventive significance."⁵ The researchers administered a self-report questionnaire to 1,182 adolescent-age students in classrooms. Twelve to sixteen year-olds were tested in both a cross-sectional

and longitudinal manner, with data taken over four years. The questionnaire consisted of four sections: (a) general demographic data, (b) religiosity, (c) negative life events, and (d) alcohol and other substance use. Interestingly, in the procedure section the authors admitted the following methodological bias: "Students also were informed about the purpose and nature of the research at the time of the question administration,"⁶ adding that, "methodological research has shown that when participants are assured of confidentiality, self-reports of substance use have good validity."⁷

This statement raises an important question for consideration: how reliable are self-reports of drug use when individuals first respond to questions about their religiosity (generally considered a good thing) and then about their drug use (generally considered a bad thing)? It strikes me that the potential for subjects to experience a response-influencing cognitive bias was substantial.

A smaller concern is that the authors claim their sample was "socioeconomically representative of the New York State population."⁸ Because the breakdown was 37% Caucasian, 29% African American, and 23% Hispanic (with a small fraction of Asians and "others"), my interest was piqued. Was that breakdown really representative?

According to the year 2000 data of the U.S. Census Bureau, the proportion of those groups in New York State was 55% Caucasian, 18.7% African American, and 18.8% Hispanic.⁹ The study's numbers are not socioeconomically representative for New York. Neither was it representative of national figures, which are: 75.1% Caucasian, 12.3% African American, and 12.2% Hispanic.¹⁰ Put bluntly, their pool of subjects consisted of many less Caucasians and many more African Americans and Hispanics than expected from a representative sample. Significantly, the groups over-represented—African Americans and Hispanics—scored highest on religiosity and lowest on drug use.¹¹ I cannot see how this would not influence the outcome values.

How was religiosity measured? Students were asked to rate the importance of the following:

- To believe in God
- To be able to rely on religious teachings when you have a problem
- To be able to turn to prayer when you're facing a personal problem
- To rely on your religious beliefs as a guide for day-to-day living

For the reply, "not at all important," respon-

dents were given 1 point, "a little important," 2 points, "pretty important," 3 points, and for "very important," 4 points.¹² On a scale of possible values from 4 to 16, the median response was 12, a value at which religion was rated as "pretty important."¹³

In their analyses the authors divided respondents into two groups, in which the "effect was best presented by the contrast of the lowest tertile [third] on religiosity with the upper two tertiles." In other words, presentation of the data was the reason why those whose scores placed them in the top two thirds of the scale (825 subjects) were compared with those whose scores placed them in the bottom third (357 students). The top two thirds group was then labeled as having "high religiosity," despite the fact that—according to my calculations¹⁴—nearly 30% of this group had scores reflecting an attitude that religion was somewhere between "a little important" and "pretty important." Does the label "high religiosity" really fit the roughly 240 students in that section of the response scale? How great a difference would there have been in the results had the top third—the high religiosity group—been compared with the bottom third, the group lowest in religiosity scores? Notice the difference is not between high religiosity and no religiosity.

An essential element of the study was the measure of the "negative life events." Students encountered such variables as "father/mother was unemployed," and "I had a serious illness."¹⁵ These constituted life-stressors. Finally, the "substance use" questions probed if and how much the students had used alcohol, tobacco, and marijuana.

What were the results? The authors found that among the students who qualified as having a low amount of life-event stressors, the substance-use scores of the "high religiosity," upper two thirds group, was roughly 15% less than that of the "low religiosity," bottom third group. Among the students who qualified as having a high amount of life-event stressors, the substance-use scores of the "high religiosity" group was roughly 25% less than the "low religiosity" group. The largest difference in substance-use scores was

between the "low" life-stressors group and the "high"—with the latter being double that of the former (making life stressors and their association with substance use the bigger story, but not the point of the study).

In their summary table of "Coefficients From Multiple Regression Analysis for Religiosity and Life Events, With Substance Use as a Criterion, for Four Grade Levels," the resulting r^2 is at or below .15 for all four years.¹⁶ But in the table caption the authors report that for the 7th and 8th graders the authors used a composite "substance use" score consisting of cigarette smoking and *heavy* drinking. For the 9th graders they used cigarette smoking and marijuana use, and for the 11th graders they used *heavy* drinking and marijuana use. Why the three different composites? And why hadn't the more basic variable, "alcohol use" (also measured) been used, as opposed to "heavy drinking"? Did the authors intentionally group subjects and variables to boost their results?



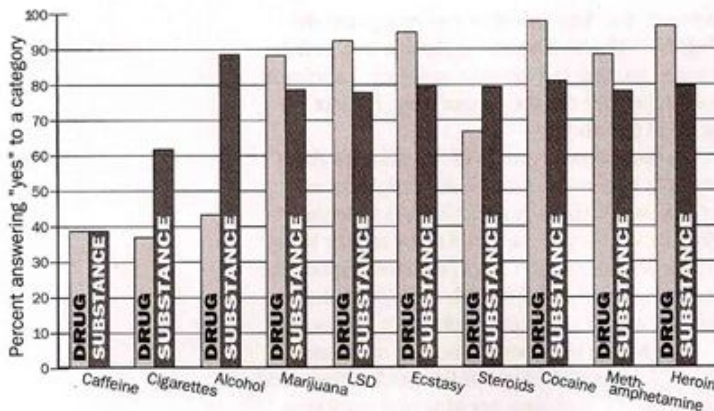
What it All Means

The *Better Homes and Gardens* article claimed that attending religious services positively influences how teenagers handle their problems. This is wrong on two counts. First, the study was about perceived religiosity and not church attendance. Second, it tracked the self-reported use of alcohol, tobacco, and marijuana. "Handling problems" was not one of the variables.

The scienceblog.com article was not completely accurate when it reported that, "when adolescents perceive religion as important in their lives, it may lower rates of cigarette smoking, heavy drinking and marijuana use."¹⁷ A more accurate statement would have been, "adolescents who perceive religion as important may be less likely to drink heavily, smoke cigarettes, and smoke marijuana than adolescents who perceive religion to be of lesser importance."

The APA website proclaims, "Adolescents' Perceived Importance of Religion Found to Lessen Their Drug Use." And: "Those adolescents who viewed religion as a meaningful part of their life and a way to cope with problems were half as likely to use drugs than adolescents who

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The phrase "to use drugs" may have different connotations to students than the phrase "to use tobacco, alcohol and marijuana." From a survey of 75 community college students, ages 17 to 50, conducted by the author.

didn't view religion as important."¹⁸ There are four blunders here. First, the comparison was between high religiosity and low religiosity, not between strong religiosity and non-religiosity as implied. Many students in the low religiosity group scored at or near "A little important"—which means important to a small degree, rather than zero importance. I would be curious to know how many students had a total religiosity score of "4," meaning that their thinking about religion was a consistent "not important"?

Second, the subjects actually were not "half as likely." After going over the study word-by-word a dozen times and unable to find that proportion mentioned anywhere, or even data that, with some simple number-crunching, could produce that figure, I contacted one of the authors. Thomas A. Wills said that the 50% was an estimate only. He explained that because there are arbitrary decisions about how a person defines not only high and low religiosity, but also who is a substance user (Should he have included those who have smoked but quit? those that used drugs in the past month? past year? etc.). He could not provide a precise figure, but because the press "demands percentages," this is what he gave them.¹⁹

The third APA blunder was the use of the phrase "to use drugs." This likely has different connotations than "to use tobacco, alcohol and marijuana." A quick survey I conducted of 75 community college students, ages 17 to 50, suggests that people generally don't think of cigarettes and alcohol when the word "drug" is used.²⁰

Fourth and most egregiously, everyone in the

sciences knows the old saw, "correlation is not causation." The title phrase, "Found to Lessen Their Drug Use," implies a causal relation. "Correlated with Lower Cigarette, Alcohol, and Marijuana Use" would be the more accurate, honest, and scientific wording.

After many reads of the study, two questions came to mind that could be answered by follow-up research. First, why not control for things such as verbal IQ and academic achievement, or perhaps personality attributes such as impulsivity and conscientiousness? Both verbal IQ and impulsivity are associated with increased risk of social deviance and criminal behavior.²¹

Someone who is low in impulsivity, high in conscientiousness, and/or good with the English language, might be better able to entertain relatively complex thoughts such as, "to rely on your religious beliefs as a guide for day-to-day living," and thus attain a score of "high" religiosity. They may also be more likely to resist temptation, even when times get tough. After all, they've got the intelligence and temperament for it.

Finally, to improve such studies, why not control for strong *secular* beliefs, such as valuing education, community involvement, and responsibility to the family? A false dichotomy is created when high religiosity is placed on one end of a "beliefs" spectrum and it is assumed that all those without religion fall on the other. The issue is more likely about strength of belief rather than the particulars of belief.

Why Do Crime Rates Fall?

According to J. E. Conklin, author of the book *Why the Crime Rates Fell*, religiosity had a "modest effect"²² on the country-wide plummet in crime rates in the 1990s. The drop was roughly 40% across-the-board. In support of this claim Conklin cites the Gallup Index of Leading Religious Indicators, an annual survey consisting of eight questions about religious practice and perceptions. Conklin discovered that between 1993 (three years after crime rates began to drop, he concedes) and 1999, three of the eight indicators rose. One, the response to "having great confidence in organized religion" (item #6) increased 9.4%, from 53 to 58%.²³

This instance of data-use is analogous to finding where a thrown knife has stuck into a wall, then positioning your fair-haired assistant's cheek next to the gleaming blade. What happened to

the other five indicators? Why didn't these factor into Conklin's thinking?

Consider these numbers: (1) Worship attendance dropped 8% between 1990 and 2000²⁴; (2) the proportion of the American population classified as Christian dropped 10.1% (from 86% to 77%)²⁵; and (3) the "none of the aboves" increased from 8% to over 14%.²⁶ Couldn't these data be just as readily used to argue that the decrease in crime was due to a rise in secularism?

As a professor of developmental psychology I encounter numerous studies that purport to show some benefit to physical or mental health brought by religiosity, particularly in late life. For example, in "Why Believe? The Effects of Religious Beliefs on Emotional Well-Being," the authors J. H. Patrick and J. M. Kinney found that persons who participated in "organized religiosity" reported fewer depressive symptoms than those who did not. Importantly, the authors acknowledge that religious beliefs themselves did not exert a direct influence on mental health.²⁸ In other words, an alternate title to the paper could have been, "The Null Effects of Religious Beliefs on Emotional Well-Being." It was the frequent participation in a social event that mattered.

The Real Results of These Studies

Take beliefs out of religion and what have you got? In the paper, "The Link Between Religion and Spirituality and Psychological Adjustment: The Mediating Role of Optimism and Social Support," we learn that spirituality and religion

are associated with psychological adjustment. But, again, not directly. Rather, they are *indirectly* related through social support and optimism.²⁸ Social support and optimism are good for psychological adjustment, and religion and spirituality can provide these.

For example—my father, an octogenarian, and his friend, also elderly, belong to the Holy Church of the Small-Purse Internet Horse-Racing Gamblers. It's a tiny, exclusive church. Nonetheless, it provides its two members with social support and optimism. I would be willing to bet that my father's involvement in his "church" is good for his psychological adjustment.

The problem in all such studies is teasing apart the variables through the precise definition of terms such as "religion," "religiousness," and "spirituality." I'm all for allowing religion into the social sciences, provided someone pins it down with a coherent definition that allows for measurement. But here's the catch: Define religion without including gods and/or the supernatural, and, once again, can you honestly call what remains "religion?" Any resulting godless religion would not resemble those that come to mind to the legions of monotheists in our country when they hear and use the term "religion."

Nonetheless, if we are to study the influence of religion on health and behavior, we need to insist that secular controls are employed. For when you remove gods, the supernatural, and specific beliefs from religion, what have you got but a secular activity by another name? ▼

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- With 12 being the median score in a range of possible scores from 4 to 16, 50% of the students would have fallen in the top third, or tertile, of the range—between 12, "pretty important, and 16, "very important. The remaining 50% would have fallen between 4 and 12, which constitutes the lower two tertiles. Because 357 students (30%), scored in the lowest tertile, 20% of all subjects must have scored in the mid-tertile. Their scores ranged from 8, "little important" to 12, "pretty important." This mid-tertile group comprises 29% of the upper two-tertiles "high religiosity" group.
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