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Science in America: Religious Belief and Public Attitudes

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The United States is the most religious of the advanced industrial democracies. At the same time, American scientists are recognized to be leaders in many areas of scientific research and application. This combination of widespread religious commitment and leadership in science and technology greatly enlarges the potential for conflict between faith and science in the United States.

And indeed, a close reading of survey data shows that while large majorities of Americans respect science and scientists, they are not always willing to accept scientific findings that squarely contradict their religious beliefs. Furthermore, where scientific evidence and long-held religious belief come into direct conflict, many Americans reject science in favor of the teachings of their faith tradition.

At the same time, such conflicts -- where scientists and people of faith explicitly disagree on *concrete facts* -- are not common in the United States today. Indeed, the theory of evolution as a means to explain the origins and development of life remains the only truly concrete example of such a conflict. To a lesser extent, faith also plays a role in shaping views about the nature of homosexuality and, to a much smaller degree, global warming.

	Total	White Evang	Black Evang	White Mainline Catholic	Total Secular
<i>Humans and other living things have...</i>	%	%	%	%	%
Existed in present form only	42	65	65	32	33
Evolved over time	51	28	23	62	59
<i>Guided by supreme being</i>	21	20	11	26	31
<i>Through natural selection</i>	26	6	8	31	25
Don't know how evolved	4	2	4	5	3
Don't know	7	7	12	6	8
	100	100	100	100	100

Source: Pew Research Center survey July 2006

Evolution

In the last century, the most persistent and sharpest clash between religion and science in the United States has centered on the issue of evolution. Indeed, while virtually all scientists agree that life on Earth has evolved over billions of years, public opinion polling over the last few decades has shown that between 40% and 50% of Americans consistently reject the very idea of natural evolution, largely on the grounds that it conflicts with biblical accounts of creation.

According to the most recent survey on the issue released in August 2006 by the Pew Research Center and the Pew Forum on Religion & Public Life, 42% of respondents directly rejected evolution, choosing the option that humans and other living things have existed in their present form since the creation. About half (51%) believe that evolution has occurred, but many of these (21%) think it was guided by a supreme being or higher power, a notion that roughly describes the views of the "intelligent design" movement. Finally, just 26% believe in evolution through natural selection.

The strongest opposition to the idea of evolution comes from evangelical Christians, most of whom accept the Bible as literally true and see a direct conflict between the biblical creation account and scientific accounts of evolution. Large majorities of both black and white evangelicals (65%) say that life did not evolve. Just 28% of white evangelicals and 23% of black evangelicals believe in evolution, compared with less than 10% who think evolution occurred through natural selection.

Among seculars and most other religious groups, majorities believe in evolution: This includes 59% of Catholics, 62% of white mainline Protestants and 83% of seculars. But mainline Protestants and Catholics who accept evolution are themselves divided over the question of whether evolution occurred through natural selection or was guided by a supreme being for the purpose of creating human life in its present form. Only among seculars does a majority -- 69% -- accept natural selection.

The rejection of evolution does not result entirely from a lack of awareness of the scientific consensus on the subject. More people believe that scientists agree on evolution (62%) than accept the idea themselves (51%), and this is true even among white evangelical Protestants (43% think scientists agree on evolution but only 28% believe in it). Nor is the rejection of evolution merely a result of political or ideological beliefs. Though Republicans and conservatives are more apt than Democrats or liberals to deny that evolution occurs, deeper analysis shows that religious factors are far more important than political ones in explaining beliefs about evolution.

Homosexuality

Unlike evolution, no scientific consensus exists on the causes of homosexuality - or at least no consensus that has been broadly disseminated. Likewise, the link between religion and views on this issue is not as close as the link between religion and views of evolution. Still, conservative and religious groups have strongly contested the scientific research showing that homosexuality is associated with certain genetic features or exposure to hormones during gestation, and reject the idea that homosexuals cannot change their sexual orientation or be "cured."

	Homosexuality is...			
	Something people are born with	Linked to upbringing	Just how some prefer to live	DK
	%	%	%	%
Total (July 2006)	36	13	38	13=100
October 2003	30	14	42	14=100
December 1985	20	22	42	16=100
College graduate	51	9	28	12=100
Some college	39	15	32	14=100
High school or less	26	14	46	14=100
Conservative	21	20	46	13=100
Moderate	38	9	37	16=100
Liberal	57	7	27	9=100
Total Protestant	29	15	41	15=100
White evangelical	17	15	51	17=100
White mainline	52	13	22	13=100
Black Protestant	20	19	52	9=100
Total Catholic	44	10	33	13=100
White, non-Hisp	48	10	29	13=100
Secular	48	7	29	16=100
<i>Religious Attendance</i>				
Weekly or more	25	17	44	14=100
Monthly or less	36	8	43	13=100
Seldom or never	52	13	23	12=100

Source: Pew Research Center survey July 2006

The number of Americans who see homosexuality as something people are born with has increased modestly since 2003. Today, somewhat more Americans believe that homosexuality is innate (up from 30% in 2003 to 36% now) and that homosexuality cannot be changed (up from 42% to 49%). But the majority of the public still rejects the idea that homosexuality is something that people are born with, and sees it instead either as a product of the way people are brought up (13%) or as "just the way that some people prefer to live" (38%).

The view that homosexuality is innate is now much more widely held among certain groups than it was three years ago. Among college graduates, for instance, there has been a double-digit increase since 2003 in that view (from 39% to 51%). Similar increases are seen among liberals (46% to 57%), mainline Protestants (37% to 52%) and among those who seldom or never attend church (from 36% to 52%).

By contrast, majorities of white evangelicals (51%) and black Protestants (52%) continue to view homosexuality as a choice. White evangelicals, in particular, have changed very little in their views on this question over the past three years.

Views of whether homosexuality can be changed have both a political and a religious component. A small majority of conservatives (52%) say homosexuality can be changed, while the overwhelming majority of liberals (71%) disagree. Similarly, majorities of white evangelicals (56%) and black Protestants (60%) say that homosexuality can be changed, while majorities of white mainline Protestants (67%), Catholics (56%) and seculars (59%) say homosexuality cannot be changed.

Global Warming

Global Warming					
<i>Is there solid evidence that the earth is getting warmer?</i>	Total	White	White	Total	
	%	Evang.	Mainline	Catholic	Secular
Yes	79	70	79	77	88
Result of human activity	50	37	48	52	62
Result of natural causes	23	27	24	21	20
Don't know cause	6	6	7	4	6
No	17	25	18	19	9
Don't know/mixed	4	5	3	4	3
	100	100	100	100	100

Is Global Warming a Serious Problem?					
<i>How serious a problem is global warming?</i>	Total	White	White	Total	
	%	Evang.	Mainline	Catholic	Secular
Serious (net)	79	68	78	86	88
Very serious	43	29	40	48	48
Somewhat serious	36	39	38	38	40
Not too serious	11	16	14	7	7
Not at all serious	9	15	8	6	4
Don't know	1	1	*	1	1
	100	100	100	100	100

Source: Pew Research Center survey July 2006

Religious differences are considerably less significant on another controversial issue, global warming. An overwhelming majority of those polled (79%) believe there is solid evidence that the average temperature of the earth has been increasing over the past few decades. Sizable majorities of each of the largest religious groups agree: 77% of Catholics; 79% of white mainline Protestants; and 70% of white evangelicals.

Most of those who believe that the earth is getting hotter also believe that human activity, such as the burning of fossil fuels, is responsible: Based on the total sample, 50% say this, while 23% say it is mostly a result of natural patterns in the earth's environment.

On this issue, however, significant differences are seen across religious groups, with 62% of seculars, 52% of Catholics and 48% of white mainline Protestants crediting human activity for global warming and only 37% of evangelicals doing so. Furthermore, while substantial majorities of all major religious groups view global warming as a serious problem, considerably fewer evangelicals (29%) regard it as a very serious problem compared with 43% overall and 48% of Catholics and seculars.

Do Scientists Agree about Global Warming?			
	Yes	No	DK
	%	%	%
Total	59	29	12=100
White Protestant	54	34	12=100
Evangelical	51	37	12=100
Mainline	58	30	12=100
Total Catholic	59	31	10=100
White Non-Hisp	61	33	6=100
Secular	72	15	13=100

Source: Pew Research Center survey July 2006

Religious groups also differ in the perception that there is a scientific consensus on global warming. But even among evangelicals, a small majority (51%) sees a scientific consensus, a finding that may help explain why some evangelical leaders have begun to pay more attention to environmental issues.

Furthermore, these links between religion and views of global warming -- which are smaller to begin with as compared with the

links between religion and evolution or homosexuality -- mostly disappear when other factors that help shape views on this issue are taken into account. Statistical analysis reveals that views on global warming are much more closely linked with demographic and political attributes than with religion.

OTHER AND FUTURE CONFLICTS

Are religion and science on a collision course in the U.S.? This review of three important issues suggests that there is certainly a potential for religiously-based conflict, but the circumstances and specifics of each issue limit our ability to generalize. As already noted, there are important differences among the three issues described here. With evolution, there is a clear and strong objection to the scientific consensus among people who accept a literal interpretation of the Bible. Significant numbers within other religious groups believe that evolution occurred, but was divinely guided.

In contrast, beliefs about global warming appear to be only tangentially related to religious beliefs. And on the issue of homosexuality -- where a scientific consensus has yet to form and where significant cultural traditions may continue to influence individual attitudes -- religious beliefs are strongly related to opinions, although even the non-religious are conflicted.

To be sure, there are other potential arenas of conflict between people of faith and scientists, over issues such as embryonic stem cell research, cloning, end-of-life decisions, and genetic testing. But these disputes are different because they usually do not concern questions of fact, as do the debates over evolution and homosexuality, and instead involve purely moral and ethical questions.

In addition, it is important to remember that religious beliefs are not the only sources of conflict with science. For instance, polls routinely show that large numbers of Americans believe in supernatural phenomena, such as astrology and telekinesis, in spite of the fact that scientists routinely contend that there is no evidence to support the validity of any of these claims. More generally, one can also point to numerous examples where personal or ideological biases lead people to reject strong factual evidence that conflicts with their opinions: the case of WMDs in Iraq, the guilt or innocence of Duke University lacrosse players vs. their accuser, even the question of whether O.J. Simpson was guilty of murder in the eyes of blacks and whites among the public.

There also are areas that one day could become the source of a factual dispute between scientists and some religious Americans. For instance, some scientists publicly claim that the most recent research on the human brain shows that it and it alone is the seat of consciousness and personhood and that this evidence disproves the existence of a soul or spirit. If this idea were to become widely accepted by scientists, it could, and indeed probably would, prove to be another area of conflict between religion and science. But currently, the debate over "the death of the soul" is not stirring significant opposition from religious people and groups, primarily because there is no scientific consensus on the issue (as there is with evolution) and no real constituency for increasing public knowledge of this debate (as there is with questions concerning the nature of homosexuality).

Finally, the relationship between religion and views of science should be of interest not just to scientists and social scientists concerned with public opinion research, but to policy makers as well. Public opinion has significant impact upon the making of public policy and commonly held perceptions about particular scientific findings could help determine the eventual shape of laws and other policies for issues such as same sex marriage or climate change.

Notes

¹This article is drawn from a longer paper presented at the Royal Society's workshop on *International Indicators of Science and the Public*, London, Nov. 5-6, 2007 which can be found at <http://pewresearch.org/assets/pdf/667.pdf>