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Religion and Science

Highly religious Americans are less likely than others to see conflict between faith and science.

BY *Cary Funk* **AND** *Becka A. Alper*

FOR FURTHER INFORMATION ON THIS REPORT:

Cary Funk, Associate Director, Research
Lee Rainie, Director, Internet, Science and Technology Research
Dana Page, Senior Communications Manager
202.419.4372

www.pewresearch.org

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About This Report

This report examines the American public's perceptions of the relationship between science and religion and the views of religious groups across a range of science-related topics. The bulk of the analysis relies on data from a representative sample of 2,002 adults nationwide surveyed by landline and cellular telephone in August 2014. Some analysis from other Pew Research Center surveys is included where there is relevant data.

This analysis is the last in a series; the first report, based on the same sample, compared a survey of the general public with a companion survey of American members of the American Association for the Advancement of Science (AAAS). A further analysis looked at the underpinning of the general public's views about science-related topics based on their political and ideological outlooks, their level of education and science knowledge, their religious affiliations and differences associated with various demographic factors.

Other follow-up reports focused on data from the survey of AAAS members to explore the ways in which scientists interact with citizens and journalists and their reasons for doing so. A further elaboration of AAAS members' views on science-related topics was issued earlier this year. The surveys were conducted in collaboration with the AAAS. Pew Research Center bears all responsibility for the content, design and analysis of both surveys.

This report is a collaborative effort based on the input and analysis of the following individuals. Find related reports online at http://www.pewresearch.org/topics/science-and-innovation/

Lee Rainie, *Director Internet, Science and Technology Research*
Cary Funk, *Associate Director, Research*
Becka A. Alper, *Research Associate*
Brian Kennedy, *Research Associate*
Alan Cooperman, *Director Religion Research*
Gregory A. Smith, *Associate Director, Research*
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Maeve Duggan, *Research Associate*
Kenneth Olmstead, *Research Associate*
Andrew Perrin, *Research Assistant*
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Margaret Porteus, *Information Graphics Designer*
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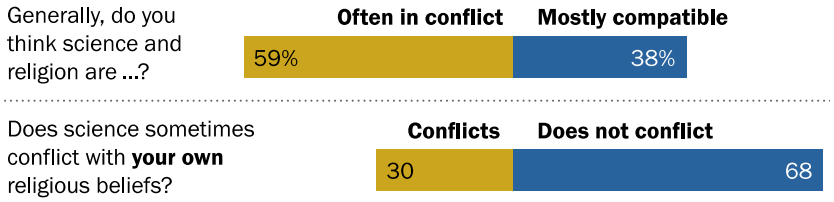
Summary of Findings

Are science and religion at odds with each other? A majority of the public says science and religion often conflict, with nearly six-in-ten adults (59%) expressing this view in newly released findings from a Pew Research Center survey. The share of the public saying science and religion are often in conflict is up modestly from 55% in 2009, when Pew Research conducted a similar survey on religion and science.

People's sense that there generally is a conflict between religion and science seems to have less to do with their own religious beliefs than it does with their perceptions of *other* people's beliefs. Less than one-third of Americans polled in the new survey (30%) say their personal religious beliefs conflict with science, while fully two-thirds (68%) say there is no conflict between their own beliefs and science.

Most Americans Say Science and Religion Conflict, But Fewer Say Their Own Beliefs Conflict With Science

% of U.S. adults



Survey of U.S. adults Aug. 15-25, 2014. Q7,Q8. Those saying don't know are not shown.

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Least Religiously Observant Are Most Likely to Say Science and Religion Are Often in Conflict

% of U.S. adults who say science and religion are ***often in conflict***

Among those who attend religious services ...

Survey of U.S. adults Aug. 15-25, 2014. Q7. Those saying mostly compatible and don't know are not shown.

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Moreover, the view that science and religion are often in conflict is particularly common among Americans who are, themselves, not very religiously observant (as measured by frequency of attendance at worship services). Some 73% of adults who seldom or never attend religious services say science and religion are often in conflict. By contrast, among more religiously observant Americans – those who report that they attend religious services on a weekly basis – exactly half (50%) share the view that science and religion frequently conflict.

Of the country's major religious groups, Hispanic Catholics and white evangelical Protestants are especially likely to say science and religion are mostly compatible; roughly half of both groups take this position. But white evangelical Protestants also are somewhat more likely than members of other large religious groups to see a conflict between science and their *own* religious beliefs; 40% of white evangelicals say their personal beliefs sometimes conflict with science, while 57% say they do not.

Respondents who have no religious affiliation are the most likely to think that science and religion, in general, are often in conflict, with 76% expressing this view. But just one-in-six religiously unaffiliated adults (16%) say their own religious beliefs conflict with science. (Those who are religiously unaffiliated often have supernatural beliefs and spiritual practices, even though they say they do not feel connected to a particular religion. Only about a third of the unaffiliated say they are atheist or agnostic; most describe their religion as "nothing in particular.")

Most Unaffiliated Say Religion and Science Often Conflict, but Few Say Personal Beliefs Conflict With Science

% of religiously unaffiliated U.S. adults

Survey of U.S. adults Aug. 15-25, 2014. Q7,Q8. Based on the religiously unaffiliated. Those saying don't know are not shown.

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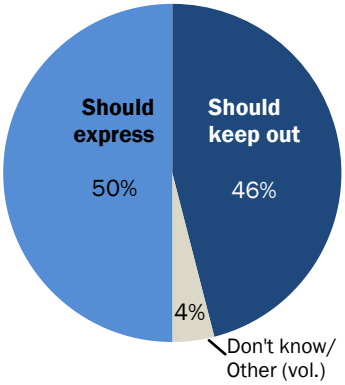
The share of all adults who perceive a conflict between science and their own religious beliefs has declined somewhat in recent years, from 36% in 2009 to 30% in 2014. Among those who are affiliated with a religion, the share of people who say there is a conflict between science and their personal religious beliefs dropped from 41% to 34% during this period.

The general public is closely divided in its views about the role of religious organizations in scientific policy debates. Overall, half of adults say churches should express their views on policy decisions about scientific issues, while 46% say churches should keep out of such matters. White evangelical Protestants and black Protestants are more inclined than people in other major religious groups to say churches should express their views on such topics. A majority of those with no religious affiliation say churches should keep out of science policy debates.

These are some of the key findings from a Pew Research Center survey conducted Aug. 15-25, 2014, by landline and cellular telephone, among a nationally representative sample of 2,002 U.S. adults. The margin of error for results based on the full sample is +/- 3.1 percentage points.

Public Closely Divided on Role of Churches in Science Policy Debates

% of U.S. adults who say churches should express their views/should keep out of policy decisions on scientific issues



Survey of U.S. adults Aug. 15-25, 2014. Q40

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Where people's religious views fit – and don't fit – with their attitudes about science issues: a special statistical analysis

Despite the differing views about the relationship between science and religion, there are only a handful of areas where people's religious beliefs and practices have a strong connection to their views about a range of science-related issues. Statistical modeling shows religious differences in affiliation and worship service attendance come to the fore when the issue is related to human evolution or the creation of the universe.

At the same time, people's religious differences do *not* play a central role in explaining their beliefs about a range of other science topics, including some in the realm of biomedical issues. The exceptions relate to whether it is appropriate to modify a baby's genes: Those who attend religious services regularly are more likely than others to say gene modification "takes scientific advances too far."

As Pew Research Center noted in a related report, there are multiple influences on people's attitudes and beliefs about science topics. Public attitudes and beliefs about science topics are sometimes connected with political and ideological divides, while other differences in people's views are connected with generational divides, educational attainment and knowledge about science, gender, race and ethnicity and, at times, religious factors.

Based on statistical modeling techniques that parse the independent effect of multiple factors at the same time, religious factors appear to be central to public views on only a handful of science topics. Foremost among these are people's beliefs about human evolution. While other factors – especially political attitudes and educational attainment –also play an important role in adults' beliefs about human evolution, religion is among the strongest predictors of their views on evolution, even when accounting for other influences. Similarly, religious group differences are particularly strong determinants of whether people perceive the existence of a scientific consensus about evolution and the creation of the universe.

Differences by Frequency of Church Attendance Occur on Evolution, Animal Research and Genetic Modification

Survey of U.S. adults Aug. 15-25, 2014. Views on power plant emission limits from November 2014 survey. Views on prioritizing alternative energy sources from December 2014. Significance and relative size of factors are based on results of logistic regression analyses. Views on safety of childhood vaccines in the February 2015 survey did not include measures on religion.

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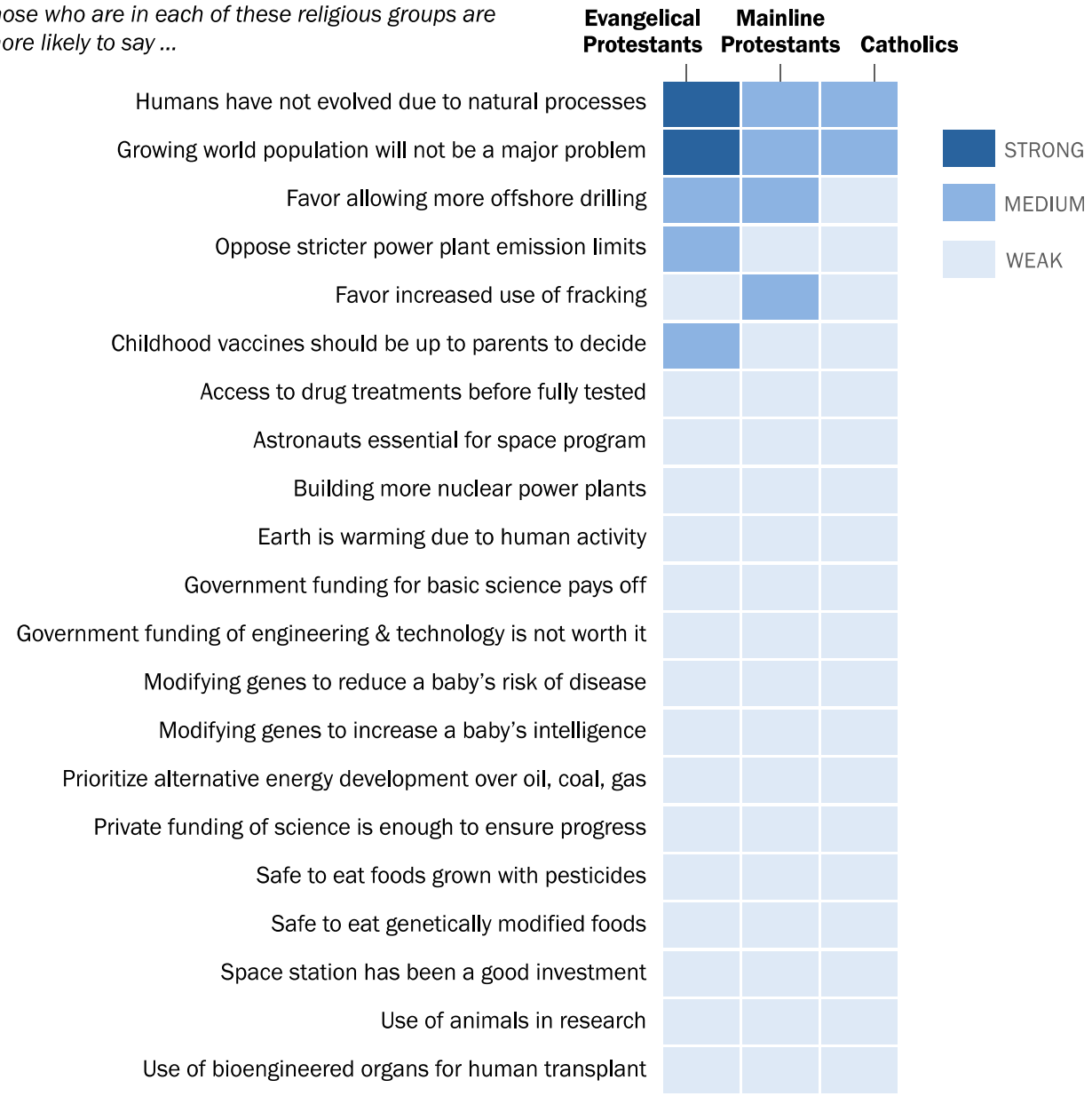
Differences Among Religious Groups Occur Especially on Evolution, Energy Issues

By comparison with the religiously unaffiliated, those who are in each of these religious groups are more likely to say ...



Survey of U.S. adults Aug. 15-25, 2014. Views on power plant emission limits from November 2014 survey. Views on prioritizing alternative energy sources from December 2014. Significance and relative size of factors are based on results of logistic regression analyses. Views on safety of childhood vaccines in the February 2015 survey did not include measures on religion.

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In addition, there are a handful of biomedical topics where differences in religious observance, as measured by frequency of worship service attendance, play a sizeable role in shaping public views. One example is the use of genetic modifications to reduce a baby's risk of serious diseases. A majority (61%) of U.S. adults who regularly attend worship services, regardless of their particular religious tradition, say genetic modification for this purpose would be "taking medical advances too far." By comparison, among adults who seldom or never attend worship services, 55% say genetic modification for this purpose would be an appropriate use of medical advances and 41% say genetic modification for this purpose would be taking advances too far.

On a handful of energy issues, religious affiliation is just one of several factors that help to predict people's views. For example, public attitudes about offshore oil drilling are strongly related to political party affiliation and ideology. But there also are differences in views by age, gender and religious affiliation, even when differences in political orientation are held constant. For example, both evangelical and mainline Protestants are more likely than religiously unaffiliated Americans to support more offshore drilling, with other factors held constant. Further, U.S. adults with a religious affiliation, such as Protestants, Catholics, Jews and Muslims, are more inclined than those with no particular religious affiliation to believe that mankind will be able to stretch natural resources such that the growing world population will *not* pose a major problem.

Still, on a number of other science-related topics, *there is no independent effect of religious affiliation or frequency of church attendance on public attitudes*, once differences by demographic background, educational attainment, science knowledge level and political background are taken into account. These include opinions about:

- Whether to allow access to experimental drug and medical treatments before they have been fully tested
- The appropriateness of using bioengineered artificial organs for human transplant
- The safety of genetically modified foods
- Climate change
- Space exploration
- The long-term payoffs from government investment in science

The accompanying charts shown in this report summarize the findings from multivariate analyses, a statistical technique which allows researchers to look at the relative influence of each characteristic, or factor, in predicting respondents' views on each topic when all other factors are statistically controlled or held constant. The factors included in this analysis are gender, race and ethnicity, age, education, general knowledge about science, party affiliation and political ideology, along with religious affiliation and frequency of church attendance. As we did in our companion

report, we note whether the strength of each factor is strong, medium or weak based on the statistical significance of each factor and the estimated difference in predicted probability between the maximum and minimum value for a given variable, holding all other variables at their means. (See Appendix A for more details.)

The remainder of this report looks at the degree to which public views about science-related topics are associated with religious affiliation and worship service attendance. As is typical of Pew Research Center reports, we characterize the relationships shown in these cross tabulations (sometimes referred to as bivariate relationships because they involve just two variables) based on tests of statistical significance that take into account the complex sample design of the survey.

Perception of Conflict Between Science and Religion

How much do people's religious beliefs influence their views about science topics? There was debate for centuries about the origins of the universe and how to explain stellar and planetary activities in the heavens. In more recent decades, there has been debate among religious leaders over the theory of evolution through natural selection since the initial publication of Charles Darwin's "On the Origin of the Species" in 1859.[1] Stemming from what some see as a contradiction between the theory of evolution and core tenets of the Christian faith, the debate over evolution and its place in the school curriculum has played out in local communities and the courts around the country, including the Supreme Court in State of Tennessee v. Scopes, popularly referred to as the Scopes "monkey" trial of 1925.

And, these disputes persist with at least two current science-related books addressing the divide between those who think science and religion are fundamentally at odds and those who argue that science and religion can be compatible. [2]

The new Pew Research Center findings show that most Americans (59%) say, in general, that science often is in conflict with religion, although a sizeable minority of adults (38%) consider science and religion to be mostly compatible. Those most inclined to see religion and science as generally in conflict are those who, themselves, have no particular religious affiliation or are not religiously observant.

At the same time, however, most adults (68%) say there is no conflict between their personal religious beliefs and science.

Among the three-in-ten adults who say their own religious beliefs conflict with science, the

For Most Americans Personal Religious Beliefs Do Not Conflict With Science

% of U.S. adults who say science sometimes conflicts/does not conflict with their own religious beliefs

Among those who say science conflicts with their own religious beliefs ...

36% mentioned conflict over the creation of the universe, evolution, Darwin

24% mentioned broad differences over the belief in God, facts vs. beliefs, miracles, view of man as "in charge"

11% mentioned views about the beginning of life, abortion

7% mentioned specific medical practices

Other responses to open end question are not shown.

Survey of U.S. adults Aug. 15-25, 2014. Q8, Q9F1. Those saying don't know on Q8 are not shown.

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[1] See Pew Research Center's 2009 report, "Darwin and His Theory of Evolution."
[2] Coyne, Jerry A. 2015. "Faith Versus Fact: Why Science and Religion Are Incompatible." For a different perspective see Schroeder, Gerald L. 2011. "Genesis and the Big Bang: The Discovery of Harmony Between Modern Science and the Bible."

most common area of conflict centers around teachings about the creation of the universe and evolution.

Perceptions of Science and Religion Overall

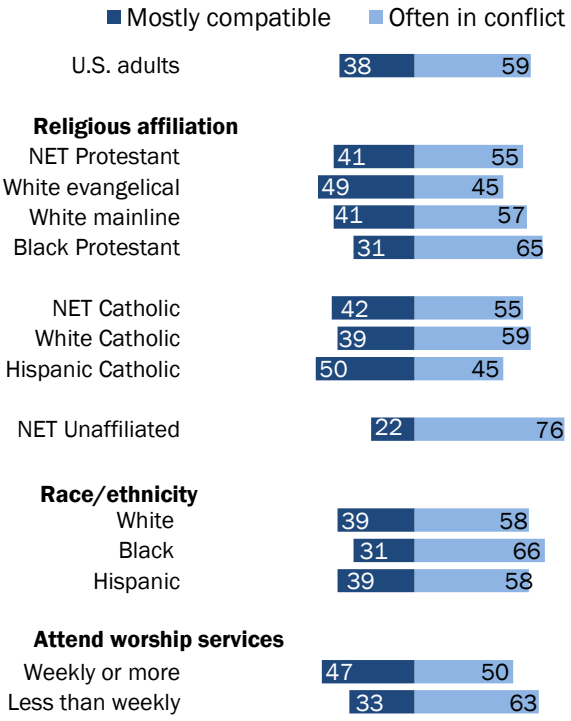
Some 59% of Americans say science and religion are often in conflict, while 38% say the two are mostly compatible. The share saying that science and religion often conflict is up modestly from 55% in a 2009 Pew Research survey, while the share saying the two are mostly compatible has stayed the same at 38%.

Those who are not affiliated with a religious tradition are especially likely to think that science and religion conflict (76%). Most black Protestants (65%) also hold this view.

White evangelical Protestants and Hispanic Catholics are more divided on this question. Half of Hispanic Catholics (50%) say science and religion are mostly compatible, while 45% say the two are often in conflict. And 49% of white evangelical Protestants say science and religion are mostly compatible; a similar share (45%) says the two are often in conflict.

Most Unaffiliated Perceive Science and Religion as Often in Conflict

% of U.S. adults who say that, in general, science and religion are…



Source: Survey conducted Aug. 15-25, 2014. Q7. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Personal Religious Beliefs and Science

When thinking about their own religious beliefs, however, only a minority of adults perceive a conflict between science and their religious views. Three-in-ten (30%) Americans say their own religious beliefs conflict with science, while 68% say the two do not conflict. Compared with 2009, fewer Americans see a conflict between science and their personal religious beliefs in the new survey. Among those with a religious affiliation, 34% say their religious beliefs conflict with science, down from 41% in 2009. The perception of conflict is down among most major religious groups, including white evangelical Protestants (from 52% saying their own beliefs conflict with science in 2009 to 40% in 2014). Perceptions of conflict among black Protestants have stayed about the same, however.

Fewer Today See Science as Conflicting With Their Own Religious Beliefs

% of U.S. adults who say science sometimes conflicts with their own religious beliefs

	2009	2014
U.S. adults	36	30
Religiously affiliated	41	34
Unaffiliated	16	16

Surveys of U.S. adults Aug. 15-25, 2014, April 28-May 12, 2009. Q8. Other responses and those saying don't know are not shown.

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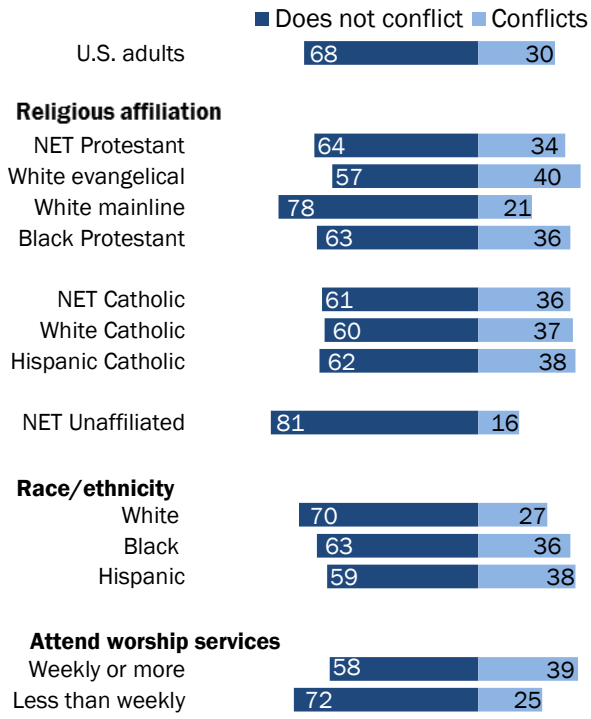
In the new Pew Research Center survey, white evangelical Protestants are a bit more likely to see a conflict between their religious beliefs and science; four-in-ten (40%) say the two conflict, while 57% say they do not conflict. Among Catholics and black Protestants, 36% say their religious beliefs sometimes conflict with science.

White mainline Protestants are less likely to say their religious beliefs conflict with science; 21% of this group says there is a conflict while 78% say there is not.

Among the religiously unaffiliated, 16% say their own religious beliefs sometimes conflict with science while fully 81% say they do not.

A Minority of Public Says Science and Personal Religious Beliefs Conflict

% of U.S. adults who say science sometimes conflicts/does not conflict with their own religious beliefs



Source: Survey conducted Aug. 15-25, 2014. Q8. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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There are a variety of ways that science conflicts with personal religious beliefs

In an open-ended question, adults who said that science conflicts with their own religious beliefs were asked to provide up to three beliefs of theirs with which science was in conflict. The most common reported response relates to views on the creation of the universe, including evolution (36%). Among those responding, 24% referenced broad differences such as that their belief in God is at odds with a perspective that man is "in charge" or that the miracles in the Bible were at odds with science. Other ways science is perceived as conflicting with religious beliefs include views about the beginning of life and abortion (11%) and scientific or medical practices such as blood transfusion, cloning or genetic engineering (7%). Some 18% of those who say their own religious beliefs sometimes conflict with science did not name any particular ways in which the two conflict.

Perceived Conflict With Science in Views About Creation of the Universe, Evolution

% of those who say science conflicts with their own religious beliefs in these ways

Conflict over creation of universe, evolution, Darwin, Big Bang	36
NET general conflict, belief in God, Bible, facts vs. beliefs, God is in charge vs. man is in charge; conflict over immaculate conception, miracles	24
NET Conflict over beginning of life	11
NET Conflict over specific medical, scientific practices	7
Conflict over beliefs about the afterlife, euthanasia and right to die	1
Conflict over global warming, climate change	2
Space travel, exploration of the universe	*
Gays, homosexuality	1
Specific mentions: school teaching, news media, political leaders	2
Other, unclear response	8
Don't know	18

Source: Survey conducted Aug. 15-25, 2014. Open ended responses. Responses do not add to 100% because multiple responses are coded for each respondent. Q9f1. Based on those saying science conflicts with their religious beliefs N = 328.

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The same open-ended question was asked in 2009, and American adults reported similar types of conflicts. The most common response in 2009 also centered on conflict around beliefs about the creation of the universe and evolution (41%). Mentions of conflict over the beginning of life including abortion and stem cell research appear to be less common today than in 2009 (11% in 2014 down from 23% in 2009). There were comparatively more responses referencing broad conflicts between science and religion such as the belief in God and the Bible in the 2014 survey (24%) than there were in 2009 (11%).

There is a close division in public attitudes about the role of the church in science policy issues

The general public is closely divided on whether churches and other houses of worship should express their views about policy decisions on scientific issues; half of adults say churches should express their views on these issues, while 46% say these organizations should keep out of policy decisions on scientific issues.

White evangelicals (69%) and black Protestants (66%) are more likely than other religious groups to think churches and other places of worship should express their views about scientific policy issues.

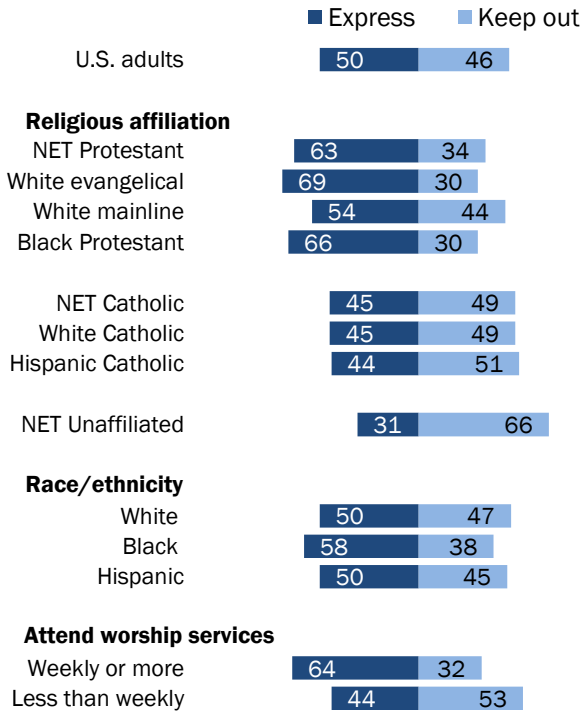
Catholics are closely divided in opinion about this, with 45% saying churches should express their views and 49% saying they should keep out.

While about two-thirds (66%) of religiously unaffiliated adults say churches should keep out of policy decisions on scientific issues, 31% say otherwise.

Overall, most of those who attend religious services regularly (64%) say religious organizations should express their views on scientific policy decisions. By comparison, 44% of adults who attend worship services less than once a week say churches should express their views on policy decisions about science and 53% of this group says churches should keep out.

Most White Evangelicals and Black Protestants Say Churches Should Express Views on Scientific Policy Issues

% of U.S. adults who say churches should express their views on/keep out of policy decisions on scientific issues



Source: Survey conducted Aug. 15-25, 2014. Q40. Those volunteering neither/both or saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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The pattern of findings on this question is broadly in keeping with public views on the role of religious organizations in social and political matters. In a separate 2014 Pew Research survey, 49% of adults said churches and other houses of worship should express their views on day-to-day

social and political issues while a nearly equal share at 48% said churches should keep out of political matters. Most of those who have no religious affiliation said churches and other houses of worship should keep out of politics (65%), while a minority of 32% said churches should speak out on political matters. By contrast, a majority of those who identify with a religion (e.g., Protestants, Catholics and others) said that churches should express their views on political matters; the share having this point of view increased from 45% in 2010 to 54% in 2014.

Strong Role of Religion in Views About Evolution and Perceptions of Scientific Consensus

There have long been religious divides over the theory of evolution through natural selection.[3] The Pew Research Center survey shows wide differences among religious groups when it comes to beliefs about evolution, consistent with past surveys on this topic.

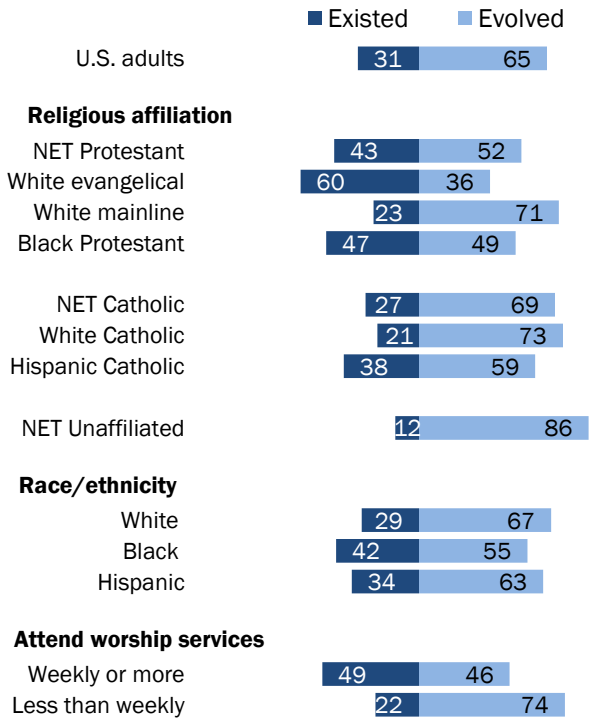
Overall, 65% of U.S. adults say "humans and other living things have evolved over time," while 31% say humans and other living things have "existed in their present form since the beginning of time."

A vast majority of religiously unaffiliated adults say humans and other living things have evolved over time (86%), as do most white Catholics (73%), white mainline Protestants (71%) and Hispanic Catholics (59%).

By contrast, just 36% of white evangelical Protestants say humans have evolved over time, while a 60% majority say humans have existed in their present form since the beginning of time. Black Protestants are closely divided on this topic – 47% say humans have existed since the beginning of time while 49% say humans have evolved over time.

Wide Differences Among Religious Group in Views on Evolution

% of U.S. adults who say humans have evolved/existed in their present form since the beginning of time



Source: Survey conducted Aug. 15-25, 2014. Q16. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Overall, 49% of religiously observant adults, that is, those who attend worship services at least weekly, say humans have existed in their current form since the beginning of time. By contrast, just 22% of those who attend church services less frequently say the same.

[3] See Pew Research Center's 2009 report, "Darwin and His Theory of Evolution."

The Pew Research survey also asked a follow-up question about the processes believed to account for evolution. Thirty-five percent of adults (35%) say humans have evolved due to natural processes such as natural selection, while 24% say a supreme being guided the evolution of living things, and 5% of adults are unsure of their views about the processes behind evolution.

A clear majority of the religiously unaffiliated (67%) say humans have evolved due to natural processes such as natural selection. This is the only group among whom a majority holds this view.

Frequency of church attendance is also associated with adults' views about evolution. Those who attend worship services regularly are closely divided over whether humans have evolved over time and just 15% of this group says humans have evolved due to natural processes. By comparison, 46% of those who attend services less regularly say humans evolved due to natural processes.

Majority of Unaffiliated Believe Evolution Occurred Through Natural Processes

% of U.S. adults

	Humans evolved over time	*Due to natural processes*	*Supreme being guided*	*Don't Know*	**Humans existed in present form**	**Don't Know**
	%	%	%	%	%	%
U.S. adults	**65**	*35*	*24*	*5*	**31**	**4**
Religious affiliation						
NET Protestant	**52**	*21*	*27*	*4*	**43**	**5**
White evangelical	**36**	*12*	*22*	*3*	**60**	**4**
White mainline	**71**	*36*	*29*	*7*	**23**	**5**
Black Protestant	**49**	*21*	*26*	*3*	**47**	**4**
NET Catholic	**69**	*32*	*28*	*10*	**27**	**5**
White Catholic	**73**	*29*	*33*	*11*	**21**	**6**
Hispanic Catholic	**59**	*33*	*20*	*6*	**38**	**3**
NET Unaffiliated	**86**	*67*	*17*	*2*	**12**	**2**
Race/ethnicity						
White non-Hispanic	**67**	*37*	*24*	*5*	**29**	**4**
Black non-Hispanic	**55**	*28*	*25*	*2*	**42**	**3**
Hispanic	**63**	*33*	*25*	*5*	**34**	**3**
Attend worship services						
Weekly or more	**46**	*15*	*27*	*4*	**49**	**5**
Less than weekly	**74**	*46*	*23*	*5*	**22**	**3**

Source: Survey conducted Aug. 15-25, 2014. Q16, Q17. Nested figures may not add to subtotals due to rounding. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Multivariate regression analyses, shown in our related report, also find that religious tradition and religious service attendance have a strong role in predicting views about evolution. However, a number of other factors also have a significant influence on views about evolution including age, gender, education and political party and ideology.

There are different perceptions among Americans about whether there is scientific consensus about evolution

People's beliefs about whether scientists tend to agree about evolution are strongly related to their views about evolution. In addition, there are differences among religious groups on this issue.

Two thirds (66%) of the general public say scientists generally agree that humans evolved over time, while 29% say scientists generally do not agree about this.

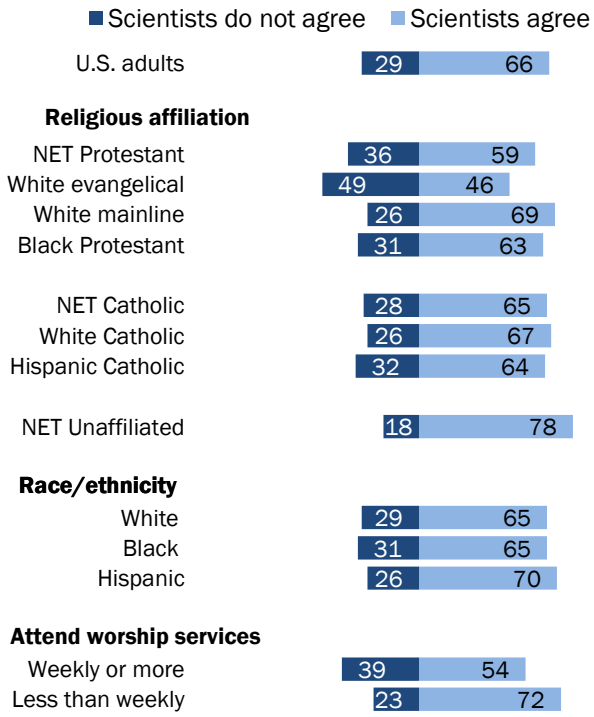
A majority of most major religious groups say scientists generally agree that humans have evolved, including 78% of the unaffiliated, 69% of white mainline Protestants and 65% of Catholics.

White evangelical Protestants are closely divided in their views about this issue; 46% say scientists generally agree that humans have evolved over time and 49% say scientists do not agree about this.

While black Protestants are closely divided in their personal views about evolution, 63% say scientists generally agree that humans have evolved over time.

Most Adults in Religious Traditions Say Scientists Agree on Evolution; White Evangelicals Are Closely Divided

% of U.S. adults who say scientists generally agree/do not agree that humans evolved over time



Source: Survey conducted Aug. 15-25, 2014. Q18. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Church attendance also is related to perceptions of scientific consensus; 72% of less-frequent churchgoers say scientists generally agree that humans have evolved, compared with 54% of more frequent churchgoers.

Multivariate logistic regression analyses predicting the view that scientists generally agree that humans have evolved over time found that those who attend church services at least weekly are less likely to believe that scientists generally agree about human evolution, but there was no

statistically independent effect of religious tradition once other factors were controlled. Other significant predictors of the belief there is scientific consensus about human evolution include age, education, science knowledge and political ideology. See our related report for details.

There are disagreements over whether there is scientific consensus about the creation of the universe

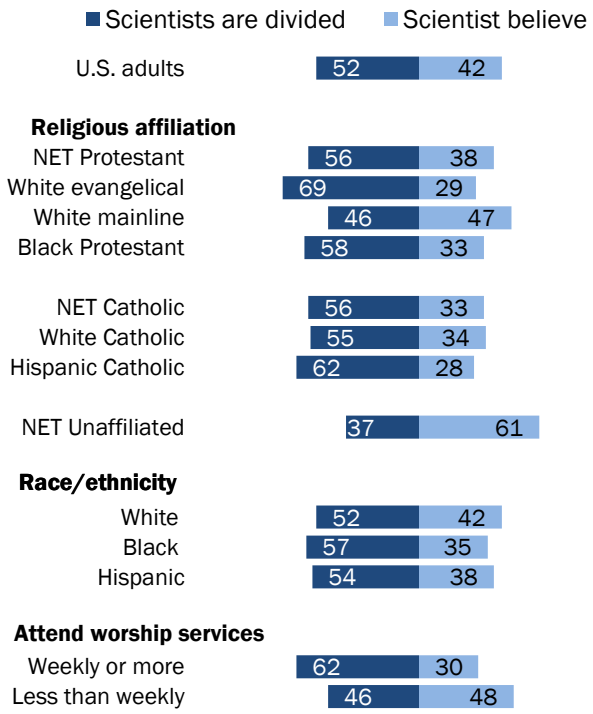
In regards to perceived scientific consensus about the creation of the universe, 42% of U.S. adults say scientists generally agree the universe was created in a single, violent event, often called the "Big Bang," while 52% say scientists are divided in their views about how the universe was created.

A 61% majority of religiously unaffiliated adults say scientists generally believe the universe was created in a single, violent event. By contrast, 69% of white evangelical Protestants and 62% of Hispanic Catholics hold the view that scientists are divided about the creation of the universe. White mainline Protestants are more evenly split on their perceptions of scientists' views about the creation of the universe (47% say scientists generally agree and 46% say scientists are divided).

Those who attend church services regularly are more inclined to say scientists are divided about this issue. Three-in-ten (30%) of those who regularly attend church services say scientists generally agree that the universe was created in a single, violent event, while 62% say scientists are divided. Among those who attend church services less often, 48% say scientists generally agree about the creation of the universe.

Views Vary on Scientific Consensus About Creation of Universe

% of U.S. adults who say scientists generally believe the universe was created in a single, violent event/that scientists are divided in their views about how the universe was created



Source: Survey conducted Aug. 15-25, 2014. Q32. Those saying both/neither, don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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A multivariate logistic regression analysis, shown in our related report, finds that other Christians (i.e., those who are Mormon or Orthodox Christian) are 35 percentage points less likely than the religiously unaffiliated to say scientists generally agree that the universe was created in a single, violent event. Other significant predictors of perceptions of scientific consensus include gender, education, science knowledge and political party. Frequency of worship service attendance does not significantly predict views on this issue after accounting for other factors.

Mixed Role of Religion in Views on Biomedical and Food Issues

Religious factors are at play in public views about some, though by no means all, biomedical topics. For example, there are differences between those who attend worship services regularly and those who do not when it comes to views about the appropriateness of changing a baby's genetic makeup. But there are no such divides when it comes to views about the appropriateness of bioengineering artificial organs. Religious groups tend to hold similar views about whether childhood vaccines should be required or left up to parental choice; white evangelical Protestants, however, are more inclined than others to say parental choice should determine whether a child is vaccinated.

Genetic modification – for intelligence

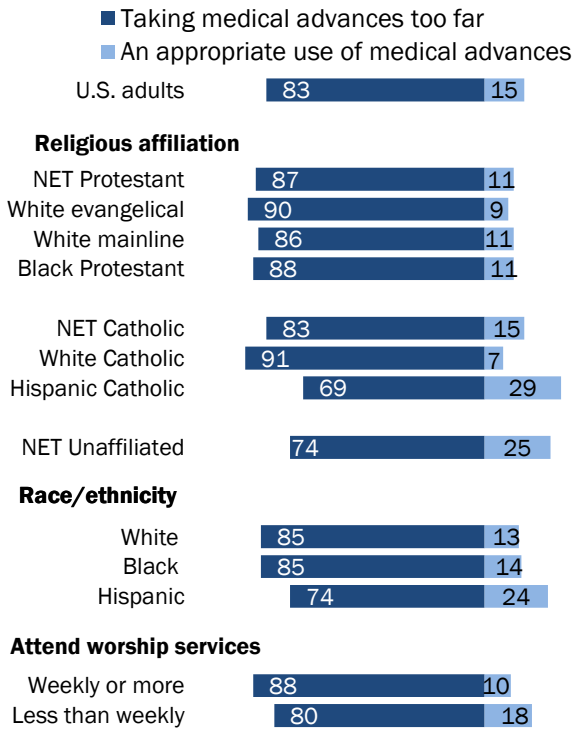
When asked about their views towards changing a baby's genetic characteristics to make a baby more intelligent, an overwhelming majority of U.S. adults (83%) say this would be taking medical advances too far, while 15% say doing so would be making appropriate use of medical advances.

Majorities of all major religious groups say genetic modification for this purpose would be taking medical advances too far. The vast majority of white Catholics (91%) and Protestants (87%) say changing a baby's genes to make a baby more intelligent is taking medical advances too far. A somewhat larger share of Hispanic Catholics (29%), like Hispanics overall (24%), say this would be an appropriate use of medical advances. The unaffiliated also are a bit more likely to say this is appropriate (25%), although a 74% majority says it would be taking medical advances too far.

Eight-in-ten adults who attend religious

Most Americans Say Genetic Modification to Increase Intelligence Takes Advances Too Far

% of U.S. adults who say changing a baby's genetic characteristics to make the baby more intelligent is...



Source: Survey conducted Aug. 15-25, 2014. Q33. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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services less than weekly say changing a baby's genetic characteristics to make the baby more intelligent would be taking medical advances too far, an even larger share (88%) of adults who regularly attend religious services say genetic modification for this purpose would be taking medical advances too far.

A multivariate logistic regression that includes religious affiliation and frequency of church attendance also finds those who regularly attend services are more likely to consider genetic modifications for this purpose to be taking medical advances too far when statistically controlling for other factors. (Details are shown in our related report.)

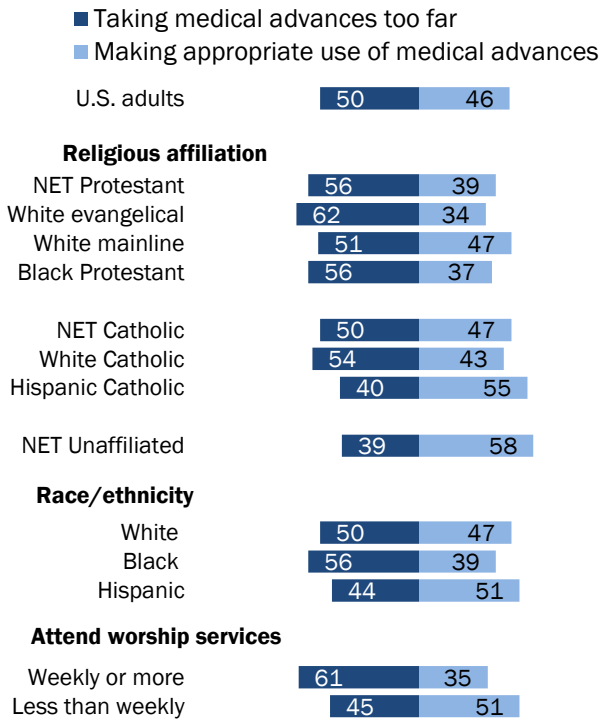
Genetic modification – to reduce disease risk

The public is more divided about the idea of changing a baby's genetic characteristics to reduce the risk of serious disease. Half of U.S. adults (50%) say genetic modification for these purposes is taking medical advances too far and 46% say it is making appropriate use of medical advances.[4]

Opinions about this issue vary by religious group. Some 62% of white evangelical Protestants say genetic therapy to reduce serious disease would be taking medical advances too far, as does a majority of black Protestants (56%) and white Catholics (54%). By comparison, four-in-ten Hispanic Catholics and 39% of unaffiliated adults say the same.

Public Is Closely Divided Over Using Genetic Modification To Reduce Disease Risk

% of U.S. adults who say changing a baby's genetic characteristics to reduce the risk of serious diseases is…



Source: Survey conducted Aug. 15-25, 2014. Q34. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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[4] These ideas once seemed far off, but new tools for gene editing are making applications of this sort seem imminent. A group of prominent genetic researchers urged a moratorium on experiments that would that would alter the DNA of human sperm, eggs or embryos in the March 12, 2015, issue of Nature. The group distinguishes between gene-editing techniques that address disease in adults with those that would alter every cell of a baby and be passed along to future generations. A separate group issued a statement in Science's March 19, 2015, issue that calls for discussion of the scientific, medical, legal and ethical implications of genome engineering technology.

There also are differences by religious observance on this issue; 61% of adults who attend church at least weekly say changing a baby's genetic characteristics to reduce the risk of serious diseases would be taking medical advances too far while 45% of adults who attend church less often say this.

A multivariate regression analysis also found that those who attend worship services regularly are more likely to see genetic modification to reduce disease risks as taking advances too far, controlling for other factors. But, religious affiliation is not a significant predictor of views on this issue with frequency of attendance and other factors statistically controlled. (Details are shown in our related report.)

Bioengineering artificial organs

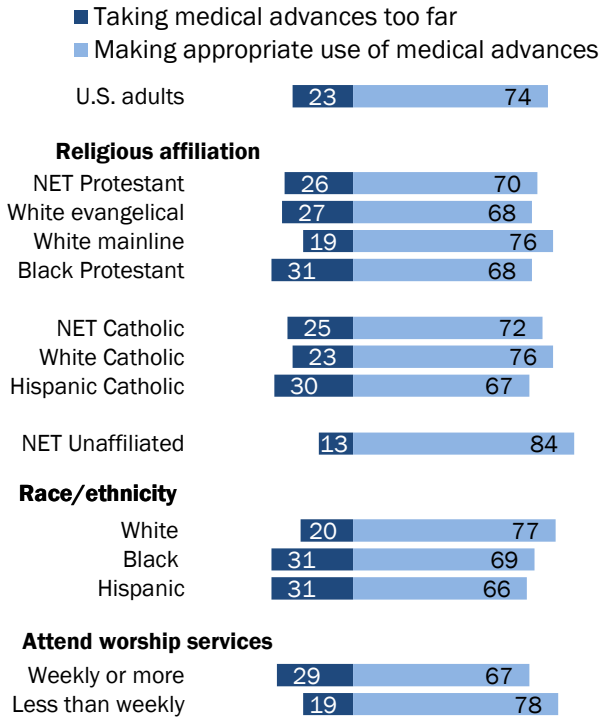
Most Americans are accepting of bioengineering to create artificial organs, such as hearts or kidneys, for humans needing a transplant. Some 74% of adults say bioengineering of artificial organs is making appropriate use of medical advances, while 23% say this is taking medical advances too far.

An overwhelming majority of religiously unaffiliated adults (84%) say the use of bioengineering to create artificial organs for humans needing a transplant is appropriate, as do 76% each of white mainline Protestants and white Catholics. Somewhat smaller majorities of white evangelical Protestants (68%), black Protestants (68%), and Hispanic Catholics (67%) say the same.

Roughly two-thirds (67%) of adults who go to church at least weekly say using artificial organs for transplants is appropriate, as does a somewhat larger share of less-frequent churchgoers (78%).

Wide Agreement About Using Bioengineering to Create Artificial Organs for Transplants

% of U.S. adults who say the use of bioengineering of artificial organs for humans needing a transplant is…



Source: Survey conducted Aug. 15-25, 2014. Q27. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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A multivariate logistic regression finds that neither religious affiliation nor frequency of church attendance is a significant predictor of views about bioengineered organs, when other factors are held at their means.

Access to experimental drug treatments

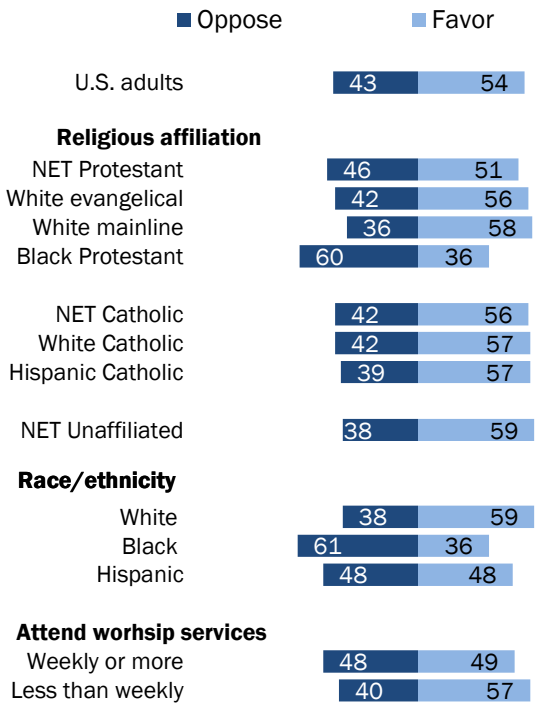
The survey asked the general public whether they favor or oppose allowing more people access to experimental drugs before clinical trials have shown the drug to be safe and effective for that disease or condition. In all, 54% of adults favor allowing access to experimental treatments before they have been fully tested, while 43% oppose.

Black Protestants (60%), like black adults overall (61%), are most likely to oppose allowing more access to experimental drugs before clinical trials have shown the drugs to be safe and effective for that disease or condition. Views among blacks about this issue may be, in part, tied to a long history of racial disparities in treatment and access to health care. See Pew Research Center's Fact Tank post, "Opinions on expanding access to experimental drugs differ by race, income," for more.

Frequent churchgoers are closely divided on this issue: 49% favor and 48% oppose access to experimental drugs. There is comparatively more support among less-frequent churchgoers; 57% of this group favors access to experimental drugs before they are fully tested.

Majority of Blacks Oppose Access to Experimental Drugs Before Fully Tested

% of U.S. adults who oppose/favor allowing more people access to experimental drugs before clinical trials have shown the drugs to be safe and effective for that disease or condition



Source: Survey conducted Aug. 15-25, 2014. Q24F. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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However, neither religious affiliation nor frequency of church attendance is a significant predictor of views on this issue with other factors statistically controlled in a multivariate logistic regression.

Childhood vaccines

Asked about whether vaccines for childhood diseases such as measles, mumps, rubella (MMR) and polio should be required or a matter of parental choice, 68% of U.S. adults say children should be required to be vaccinated. Three-in-ten adults say vaccination should be left up to parents to decide.

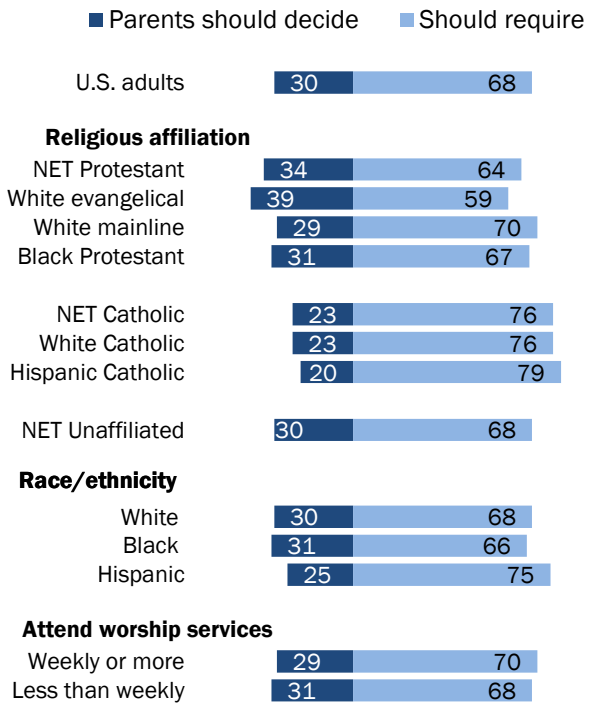
Hispanic Catholics (79%) and white Catholics (76%) are particularly likely to say that vaccines should be required. By comparison, fewer white evangelical Protestants (59%) say vaccines should be required; among this group, 39% say parents should be able to decide whether to vaccinate their children.

Opinions on this issue are roughly the same among those who attend worship services more and less frequently.

A multivariate logistic regression including religious affiliation and frequency of church attendance finds that evangelical Protestants (of any race) are less likely than the unaffiliated, when other factors are statistically controlled, to say such vaccines should be required.

Most Americans Say Childhood Vaccines Should Be Required

% of U.S. adults who say parents should be able to decide not to vaccinate their children / all children should be required to be vaccinated



Source: Survey conducted Aug. 15-25, 2014. Q25. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Safety of genetically modified foods

The Pew Research survey also asked the general population a handful of questions about genetically modified (GM) foods. The findings show a public largely wary of GM foods, with a majority saying such foods are generally unsafe to eat (57%), whereas 37% say such foods are safe. Further, most adults – 67% – express skepticism that scientists have a clear understanding of the health effects of GM crops, while 28% say scientists do.

These beliefs are widely held across religious groups. Black Protestants are particularly likely to say eating GM foods is not safe (66% do so, while 23% say such foods are safe). This pattern is consistent with the views of blacks overall.

The perspective that scientists do not have a clear understanding about the health effects of GM crops is widely shared among religious groups. Hispanic Catholics are less likely than other groups to say scientists do not have a clear understanding about this (55% do so, while 42% say scientists have a clear understanding); similarly, Hispanics overall are a bit less likely than either whites or blacks to say scientists do not have a clear understanding of the health effects of GM foods.

Most Adults See GM Foods as Unsafe; and Believe Scientists Lack a Clear Understanding About Health Effects of GM Crops

% of U.S. adults who say…

	GM foods are *unsafe*	Scientists not clear on health effects of GM crops
	%	%
U.S. adults	57	67
Religious affiliation		
NET Protestant	57	67
White evangelical	50	71
White mainline	53	65
Black Protestant	66	71
NET Catholic	57	67
White Catholic	55	75
Hispanic Catholic	62	55
NET Unaffiliated	55	69
Race/ethnicity		
White	53	69
Black	68	70
Hispanic	65	59
Attend worship services		
Weekly or more	60	70
Less than weekly	55	66

Source: Survey conducted Aug. 15-25, 2014. Q38, Q39. Other responses and don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Views about the safety of GM foods and perceptions of scientific understanding are about the same among those who attend worship services more or less frequently.

A multivariate logistic regression model finds that neither religious affiliation nor frequency of attendance significantly predicts views on the safety of genetically modified foods when other factors are statistically controlled. Similarly, neither religious affiliation nor church attendance

predicts beliefs about scientific understanding about the health effects of GM crops, controlling for other factors.

Safety of foods grown with pesticides

When it comes to foods grown with pesticides, 69% of U.S. adults say such foods generally are unsafe to eat, while 28% say such foods are safe.

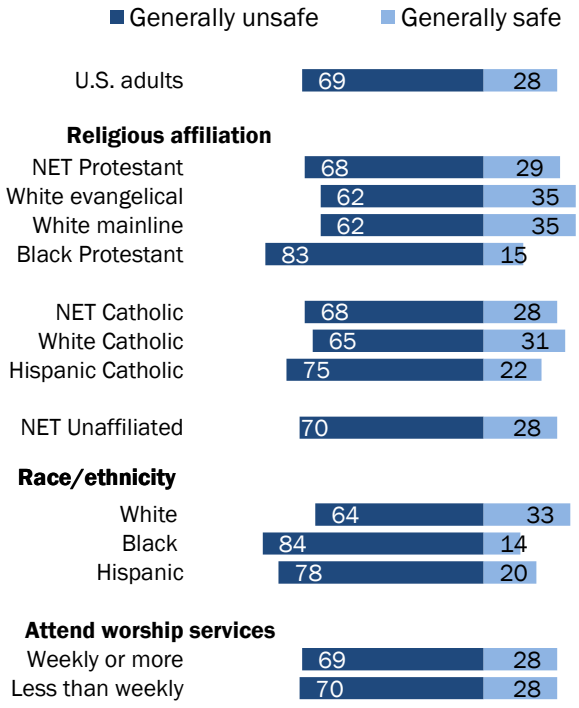
A majority of all major religious groups say eating foods grown with pesticides is generally unsafe. Fully 83% of black Protestants, and 84% of blacks overall, say it is unsafe to eat food grown with pesticides. Hispanic Catholics (75%), like Hispanics overall (78%), are also particularly likely to say that foods grown with pesticides are unsafe.

There are no differences in views on this issue by frequency of church attendance.

A multivariate logistic regression including religious affiliation groups and frequency of attendance found neither factor significantly predicts views on this issue when other factors are controlled. Blacks are significantly less likely than whites to consider foods grown with pesticides safe for consumption, when other factors are controlled. Note that the regression model includes a factor for being an evangelical or mainline Protestant (of any race or ethnic background) and a separate set of factors for race and ethnicity.

More Black Protestants, Hispanic Catholics Say Foods Grown With Pesticides Are Unsafe

% of U.S. adults who say it is generally safe/unsafe to eat foods grown with pesticides



Source: Survey conducted Aug. 15-25, 2014. Q35. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Use of animals in scientific research

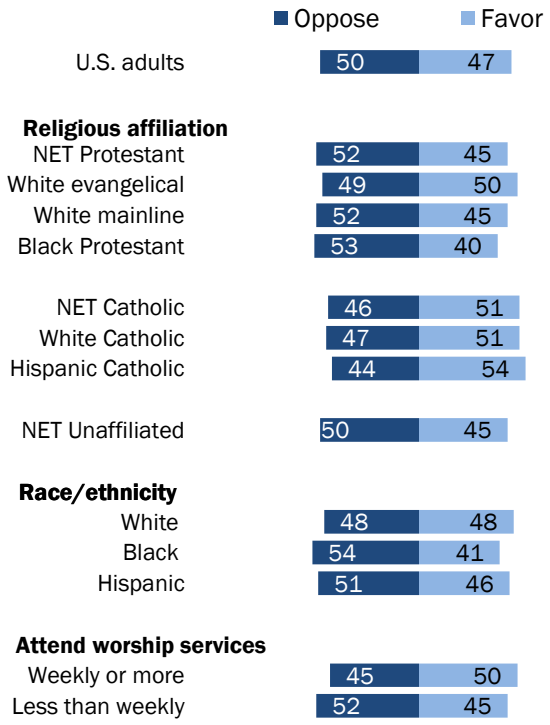
The general public is closely divided when it comes to the use of animals in scientific research – 47% of U.S. adults are in favor while 50% are opposed. Opinion on this question has shifted modestly from 52% in favor and 43% opposed in the 2009 Pew Research survey.

By and large, religious groups are similarly divided over whether animals should be used in scientific research. Hispanic Catholics, however, are somewhat more inclined to favor using animals in scientific research (54%), compared with black Protestants (among whom 40% favor and 53% oppose such research).

As shown in Pew Research Center's "Americans, Politics and Science Issues," there are sizeable differences between men and women on this issue. Men are more likely than women to favor animal research within most religious groups. However, Black Protestant and Hispanic Catholic men and women are closely divided on this issue.

U.S. Adults Closely Split on Use of Animals in Scientific Research

% of U.S. adults who oppose/favor the use of animals in scientific research



Source: Survey conducted Aug. 15-25, 2014. Q24A. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Half (50%) of people who attend worship services regularly favor the use of animals in research, while 45% oppose. Those who attend services less often tilt in the opposite direction, with 45% in favor and 52% opposed to animal research.

A multivariate logistic regression including religious affiliation groups and frequency of attendance finds those who attend services regularly to be more likely to favor animal research, compared with those who attend services less frequently. There were no significant differences by religious affiliation in this statistical modeling once other factors are controlled.

Religion and Views on Climate and Energy Issues

There is a long history of religious thinking and attention to the role of humans as stewards of the Earth and the environment. The Evangelical Environment Network, for example, is a ministry of Christian people and organizations aimed at reducing pollution and environmental degradation. The theological underpinnings for the network stem from the idea that God created Earth and humans, therefore, God's children have a responsibility to care for his creations. This perspective is shared across a number of faiths. Early in President Barack Obama's first term, the White House Office of Faith-Based Initiatives established a task force for religious organizations to address the effects of climate change on the environment and the American population. And, in June 2015, Pope Francis issued an encyclical urging Catholics and all people on Earth to focus on a broad range of issues and problems in the environment including pollution, climate change, biodiversity and global inequality of ecological systems.

Previous Pew Research Center studies have found only a modest effect of religion on attitudes about environmental protection. For example, a 2010 Pew Research Center telephone survey of U.S. adults found 81% of all adults, including strong majorities of all major religious traditions, favored "stronger laws and regulations to protect the environment," while 14% opposed them. While 47% of those who attend worship services at least once or twice a month said their clergy speak out on the environment, few adults described religion's influence as most important in shaping their thinking on environmental protection. Just 6% of U.S. adults in the 2010 survey said religious beliefs have had the biggest influence on what they think about "tougher laws to protect the environment." More said the biggest influence on their views has been education (28%), the media (24%), personal experience (18%), or something else (11%). Another 6% said friends or family had the biggest influence on their views.

When it comes to people's beliefs about climate change, it is the religiously unaffiliated, not those who identify with a religious tradition, who are particularly likely to say the Earth is warming due to human activity. Hispanic Catholics, like Hispanics in general, are more likely to say the Earth is warming due to human activity. White evangelical Protestants stand out as least likely to have this view. However, in multivariate statistical modeling, the major religious affiliation groups did not differ from the religiously unaffiliated in views about climate change. Political party identification and race and ethnicity are stronger predictors of views about climate change beliefs than are religious identity or observance.

Public views about climate change

The Pew Research Center survey asked respondents to pick which of three options best described their views about climate change. Overall, 50% of adults say climate change is occurring mostly because of human activity such as burning fossil fuels, 23% say climate change is occurring due to natural patterns in the Earth's environment, and 25% say there is no solid evidence that the Earth is warming.

Pew Research asked this same question in 2009 and found that about the same share of U.S. adults (49%) said the Earth is getting warmer due to human activity, while fewer said there is no solid evidence the Earth is getting warmer (11% in 2009 compared with 25% today). And more said warming is occurring due to natural patterns in the environment (36% in 2009 compared with 23% today).

Views about climate change vary by religious affiliation and level of religious observance. Hispanic Catholics (77%), like Hispanics overall (70%), are particularly likely to say the Earth is warming due to human activity. Most of the religiously unaffiliated (64%) and 56% of black Protestants say climate change is mostly due to human activity.

More Hispanic Catholics, Unaffiliated Say Earth Is Warming Due to Human Activity

% of U.S adults in each group who say the Earth is getting warmer because of human activity/natural patterns in the atmosphere/or that there is no solid evidence that the Earth is getting warmer

	Human activity	Natural patterns	No solid evidence	Don't know	
	%	%	%	%	
U.S. adults	50	23	25	2	=100
Religious affiliation					
NET Protestant	40	30	28	1	=100
White evangelical	28	33	37	1	=100
White mainline	41	24	33	2	=100
Black Protestant*	56	24	20	0	=100
NET Catholic	45	19	34	1	=100
White Catholic	45	19	34	2	=100
Hispanic Catholic*	77	15	8	0	=100
NET Unaffiliated	64	13	20	3	=100
Race/ethnicity					
White non-Hispanic	44	22	31	3	=100
Black non-Hispanic	56	26	17	*	=100
Hispanic	70	19	11	*	=100
Attend worship services					
Weekly or more	42	28	28	2	=100
Less than weekly	53	21	24	3	=100

Source: Survey conducted Aug. 15-25, 2014. Q20. Nested figures may not add to subtotals due to rounding. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race. *N for black Protestants=93; for Hispanic Catholics=94.

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By comparison, fewer white mainline Protestants (41%) view climate change as primarily due to human activity. White evangelical Protestants are least likely to hold this view; 28% among this group say the Earth is warming primarily due to human activity, 33% say the Earth's warming is mostly due to natural patterns, and 37% say there is no solid evidence that climate change is occurring.

There are modest differences by religious observance in views on this issue; 42% of frequent churchgoers attribute the Earth's warming to human activity, compared with 53% among those who attend services less regularly.

The Pew Research survey also asked half of the respondents about their views on climate change using a more nuanced series of questions. First, respondents were asked for their views about whether there is solid evidence the average temperature of the Earth has been getting warmer over the past few decades. Those who said there has been warming were then asked whether such warming is mostly due to human activity or mostly due to natural patterns in the Earth's environment. (For more on these results see "Public and Scientists' Views on Science and Society.") The pattern of findings by religious tradition and observance are similar on this set of questions.

A series of multivariate logistic regression analyses, not shown here, found no significant effect of church attendance on views either predicting that the Earth is warming or predicting that the Earth's warming is due to human activity, once other factors are controlled. Similarly, the major religious affiliation groups did not differ from the religiously unaffiliated in views about climate change.[5]

[5] See Pew Research Center's June 2015 report, "Catholics Divided Over Global Warming: Partisan Differences Mirror Those Among General Public," on the role of religious affiliation on beliefs about climate change.

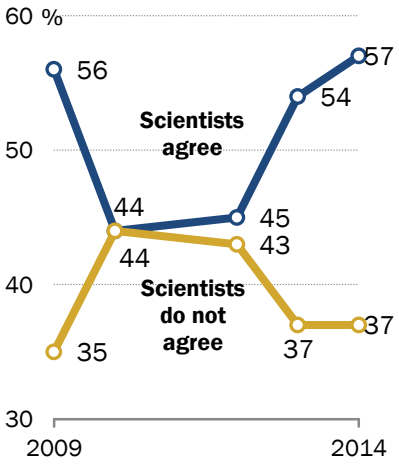
Perceptions of scientific consensus and divide about climate change

A majority of the U.S. public perceives scientists as generally in consensus about climate change. Most adults – 57% – say scientists generally agree the Earth is getting warmer because of human activity, while 37% say scientists generally disagree that human activity is the cause of the Earth getting warmer. The general public's perception has fluctuated in the past several years, reaching a low in 2010 of 44% who said that scientists generally agree human activity is the main cause of warming temperatures.

As shown in Pew Research Center's report "Public and Scientists' Views on Science and Society," public perceptions on this issue tend to be associated with individual views on the subject. Those who believe the Earth is getting warmer due to human activity are most inclined to see scientists as in agreement on this point, while those who believe the Earth's warming is due to natural patterns or that there is no solid evidence are more likely to see scientists as divided.

Perceptions of Scientists' Views on the Cause of the Earth's Warming Have Changed Over Time

% of U.S. adults who think scientists generally agree/don't agree the Earth is getting warmer because of human activity



Pew Research Center surveys 2009 through Dec. 2014. Those saying don't know are not shown.

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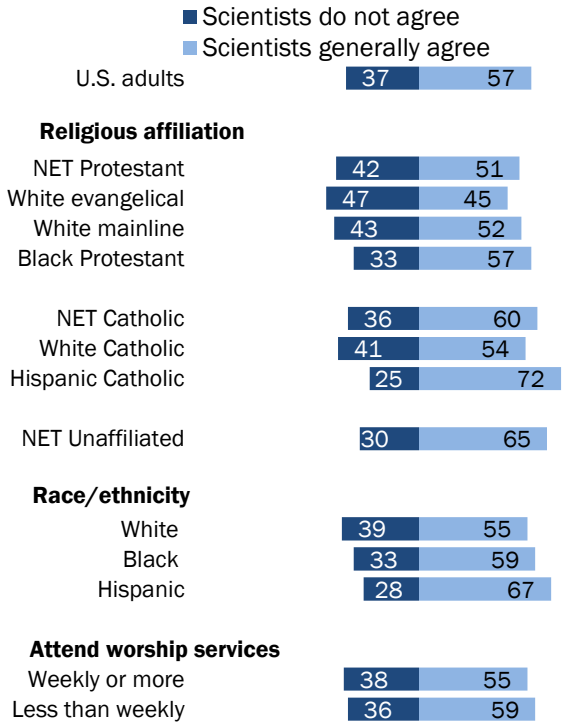
Hispanic Catholics, followed by the religiously unaffiliated, are especially likely to perceive scientists as generally agreeing that the Earth is warming due to human activity. White evangelical Protestants are closely divided, with 45% saying scientists generally agree and 47% saying scientists generally do not agree about this.

There are no differences in perceptions of scientific consensus on this issue by frequency of church attendance.

A multivariate logistic regression, not shown, found neither religious affiliation nor frequency of attendance significantly predict perceptions of scientific consensus about climate change.

Perceptions of Scientific Consensus on Climate Change

% of U.S. adults who think scientists generally agree/do not agree that the Earth is getting warmer due to human activity



Source: Survey conducted Aug. 15-25, 2014. Q23. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Offshore oil drilling

Turning to energy issues, the Pew Research Center survey finds 52% of Americans favor allowing more offshore drilling in U.S. waters; 44% are opposed.

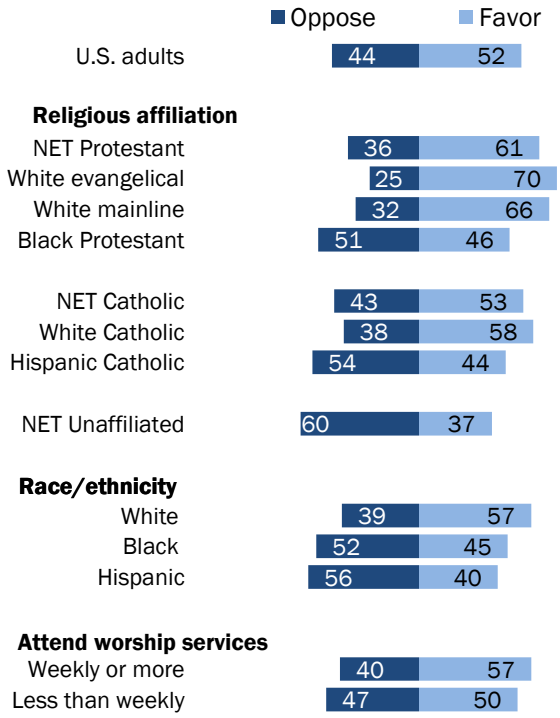
Fully seven-in-ten white evangelical Protestants and 66% of white mainline Protestants favor allowing more offshore oil and gas drilling. Support is lower among black Protestants (46%), as it is with blacks overall (45%). Hispanic Catholics (44%), like Hispanics overall (40%), are similarly less inclined to favor more offshore drilling. The religiously unaffiliated stand out for their lower levels of support: 37% favor and 60% oppose allowing more offshore drilling.

Regular churchgoers are more inclined than those who attend church less frequently to favor more offshore oil and gas drilling (57% vs. 50%).

Pew Research Center's report, "Americans, Politics and Science Issues," finds strong differences among party and ideology groups on views about offshore drilling. Upwards of seven-in-ten Republicans and independents who lean Republican favor offshore drilling (72%) compared with 39% of Democrats and leaning Democrats.

More Support for Offshore Drilling Among White Evangelical and Mainline Protestants

% of U.S. adults who favor/oppose allowing more offshore oil and gas drilling in U.S. waters



Source: Survey conducted Aug. 15-25, 2014. Q24e. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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A multivariate logistic analysis controlling for political and demographic factors, not shown, finds both evangelical and mainline Protestants (of any race) more likely than are the religiously unaffiliated to support more offshore drilling. Frequency of church attendance is not a significant predictor of views on this issue with other factors controlled.

Building more nuclear power plants

The general public is closely divided when it comes to opinions about nuclear power. About half of adults (51%) *oppose* building more nuclear power plants to generate electricity, while 45% are in favor. Support for building more nuclear power plants is down modestly from 2009, when 51% were in favor.

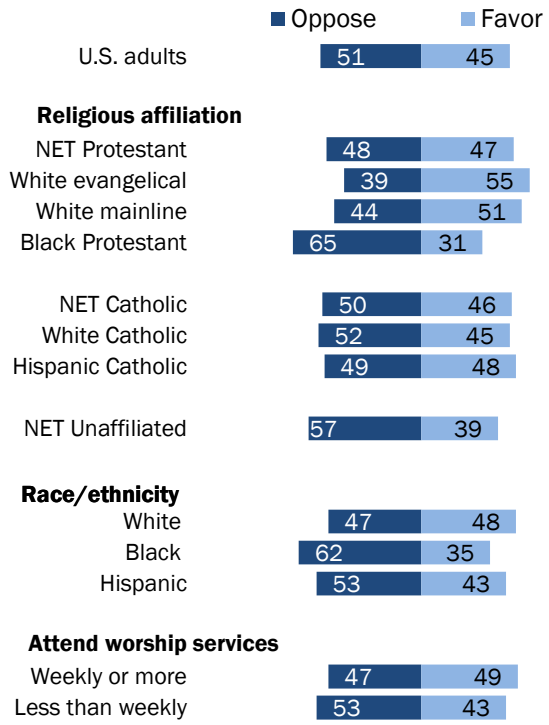
Black Protestants stand out from other religious groups for their greater opposition to nuclear power; 65% of this group (and 62% among blacks overall) oppose more nuclear power plants, while 31% are in favor. Protestants overall are closely divided on this issue with 47% of Protestants in favor and 48% opposed.

A 57% majority of the unaffiliated oppose building more nuclear power plants, while 39% are in favor.

There are modest differences by religious observance in views about nuclear energy: 49% of regular churchgoers favor building more nuclear power plants compared with 43% among those who attend services less often.

Majority of Black Protestants and Unaffiliated Oppose Building More Nuclear Power Plants

% of U.S. adults who favor/oppose building more nuclear power plants to generate electricity



Source: Survey conducted Aug. 15-25, 2014. Q24b. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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A multivariate logistic regression analysis, not shown, found no differences by religious affiliation or frequency of church attendance in views on nuclear power, when controlling for political, educational and demographic factors, however.

Genetically engineered fuel from plants

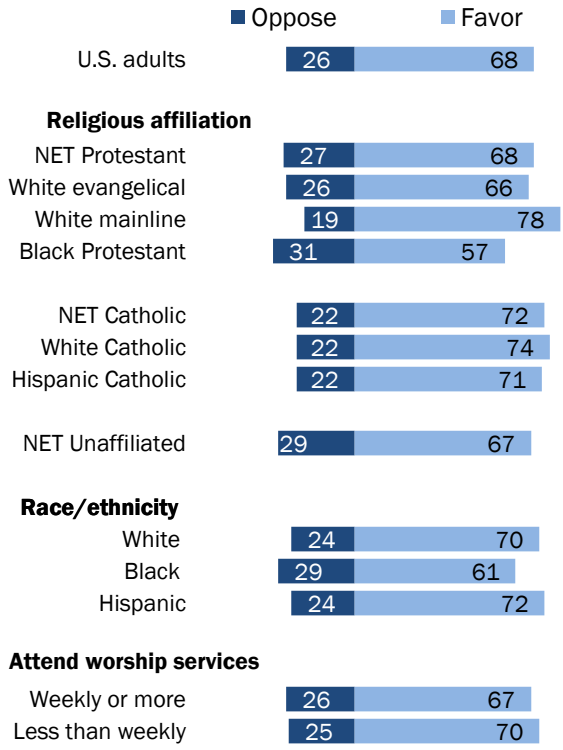
A majority of the public supports one newer form of energy development: Fully 68% of adults favor the increased use of genetically engineered plants to create a liquid fuel replacement for gasoline, while 26% oppose it.

Adults across all major religious groups are in favor of using genetically engineered plant fuel as a replacement for gasoline. White mainline Protestants are especially likely to favor this (78% do so).

Views towards the increased use of bioengineered fuel alternatives to gasoline are about the same among those who attend church services more and less frequently.

Most Americans Support the Use of Genetically Engineered Plant Fuel to Replace Gasoline

% of U.S. adults who favor/oppose the increased use of bioengineered fuel alternatives for gasoline



Source: Survey conducted Aug. 15-25, 2014. Q24d. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Hydraulic fracturing

Some 39% of Americans support the increased use of hydraulic fracturing, or "fracking," to extract oil and natural gas from underground rock formations, while 51% of the public are opposed. [6]

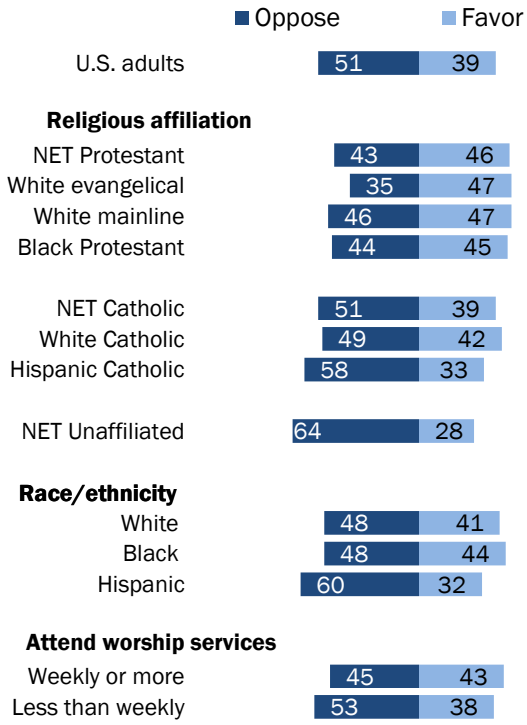
The religiously unaffiliated stand out for their lower levels of support of fracking; 28% of this group favors increased fracking, while 64% are opposed. Lower support for fracking also is seen among Hispanic Catholics (33%) and among Hispanics overall (32%). Protestants are closely divided on this issue, with 46% in favor and 43% opposed to increased fracking.

There are modest differences in views about fracking by religious service attendance; 53% of those who attend services less regularly oppose the increased use of fracking, compared with 45% among those who attend services at least weekly.

A multivariate logistic regression, not shown, found mainline Protestants (of any race) more likely to favor fracking compared with the unaffiliated, when controlling for political, educational and demographic differences. Frequency of church attendance is not a significant predictor of views about fracking in this modeling.

Support for Fracking Is Lower Among the Unaffiliated, Hispanic Catholics

% of U.S. adults who favor/oppose the increased use of fracking to extract oil and natural gas



Source: Survey conducted Aug. 15-25, 2014. Q24c. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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[6] See Pew Research Center's 2014 report "Little Enthusiasm, Familiar Divisions After GOPs Big Midterm Victory." The Nov. 6-9, 2014, Pew Research survey repeated the question about support for fracking among the general public; it found overall support roughly the same as that reported above: 41% favor the increased use of fracking and 47% oppose.

Global population growth and natural resources

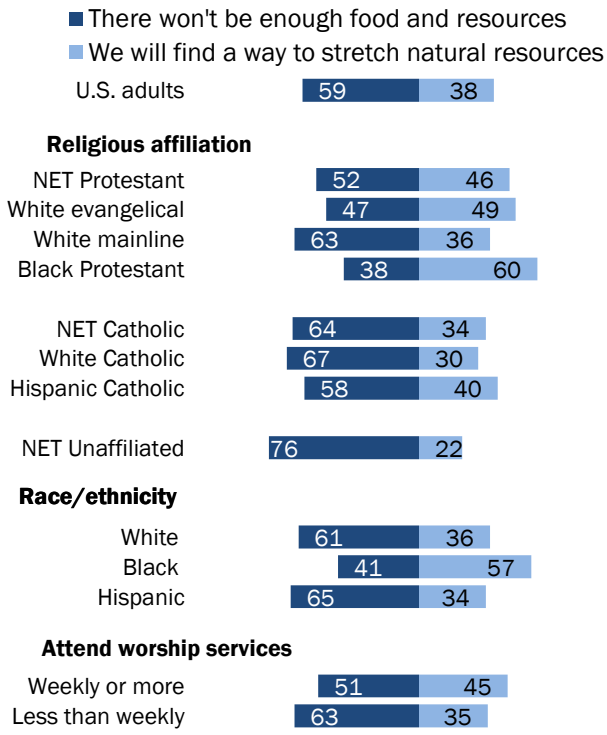
The Pew Research Center survey included one question that asked Americans to think about the relationship between global population growth and natural resources. A 59% majority of Americans say world population growth will be a major problem because there won't be enough food and resources to go around, while 38% say world population growth will *not* be a major problem because we will find a way to stretch our natural resources.

Views on this issue vary across religious traditions. Most black Protestants (60%), and black adults overall (57%), take an optimistic view that new solutions will emerge to address the strains on natural resources caused by a growing world population. The unaffiliated (76%), followed by white mainline Protestants (63%), are more likely to see the growing world population as leading to a major problem.

Less-frequent churchgoers are more inclined to say global population growth will be a major problem; 63% say this, while 35% say the world will find a way to stretch its natural resources. By comparison, 51% of adults who attend church weekly or more say world population growth will be a major problem; 45% say otherwise.

Those Unaffiliated With Religion Say Global Population Growth Will Be a Major Problem

% of U.S. adults who say the growing world population will/will not be a major problem because ...



Source: Survey conducted Aug. 15-25, 2014. Q28. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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A multivariate logistic analysis, not shown, finds religious group to be a significant predictor of views on this issue. Compared with the unaffiliated, evangelical and mainline Protestants (of any race), as well as Catholics and other Christians, are more likely to say world population growth will not be a major problem because we will find a way to stretch our natural resources.

Few Religious Group Differences in Views on Space Issues

Space exploration has, up to now, been largely funded by the federal government and overseen by NASA. The Pew Research Center survey included two questions about space. One asks about government investment in the International Space Station. A second question asks for views about the role of astronauts as part of space exploration in the future. There are few differences among religious groups on either question.

U.S. investment in the space station

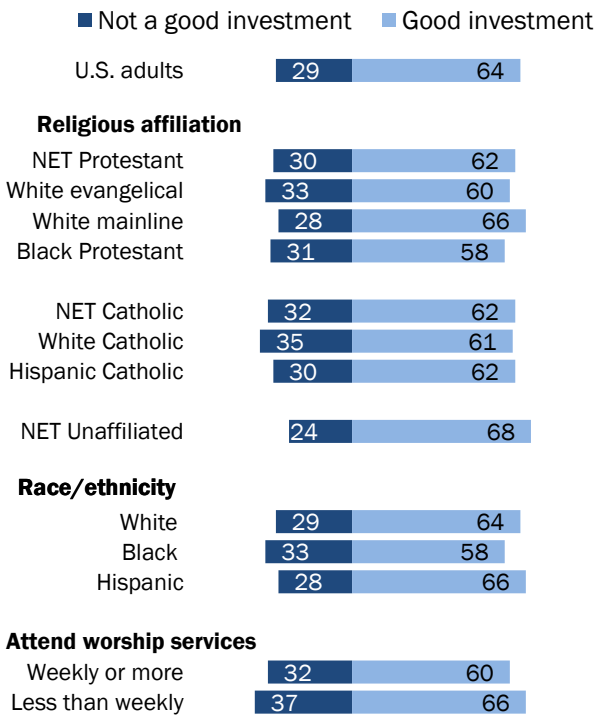
The Pew Research Center survey asked: "Do you think the space station has been a good investment for this country, or don't you think so?" A majority of adults – 64%– consider the space station a good investment for the country, while 29% say it has not.

Majorities across all major religious groups say the space station has been a good investment.

Views on this issue by frequency of church attendance are roughly the same.

Majority of All Major Religious Groups Say Space Station Has Been a Good Investment

% of U.S. adults who say the space station has been...



Source: Survey conducted Aug. 15-25, 2014. Q29. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Neither religious affiliation nor frequency of church attendance significantly predicts views about investment in the space station when controlling for other factors in a multivariate logistic regression analysis.

Human astronauts and the U.S. space program

The Pew Research survey also included a question about the role of astronauts in future space exploration. The question stated: "The cost of sending human astronauts to space is considerably greater than the cost of using robotic machines for space exploration. As you think about the future of the U.S. space program, do you think it is essential or not essential to include the use of human astronauts in space?"

A majority of the public (59%) says astronauts are essential to include in the future of the U.S. space program, while 39% say astronauts are not essential.

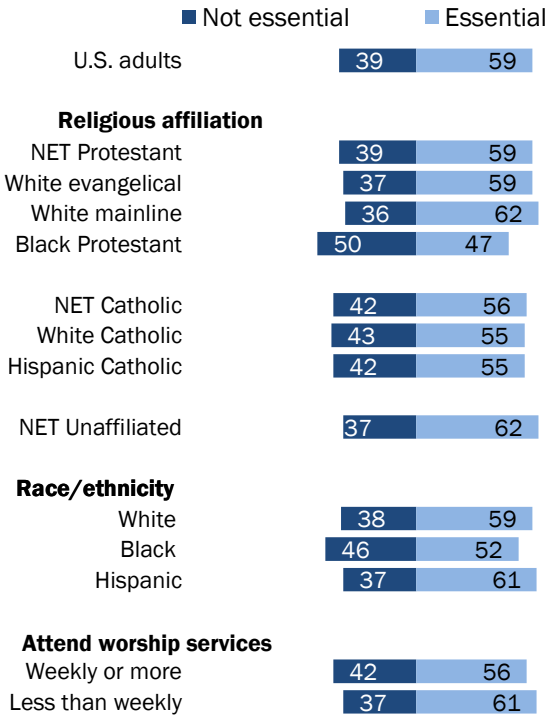
Most religious groups say human astronauts are an essential part of future U.S. space exploration. But black Protestants are closely divided on whether human astronauts are essential, with 47% saying human astronauts are essential and 50% saying they are not.

Views about the use of humans in the space program do not significantly vary based on how often the general public attends church.

A multivariate logistic regression analysis, not shown, found no differences by religious affiliation or frequency of church attendance in views about this issue when controlling for other factors.

Majority of Americans Think Human Astronauts Are Essential to U.S. Space Exploration

% of U.S. adults who say it is essential/not essential to include the use of human astronauts in the future of the U.S. space program



Source: Survey conducted Aug. 15-25, 2014. Q30. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Majorities of All Religious Groups See Long-Run Benefits of Science Funding

There is strong public support for government investment in science. Overall, 71% of adults say government investment in basic science research "pays off in the long run," while 24% say such investments are not worth it. Similarly, most see positive benefits from government investment in engineering and technology; 72% say investments in this area pay off in the long run and 22% say such investments are not worth it.

Majorities of all major religious groups say government investment in science pays off in the long run. Hispanic Catholics are particularly likely to hold this view (86%), followed by the unaffiliated (76%) and white mainline Protestants (77%). Some 64% of white Catholics and 63% of white evangelical Protestants say government spending on basic science research pays off.

Views about government investment in engineering and technology follow a similar pattern. Majorities of all major religious groups say such investment pays off in the long run. The share with this view is highest among Hispanic Catholics (80%), white mainline Protestants (79%), black Protestants and the unaffiliated (77% each). Smaller majorities of white evangelical Protestants (65%) and white Catholics (61%) say

Views About Government Investment in Science, Engineering

% of U.S. adults who say government investment in each area pays off in the long run/is not worth it

	Basic science research		Engineering and technology	
	Pays off	Not worth it	Pays off	Not worth it
U.S. adults	71	24	72	22
Religious affiliation				
NET Protestants	69	25	73	21
White evangelical	63	32	65	27
White mainline	77	18	79	17
Black Protestant	69	22	77	17
NET Catholic	71	25	68	26
White Catholic	64	32	61	31
Hispanic Catholic	86	11	80	15
NET Unaffiliated	76	20	77	18
Race/ethnicity				
White	69	26	70	24
Black	72	21	78	17
Hispanic	82	13	78	16
Attend worship services				
Weekly or more	70	24	71	24
Less than weekly	72	23	73	21

Source: Survey conducted Aug. 15-25, 2014. Q12a,b. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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investment in engineering and technology pays off.

There are no differences in perceived benefits of government funding in either area by frequency of church attendance.

The Pew Research Center survey asked respondents about the role of government investment in scientific progress. Some 61% of U.S. adults say "government investment is essential for scientific progress" while 34% say "private investment will ensure that enough progress is made, even without government investment."

Members of most religious groups tend to say government investment is essential for scientific progress. White evangelical Protestants are closely divided, however, with 51% saying government funding is essential and 47% saying private investment would be enough to ensure scientific progress.

There are no differences in views on this question by frequency of church attendance.

Views about this issue are also related to political party and ideology, as detailed in our report "Americans, Politics and Science Issues." Separate logistic regression analyses, not shown, found neither religious tradition nor religious observance to significantly predict views about funding on this question after controlling for political and other factors.

Most Say Government Funding is Key Scientific Progress

% of U.S. adults who say government investment is essential for scientific progress/private investment will ensure that enough progress is made, even without government investment

	Government investment is essential	Private investment will be enough
U.S. adults	61	34
Religious affiliation		
NET Protestants	58	38
White evangelical	51	47
White mainline	61	34
Black Protestant	61	34
NET Catholic	66	28
White Catholic	64	29
Hispanic Catholic	67	27
NET Unaffiliated	66	31
Race/ethnicity		
White	61	34
Black	61	35
Hispanic	67	27
Attend worship services		
Weekly or more	58	35
Less than weekly	63	32

Source: Survey conducted Aug. 15-25, 2014. Q13. Those saying don't know are not shown. Whites and blacks include only non-Hispanics; Hispanics are of any race.

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Appendix A: About the Survey

The bulk of the analysis in this report stems from a Pew Research Center survey conducted by telephone with a national sample of adults (18 years of age or older) living in all 50 U.S. states and the District of Columbia. The results are based on 2,002 interviews (801 respondents were interviewed on a landline telephone and 1,201 were interviewed on a cellphone). Interviews were completed in English and Spanish by live, professionally trained interviewing staff at Princeton Data Source under the direction of Princeton Survey Research Associates International from Aug. 15 to Aug. 25, 2014.

Survey Design

A combination of landline and cell random digit dial (RDD) samples were used to reach a representative sample of all adults in the United States who have access to either a landline or cellular telephone. Both samples were disproportionately stratified to increase the incidence of African-American and Hispanic respondents. Within each stratum, phone numbers were drawn with equal probabilities. The landline samples were list-assisted and drawn from active blocks containing one or more residential listings, while the cell samples were not list-assisted but were drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers. Both the landline and cell RDD samples were disproportionately stratified by county based on estimated incidences of African-American and Hispanic respondents.

Margin of sampling error

Statistical results are weighted to correct known demographic discrepancies, including disproportionate stratification of the sample. The margins of error table shows the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample – the one around 50%. For example, the margin of error for the entire sample is ±3.1 percentage points. This means that in 95 out of every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.1 percentage points away from their true values in the population. Sampling errors and statistical tests of significance used in this report take into account the effect of weighting. In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

Margins of Error

	Sample size	Margin of error in percentage points
All adults	2,002	+/-3.1
White, not Hispanic	1,213	+/-4.0
Black, not Hispanic	258	+/- 8.0
Hispanic	360	+/-6.6
Religious affiliation		
NET Affiliated	1,548	+/-3.5
NET Protestant	911	+/-4.6
White evangelical	304	+/-7.9
White mainline	278	+/-8.3
Black Protestant	186	+/-10.1
NET Catholic	448	+/-6.5
White Catholic	241	+/-8.9
Hispanic Catholic	174	+/-10.5
NET Unaffiliated	419	+/-6.7
Attend worship services		
Weekly or more	742	+/-5.1
Less than weekly	1,239	+/-3.9

Note: The margins of error are reported at the 95% level of confidence and are calculated by taking into account the average design effect.

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Interviewing procedures

All interviews were conducted using a Computer Assisted Telephone Interviewing (CATI) system, which ensures that questions were asked in the proper sequence with appropriate skip patterns. CATI also allows certain questions and certain answer choices to be rotated, eliminating potential biases from the sequencing of questions or answers.

For the landline sample, half of the time, interviewers asked to speak with the youngest adult male currently at home and the other half of the time asked to speak with the youngest adult female currently at home, based on a random rotation. If no respondent of the initially requested gender was available, interviewers asked to speak with the youngest adult of the opposite gender who was currently at home. For the cellphone sample, interviews were conducted with the person who

answered the phone; interviewers verified that the person was an adult and could complete the call safely.

Both the landline and cell samples were released for interviewing in replicates, which are small random samples of each larger sample. Using replicates to control the release of the telephone numbers ensures that the complete call procedures are followed for all numbers dialed. As many as seven attempts were made to contact every sampled telephone number. The calls were staggered at varied times of day and days of the week (including at least one daytime call) to maximize the chances of making contact with a potential respondent.

Questionnaire development

Pew Research Center developed the questionnaire. The design of the questionnaire was informed by consultation with a number of staff at the Pew Research Center, senior staff of the American Association for the Advancement of Science (AAAS) and several outside advisers. Questionnaire development is an iterative process. A pilot study was conducted Aug. 5-6, 2014, with 101 adults living in the continental U.S. The sample was drawn from fresh RDD landline phone numbers (n=25) and a sample of cellphone numbers from respondents interviewed in recent RDD omnibus studies (n=76). The tested questionnaire included a number of open-ended questions to gauge what respondents had in mind when thinking about the positive and negative effects of science on society. As a final step, a traditional pretest was conducted Aug. 12, 2014, with 24 adults living in the continental U.S. The sample was drawn from fresh RDD landline phone numbers and a sample of cellphone numbers from respondents interviewed in recent RDD omnibus studies. The interviews were conducted in English under the direction of Princeton Survey Research Associates International. The interviews tested the questions planned for the study questionnaire in the full survey context. The final questionnaire lasted about 22 minutes, on average.

Weighting

Several stages of statistical adjustment or weighting are used to account for the complex nature of the sample design. The weights account for numerous factors including (1) the different, disproportionate probabilities of selection in each strata, (2) the overlap of the landline and cell RDD sample frames and (3) differential nonresponse associated with sample demographics.

The first stage of weighting accounts for different probabilities of selection associated with the number of adults in each household and each respondent's telephone status.[7] This weighting also adjusts for the overlapping landline and cell RDD sample frames and the relative sizes of each

[7] Telephone status refers to whether respondents have only a landline telephone, only a cellphone, or both kinds of telephone.

frame and each sample. Due to the disproportionately stratified sample design, the first-stage weight was computed separately for each stratum in each sample frame.

After the first-stage weight adjustment, two rounds of poststratification were performed using an iterative technique known as raking. The raking matches the selected demographics to parameters from the U.S. Census Bureau's 2012 American Community Survey data.[8] The population density parameter was derived from 2010 census data. The telephone usage parameter came from an analysis of the July-December, 2013 National Health Interview Survey.[9] Raking was performed separately for those asked each form of the questionnaire using sample balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the Deming Algorithm. The raking corrects for differential nonresponse that is related to particular demographic characteristics of the sample. This weight ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the population.

The first round of raking was done individually for three racial/ethnic groups (Hispanics, non-Hispanic blacks, and all other non-Hispanics). The variables matched to population parameters for each race/ethnicity group were gender, age, education and region. The variables matched to population parameters for Hispanic respondents also included nativity (U.S. born versus foreign born). The variables for other non-Hispanic respondents also included race (white race versus some other or mixed race).

A second round of poststratification raking was performed on the total sample for each form. Each form was raked to the following demographic variables: gender by age, gender by education, age by education, census region, race/ethnicity, population density and household telephone status (landline only, cellphone only, or both landline and cellphone).

About the Multivariate Regression Analyses

The regression analyses described in this report are based on the full sample of U.S. adults in the survey who provided a response on each topic. Results from many of these analyses are shown in the Pew Research report, "Americans, Politics and Science Issues;" results from other analyses described here are available upon request.

[8] ACS analysis was based on all adults, excluding those living in institutional group quarters.
[9] See Blumberg, Stephen J. and Julian V. Luke. 2014. "Wireless substitution: Early Release of Estimates from the National Health Interview Survey, July-December, 2013." National Center for Health Statistics.

The analysis is based on the weighted sample, thus adjusting for differences in the probability of selection and nonresponse differences across groups.[10] Results are based on 0.05 level of statistical significance. The dependent variable omits respondents who said don't know to that question. The independent variables used in each analysis are as follows: gender (women compared with men); race and ethnicity (non-Hispanic blacks, Hispanics and other or mixed race as compared with non-Hispanic whites); age; education (having a postgraduate degree, college degree or some college as compared with those having a high school degree or less education); science knowledge (those with more as compared with less knowledge about science based on an index of six items); party affiliation (Republicans and leaning Republicans, and those with no affiliation or leaning lean toward either party as compared with Democrats and leaning Democrats); political ideology (conservatives, moderates as compared with liberals); frequency of worship attendance (comparing those attending services weekly or more often and monthly/yearly with those who seldom/never attend); and religious affiliation. Religious affiliation variables include classification as an evangelical Protestant, mainline Protestant, Catholic, some other Christian (such as Mormon or Orthodox), and some other religion (such as Jewish, Muslim, Hindu) as compared with the religiously unaffiliated.

For several issues, separate analyses included the variables described above in addition to one or two other factors such as perceptions of scientific consensus about the topic.[11] The total number of respondents in each analysis ranges between roughly 1,614 (when religious factors are included in the model) to a possible maximum of 2,002 respondents, depending on the number of missing responses to either an independent variable in the model or to the dependent variable. The dataset will be publicly available for secondary analysis through the Pew Research Center website in the coming months.

As with the earlier report, each conceptual factor of interest – in this report, either religious affiliation or frequency of religious service attendance – is classified as having a strong, medium or weak effect in explaining people's views across the set of science-related topics. "Strong" factors are defined here as those that have at least one statistically significant independent variable in the set related to the conceptual factor, which is estimated to change the predicted probability of people's views by at least one half of a standard deviation. "Medium" factors are statistically significant predictors where the change in predicted probability is less than one half of a standard deviation in the independent variable. If no independent variable in that set meets the criteria for

[10] The analysis was conducted in Stata using the svy command to incorporate the survey weights. The changes in predicted probability were calculated using the prchange command in the SPost package developed by J. Scott Long and Jeremy Freese; calculations of changes in predicted probability hold all other factors at their unweighted means.

[11] We also ran a number of logistic regression analyses, not shown here, to test the degree to which the findings we present are consistent across alternative model specifications. For example, we ran models for the 21 dependent measures with the exact same set of independent factors.

a strong or medium effect, the factor is classified as having a "weak" effect. Note however, that if the *only* significant predictor in the set of religious affiliation variables was either other Christian or other religion then the factor was classified as weak. Similarly, if the *only* significant predictor in the set of religious service attendance variables was month/yearly service attendance the factor was classified as weak.

These classifications are designed to help readers assess the broader patterns underlying public attitudes across a large set of topics, but they are, of course, dependent on the criteria used. Note that judging the relative effect size against the standard deviation of the independent variable means that independent variables with more variability require a greater change in predicted probability to be classified as strong as those with less variability. Measures of religious affiliation and frequency of religious service attendance have similar levels of variability; the change in predicted probability for either factor to be considered strong is between 0.21 and 0.23.

Appendix B: Survey Questions

PEW RESEARCH CENTER
GENERAL PUBLIC SCIENCE SURVEY
TOPLINE
AUG. 15-25, 2014
N=2,002

NOTE: ALL NUMBERS ARE PERCENTAGES. ANY PERCENTAGES GREATER THAN ZERO BUT LESS THAN 0.5% ARE REPLACED BY AN ASTERISK (*). COLUMNS/ROWS MAY NOT TOTAL 100% DUE TO ROUNDING.

Q1 THROUGH Q6. PREVIOUSLY RELEASED

ASK ALL:
Q.7 In your opinion, generally do you think... **[READ AND RANDOMIZE]**

Aug 15-25, 2014		Apr 28-May 12, 2009
59	Science and religion are often in conflict [OR]	55
38	Science and religion are mostly compatible	38
4	Don't know/Refused **(VOL.)**	7

TREND FOR COMPARISON:
AAAS members survey

Sept 11-Oct 13, 2014	
50	Science and religion are often in conflict [OR]
50	Science and religion are mostly compatible
*	No answer

ASK ALL:
Q.8 Now thinking about your own religious beliefs, does science sometimes conflict with your own religious beliefs, or doesn't it?

Aug 15-25, 2014		Apr 28-May 12, 2009
30	Yes, science conflicts with own religious beliefs	36
68	No, science does not conflict with own religious beliefs	61
3	Don't know/Refused **(VOL.)**	3

IF Q8=1 AND FORM 1, ASK:

Q9F1 Can you tell me some ways in which science conflicts with your own religious beliefs? [**OPEN END; ACCEPT UP TO THREE RESPONSES; PROBE ONCE IF "DON'T KNOW," AND PROBE FOR CLARITY, BUT DO NOT PROBE FOR ADDITIONAL RESPONSES**]

BASED ON THOSE SAYING SCIENCE CONFLICTS WITH RELIGIOUS BELIEF AND FORM 1 [N=328]

Aug 15-25 2014	
36	Conflict over evolution, creation of universe, Darwin, Big Bang
24	**NET** general conflict, belief in God, Bible, facts vs. beliefs, God is in charge vs. man is in charge
6	*Conflict over belief or denial of belief in God, higher being*
10	*Conflict over Bible, miracles, immaculate conception*
6	*General—conflict between science and religion*
3	*General—science is based on facts, religion based on beliefs*
11	**NET** Conflict over beginning of life
7	*Abortion, beginning of life*
1	*Birth control, artificial insemination*
3	*Stem cell research*
7	**NET** Conflict over specific medical, scientific practices
4	*Medical treatments, blood transfusion, natural healing, vaccines*
1	*Cloning, animals and cloning*
2	*Genetics, genetic engineering*
1	Conflict over beliefs about the afterlife, euthanasia and right to die
2	Conflict over global warming, climate change
*	Space travel, exploration of the universe
1	Gays, homosexuality
2	Specific mentions: school teaching, news media, political leaders
8	Other, unclear response
18	Don't know

Q9F1 CONTINUED.
OPEN-END TREND FOR COMPARISON[12]:
Based on those saying science conflicts with their religious beliefs and form 1 [N=342]

Apr 28-May 12, 2009	
41	Conflict over evolution, creation of universe, Darwin, big bang
11	**NET** general conflict, belief in God, Bible, facts vs. beliefs, God is in charge vs. man is in charge
4	*Conflict over belief or denial of belief in God, higher being*
4	*Conflict over Bible, miracles, immaculate conception*
2	*General—conflict between science and religion*
1	*General—science is based on facts, religion based on beliefs*
23	**NET** Conflict over beginning of life
12	*Abortion, beginning of life*
2	*Birth control, artificial insemination*
8	*Stem cell research*
8	**NET** Conflict over specific medical, scientific practices
3	*Medical treatments, blood transfusion, natural healing, vaccines*
5	*Cloning, animals and cloning*
*	*Genetics, genetic engineering*
*	Conflict over beliefs about the afterlife, euthanasia and right to die
*	Gays, homosexuality
4	Other, unclear response
25	Don't know

NO QUESTION 10-11

QUESTION 12 THROUGH 13 PREVIOUSLY RELEASED

NO QUESTION 14-15

[12] Comparisons of trends over time for open-ended questions should be made with caution. Frequencies shown here differ somewhat from the 2009 Pew Research topline and report because the 2009 responses were re-coded to allow for greater comparability with coded responses to the 2014 survey.

ASK ALL:
Now a few questions about some issues...

[RANDOMIZE QUESTIONS 16-18 IN BLOCKS WITH QUESTIONS Q20F1 to Q23 IN BLOCKS]
ASK ALL:
Q.16 Which comes closer to your view? **[READ AND RANDOMIZE]:** Humans and other living things have evolved over time **[OR]** Humans and other living things have existed in their present form since the beginning of time.

IF EVOLVED (Q.16=1), ASK:
Q.17 And do you think that…**[READ OPTIONS AND RANDOMIZE]**: Humans and other living things have evolved due to natural processes such as natural selection **[OR]** A supreme being guided the evolution of living things for the purpose of creating humans and other life in the form it exists today?

	----------Evolved over time----------					
	Total	*Due to natural processes*	*Supreme being guided evolution*	***(VOL.) DK/ Ref***	Existed in present form since beginning	**(VOL.)** DK/ Ref
Aug 15-25, 2014	65	35	24	5	31	4
Feb 27-Mar 16, 2014	61	*34*	*23*	*4*	34	5
Mar 21-Apr 8, 2013	60	*32*	*24*	*4*	33	7
Apr 28-May 12, 2009[13]	61	*32*	*22*	*7*	31	8
TRENDS FOR COMPARISON:						
AAAS members *survey*						
Sept 11-Oct 13, 2014[14]	98	90	8	1	2	*
May 1-June 14, 2009	97	87	8	2	2	1

[RANDOMIZE QUESTIONS 16-18 IN BLOCKS WITH QUESTIONS Q20F1 to Q23 IN BLOCKS]
ASK ALL:
Q.18 From what you've heard or read, do scientists generally agree that humans evolved over time, or do they not generally agree about this?

			TRENDS FOR COMPARISON:	
Aug 15-25, 2014		Apr 28-May 12, 2009	July 2006[15]	July 2005
66	Yes, scientists generally agree that humans evolved over time	60	62	54
29	No, scientists do not generally agree that humans evolved over time	28	28	33
6	Don't know/Refused **(VOL.)**	11	10	13

No QUESTION 19

[13] Similar questions on beliefs about evolution were asked in Pew Research surveys in July 2006 and July 2005. Beliefs about evolution were preceded by a question about whether respondents believed in God. That survey context may influence responses to questions about evolution. For details see topline in "Many Americans Uneasy with Mix of Religion and Politics", August 24, 2006.
[14] The nested Q17 responses do not add to the net of 98% on Q16 due to rounding.
[15] Question wording for July 2006 and earlier asked "From what you've heard or read, is there general agreement among scientists that humans evolved over time, or not?"

[RANDOMIZE QUESTIONS 16-18 IN BLOCKS WITH QUESTIONS Q20F1 to Q23 IN BLOCKS]
ASK FORM 1 ONLY: [N=1,001]

Q.20F1 Which of these three statements about the Earth's temperature comes closest to your view?
[READ AND RANDOMIZE FIRST TWO OPTIONS; KEEP THIRD OPTION LAST]:

Aug 15-25, 2014		Apr 28-May 12, 2009[16]
50	The Earth is getting warmer mostly because of human activity such as burning fossil fuels [OR]	49
23	The Earth is getting warmer mostly because of natural patterns in the Earth's environment	36
25	There is no solid evidence that the Earth is getting warmer	11
2	Don't know/Refused **(VOL.)**	4

TRENDS FOR COMPARISON:

	Mostly b/c of human activity such as burning fossil fuels	Mostly b/c of natural patterns in Earth's environment	No solid evidence Earth getting warmer	No answer
AAAS members *survey*[17]				
Sept 11-Oct 13, 2014	87	9	3	1
May 1-June 14, 2009	84	10	4	2

[16] Response options for the 2009 survey were, "The Earth is getting warmer mostly because of natural changes in the atmosphere; the Earth is getting warmer mostly because of human activity such as burning fossil fuels; the Earth is not getting warmer."
[17] Question wording for 2009 and 2014 scientists survey: "From what you've read and heard, do you think … [RANDOMIZE RESPONSE OPTIONS 1 & 2]." One of the response options in 2009 was worded differently. It read "the Earth is getting warmer mostly because of natural changes in the atmosphere."

[RANDOMIZE QUESTIONS 16-18 IN BLOCKS WITH QUESTIONS Q20F1 to Q23 IN BLOCKS]
ASK FORM 2 ONLY: [N=1,001]
Q.21AF2 From what you've read and heard, is there solid evidence that the average temperature on Earth has been getting warmer over the past few decades, or not?
ASK IF EARTH IS GETTING WARMER (Q.21AF2=1):
Q.21BF2 Do you believe that the Earth is getting warmer **[READ AND RANDOMIZE**: mostly because of human activity such as burning fossil fuels/mostly because of natural patterns in the Earth's environment**]**?

	----------Yes, solid evidence----------					**(VOL.)**	
	Total	*Mostly b/c of human activity such as burning fossil fuels*	*Mostly b/c of natural patterns in Earth's environment*	***(VOL.)*** *DK/Ref*	No	Mixed/ some evidence	**(VOL.)** DK/Ref
Aug 15-25, 2014[18]	72	46	22	3	25	1	2
Feb 27-Mar 16, 2014	61	40	*18*	*3*	35	1	3
Oct 9-13, 2013	67	*44*	*18*	*4*	26	2	5
Mar 13-17, 2013	69	*42*	*23*	*4*	27	1	4
Oct 4-7, 2012	67	*42*	*19*	*6*	26	1	6
Nov 9-14, 2011	63	*38*	*18*	*6*	28	1	8
Feb 22-Mar 1, 2011	58	*36*	*18*	*5*	34	2	5
Oct 13-18, 2010	59	*34*	*18*	*6*	32	1	8
Sep 30-Oct 4, 2009	57	*36*	*16*	*6*	33	2	8
April, 2008	71	*47*	*18*	*6*	21	3	5
January, 2007	77	*47*	*20*	*10*	16	1	6
August, 2006	77	*47*	*20*	*10*	17	1	5
July, 2006	79	*50*	*23*	*6*	17	1	3
June, 2006	70	*41*	*21*	*8*	20	1	9

[RANDOMIZE QUESTIONS 16-18 IN BLOCKS WITH QUESTIONS Q20F1 to Q23 IN BLOCKS]
ASK FORM 2 ONLY: [N=1,001]
Q.21AF2 From what you've read and heard, is there solid evidence that the average temperature on Earth has been getting warmer over the past few decades, or not?
ASK IF EARTH IS NOT GETTING WARMER (Q.21AF2=2):
Q.21CF2 Do you think that we just don't know enough yet about whether the Earth is getting warmer or do you think it's just not happening?

Aug 15-25, 2014		Feb 27-Mar 16 2014	Oct 9-13 2013[19]
25	NET No solid evidence (Q.21AF2)	35	26
11	*Just don't know enough yet*	*17*	*12*
13	*Just not happening*	*17*	*13*
1	*Don't know/Refused **(VOL.)***	*1*	*1*
75	Solid evidence/Some evidence (VOL.) /Don't know **(VOL.)**(Q.21AF2)	65	74

[18] These questions have since been asked in a May 7-June 7, 2015 survey with 5,122 respondents; the results are similar. See Pew Research Center's June report "Catholics Divided Over Global Warming: Partisan Differences Mirror Those Among General Public."
[19] Prior to October 2013, follow-up question was not asked of those who said there was no solid evidence.

NO QUESTION 22

[RANDOMIZE QUESTIONS 16-18 IN BLOCKS WITH QUESTIONS Q20F1 to Q23 IN BLOCKS]
ASK ALL:
Q.23 From what you've heard or read, do scientists generally agree that the Earth is getting warmer because of human activity, or do they not generally agree about this?

Aug 15-25, 2014		Oct 9-13 2013	Oct 4-7 2012	Oct-13-18 2010	Apr 28-May 12 2009
57	Yes, scientists generally agree that the Earth is getting warmer because of human activity	54	45	44	56
37	No, scientists do not generally agree that the Earth is getting warmer because of human activity	37	43	44	35
6	Don't know/Refused **(VOL.)**	10	12	12	9

ASK ALL:
On another topic.
Q.24 All in all, do you favor or oppose **[INSERT ITEM; RANDOMIZE]?** Do you favor or oppose **[NEXT ITEM]**?

		Favor	Oppose	**(VOL.)** DK/Ref
a.	The use of animals in scientific research			
	Aug 15-25, 2014	47	50	3
	Apr 28-May 12, 2009	52	43	6
	TRENDS FOR COMPARISON:			
	AAAS members *survey*			
	Sept 11-Oct 13, 2014	89	9	2
	May 1-June 14, 2009	93	5	2
b.	Building more nuclear power plants to generate electricity[20]			
	Aug 15-25, 2014	45	51	4
	Apr 28-May 12, 2009	51	42	7
	TRENDS FOR COMPARISON:			
	AAAS members *survey*			
	Sept 11-Oct 13, 2014	65	33	2
	May 1-June 14, 2009	70	27	3
c.	The increased use of fracking, a drilling method that uses high-pressure water and chemicals to extract oil and natural gas from underground rock formations[21]			
	Aug 15-25, 2014	39	51	10
	Sep 4-8, 2013	44	49	7
	Mar 13-17, 2013	48	38	14
	TREND FOR COMPARISON:			
	AAAS members *survey*			
	Sept 11-Oct 13, 2014	31	66	3

[20] Other Pew Research surveys have asked for views about "government policies to address America's energy supply" including opinions about "the government promoting the use of nuclear power." See "Continued Support for Keystone XL Pipeline," Sep. 26, 2013.
[21] A Pew Research survey conducted Nov. 6-9, 2014 repeated this question in a three-question set. See "Little Enthusiam, Familiar Divisions After the GOP's Midterm Victory, Q.69 on the topline.

Q24 CONTINUED

		Favor	Oppose	(VOL.) DK/Ref
d.	The increased use of genetically engineered plants to create a liquid fuel replacement for gasoline			
	Aug 15-25, 2014	68	26	6
	TREND FOR COMPARISON:			
	AAAS members *survey*			
	Sept 11-Oct 13, 2014	78	21	2
e.	Allowing more offshore oil and gas drilling in U.S. waters[22]			
	Aug 15-25, 2014	52	44	4
	TREND FOR COMPARISON:			
	AAAS members *survey*			
	Sept 11-Oct 13, 2014	32	66	2
f.	Allowing more people access to experimental drugs before clinical trials have shown the drugs to be safe and effective for that disease or condition			
	Aug 15-25, 2014	54	43	3

ASK ALL:

Q.25 Thinking about childhood diseases, such as measles, mumps, rubella and polio... **[READ AND RANDOMIZE RESPONSE OPTIONS]**

Aug 15-25, 2014		Apr 28-May 12, 2009[23]
68	Should all children be required to be vaccinated [OR]	69
30	Should parents be able to decide NOT to vaccinate their children	28
1	Don't know/Refused **(VOL.)**	3

TRENDS FOR COMPARISON:

AAAS members *survey*[24]	All children should be required to be vaccinated	Parents should be able to decide NOT to vaccinate their children	No answer
Sept 11-Oct 13, 2014	86	13	1
May 1-June 14, 2009	82	17	1

NO QUESTION 26

[22] Other Pew Research surveys have asked for views about "government policies to address America's energy supply" including opinions about "the government allowing more offshore oil and gas drilling in U.S. waters." See "Continued Support for Keystone XL Pipeline," Sep. 26, 2013.

[23] Answer choices for 2009 surveys were, "The Earth is getting warmer mostly because of natural changes in the atmosphere; The Earth is getting warmer mostly because of human activity such as burning fossil fuels; The Earth is not getting warmer."

[24] AAAS members question wording was "Thinking about childhood diseases, such as measles, mumps, rubella and polio, do you think…[RANDOMIZE REPONSE OPTIONS 1 & 2: Parents should be able to decide NOT to vaccinate their children/All children should be required to be vaccinated]"

ASK ALL:
Q.27 Thinking about the use of biological engineering to create artificial organs for humans needing a transplant operation, would you say this is making appropriate use of medical advances OR is it taking medical advances too far?

Aug 15-25, 2014	
74	Appropriate use of medical advances
23	Taking medical advances too far
3	Don't know/Refused **(VOL.)**

ASK ALL:
Q.28 Which of these statements comes closest to your point of view, even if neither is exactly right? **[READ IN ORDER]**

Aug 15-25, 2014		Mar 21-Apr 8, 2013	Apr 6-May 6, 1999[25]
38	(One) The growing world population will NOT be a major problem because we will find a way to stretch our natural resources [OR]	37	42
59	(Two) The growing population WILL be a major problem because there won't be enough food and resources to go around	61	56
--	Neither/Both equally **(VOL.)**	1	1
3	Don't know/Refused **(VOL.)**	2	1

TREND FOR COMPARISON:

	The growing world population will NOT be a major problem…	The growing world population WILL be a major problem…	No answer
AAAS members *survey* Sept 11-Oct 13, 2014	17	82	*

ASK ALL:
On another topic.
Q.29 Do you think the SPACE STATION has been a good investment for this country, or don't you think so?[26]

Aug 15-25, 2014	
64	Good investment
29	Not a good investment
7	Don't know/Refused **(VOL.)**

TREND FOR COMPARISON:

	Good investment	Not a good investment	No answer
AAAS members *survey* Sept 11-Oct 13, 2014	68	31	2

[25] In 1999 survey, response options one and two were randomized.
[26] For other Pew Research surveys with questions related to the U.S. space program see "Majority Sees U.S. Leadership in Space as Essential," July 5, 2011.

ASK ALL:
Q.30 The cost of sending human astronauts to space is considerably greater than the cost of using robotic machines for space exploration. As you think about the future of the U.S. space program, do you think it is essential or not essential to include the use of human astronauts in space?

Aug 15-25, 2014	
59	Essential
39	Not essential
3	Don't know/Refused **(VOL.)**

TREND FOR COMPARISON:

AAAS members *survey*	Essential	Not essential	No answer
Sept 11-Oct 13, 2014	47	52	1

NO QUESTION 31

ASK ALL:
Q.32 From what you've heard or read, would you say that [**READ AND RANDOMIZE 1-2**]

Aug 15-25, 2014	
42	Scientists generally believe that the universe was created in a single, violent event, often called "the Big Bang"
52	Scientists are divided in their views about how the universe was created
2	Both/Neither **(VOL.)**
5	Don't know/Refused **(VOL.)**

[RANDOMIZE ORDER OF Q33 AND Q34]
ASK ALL:
Q.33 Would you say that changing a baby's genetic characteristics to make the baby more intelligent is making appropriate use of medical advances OR is it taking medical advances too far?[27]

Aug 15-25, 2014	
15	Appropriate use of medical advances
83	Taking medical advances too far
2	Don't know/Refused **(VOL.)**

[27] A similar question was asked on the Virginia Commonwealth University Life Sciences Survey September 3-26, 2003. Question wording was, "Would you say that changing a baby's genetic characteristics for cosmetic purposes such as eye or hair color is making appropriate use of medical advances or is it taking medical advances too far?" Fully 94% of adults said this was taking medical advances too far, 4% said it was an appropriate use of medical advances, 2% volunteered don't know or gave no response. For details see "Public Values Science But Concerned About Biotechnology"

[RANDOMIZE ORDER OF Q33 AND Q34]
ASK ALL:
Q.34 Would you say that changing a baby's genetic characteristics to reduce the risk of serious diseases is making appropriate use of medical advances OR is it taking medical advances too far?

Aug 15-25, 2014		*VCU Life Sciences Survey* Sept 3-26, 2003
46	Appropriate use of medical advances	41
50	Taking medical advances too far	54
4	Don't know/Refused **(VOL.)**	6

ASK ALL:
On a different topic.

Q.35 Do you think it is generally safe or unsafe to eat foods grown with pesticides?

Aug 15-25, 2014	
28	Generally safe
69	Generally unsafe
3	Don't know/Refused **(VOL.)**

TREND FOR COMPARISON:

AAAS members *survey*	Generally safe	Generally unsafe	No answer
Sept 11-Oct 13, 2014	68	31	1

NO QUESTION 36

ASK ALL: Scientists can change the genes in some food crops and farm animals to make them grow faster or bigger and be more resistant to bugs, weeds and disease.[28]
ASK ALL:
Q.37 When you are food shopping, how often, if ever, do you LOOK TO SEE if the products are genetically modified? **[READ]**

Aug 15-25, 2014	
25	Always
25	Sometimes
17	Not too often
31	Never
1	Someone else in HH does the food shopping **(VOL.)**
1	Don't know/Refused **(VOL.)**

ASK ALL:
Q.38 Do you think it is generally safe or unsafe to eat genetically modified foods?

Aug 15-25, 2014	
37	Generally safe
57	Generally UNsafe
6	Don't know/Refused **(VOL.)**

[28] Introduction to question set from ABC News, July 2003

Q.38 CONTINUED

TREND FOR COMPARISON:

AAAS members *survey*	Generally safe	Generally unsafe	No answer
Sept 11-Oct 13, 2014	88	11	1

TRENDS FOR COMPARISON:

ABC News: Scientists can change the genes in some food crops and farm animals to make them grow faster or bigger and be more resistant to bugs, weeds and disease. Do you think this genetically modified food, also known as bio-engineered food, is or is not safe to eat?

	ABC News July 2003	*ABC News July 2001*
Safe	46	35
Unsafe	46	52
No opinion (VOL.)	9	13

ASK ALL:

Q.39 From what you've heard or read, would you say scientists have a clear understanding of the health effects of genetically modified crops OR are scientists NOT clear about this?

Aug 15-25, 2014	
28	Scientists have a clear understanding
67	Scientists do NOT have a clear understanding
4	Don't know/Refused **(VOL.)**

ASK ALL:

Q.40 Which of these statements best describes your views, even if neither is exactly right?
[READ; RANDOMIZE RESPONSE OPTIONS]

Aug 15-25, 2014	
50	Churches and other houses of worship should express their views about policy decisions on scientific issues [OR]
46	Churches and other houses of worship should keep out of policy decisions on scientific issues
2	Neither/Both **(VOL.)**
2	Don't know/Refused **(VOL.)**

Q41 HELD FOR FUTURE RELEASE

QUESTIONS KNOSCT14 THROUGH THE END PREVIOUSLY RELEASED