

what the public really wants on science

by ruy teixeira

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The way the media covers stem cell research controversies makes it seem like the public is seriously conflicted about this issue and generally dubious about the benefits that can be derived from science and innovation. Yet a survey of public opinion suggests that the public has a clear view on stem cell research and is strongly positive about the promise of science and innovation. The public, in short, wants to move forward; they have little or no interest in curbing scientific advance to serve anyone's ideological agenda.

General Views on Science

Virginia Commonwealth University has, since 2001 (the last survey was in 2007), surveyed the public annually about science and science issues. Since the surveys began, 85 to 90 percent of the public has agreed that, "developments in science helped make society better." A similar question about whether "developments in new technology helped make society better" returned positive responses ranging from 83 to 88 percent over the same period. What's more, 87 to 92 percent of the public agreed that "scientific research is essential for improving the quality of human lives," and 88 to 92 percent endorsed the idea that "new technology used in medicine allows people to live longer and better." These levels of agreement indicate that there is an overwhelming public consensus that science and technology are positive forces in American society.

The public also generally believes that the benefits of scientific research outweigh any harmful results. The 2006 General Social Survey found that 70 percent thought so, compared to just 6 percent who thought the harm from such research outweighed its benefits. These benefits will likely continue to flow in the future, the public believes. In the same survey, 90 percent thought that science and technology would provide "more opportunities for the next generation."

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Do the benefits of scientific research outweigh any harmful risks?

70 percent think scientific research benefits outweigh harmful results.

6 percent think the harm from such research outweighs its benefits.

2006 General Social Survey

The public also believes that the federal government should provide funding for scientific advances. Since 1979, around 80 percent of respondents to National Science Foundation surveys have said that, “even if it brings no immediate benefits, scientific research that advances the frontiers of knowledge is necessary and should be supported by the Federal Government.” In 2006, the last year for which data are available, that figure rose to 87 percent. A somewhat different question in the General Social Survey has asked respondents whether the government is spending too much, too little, or the about the right amount on scientific research. Since 1981, a much larger percent of the public has

said that too little is being spent rather than too much—a gap that has grown steadily over time. In 2006, the last year for which data are available, 41 percent said too little is being spent on scientific research, compared to just 11 percent who said too much is being spent.

Trust in Science and Scientists

The public has a high degree of confidence in the scientific community. In the 2006 General Social Survey, 41 percent expressed “a great deal” of confidence in the leadership of the scientific community. This is a higher degree of confidence than the public had for the leadership of a wide range of other institutions, including the Supreme Court, banks, education, and organized religion. In fact, the only institution whose leadership was rated higher was the military at 47 percent.

The public also believes scientists should have significantly more influence on the policy issues in their area than either business leaders, religious leaders, or elected officials. On global warming, for example, 87 percent want environmental scientists to have a great deal (47 percent) or a fair amount (40 percent) of influence on decisions in this area. By contrast, just 32 percent of the public wants business leaders to have a great deal (10

Is scientific research essential to improving the quality of human lives?

87 to 92 percent of respondents say yes.

2001-2007 Virginia Commonwealth University Life Sciences Surveys

percent) or a fair amount (22 percent) of influence, and 50 percent want elected officials to have a great deal (17 percent) or a fair amount (33 percent) of influence.

The public wants scientists to have the most influence on policy issues

On global warming, **87 percent** want environmental scientists to have a great deal (**47 percent**) or a fair amount (**40 percent**) of influence on decisions in this area.

Only **32 percent** of the public wants business leaders to have a great deal (**10 percent**) or a fair amount (**22 percent**) of influence on global warming, and **50 percent** want elected officials to have a great deal (**17 percent**) or a fair amount (**33 percent**) of influence.

2006 General Social Survey

Similarly, 80 percent of the public wants medical researchers to have significant influence (39 percent “a great deal”/41 percent “a fair amount”) on stem cell research decisions. This compares to 29 percent (8/21) for religious leaders and 46 percent (11/35) for elected officials. On genetically modified food decisions, 81 percent (41/40) of the public wants medical researchers to have significant influence, compared to 19 percent (3/16) for business leaders, and 37 percent (7/30) for elected officials.

One reason the public wants scientists and researchers to have significant influence on policy issues is because they think that scientists have by far the best understanding of policy issues in their areas. On global warming, 66 percent give environmental scientists a “4” or “5” on a 5-point scale of understanding, where 5 is very well and 1 is not at all. Only 12 percent think that business leaders and elected officials have that level of understanding. On the importance of stem cell research, 74 percent give medical researchers a 4 or 5 level of understanding, compared to just 14 percent for religious leaders, and 10 percent for elected officials. And on the risks posed by genetically modified foods, 64 percent give medical researchers a 4 or 5, compared to only

11 percent for business leaders and 10 percent for elected officials.

The public also believes that scientists are the most impartial about policy issues in their areas. On global warming, 67 percent give environmental scientists a “4” or “5” on a 5-point scale of impartiality, where 5 is supporting what’s best for the interests of the country and 1 is supporting what serves their own narrow interests. Only 10 and 19 percent respectively think that business leaders and elected officials have that level of impartiality. On stem cell research, 59 percent give medical researchers a 4 or 5 level of

impartiality, compared to just 25 percent for religious leaders and 15 percent for elected officials. And on the risks posed by genetically modified foods, 63 percent give medical researchers a 4 or 5 on impartiality; only 6 and 16 percent, respectively, give ratings that high to business leaders and elected officials.

Of course, the public is not without its qualms about science and scientists. Perhaps the chief worry is that scientific research doesn't incorporate enough concern for society's moral values. In the Virginia Commonwealth University survey, majorities ranging from 51 to 59 percent have agreed with this contention since 2001.

Stem Cell Research

Of all the issues around scientific innovation, stem cell research has proved by far the most controversial. It has been hotly debated inside the halls of Congress and throughout the country. Because of the issue's high profile, there is a great deal of public opinion data about this specific issue and how views have evolved over time (this is by and large not true about other contemporary scientific issues).

Support for stem cell research has increased since 2002

2002: 35 percent supported and 51 percent opposed stem cell research.

2007: 54 percent supported and 39 percent opposed stem cell research.

Virginia Commonwealth University surveys

The first thing to note is that public support for stem cell research has increased substantially since 2002. In that year, according to the VCU survey, 35 percent favored "medical research that uses stem cells from human embryos" and 51 percent were opposed. Support rose to 47 percent in favor and 44 percent opposed in 2003. Since then, all VCU surveys have showed majority support for stem cell research: 53 to 36 in 2004; 58 to 32 in 2005; 54 to 37 in 2006; and 54 to 39 in 2007.

The proportion believing "medical research using stem cells obtained from human embryos" is morally acceptable has also risen steadily since 2002. Gallup conducts annual surveys on science issues, and found in 2002

that 52 percent of the public believed stem cell research was morally acceptable, and 39 percent believed it was morally wrong. Since then the ratio has steadily shifted as more Americans believe it is morally acceptable and fewer believe it is morally unacceptable each year. The split was 54 percent acceptable to 38 percent unacceptable in 2003; 54 to 37 in 2004; 60 to 22 in 2005; 61 to 30 in 2006; and 64 to 30 at the most recent reading in 2007.

Other data confirm the public's basically favorable attitude toward embryonic stem cell research. A mid-January 2007 CBS News poll found that 65 percent said they approve of "medical research using embryonic stem cells," compared to just 25 percent who disapproved. And in an ABC News/*Washington Post* poll around the same time, 61 percent said they support embryonic stem cell research, with only 31 percent in opposition.

If embryonic stem cell research is put in the context of the type of diseases it might help cure, support is even more overwhelming. Here's how an NBC News/*Wall Street Journal* poll posed the question in late June 2004:

There is a type of medical research that involves using special cells, called stem cells, that are obtained from human embryos. These human embryo stem cells are then used to generate new cells and tissue that could help treat or cure many diseases. I am now going to read you two statements about this type of research.

Statement A: Those OPPOSED to this type of research say that it crosses an ethical line by using cells from potentially viable human embryos, when this research can be done on animals or by using other types of cells.

Statement B: Those IN FAVOR of this research say that it could lead to breakthrough cures for many diseases, such as cancer, Alzheimer's, Parkinson's, and spinal cord injuries, and this research uses only embryos that otherwise would be discarded.

Who do you agree with more: those opposed or those in favor?

Posing the question this way produced a 71 to 22 split in favor of embryonic stem cell research.

The stem cell research debate has largely revolved around the level of government funding permitted for embryonic stem cell research. Given the views summarized above, it should come as no surprise that the public generally favors funding embryonic stem cell research. In early May 2007, 53 percent said that the federal government should fund research using "newly created stem cells obtained from human embryos," compared to 41 percent who opposed such funding. A late October 2006 *Newsweek* poll found that 50 percent favored "using federal tax dollars to fund medical research using stem cells obtained from human embryos," with only 37 percent opposed. An early August 2005 CNN/*USA Today*/Gallup poll also found that 56 percent thought "the federal government should...fund research that would use newly created stem cells obtained from human embryos," while 40 percent disagreed. Finally, in an early August 2004 Annenberg survey, the public, by 64 to 28, favored "federal funding of research on diseases like Alzheimer's using stem cells taken from human embryos."

Restrictions on funding for stem cell research

60 percent favored either no restrictions (22 percent) or an easing of restrictions (38 percent) on embryonic stem cell research.

36 percent favored the current restrictions (20 percent) or no funding at all (16 percent).

April 2007, CNN/USA Today/Gallup poll

The Bush administration has, of course, taken quite a different position, seeking to restrict such funding as much as possible. The public, however, consistently favors easing these restrictions and expanding current funding. In a mid-April 2007 CNN/USA Today/Gallup poll, 60 percent said they favored either no restrictions (22 percent) or easing restrictions (38 percent) on embryonic stem cell research, compared to 36 percent who favored the current restrictions (20 percent) or no funding at all (16 percent).

A mid-January 2007 *Los Angeles Times* poll found that 59 percent supported “increasing federal funding for embryonic stem cell

research,” while just 32 percent opposed such increased funding. In an ABC News/*Washington Post* poll around the same time, the public, by 55 to 38, supported “loosening the current restrictions on federal funding for embryonic stem cell research.” An AP poll in mid-December 2006 found that a 56 to 41 majority favored easing restrictions on using federal money for embryonic stem cell research. And by a 68 to 27 majority in a late July 2006 NBC News/Wall Street Journal survey, the public endorsed “expanding federal funding for embryonic stem cell research, which is the practice of conducting scientific research on cells extracted from human embryos in an attempt to find cures or treatments for diseases.”

Indeed, the public appears ready to see a very substantial increase in financial support for stem cell research. When queried about whether other states should follow California’s lead—the state approved raising “\$3 billion in state money for stem cell research, including developing more lines of embryonic stem cells” in 2004—53 percent in a late May 2005 *Time* poll said they should, compared to 37 percent who thought they should not.

This couldn’t be farther from President Bush’s stance. He has actively opposed attempts by Congress to expand federal funding, vetoing two separate bills that would have done so in July 2006

Public opposes President Bush’s veto of expanded stem cell research funding

64 percent opposed Bush’s veto of the second expanded funding bill.

31 percent supported the veto.

May 2007, CNN/USA Today/Gallup poll

and June 2007. The public vigorously opposed both of these vetoes. In mid-May 2007, a CNN/*USA Today*/Gallup poll found 64 to 31 in opposition to Bush's veto of the second expanded funding bill. In a late July 2006 NBC/*Wall Street Journal* poll, the public, by 63 to 31, opposed Bush's veto of the first expanded funding bill. Around the same time, a 58 to 36 majority in a CNN/*USA Today*/Gallup poll disapproved of Bush's veto of that bill.

Recent scientific advances have indicated that some useful stem cell research can be conducted using stem cells that are not from human embryos. The public supports such research very strongly—by 75 percent to 17 percent in the 2007 Virginia Commonwealth University survey. But the public does not believe that this development means embryonic stem cell research is now unnecessary. In the same survey, 63 percent thought both kinds of stem cell research are still needed, compared to just 22 percent who thought embryonic stem cell research is now unnecessary.

This review of public opinion data indicates that the public, despite the best efforts of President Bush and his conservative allies, is very much committed to moving forward on science and innovation in general and on stem cell research in particular. Attempts by this administration to turn back the clock and substitute ideology for science have not won the public over and, on the evidence presented here, are unlikely to do so in the future.