



VCU LIFE SCIENCES SURVEY

*Conducted for VCU Life Sciences
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Public Values Science But Wary of Cloning, Stem Cell Research

Americans clearly value the contributions of science to society but are wary of cloning and other new scientific technologies, according to a new nationwide survey conducted by Virginia Commonwealth University. Survey results show that ambivalence toward scientific developments is evident in a number of areas including a clear drop in support for medical research using embryonic stem cells compared to just one year ago. This underlying ambivalence is poised to continue as new scientific technologies bring new business opportunities for private industry.

The VCU Life Sciences Survey was conducted by telephone with 1000 adults nationwide, September 4-16, 2002. The margin of error for the poll is plus or minus 3 percentage points. This is the second annual VCU Life Sciences survey conducted for VCU Life Sciences by the VCU Center for Public Policy.

Survey highlights:

Strong Objections to Human Cloning

- The idea of human cloning elicits strong opposition among the American public. 81 percent are either somewhat or strongly opposed to cloning and most of these are strongly opposed to it. Just 16 percent favor human cloning. Seven in ten consider it morally wrong for businesses to use human cloning technology in developing new products while just 19 percent think this is morally acceptable. Even those who consider themselves clear about the differences between therapeutic and reproductive cloning expressed strong opposition to cloning. Less opposition is found for cloning if it is limited to research for the treatment of disease. Under these conditions, 45 percent are in favor while 51 percent are opposed.

Support for Stem Cell Research Drops

- When federal funding for stem cell research from human embryos was discussed a year ago, it looked like public support was behind the research. A year later, only 35 percent favor stem cell research whereas 51 percent are opposed. Opinion on this issue tracks closely with views about abortion.

Positive and Negative Contributions of Science

- Overwhelming majorities believe that developments in science have helped make society better (85 percent) and agree that “scientific research is essential for improving the quality of human lives” (90 percent). When asked to name the most positive contribution of science, the most frequently mentioned areas were health and medical advances (27 percent) and computer technology (24 percent).
- At the same time, clear majorities have reservations about the role of science in society. 69 percent agree that “scientific research these days doesn’t pay enough attention to the moral values of society” and six in ten agree that “scientific research has created as many problems for society as it has solutions.” When asked to name the most negative contribution of science, no single area stood out. More frequently mentioned areas included nuclear and other weapons, mass communications technology such as cell phones, computer technology and cloning.

Do Business and Science Mix?

- Americans endorse a more skeptical view of scientists when thinking about the temptations to make money from new medical and scientific discoveries. 66 percent agree with a statement indicating that the new business opportunities encourage scientists to cut corners on research quality. Similarly, 69 percent agree that the temptation to make money from new technologies puts pressure on scientists to pursue ideas that violate ethical principles.
- Recent restrictions on medical research have often applied only to research supported by federal funds while leaving research sponsored by private businesses untouched. When asked about this issue, 58 percent felt that the rules governing medical research should be the same for both federally-funded and private business research while 36 percent felt it was okay to have different rules in place. When making those rules, a majority-- at 53 percent -- feel that restrictions on medical research should take into account research practices in other countries while 41 percent feel U.S. laws should not take this into account.

Public Reactions to Disagreements in Science

- While scientific and medical disagreements over recommendations and explanations for events and conditions are often in the news, the public appears to take these in with a fair amount of support and understanding. 86 percent agree that when scientists disagree it helps scientific experts weed out weak theories and evidence.

Public Values Science But Wary of Cloning, Stem Cell Research

If there’s a bad word in science these days, it’s cloning. The idea of cloning in humans elicits strong opposition among the American public. 81 percent are either somewhat or strongly opposed to cloning and most of these are strongly opposed to it. A clear majority of Americans

are strongly opposed to human cloning; Just 16 percent favor cloning in humans. Strong opposition to cloning was also found a year ago on the first annual VCU Life Sciences Survey.

Further, seven in ten Americans consider it morally wrong for businesses to use human cloning technology in developing new products; less than two in ten (19 percent) consider this morally acceptable. Strong opposition to cloning comes from people of all demographic groups, including those who are often favorably disposed toward new developments in science. Majorities of the college educated and those holding higher levels of interest and information about science were strongly opposed to cloning and consider it morally wrong for businesses to use human cloning technology in developing new products. Even those who consider themselves clear about the differences between therapeutic and reproductive cloning expressed strong opposition to cloning.

Americans are somewhat more positive towards cloning if it is limited to helping develop new treatments for disease but are by no means won over. 45 percent are either strongly or somewhat in favor of cloning if used only to help medical research in this way while 51 percent are strongly or somewhat opposed. Those who considered themselves clear about the differences between therapeutic and reproductive cloning held similar views with 44 percent in favor and 54 percent opposed to cloning under these conditions.

Support for Stem Cell Research Drops: Opinion Polarized Along Abortion Lines

A plurality of Americans now express opposition to medical research using embryonic stem cells. 35 percent favor stem cell research while 51 percent are opposed. These figures show a reversal compared to a year ago when 48 percent were in favor and 43 percent opposed to stem cell research when asked the exact same question. These changes show a clear drop in support for stem cell research. The division of opinion on stem cells tracks closely with opinion on abortion. The overwhelming majority of those who feel abortion should be illegal in all circumstances are opposed to stem cell research by 79 to 9 percent. By contrast, those who feel abortion should always be legal are in favor of stem cell research by a 62 to 26 percent majority.

On the whole, how much do you favor or oppose medical research that uses stem cells from human embryos...?	All U.S.	Abortion Should Always be Illegal	Abortion Should Sometimes be Legal	Abortion Should Always be Legal
Strongly or Somewhat Favor	35%	9%	29%	62%
Strongly or Somewhat Oppose	51%	79%	54%	26%

Stem cell research issues have been off the front pages for some time and only 15 percent of respondents report having heard or seen a lot about stem cell research. Among this group, support for stem cell research is more favorable though still quite divided; half are in favor of the research and 48 percent opposed. Those who have heard nothing or not much about stem cell research are more likely to oppose it. Just 22 percent of this group are in favor of stem cell research while 52 percent are opposed.

Designer Babies Frowned On

New advances in biotechnology raise strong objections in other areas as well. An overwhelming majority of Americans are opposed to the idea of “designer babies” which would allow parents to pick and choose a baby’s genetic characteristics. Nearly eight in ten (79 percent) are either strongly or somewhat opposed to allowing parents to choose an unborn baby’s genetic characteristics while only 18 percent are in favor of the idea.

The Role of Science in Society: Positive and Negative Contributions

Despite concerns about new developments in scientific technology, Americans are largely in agreement that science and technology have helped make society better. 86 percent report that developments in science have helped to make society better and 85 percent say the same about new technology. These figures are unchanged from a year ago.

When given a chance to name the most positive contribution of science to society, medical and health advances came readily to mind for 27 percent of respondents while computer technology, including the Internet, was mentioned by 24 percent. These two areas of contribution were by far the most commonly mentioned.

Most Positive Contribution of Science to Society

Medical and Health (e.g., vaccines, research, devices, medicines)	27%
Computers and Internet (includes microchip technology)	24%
Mass Communication (e.g., cell phones, satellites, TV, radio)	5%
Biotechnology (e.g., cloning, embryo research, DNA, genetic research)	2%
Other specific issues (e.g., transportation, space exploration)	2%
Nothing positive occurred in past 30 years	0%
Other	9%
Don't know/Not sure/No response	30%

Medical and health advances from science also came frequently to mind when asked about the most important problem for scientists to address in the next thirty years. Nearly four in ten (39 percent) mentioned medical and health needs including cures for cancer and HIV/AIDS. Fifteen percent mentioned environmental and natural resource concerns while the remainder touched on a wide variety of issues and problems.

Most Important Problem for Future Scientists

Medical and Health Advances	39%
Environment, Pollution, Energy (includes global warming, toxic waste, ecology)	15%
Biotechnology	3%
Population control concerns	1%
Hunger	1%
Moral and ethical concerns in science	3%
Other	20%
Don't know/Not sure/No response	18%

On the other side of the coin, no single negative contribution from science stood out to the same degree. Several different kinds of developments were mentioned as making a negative contribution to society including nuclear and other kinds of weaponry, new developments in mass communications such as cell phones, computer technology, and cloning. When thinking about the contributions of science, five in ten made no response when it came to negative contributions compared to just three in ten who did the same for positive contributions. This suggests that the positive impact of science comes more readily to mind than do any downsides.

Most Negative Contribution of Science to Society

Nuclear, Chemical, Biological Weapons	9%
Mass Communication (e.g., cell phones, satellites, TV, radio)	8%
Computers and Internet (includes microchip technology)	6%
Cloning	7%
Biotechnology (e.g., embryo research, DNA, genetic research)	1%
Other specific issues (e.g., transportation, space exploration, nuclear energy)	3%
Nothing negative occurred in past 30 years	2%
Other	13%
Don't know/Not sure/No response	50%

Americans do see downsides to science, however. In response to a series of statements about science, public ambivalence about science is evident. Americans are quite positive about the benefits of science to society. Nine in ten agree that scientific research is essential for improving the quality of human lives and 91 percent agree that new technology in medicine allows people to live longer and better. At the same time, a clear majority of Americans express concern over the role of science in society. Nearly seven in ten (69 percent) agree that scientific research doesn't pay enough attention to the moral values of society and about six in ten (59 percent) say that scientific research has created as many problems for society as solutions. This ambivalence about science is in keeping with results from the VCU Life Sciences Survey just a year ago. As in 2001, majorities of all demographic groups agree that scientific research doesn't pay enough attention to moral values. But those who are more religious are more likely to be concerned about attention to moral values in science. 78 percent of those who say that religion provides a great deal of guidance in their life agree that science doesn't pay enough attention to moral values while 21 percent disagree. Among those who say that religion is not important in their life, 48 percent agree and half disagree.

	Strongly or Somewhat Agree	Strongly or Somewhat Disagree
“Scientific research these days doesn’t pay enough attention to the moral values of society.”	69%	29%
“Scientific research has created as many problems for society as it has solutions.”	59%	39%
“Scientific research is essential for improving the quality of human lives.”	90%	9%
“New technology used in medicine allows people to live longer and better.”	91%	8%

Do Business and Science Mix?

New technologies in science and medicine have brought a variety of new business opportunities. When asked about the pressures these business opportunities may present for scientists, clear majorities endorse a view of scientists as fallible. Two-thirds of Americans agree either strongly or somewhat with a statement that the temptations to make money encourages scientists to cut corners on research quality. Similarly, 69 percent agree that the temptations to make money puts pressure on scientists to pursue ideas that violate ethical principles.

“The temptations to make money from new technologies...”	Strongly or Somewhat Agree	Strongly or Somewhat Disagree	Don’t Know or No Answer
“...encourage scientists to cut corners on research quality.”	66%	29%	4%
“...puts pressure on scientists to pursue research ideas that violate ethical principles.”	69%	27%	4%

Cary Funk, director of the survey, said “It’s important to note that these kinds of questions are rarely asked about business development and practices. That makes it hard to know whether these views reflect a general skepticism about the temptations to make money, response to the widely publicized corporate scandals of recent months, or a more specific worry about the temptations and pressures in the biotechnology industry.”

Regulating Medical Research

The rise of biotechnology has raised new issues in government regulation of the industry and some tensions between rules that apply to federally-funded research, which is often carried out by universities and other non-profit organizations, and private business. Federal government efforts to restrict medical research have typically been applied only to research supported by federal funds. In response to a question about the rules governing medical research, a majority of respondents (58 percent) feel the same rules should apply to both federally-funded research and private business research while 36 percent feel it is okay to have different rules for the two kinds of research. Support for having the same rules apply to both kinds of research is similar (at 57 to 41 percent) even among those who feel that the federal government currently has more rules than it needs overseeing medical research.

Biotechnology research and business opportunities are being pursued all over the world. Results from the VCU Life Sciences Survey suggest that Americans are open to a more global perspective in government regulation. The survey asked respondents whether they felt U.S. restrictions on medical research should or should not take into account the practices of other countries. A majority at 53 percent think U.S. laws should take into account what can be done in other countries while 41 percent say they should not. Among those who feel the U.S. currently has more rules than it needs overseeing medical research, 58 percent say U.S. laws should take global practices into account while 38 percent say they should not do so.

Public Reactions to Disagreements in Science

Scientists often consider the research process to be misunderstood by the public at large particularly when it comes to disagreements among the experts. Recent debates in the medical establishment over the health implications of hormone replacement therapy for menopausal women appeared to heighten public concern over the certainty of medical research findings. Similar controversies and reversals of past understandings are part and parcel of every scientific research area. How does the public react to these developments? The answer appears to be with a fair amount of support and understanding.

An overwhelming majority of the public agrees with the notion that scientific disagreements help the research process by weeding out weak theories and evidence. 86 percent agree with a statement to that effect while just 10 percent disagree. This is strong support for

what is usually thought to be one of the most puzzling parts of the scientific enterprise-- the emphasis on falsifying theories and hypotheses.

	Strongly or Somewhat Agree	Strongly or Somewhat Disagree
“When scientists disagree it helps scientific experts weed out weak theories and evidence.”	86%	10%
“Most scientific theories are eventually proven wrong and replaced by other theories.”	52%	41%
“Most medical treatments and recommendations are eventually proven wrong and replaced by other treatments and recommendations.”	52%	43%

The cumulative effects of frequent scientific disagreements and changes in medical treatment recommendations could lead people to view new findings and recommendations with suspicion because they may soon be reversed. When asked about this issue in general terms, a majority of the public agrees (52 to 41 percent) that most scientific theories are eventually proven wrong and replaced by other theories. Similarly 52 percent agree that most medical treatments and recommendations are eventually proven wrong and replaced while 43 percent disagree.

Are these kinds of disagreements and revisions damaging to public confidence in science and medicine? On the one hand, disagreements and changes in recommendations among scientific and medical experts may lead people to question the soundness of scientific and medical understanding and, therefore, hold less confidence in expert opinion. On the other hand, these disagreements and changes in recommendations could signal an improved understanding of scientific events and conditions and so, lead to an increased confidence in expert opinion. Respondents were asked how much disagreements among scientific experts influence their confidence in scientific explanations. A majority (57 to 35 percent) said disagreements make them either a little or a lot less confident in scientific explanations. Changes in medical recommendations are similarly thought to make them a little or a lot less confident for a bare majority of respondents; half said changes in medical treatments or recommendations makes them less confident in the medical understanding of disease while 46 percent said it makes them

more confident in the medical understanding of disease. All in all, then, a majority of the public indicates that scientific and medical disagreements tend to weaken their confidence in expert opinion. However, these effects do not appear particularly strong and, they are counterbalanced by the sizeable minority who reacts with increased confidence in expert opinion.

Thomas F. Huff, Ph.D., Vice Provost of Life Sciences, notes that “The life sciences revolution has brought us real hope for treating diseases previously thought to be unmanageable and grave concern for where technology may take us. This survey is a wake-up call for scientists in biotechnology to engage in a two-way dialogue with the public about new developments in science, especially on human cloning technology and stem cell research.”

Questions Asked on the VCU Life Sciences Survey

Sept. 4 to Sept. 16, 2002

Number of Respondents: 1000

Q1. On the whole, have developments in science helped make society better or not?

	2002	2001
Better	86%	86%
Not better	7%	5%
Don't know	6%	7%
No Answer	1%	2%

Q2. What about new technology? On the whole, have developments in new technology helped make society better or not?

	2002	2001
Better	85%	85%
Not better	10%	8%
Don't know	3%	5%
No Answer	1%	2%

Q3. Of all the developments made in science over the last 30 years, which one would you say has made the most positive contribution to society? (Open-ended responses recorded verbatim and coded into categories.)

Medical and Health (e.g., vaccines, research, devices, medicines)	27%
Computers and Internet (includes microchip technology)	24%
Mass Communication (e.g., cell phones, satellites, TV, radio)	5%
Biotechnology (e.g., cloning, embryo research, DNA, genetic research)	2%
Other specific issues	2%

(e.g., transportation, space exploration)	
Nothing positive occurred in past 30 years	0%
Other	9%
Don't know/Not sure/No response	30%

Q4. Of all the developments made in science over the last 30 years, which one would you say has made the most negative contribution to society? (Open-ended responses recorded verbatim and coded into categories.)

Nuclear Weapons	4%
Weapons (includes chemical and biological weapons)	5%
Mass Communication (e.g., cell phones, satellites, TV, radio)	8%
Computers and Internet (includes microchip technology)	6%
Cloning	7%
Biotechnology (e.g., embryo research, DNA, genetic research)	1%
Other specific issues (e.g., transportation, space exploration, nuclear energy)	3%
Nothing negative occurred in past 30 years	2%
Other	13%
Don't know/Not sure/No response	50%

How much do you agree or disagree with the following: (Q5 to Q8 asked in random order.)

Q5. "Scientific research these days doesn't pay enough attention to the moral values of society."
(Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with that statement?)

	2002	2001
Strongly agree	29%	28%
Somewhat agree	40%	45%
Somewhat disagree	20%	15%
Strongly disagree	9%	8%
Don't know	2%	4%
No answer	0%	2%

Q6. "Scientific research is essential for improving the quality of human lives."
(Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with this statement?)

Strongly agree	48%
Somewhat agree	42%
Somewhat disagree	6%
Strongly disagree	3%
Don't know	1%
No answer	0%

Q7. "Scientific research has created as many problems for society as it has solutions"
(Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with that statement?)

	2002	2001
Strongly agree	18%	18%
Somewhat agree	41%	36%
Somewhat disagree	28%	26%
Strongly disagree	11%	14%
Don't know	2%	4%
No answer	1%	2%

Q8. "New technology used in medicine allows people to live longer and better."
(Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with this statement?)

Strongly agree	57%
Somewhat agree	34%
Somewhat disagree	6%
Strongly disagree	2%
Don't know	0%
No answer	1%

Q9. What do you think is the most important problem scientists need to address in the next thirty years?
(Open-ended responses recorded verbatim and coded into categories.)

Medical and Health –Specific Diseases (e.g., vaccines, research, devices, medicines)	32%
Medical and Health--General	7%
Environment and Pollution (includes global warming, toxic waste, ecology)	11%
Energy (e.g., alternative sources, natural resource concerns)	4%
Biotechnology (e.g., cloning, embryo research, DNA, genetic research)	3%
Population control concerns	1%
Hunger	1%
Moral and ethical concerns in science	3%
Other	20%
Don't know/Not sure/No response	18%

How much do you agree or disagree with the following statements? First, ... (Q10 to Q12 asked in random order.)

Q10. "When scientists disagree it helps scientific experts weed out weak theories and evidence." (Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?)

Strongly agree	36%
Somewhat agree	50%
Somewhat disagree	7%
Strongly disagree	3%
Don't know	3%
No answer	1%

Q11. "Most scientific theories are eventually proven wrong and are replaced by other theories." (Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?)

Strongly agree	10%
Somewhat agree	42%
Somewhat disagree	33%
Strongly disagree	8%
Don't know	5%
No answer	2%

Q12. "Most medical treatments and recommendations are eventually proven wrong and are replaced by other treatments and recommendations." (Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?)

Strongly agree	12%
Somewhat agree	40%
Somewhat disagree	33%
Strongly disagree	10%
Don't know	4%
No answer	1%

(Q13 and Q14 asked in random order.)

Q13. When scientific experts don't agree on the explanations for events and conditions, how much does this affect your confidence in scientific explanations-would you say it makes you a lot more confident, a little more confident, a little less confident, or a lot less confident in scientific explanations?

A lot more confident	11%
A little more confident	24%
A little LESS confident	47%
A lot LESS confident	10%
Don't know	4%
No answer	3%

Q14. When medical experts change their explanations or treatment recommendations for disease, how much does this affect your confidence in the medical understanding of disease-would you say it makes you a lot more confident, a little more confident, a little less confident, or a lot less confident in the medical understanding of disease?

A lot more confident	14%
A little more confident	32%
A little LESS confident	40%
A lot LESS confident	10%
Don't know	2%
No answer	2%

New technology in science and medicine also means new business opportunities. How much do you agree or disagree with the following?

Q15. "The temptations to make money from new technologies encourage scientists to cut corners on research quality." Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?

Strongly agree	23%
Somewhat agree	43%
Somewhat disagree	20%
Strongly disagree	9%

Don't know	3%
No answer	1%

Q16. "The temptations to make money from new technologies puts pressure on scientists to pursue research ideas that violate ethical principles." (Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?)

Strongly agree	30%
Somewhat agree	39%
Somewhat disagree	19%
Strongly disagree	8%
Don't know	3%
No answer	1%

Q17. Would you say the pressures to pursue research ideas that violate ethical principles are about the same for scientists working in private business and those working in universities, stronger for scientists working in private business, or stronger for scientists working in universities?

Same	15%
Stronger for scientists in private business	38%
Stronger for scientists in universities	28%
Don't know	16%
No answer	3%

Q18. Last year, the federal government in Washington banned federal funding for some kinds of medical research. This restriction did not apply to private businesses doing the same kinds of medical research. Do you think that the rules should be the same for both federally-funded and private business research OR do you think it's okay to have different rules for federally-funded and private business research?

Rules should be same for both	58%
Okay to have different rules	36%
Don't know	4%
No answer	1%

Q19. Some people say that restrictions on medical research in the United States won't matter because companies in other countries will still do that kind of research. Do you think that United States laws and regulations on medical research should or should not take into account what can be done in other countries?

Should take into account	53%
Should not take into account	41%
Don't know	5%
No answer	1%

Q20. Do you think the federal government has more rules than it needs overseeing medical research, fewer rules than it needs, or is it currently about right in how much it oversees medical research?

More rules than it needs	31%
Fewer rules than it needs	16%
Currently about right	34%
Don't know	16%
No answer	3%

Now on a different topic.

Q21. The technology now exists to clone or genetically alter animals. How much do you favor or oppose allowing the same thing to be done in humans -do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose this?

	2002	2001
Strongly favor	6%	4%
Somewhat favor	10%	10%
Somewhat oppose	16%	18%
Strongly oppose	65%	64%
Don't know	1%	2%
No answer	2%	1%

Q22. Do you favor or oppose using human cloning technology IF it is used ONLY to help medical research develop new treatments for disease-do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose this?

Strongly favor	21%
Somewhat favor	24%
Somewhat oppose	13%
Strongly oppose	38%
Don't know	2%
No answer	1%

Q23. Do you think that, in general, it is morally acceptable or morally wrong for businesses to use human cloning technology in developing new products?

Morally acceptable	19%
Morally wrong	70%
Don't know	7%
No answer	4%

Q24. How much have you thought about the potential for businesses to use human cloning technology in developing new products-have you thought about this a great deal, quite a bit, some, not too much, or not at all?

A great deal	9%
Quite a bit	16%
Some	30%
Not too much	24%
Not at all	20%
Don't know	1%
No answer	0%

Q25. There are several different terms used when it comes to human cloning technology. How clear are you, personally, on the difference between human reproductive cloning and human therapeutic cloning-very clear, somewhat clear, not very clear, or not at all clear?

Very clear	11%
Somewhat clear	31%
Not very clear	29%
Not at all clear	28%
Don't know	1%

No answer	1%
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Q26. New technology in science and medicine may allow couples who want to have a baby to pick and choose the baby's genetic characteristics such as hair color or the risk for certain diseases. Do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose picking and choosing an unborn baby's characteristics using these new technologies?

Strongly favor	5%
Somewhat favor	13%
Somewhat oppose	21%
Strongly oppose	58%
Don't know	2%
No answer	2%

Q27. There is a new branch of medicine that uses stem cell therapy to develop new treatments for disease. There are several different kinds of stem cells. What kind of stem cells comes to your mind when you think about stem cell therapy? (Open-ended responses coded into categories.)

Embryonic stem cells	17%
Unborn fetus/aborted fetus	2%
Fetal stem cells (not specified further)	2%
Newborns/umbilical cord	4%
Adult stem cells	1%
Other response	4%
Specific uses of stem cells for treatment of disease	9%
Don't know	55%
No answer	7%

Q28. How much have you seen, read, or heard about medical research involving embryonic stem cells - a lot, a little, not much, or nothing at all?

	2002	2001
A lot	13%	25%
A little	40%	44%
Not much	26%	19%
Nothing at all	20%	10%
Don't know	1%	1%
No answer	1%	0%

Q29. On the whole, how much do you favor or oppose medical research that uses stem cells from human embryos - do you strongly favor, somewhat favor, somewhat oppose, or strongly oppose this?

	2002	2001
Strongly favor	12%	17%
Somewhat favor	23%	31%
Somewhat oppose	22%	21%
Strongly oppose	29%	22%
Don't know	11%	7%
No answer	4%	2%

Now on a different topic.

Q30. How much are you personally interested in new scientific discoveries - a lot, some, not much, or not at all?

	2002	2001
A lot	39%	43%
Some	44%	44%
Not much	12%	8%
Not at all	4%	4%
Don't know	0%	1%
No answer	0%	0%

Q31. How well informed are you about scientific discoveries - are you very informed, somewhat informed, not very informed, or not at all informed?

	2002	2001
Very informed	7%	11%
Somewhat informed	57%	60%
Not very informed	29%	24%
Not at all informed	6%	4%
Don't know	0%	1%
No answer	0%	0%

Q32. How much are you personally interested in new medical discoveries -a lot, some, not much, or not at all?

	2002	2001
A lot	40%	49%
Some	47%	41%
Not much	10%	9%
Not at all	3%	1%
Don't know	0%	0%
No answer	0%	0%

Q33. How well informed are you about medical discoveries - are you very informed, somewhat informed, not very informed, or not at all informed?

	2002	2001
Very informed	7%	11%
Somewhat informed	60%	64%
Not very informed	28%	22%
Not at all informed	5%	3%
Don't know	0%	0%
No answer	0%	0%

Q34. Which of these comes closest to your views about abortion? A woman should be able to get an abortion if she decides she wants one no matter what the reason. Abortion should only be legal in certain circumstances, such as when a woman's health is endangered or when the pregnancy results from rape or incest. OR Abortion should be illegal in all circumstances.

	2002	2001
Always legal	29%	37%
Sometimes legal	47%	44%
Always illegal	18%	14%
Don't know	2%	2%
No answer	4%	3%

Q35. Regardless of whether or not you attend religious services, do you consider yourself Protestant, Roman Catholic, Jewish or what?

	2002	2001
Protestant	58%	60%
Catholic	22%	24%
Jewish	1%	1%
Other (Vol.)	7%	5%
None	7%	7%
Don't Know	2%	2%
No Answer	3%	2%

Q36. How often do you attend religious services - more than once a week, once a week, once or twice a month, a few times a year, seldom, or never?

	2002	2001
More than once a week	17%	16%
Once a week	26%	24%
Once or twice a month	15%	16%
A few times a year	16%	16%
Seldom	15%	17%
Never	10%	9%
Don't know	0%	0%
No answer	1%	1%

Q37. Whether or not you attend services, do you consider religion to be an important part of your life, or not?

Q38. (IF YES) Would you say your religious beliefs provide some guidance in your day-to-day living, quite a bit of guidance, or a great deal of guidance in your day-to-day living?

	2002	2001
Not important	15%	14%
Some guidance	16%	19%
Quite a bit	22%	23%
A great deal	44%	41%
Don't know or No answer	2%	2%

Q39. Which of these statements comes closest to describing your feelings about the Bible - The Bible is the actual Word of God, The Bible is the Word of God but not everything in it should be taken literally, or The Bible is a book written by men and is not the Word of God.

	2002	2001
Actual word of God	44%	42%
Not everything to be taken literally	35%	36%
Written by men	13%	14%
Don't know	2%	4%
No answer	5%	3%

METHOD OF THE VCU LIFE SCIENCES SURVEY

The VCU Life Sciences Survey is a public opinion survey of U.S. residents. The survey was conducted by telephone from September 4 through September 16, 2002 with a randomly-selected sample of 1000 adults living in the continental U.S. The survey was sponsored by Virginia Commonwealth

University's division of Life Sciences. Interviewing was conducted by telephone from the facilities of the Survey and Evaluation Research Laboratory at Virginia Commonwealth University in Richmond, Virginia. The interviewing was conducted by a staff of professionally trained, paid interviewers using computer-assisted telephone interviewing software.

The sample of telephone numbers was prepared by Genesys Sampling Systems of Ft. Washington, Pennsylvania, and was designed so that all residential telephones, including new and unlisted numbers, had a known chance of inclusion. The cooperation rate for the survey was 27%. Using the Council of American Survey Research Organizations (CASRO) response rate calculations, interviews were obtained with respondents in 24% of the known or assumed residential households in the sample.

The data were weighted to adjust for unequal probabilities of selection due to multiple telephone lines and multiple adults living in the household. In addition, the data were weighted on sex, race, age, education and region of residence to reflect the demographic composition of the adult population in the U.S. Percentages reported in the text and tables are weighted, while the number of cases shown in the tables for various subgroups is the actual number of respondents.

Questions answered by the full sample of adults are subject to a sampling error of plus or minus approximately 3 percentage points at the 95 percent level of confidence. This means that in 95 out of 100 samples like the one used here, the results obtained should be no more than 3 percentage points above or below the figure that would be obtained by interviewing all adults with telephones. Where the answers of subgroups are reported, the sampling error would be higher. Because of nonresponse (refusals to participate, etc.), standard calculations of sampling error are apt to understate the actual extent to which survey results are at variance with the true population values. Surveys are also subject to errors from sources other than sampling. While every effort is made to identify such errors, they are often difficult or impossible to measure. Readers making use of the results are urged to be mindful of the limitations inherent in survey research. More information on the survey method is available from the director of the survey, Dr. Cary Funk, at (804) 827 1430 or clfunk@vcu.edu.

This report along with tables of results by selected subgroups is available on the web at <http://www.vcu.edu/lifesci/overview/polls.html>. Results from the 2001 VCU Life Sciences Survey are also available on the web.

Tables of Results by Selected Subgroups

Q1	On the whole, have developments in science helped make society better or not?				Number of cases
	Better	Not better	Don't know	No answer	
Total	86%	7%	6%	1%	1000
Male.....	85%	8%	6%	1%	493
Female.....	87%	6%	6%	1%	507
Education					
High school or less.	81%	9%	10%	1%	283
Some college.....	88%	8%	3%	1%	337
College grad & up...	93%	4%	2%	1%	375
Interest & Information					
Lower.....	84%	8%	7%	1%	550
Higher.....	89%	5%	4%	2%	442
Religious Guidance					
Not important.....	88%	4%	7%	1%	173
Some guidance.....	86%	5%	8%	1%	176
Quite a bit.....	85%	9%	4%	2%	210
Great deal.....	86%	7%	6%	1%	414

Interest and Information:

Results of the following four questions were combined to produce an index of "interest and information" on science and medicine: How much are you personally interested in new scientific discoveries - a lot, some, not much, or not at all? How well informed are you about scientific discoveries - are you very informed, somewhat informed, not very informed, or not at all informed? How much are you personally interested in new medical discoveries - a lot, some, not much, or not at all? How well informed are you about medical discoveries - are you very informed, somewhat informed, not very informed, or not at all informed?

Q2	On the whole, have developments in new technology helped make society better or not?				Number of cases
	Better	Not better	Don't know	No answer	
Total	85%	10%	3%	1%	1000
Male.....	88%	9%	2%	1%	493
Female.....	83%	12%	4%	1%	507
Education					
High school or less.	82%	13%	4%	1%	283
Some college.....	86%	10%	1%	2%	337
College grad & up...	91%	5%	2%	2%	375
Interest & Information					
Lower.....	83%	13%	3%	1%	550
Higher.....	89%	7%	2%	2%	442
Religious Guidance					
Not important.....	90%	9%	0%	1%	173
Some guidance.....	86%	9%	2%	2%	176
Quite a bit.....	86%	11%	2%	1%	210
Great deal.....	84%	11%	4%	1%	414

Q5	Scientific research these days doesn't pay enough attention to the moral values of society.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	29%	40%	20%	9%	2%	0%	1000
Male	23%	40%	21%	12%	4%	1%	493
Female	34%	40%	19%	6%	0%	0%	507
Education							
High school or less	31%	40%	16%	9%	3%	0%	283
Some college	32%	42%	18%	6%	2%	1%	337
College grad & up	21%	38%	27%	12%	1%	1%	375
Interest & Information							
Lower	30%	44%	18%	6%	2%	0%	550
Higher	28%	34%	22%	13%	2%	1%	442
Religious Guidance							
Not important	18%	30%	32%	18%	1%	1%	173
Some guidance	18%	45%	25%	11%	1%	0%	176
Quite a bit	25%	46%	19%	7%	4%	0%	210
Great deal	38%	40%	14%	7%	2%	0%	414

Q6	Scientific research is essential for improving the quality of human lives.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	48%	42%	6%	3%	1%	0%	1000
Male	51%	41%	5%	2%	1%	1%	493
Female	46%	43%	6%	3%	1%	0%	507
Education							
High school or less	44%	44%	6%	4%	1%	1%	283
Some college	49%	42%	6%	2%	1%	0%	337
College grad & up	55%	39%	4%	1%	1%	0%	375
Interest & Information							
Lower	40%	48%	7%	3%	1%	1%	550
Higher	61%	34%	3%	2%	0%	0%	442
Religious Guidance							
Not important	52%	43%	3%	1%	1%	0%	173
Some guidance	50%	41%	8%	2%	0%	0%	176
Quite a bit	47%	44%	6%	2%	0%	0%	210
Great deal	46%	42%	6%	4%	1%	1%	414

Q7	Scientific research has created as many problems for society as it has solutions.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	18%	41%	28%	11%	2%	1%	1000
Male	18%	38%	26%	15%	3%	1%	493
Female	18%	43%	29%	8%	1%	1%	507
Education							
High school or less	20%	44%	24%	9%	2%	1%	283
Some college	18%	41%	30%	10%	1%	0%	337
College grad & up	14%	36%	33%	15%	1%	0%	375
Interest & Information							
Lower	19%	45%	26%	8%	2%	1%	550
Higher	18%	34%	31%	17%	1%	1%	442
Religious Guidance							
Not important	17%	30%	37%	14%	1%	0%	173
Some guidance	19%	44%	24%	12%	1%	0%	176
Quite a bit	14%	42%	29%	9%	4%	1%	210
Great deal	20%	42%	26%	10%	1%	1%	414

Q8	New technology used in medicine allows people to live longer and better.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	57%	34%	6%	2%	0%	1%	1000
Male	59%	33%	5%	2%	1%	0%	493
Female	55%	36%	6%	2%	0%	1%	507
Education							
High school or less	52%	37%	7%	2%	0%	1%	283
Some college	59%	30%	8%	2%	1%	0%	337
College grad & up	64%	33%	1%	1%	0%	0%	375
Interest & Information							
Lower	50%	41%	6%	2%	0%	1%	550
Higher	68%	24%	6%	2%	0%	0%	442
Religious Guidance							
Not important	64%	31%	2%	2%	0%	1%	173
Some guidance	57%	35%	6%	1%	0%	0%	176
Quite a bit	59%	33%	6%	2%	0%	0%	210
Great deal	54%	36%	6%	3%	0%	1%	414

Q10	When scientists disagree it helps scientific experts weed out weak theories and evidence.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	36%	50%	7%	3%	3%	1%	1000
Male.....	39%	47%	6%	2%	3%	2%	493
Female.....	32%	52%	8%	4%	3%	1%	507
Education							
High school or less.	29%	53%	7%	4%	4%	1%	283
Some college.....	39%	46%	9%	2%	3%	1%	337
College grad & up...	44%	47%	4%	2%	2%	1%	375
Interest & Information							
Lower.....	28%	57%	6%	3%	4%	1%	550
Higher.....	48%	39%	8%	2%	2%	2%	442
Religious Guidance							
Not important.....	40%	45%	7%	2%	3%	4%	173
Some guidance.....	39%	50%	5%	3%	2%	1%	176
Quite a bit.....	32%	52%	8%	2%	6%	1%	210
Great deal.....	35%	50%	7%	4%	3%	1%	414

Q11	Most scientific theories are eventually proven wrong and are replaced by other theories.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	10%	42%	33%	8%	5%	2%	1000
Male	10%	42%	34%	7%	5%	2%	493
Female	10%	42%	32%	9%	5%	2%	507
Education							
High school or less	13%	47%	29%	6%	4%	2%	283
Some college	8%	38%	38%	9%	5%	2%	337
College grad & up	7%	38%	34%	12%	7%	2%	375
Interest & Information							
Lower	11%	42%	34%	7%	5%	1%	550
Higher	8%	43%	32%	9%	5%	3%	442
Religious Guidance							
Not important	14%	40%	32%	7%	5%	2%	173
Some guidance	9%	38%	38%	9%	3%	2%	176
Quite a bit	8%	44%	33%	8%	6%	2%	210
Great deal	11%	45%	31%	8%	4%	1%	414

Q12	Most medical treatments and recommendations are eventually proven wrong and are replaced by other treatments and recommendations.						Number of cases
	Strongl y agree	Somewha t agree	Somewha t disagree	Strongl y disagree	Don't know	No answer	

Total	12%	40%	33%	10%	4%	1%	1000
Male.....	15%	39%	31%	10%	5%	1%	493
Female.....	10%	41%	35%	10%	3%	0%	507
Education							
High school or less.	15%	46%	25%	9%	5%	0%	283
Some college.....	13%	40%	34%	9%	3%	1%	337
College grad & up...	7%	31%	46%	12%	3%	1%	375
Interest & Information							
Lower.....	13%	44%	31%	7%	5%	0%	550
Higher.....	12%	35%	36%	14%	2%	1%	442
Religious Guidance							
Not important.....	12%	40%	33%	12%	2%	1%	173
Some guidance.....	15%	42%	29%	7%	5%	1%	176
Quite a bit.....	12%	38%	35%	10%	5%	1%	210
Great deal.....	12%	41%	34%	9%	4%	0%	414

Q13	When scientific experts don't agree on the explanations..., how much does this affect your confidence in scientific explanations?						Number of cases
	A lot more confident	A little more confident	A little less confident	A lot less confident	Don't know	No answer	
Total	11%	24%	47%	10%	4%	3%	1000
Male	12%	30%	42%	9%	4%	4%	493
Female	11%	19%	51%	12%	4%	3%	507
Education							
High school or less	11%	22%	49%	12%	3%	2%	283
Some college	12%	24%	44%	12%	4%	4%	337
College grad & up	11%	29%	46%	7%	4%	4%	375
Interest & Information							
Lower	9%	26%	48%	11%	3%	3%	550
Higher	15%	22%	45%	9%	5%	4%	442
Religious Guidance							
Not important	16%	29%	37%	11%	4%	1%	173
Some guidance	11%	23%	49%	7%	5%	4%	176
Quite a bit	12%	24%	53%	4%	3%	3%	210
Great deal	8%	23%	48%	14%	3%	4%	414

Q14	When medical experts change their explanations or treatment recommendations..., how much does this affect your confidence...?						Number of cases
	A lot more confident	A little more confident	A little less confident	A lot less confident	Don't know	No answer	
Total	14%	32%	40%	10%	2%	2%	1000
Male	16%	33%	39%	9%	1%	2%	493
Female	13%	32%	40%	11%	2%	2%	507
Education							
High school or less	15%	27%	45%	9%	2%	2%	283
Some college	15%	32%	36%	14%	1%	2%	337
College grad & up	13%	42%	33%	7%	2%	3%	375
Interest & Information							
Lower	11%	32%	43%	10%	2%	2%	550
Higher	20%	33%	35%	9%	1%	3%	442
Religious Guidance							
Not important	15%	33%	39%	11%	1%	1%	173
Some guidance	13%	36%	37%	9%	2%	3%	176
Quite a bit	16%	32%	41%	8%	1%	1%	210
Great deal	15%	31%	41%	10%	2%	3%	414

Q15	The temptations to make money from new technologies encourage scientists to cut corners on research quality.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	23%	43%	20%	9%	3%	1%	1000
Male	21%	43%	22%	11%	2%	1%	493
Female	25%	42%	19%	8%	4%	1%	507
Education							
High school or less	25%	43%	18%	10%	2%	1%	283
Some college	26%	39%	20%	10%	3%	2%	337
College grad & up	18%	44%	25%	8%	4%	1%	375
Interest & Information							
Lower	21%	46%	19%	9%	4%	1%	550
Higher	27%	38%	22%	10%	2%	1%	442
Religious Guidance							
Not important	20%	49%	20%	9%	2%	1%	173
Some guidance	23%	46%	18%	10%	2%	1%	176
Quite a bit	22%	43%	21%	8%	5%	1%	210
Great deal	25%	38%	21%	10%	3%	2%	414

Q16	The temptations to make money from new technologies puts pressure on scientists to pursue research ideas that violate ethical principles.						Number of cases
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't know	No answer	
Total	30%	39%	19%	8%	3%	1%	1000
Male	29%	38%	22%	9%	3%	1%	493
Female	31%	41%	16%	8%	3%	1%	507
Education							
High school or less	35%	37%	16%	9%	3%	1%	283
Some college	28%	43%	18%	7%	4%	0%	337
College grad & up	22%	41%	25%	9%	2%	1%	375
Interest & Information							
Lower	30%	42%	17%	7%	3%	1%	550
Higher	30%	35%	21%	11%	2%	1%	442
Religious Guidance							
Not important	25%	37%	26%	11%	1%	0%	173
Some guidance	29%	44%	13%	12%	1%	0%	176
Quite a bit	24%	45%	19%	5%	6%	1%	210
Great deal	35%	36%	18%	8%	2%	1%	414

Q17	Are pressures to pursue research ideas that violate ethical principles about the same, stronger for those in private business or stronger for those in universities?					Number of cases
	Same	Stronger for private business	Stronger for universities	Don't know	No answer	
Total	15%	38%	28%	16%	3%	1000
Male.....	17%	38%	28%	15%	3%	493
Female.....	14%	38%	29%	16%	2%	507
Education						
High school or less.	11%	30%	36%	20%	3%	283
Some college.....	18%	42%	27%	11%	3%	337
College grad & up...	22%	48%	16%	11%	2%	375
Interest & Information						
Lower.....	14%	36%	29%	19%	2%	550
Higher.....	17%	41%	27%	10%	4%	442
Religious Guidance						
Not important.....	16%	49%	21%	13%	2%	173
Some guidance.....	19%	47%	24%	9%	1%	176
Quite a bit.....	15%	30%	37%	13%	5%	210
Great deal.....	15%	35%	29%	20%	2%	414

Q18	Should medical research rules be the same or different for federally-funded and private business research?				Number of cases
	Rules should be the same for both	Okay to have different rules	Don't know	No answer	
Total	58%	36%	4%	1%	1000
Male.....	52%	44%	3%	2%	493
Female.....	64%	30%	5%	1%	507
Education					
High school or less.	64%	31%	4%	1%	283
Some college.....	56%	38%	4%	2%	337
College grad & up...	49%	46%	4%	2%	375
Interest & Information					
Lower.....	59%	35%	5%	1%	550
Higher.....	57%	39%	2%	2%	442
Religious Guidance					
Not important.....	55%	42%	1%	1%	173
Some guidance.....	59%	35%	5%	1%	176
Quite a bit.....	65%	30%	2%	3%	210
Great deal.....	57%	38%	4%	0%	414

Q19

Should U.S. laws and regulations on
medical research take into account what
can be done in other countries?

	Should take into account	Should not take into account	Don't know	No answer	Number of cases
Total	53%	41%	5%	1%	1000
Male.....	52%	43%	4%	1%	493
Female.....	54%	39%	6%	1%	507
Education					
High school or less.	56%	34%	9%	1%	283
Some college.....	54%	44%	1%	1%	337
College grad & up...	47%	49%	2%	1%	375
Interest & Information					
Lower.....	54%	38%	6%	1%	550
Higher.....	52%	45%	2%	1%	442
Religious Guidance					
Not important.....	55%	41%	2%	2%	173
Some guidance.....	57%	36%	5%	1%	176
Quite a bit.....	59%	35%	5%	0%	210
Great deal.....	47%	46%	6%	1%	414

Q20	Do you think the federal government has more rules than it needs overseeing medical research, fewer rules, or is it about right?					Number of cases
	More rules than it needs	Fewer rules than it needs	Currentl y about right	Don't know	No answer	
Total	31%	16%	34%	16%	3%	1000
Male.....	36%	12%	36%	13%	3%	493
Female.....	26%	20%	33%	19%	3%	507
Education						
High school or less.	31%	15%	35%	17%	3%	283
Some college.....	33%	20%	32%	12%	3%	337
College grad & up...	30%	15%	36%	17%	2%	375
Interest & Information						
Lower.....	29%	16%	34%	18%	4%	550
Higher.....	34%	17%	34%	12%	2%	442
Religious Guidance						
Not important.....	36%	12%	36%	14%	2%	173
Some guidance.....	35%	15%	28%	20%	2%	176
Quite a bit.....	29%	15%	39%	14%	3%	210
Great deal.....	28%	18%	35%	16%	4%	414

Q21	How much do you favor or oppose allowing cloning to be done in humans?						Number of cases
	Strongly favor	Somewhat favor	Somewhat oppose	Strongly oppose	Don't know	No answer	
Total	6%	10%	16%	65%	1%	2%	1000
Male	9%	14%	18%	55%	2%	3%	493
Female	3%	6%	15%	73%	1%	2%	507
Education							
High school or less	7%	8%	16%	66%	1%	2%	283
Some college	5%	9%	14%	70%	1%	1%	337
College grad & up	4%	14%	19%	57%	2%	4%	375
Interest & Information							
Lower	5%	7%	18%	67%	2%	2%	550
Higher	8%	14%	14%	61%	1%	3%	442
Religious Guidance							
Not important	9%	19%	18%	49%	1%	5%	173
Some guidance	5%	16%	19%	55%	2%	2%	176
Quite a bit	6%	6%	21%	66%	1%	1%	210
Great deal	4%	6%	12%	75%	1%	1%	414
Views on Abortion							
Always Legal	10%	18%	15%	52%	1%	4%	340
Sometimes Legal	5%	7%	21%	64%	1%	2%	445
Always Illegal	3%	5%	7%	83%	2%	0%	164
Q25. Difference between reproductive and therapeutic cloning?							
Very/Somewhat clear	7%	14%	14%	63%	1%	2%	462
Not very/Not at all clear	5%	7%	18%	66%	2%	2%	526

Q22	Do you favor or oppose using human cloning technology IF it is used only to help develop new treatments for disease?						Number of cases
	Strongly favor	Somewhat favor	Somewhat oppose	Strongly oppose	Don't know	No answer	
Total	21%	24%	13%	38%	2%	1%	1000
Male	26%	25%	13%	30%	3%	1%	493
Female	16%	23%	13%	45%	2%	1%	507
Education							
High school or less	21%	20%	14%	41%	3%	1%	283
Some college	17%	27%	11%	44%	1%	1%	337
College grad & up	26%	30%	14%	26%	3%	2%	375
Interest & Information							
Lower	14%	26%	14%	42%	3%	2%	550
Higher	32%	22%	12%	31%	1%	1%	442
Religious Guidance							
Not important	34%	32%	10%	22%	1%	1%	173
Some guidance	28%	30%	13%	23%	4%	2%	176
Quite a bit	13%	30%	18%	37%	2%	0%	210
Great deal	18%	17%	11%	49%	2%	2%	414
Views on Abortion							
Always Legal	36%	26%	12%	25%	1%	1%	340
Sometimes Legal	17%	29%	17%	32%	3%	2%	445
Always Illegal	9%	11%	8%	69%	3%	0%	164
Q25. Difference between reproductive and therapeutic cloning?							
Very/Somewhat clear	25%	19%	12%	42%	1%	1%	462
Not very/Not at all clear	18%	28%	14%	35%	4%	2%	526

Q23	Is it morally acceptable or morally wrong for businesses to use human cloning technology in developing new products?				Number of cases
	Morally acceptable	Morally wrong	Don't know	No answer	
Total	19%	70%	7%	4%	1000
Male.....	25%	62%	8%	5%	493
Female.....	14%	77%	6%	3%	507
Education					
High school or less.	17%	73%	8%	2%	283
Some college.....	15%	77%	4%	4%	337
College grad & up...	27%	59%	8%	6%	375
Interest & Information					
Lower.....	15%	73%	9%	4%	550
Higher.....	26%	66%	4%	4%	442
Religious Guidance					
Not important.....	39%	50%	7%	4%	173
Some guidance.....	21%	66%	8%	5%	176
Quite a bit.....	16%	73%	7%	5%	210
Great deal.....	13%	78%	6%	3%	414
Views on Abortion					
Always Legal.....	33%	56%	6%	4%	340
Sometimes Legal.....	16%	74%	6%	4%	445
Always Illegal.....	9%	87%	4%	0%	164
Q25. Difference between reproductive and therapeutic cloning?					
Very/Somewhat clear.	25%	66%	5%	4%	462
Not very/Not at all clear.....	15%	74%	9%	3%	526
Q24. Thought about business potential of human cloning technology?					
Great deal/Quite a bit.....	23%	69%	5%	3%	274
Some.....	23%	68%	5%	4%	311
Not too much/Not at all.....	14%	72%	9%	4%	406

Q24	How much have you thought about the potential for businesses to use human cloning technology in developing new products?							Number of cases
	A great deal	Quite a bit	Some	Not too much	Not at all	Don't know	No answer	
Total	9%	16%	30%	24%	20%	1%	0%	1000
Male.....	11%	16%	30%	26%	15%	0%	1%	493
Female.....	7%	16%	29%	23%	24%	1%	0%	507
Education								
High school or less.	7%	14%	26%	27%	25%	1%	0%	283
Some college.....	11%	18%	28%	23%	20%	0%	0%	337
College grad & up...	11%	18%	38%	22%	11%	0%	1%	375
Interest & Information								
Lower.....	5%	11%	28%	29%	25%	1%	0%	550
Higher.....	17%	23%	33%	16%	10%	0%	1%	442
Religious Guidance								
Not important.....	11%	17%	31%	24%	16%	0%	1%	173
Some guidance.....	4%	13%	28%	27%	29%	0%	0%	176
Quite a bit.....	6%	17%	31%	25%	19%	0%	1%	210
Great deal.....	12%	16%	30%	24%	18%	1%	0%	414
Views on Abortion								
Always Legal.....	8%	16%	31%	25%	19%	1%	0%	340
Sometimes Legal.....	11%	15%	32%	23%	19%	0%	1%	445
Always Illegal.....	8%	20%	25%	25%	22%	0%	0%	164
Q25. Difference between reproductive and therapeutic cloning?								
Very/Somewhat clear.	15%	25%	34%	16%	10%	0%	0%	462
Not very/Not at all clear.....	5%	10%	27%	30%	27%	1%	0%	526

Q25	How clear are you, personally, on the difference between human reproductive cloning and human therapeutic cloning?						Number of cases
	Very clear	Somewhat clear	Not very clear	Not at all clear	Don't know	No answer	
Total	11%	31%	29%	28%	1%	1%	1000
Male.....	12%	33%	28%	26%	1%	1%	493
Female.....	11%	29%	30%	29%	0%	0%	507
Education							
High school or less.	8%	27%	30%	34%	0%	0%	283
Some college.....	12%	30%	32%	24%	1%	0%	337
College grad & up...	16%	39%	23%	20%	1%	2%	375
Interest & Information							
Lower.....	7%	27%	32%	34%	0%	1%	550
Higher.....	18%	39%	24%	18%	1%	1%	442
Religious Guidance							
Not important.....	17%	30%	27%	25%	0%	1%	173
Some guidance.....	10%	28%	31%	29%	0%	1%	176
Quite a bit.....	12%	31%	33%	23%	1%	0%	210
Great deal.....	9%	33%	26%	32%	0%	1%	414
Views on Abortion							
Always Legal.....	15%	29%	28%	27%	1%	0%	340
Sometimes Legal.....	8%	31%	32%	28%	0%	1%	445
Always Illegal.....	11%	36%	25%	27%	1%	0%	164

Q26	...Do you favor or oppose picking and choosing an unborn baby's characteristics using these new technologies?						Number of cases
	Strongly favor	Somewhat favor	Somewhat oppose	Strongly oppose	Don't know	No answer	
Total	5%	13%	21%	58%	2%	2%	1000
Male	7%	17%	21%	51%	2%	2%	493
Female	3%	9%	20%	64%	3%	1%	507
Education							
High school or less	6%	10%	20%	59%	3%	2%	283
Some college	2%	14%	17%	64%	2%	1%	337
College grad & up	6%	17%	24%	49%	1%	3%	375
Interest & Information							
Lower	2%	11%	24%	58%	2%	2%	550
Higher	9%	16%	15%	57%	2%	2%	442
Religious Guidance							
Not important	10%	23%	20%	41%	2%	4%	173
Some guidance	4%	17%	30%	47%	2%	1%	176
Quite a bit	5%	13%	23%	55%	2%	2%	210
Great deal	4%	9%	16%	70%	1%	1%	414
Views on Abortion							
Always Legal	9%	20%	23%	45%	1%	2%	340
Sometimes Legal	4%	12%	22%	58%	3%	2%	445
Always Illegal	2%	6%	15%	76%	1%	1%	164

Q28	How much have you seen, read, or heard about medical research involving embryonic stem cells?						Number of cases
	A lot	A little	Not much	Nothing at all	Don't know	No answer	
Total	13%	40%	26%	20%	1%	1%	1000
Male.....	13%	38%	27%	20%	0%	1%	493
Female.....	12%	43%	25%	19%	1%	0%	507
Education							
High school or less.	8%	36%	28%	27%	1%	0%	283
Some college.....	15%	44%	24%	16%	1%	1%	337
College grad & up...	20%	45%	23%	10%	0%	2%	375
Interest & Information							
Lower.....	6%	37%	31%	25%	1%	0%	550
Higher.....	24%	46%	18%	11%	0%	1%	442
Religious Guidance							
Not important.....	15%	42%	26%	17%	0%	0%	173
Some guidance.....	11%	39%	25%	24%	1%	1%	176
Quite a bit.....	8%	45%	27%	19%	1%	1%	210
Great deal.....	15%	39%	25%	19%	1%	1%	414
Views on Abortion							
Always Legal.....	15%	47%	23%	14%	0%	1%	340
Sometimes Legal.....	11%	38%	30%	21%	0%	0%	445
Always Illegal.....	13%	40%	21%	23%	2%	1%	164

Q29	On the whole, how much do you favor or oppose medical research that uses stem cells from human embryos?						Number of cases
	Strongly favor	Somewhat favor	Somewhat oppose	Strongly oppose	Don't know	No answer	
Total	12%	23%	22%	29%	11%	4%	1000
Male	13%	24%	23%	24%	11%	4%	493
Female	11%	22%	21%	32%	11%	4%	507
Education							
High school or less	10%	19%	23%	31%	14%	4%	283
Some college	9%	25%	22%	30%	9%	4%	337
College grad & up	17%	29%	19%	22%	8%	4%	375
Interest & Information							
Lower	7%	22%	26%	29%	12%	4%	550
Higher	20%	25%	16%	27%	8%	4%	442
Religious Guidance							
Not important	22%	33%	14%	14%	12%	5%	173
Some guidance	16%	31%	22%	16%	11%	3%	176
Quite a bit	8%	28%	24%	26%	12%	3%	210
Great deal	8%	14%	24%	40%	10%	4%	414
Views on Abortion							
Always Legal	30%	32%	16%	10%	7%	5%	340
Sometimes Legal	6%	23%	25%	29%	13%	4%	445
Always Illegal	0%	9%	24%	55%	11%	1%	164
Q28 Heard about stem cell research?							
A Lot	35%	15%	12%	36%	2%	1%	153
A Little	14%	30%	20%	29%	4%	2%	433
Not Much/Nothing	3%	19%	26%	26%	19%	6%	402