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Public Opinion and the Embryo Debates

Yuval Levin

Our political debates about stem cell research in recent years have stood in a peculiar relation to public opinion. Rather than seek to marshal public sentiment, or even quite build public support, all sides have wanted to claim a preexisting bedrock of widely shared attitudes backing their favored policy outcome. "By the latest poll," Senator Dianne Feinstein (D.-Cal.) told her colleagues on the Senate floor in 2006, "72 percent of Americans support stem cell research." Her colleague Senator Sam Brownback (R.-Kans.), meanwhile, argued in the same debate that a large majority of Americans oppose all human cloning. The Coalition for the Advancement of Medical Research argues that seven in ten Americans want to eliminate restrictions on public funding of embryonic stem cell research, while the Conference of Catholic Bishops points to a poll showing six in ten oppose such funding altogether.

In all of these scenarios, the American public is taken to be moved by clear and strong opinions on the vexed questions of stem cell research, human cloning, and related practices just past the horizon. But attempts to actually study these views, and to pin down the meaning of the large majorities cited by the various parties to the political arguments, have been vanishingly rare. With very few exceptions (such as admirable efforts by the Genetics and Public Policy Center and the Virginia Commonwealth University), most polls on these issues have involved bare and solitary yes or no questions, and have neglected to dig beneath the most superficial of responses.

To improve upon these surveys is, it turns out, no easy task, because the greatest barrier to a clear understanding of public views is not the absence of clear *questions*, but the absence of clear *views*. Those pollsters who do seek a more thorough understanding of public attitudes find a marked lack of knowledge of the basic facts and even an acknowledgment of that ignorance—resulting in uncertain and highly malleable opinions. To better understand public opinion on bioethics, one must begin by

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abandoning the premise of just about all those who have sought to wield such opinion in the political arena: that the public has views that are clearly defined or strongly held. In the absence of that premise, the goal of activists and interested parties to the bioethics debates should be to learn how best to educate the public, rather than to wield essentially meaningless statistics about existing attitudes.

Over the past few months, the Ethics and Public Policy Center sought to take some modest steps in this direction by examining in some depth public views about bioethics, and particularly questions of embryo research: to better understand what Americans know and don't know, what they worry about, what moves them and what leaves them cold, and where their views might point if (or when) they were to become better informed about the facts. We had no pretensions of revealing where public opinion *really* is. That opinion is thoroughly undefined, and those politicians who seek to hang their cause on strong public attitudes are fooling themselves, or trying to fool the rest of us. Rather, we sought to learn about the character of existing public attitudes and to see what underlying concerns might shape the encounter of the American public with emerging biotechnologies in the years to come.

The project, carried out by *the polling company, inc.*, began in August 2007 with two focus groups conducted in Illinois, and concluded in February 2008 with a national telephone survey designed around the lessons of the focus groups and of some past polling on similar issues. The survey involved 1,003 American adults, and has a margin of error of +/- 3.1%. What follow are some highlights of its findings.

The Known Unknowns

Easily the most unusual and outstanding characteristic of public views on the stem cell and embryo research issues is a self-reported lack of familiarity with the facts. In other arenas of policy and politics, even when people don't know much about a prominent public subject they tend not to perceive or report their own ignorance. But asked, for instance, whether they were familiar with stem cell research, only 17% of the respondents said they were very familiar.

Q.1

Overall, how familiar would you say you are with stem cell research? [The following options were read to the respondents, and were rotated from top-to-bottom and bottom-to-top.]

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59%	**TOTAL FAMILIAR (NET)**
17%	VERY FAMILIAR
42%	SOMEWHAT FAMILIAR
41%	**TOTAL UNFAMILIAR (NET)**
28%	JUST A LITTLE BIT FAMILIAR
13%	NOT AT ALL FAMILIAR
*	DO NOT KNOW (VOLUNTEERED)
-	REFUSED (VOLUNTEERED)

[Here and below, an asterisk (*) denotes results less than 0.5%, and a hyphen (-) indicates zero respondents.]

This relative absence of knowledge about even the most prominent of the embryo-research issues is made emphatically clearer in the responses to particular questions of fact. Asked, for instance, whether adult or embryonic stem cell research had yielded any therapeutic results, only 23% of respondents answered correctly that, to date, only adult stem cells have resulted in treatments for disease. More respondents wrongly believed that embryonic stem cells had already yielded therapies, and many wrongly believed that neither adult nor embryonic stem cells had done so.

Q.2

To the best of your knowledge, which, if any, of the following types of stem cells have actually resulted in a cure or treatment for any diseases? [The following options were read and rotated. Multiple responses were accepted.]

32%	EMBRYONIC STEM CELLS
23%	ADULT STEM CELLS
17%	NEITHER/NONE (VOLUNTEERED)
1%	OTHER (VOLUNTEERED)
32%	DON'T KNOW/NOT SURE (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

In fact, professed familiarity with stem cell research in the prior question turned out to be a leading indicator of actual ignorance with respect to this question of therapeutic uses. Almost 40% of those who claimed some knowledge about the research in the earlier question believed, incorrectly, that embryonic stem cells had yielded therapeutic results, compared to only 23% of those who said they were unfamiliar with the research.

This lack of basic knowledge and confidence means that people are uncertain of the facts and the issues at stake, so that how the subject is

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framed makes an enormous difference in shaping judgments about policy preferences. For instance, when presented as a very general matter, stem cell research is quite popular.

Q.3

Generally speaking, do you support or oppose stem cell research? And do you STRONGLY or SOMEWHAT support/oppose it?

69%	**TOTAL SUPPORT (NET)**
39%	STRONGLY SUPPORT
30%	SOMEWHAT SUPPORT
19%	**TOTAL OPPOSE (NET)**
9%	SOMEWHAT OPPOSE
10%	STRONGLY OPPOSE
9%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
4%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

This is how most of the polls that assert massive support for embryonic stem cell research present the question. But of course, posed this way the question does not distinguish between stem cells obtained in different ways (and indeed it is sensible to assume that those who expressed opposition in response to this question believed they were being asked about embryonic stem cells, although the survey does not allow us to know that with confidence). Such a question, common as it is, therefore reveals very little.

After hearing a brief explanation that laid out the different sources of stem cells (but left undiscussed their current uses or future potential for therapy), the respondents offered a slightly more nuanced set of views, and only a slight majority (52%) supported embryonic stem cell research.

Q.4

As you may know, stem cell research is the practice of conducting scientific or medical research on special cells in an attempt to find cures or treatments for diseases. Researchers believe stem cells may have the ability to be transformed into the different cell types of the body, which could make them useful in the future in medical research and potentially in therapy for people with serious diseases. One form of stem cell research is conducted on embryonic stem cells—or those extracted from human embryos, which are destroyed in the process. There is also a different type of stem cell that can be found in adults, and obtained without any harm or discomfort to the donor.

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Which of the following most closely reflects your view with respect to stem cell research? [The following options were read and rotated.]

45%	I SUPPORT ADULT AND EMBRYONIC STEM CELL RESEARCH
39%	I SUPPORT ADULT STEM CELL RESEARCH BUT NOT EMBRYONIC STEM CELL RESEARCH
7%	I SUPPORT EMBRYONIC STEM CELL RESEARCH BUT NOT ADULT STEM CELL RESEARCH
3%	I DO NOT SUPPORT ADULT OR EMBRYONIC STEM CELL RESEARCH
3%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
2%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

When the question was put in expressly ethical terms, however, a similarly slight majority expressed opposition to embryo research.

Q.5

With which of the following opinions regarding embryonic stem cell research do you agree more? [The following options were rotated.]

PERSON 1: It is ethical to destroy human embryos for the purposes of research because doing so could help cure people suffering from a number of diseases.

PERSON 2: It is unethical to destroy human embryos for the purposes of research because doing so destroys human embryos that are human beings and could otherwise have developed and grown like every other human being.

And do you STRONGLY or SOMEWHAT agree with Person 1/Person 2?

41%	**TOTAL AGREE PERSON 1 (NET)**
25%	STRONGLY AGREE PERSON 1
16%	SOMEWHAT AGREE PERSON 1
51%	**TOTAL AGREE PERSON 2 (NET)**
17%	SOMEWHAT AGREE PERSON 2
34%	STRONGLY AGREE PERSON 2
4%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
3%	DO NOT KNOW (VOLUNTEERED)
1%	REFUSED (VOLUNTEERED)

And yet again, when presented with the case for embryonic stem cell research primarily on the grounds of curing disease, the respondents expressed support.

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Q.6

The social, economic and personal costs of the diseases that embryonic stem cells have the potential to treat are greater than the costs associated with the destruction of embryos.

54%	**TOTAL AGREE (NET)**
29%	STRONGLY AGREE
25%	SOMEWHAT AGREE
39%	**TOTAL DISAGREE (NET)**
13%	SOMEWHAT DISAGREE
26%	STRONGLY DISAGREE
3%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
3%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

But when the case was made on the grounds of moral principle, the respondents reported quite different views:

Q.7

An embryo is a developing human life, therefore it should not be destroyed for scientific or research purposes.

62%	**TOTAL AGREE (NET)**
48%	STRONGLY AGREE
14%	SOMEWHAT AGREE
33%	**TOTAL DISAGREE (NET)**
16%	SOMEWHAT DISAGREE
17%	STRONGLY DISAGREE
3%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
1%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

Interestingly, when the embryo question was presented in the context of the various uses of in vitro fertilization (IVF)—that is, the context of what is done with human embryos once they're created in the lab—fewer than 40% of respondents supported even the freezing of embryos for later use. Even fewer backed the creation of embryos for research purposes. In other words, there was not great support for the essential prerequisites for embryo research.

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Q.8

Switching topics now, as you may know, in vitro fertilization, or IVF, is the process of creating human embryos in a laboratory, by combining a sperm and an egg. The process results in a human embryo which can then be implanted in a mother's womb to develop to birth, frozen for later transfer to a mother, or discarded or used for research purposes (and then destroyed).

In which, if any, of the following instances do you support using in vitro fertilization to create a human embryo? [These options were read and rotated, and multiple responses were accepted.]

63%	TO IMMEDIATELY IMPLANT IN A MOTHER'S WOMB TO DEVELOP AND BE BORN
39%	TO BE FROZEN AND STORED AND POSSIBLY LATER IMPLANTED IN A MOTHER'S WOMB TO DEVELOP AND BE BORN
21%	TO BE USED FOR SCIENTIFIC RESEARCH PURPOSES WHICH ULTIMATELY RESULTS IN THE DESTRUCTION OF THE EMBRYO
9%	NONE OF THE ABOVE (VOLUNTEERED)
1%	OTHER (VOLUNTEERED)
2%	DON'T KNOW/NOT SURE (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

The respondents were also divided on whether embryos created for IVF should be made available for use in research if they are unwanted by their parents.

Q.9

Sometimes human embryos are created through in vitro fertilization with the intention of implanting them in a mother's womb to develop and be born, but for one reason or another, they are never used that way. In that instance, do you support or oppose using and therefore destroying those unwanted embryos for scientific research purposes? And do you STRONGLY or SOMEWHAT support/oppose it?

47%	**TOTAL SUPPORT (NET)**
26%	STRONGLY SUPPORT
21%	SOMEWHAT SUPPORT
48%	**TOTAL OPPOSE (NET)**
14%	SOMEWHAT OPPOSE
34%	STRONGLY OPPOSE
3%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
2%	DO NOT KNOW (VOLUNTEERED)
-	REFUSED (VOLUNTEERED)

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Such glaring contradictions in opinions about the basic facts and circumstances of embryo research suggest that most Americans simply do not grasp how these different pieces hang together, and therefore respond positively or negatively based on the portion of the larger picture they happen to be presented with. Both medical promise and ethical concern prove highly persuasive, even though they point in opposite directions.

Alternative Sources

Despite their deep confusion about the stem cell debate as they have been presented with it, Americans seem to believe that the debate itself is harmful and divisive, pitting science against ethics as it does. The participants in our focus groups agreed almost unanimously that although the debate was very important, it was also a shame that such an argument is necessary; all said they would welcome the possibility of a technical means to avoid the ethical problem. By the time the telephone survey was taken, the prospects for such a solution had grown somewhat more promising.

While the potential of adult stem cells has been understood for some time, researchers have argued that the pluripotency of embryonic stem cells—their ability to be transformed into most if not all of the various cell types of the body—make them more valuable both for research and potentially someday for treatment. In the past few years a number of techniques for the derivation of pluripotent cells without the destruction of embryos have begun to emerge, and one in particular has made great strides: the development of so-called induced pluripotent stem (iPS) cells. These cells, first described in humans in November 2007, are produced by inserting certain stem-cell-associated genes into regular adult cells (like skin cells). The process transforms the adult cells into pluripotent stem cells, which seem to share the key characteristics of embryonic stem cells but do not require the creation, use, or destruction of a human embryo.

James Thomson, a prominent stem cell researcher and a leader of one of the teams that first reported this advance in humans last year, described the advent of iPS cells as "the beginning of the end of the controversy that has surrounded this field." Many respondents to our survey agreed. The potential of this alternative technique did not alter their view of the *ethical* issues involved in the stem cell debate, but it did change their view of the ongoing public argument.

Q. 10

Two months ago, several scientists in Wisconsin and Japan announced that they had successfully created a type of stem cell from ordinary human skin cells that seems to be able to function exactly like an embryonic stem cell without the need

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to create or destroy human embryos. Some of the scientists involved said the early indications are that these cells could, in time, replace embryonic stem cells, and people on all sides have said the new cells are ethically non-controversial.

Does the possibility of this way forward—that is, using skin cells to create stem cells instead of human embryos—make you more likely or less likely to support the use and destruction of embryos for research? And does it make you MUCH or SOMEWHAT more/less likely to support it?

48%	**TOTAL MORE LIKELY (NET)**
29%	MUCH MORE LIKELY
19%	SOMEWHAT MORE LIKELY
44%	**TOTAL LESS LIKELY (NET)**
16%	SOMEWHAT LESS LIKELY
28%	MUCH LESS LIKELY
4%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
3%	DO NOT KNOW (VOLUNTEERED)
1%	REFUSED (VOLUNTEERED)

These rather confusing responses suggest that the respondents' views about the ethics of destroying human embryos for research remained largely unchanged when presented with the new alternative technique. Both sides reported being confirmed in their views, and most respondents did not change sides on the moral question. But the picture looked quite different when the survey respondents were asked whether they think the new technique should influence the political debate.

Q.11

Some have said that between adult stem cells and this new skin cell discovery, the debate about embryonic stem cell research—which results in the destruction of a human embryo—can finally come to an end. Do you agree or disagree? (And do you STRONGLY or SOMEWHAT agree/disagree?)

66%	**TOTAL AGREE (NET)**
38%	STRONGLY AGREE
28%	SOMEWHAT AGREE
25%	**TOTAL DISAGREE (NET)**
12%	SOMEWHAT DISAGREE
13%	STRONGLY DISAGREE
4%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
4%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

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And the new technique had a similar effect on the respondents' views about whether public money should fund embryonic stem cell research.

Q.12

Some have also argued that at the very least this new discovery means that federal taxpayers should not fund the destruction of embryos for research (which could proceed in the private sector) and public money should support this new alternative. Do you agree or disagree? (And do you STRONGLY or SOMEWHAT agree/disagree?)

61%	**TOTAL AGREE (NET)**
35%	STRONGLY AGREE
26%	SOMEWHAT AGREE
34%	**TOTAL DISAGREE (NET)**
13%	SOMEWHAT DISAGREE
21%	STRONGLY DISAGREE
2%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
2%	DO NOT KNOW (VOLUNTEERED)
1%	REFUSED (VOLUNTEERED)

These findings suggest that the emerging promise of iPS cells could have a powerfully transformative effect on the stem cell debate, weakening the case for public funding not because people's views about the human embryo have changed, but because the case that embryo-destructive practices are simply unnecessary for the research—and therefore that the debate itself is unnecessary—may turn out to be persuasive.

Brave New Anxieties

The results of both the focus groups and the telephone survey also made it clear that, beyond the terrain of the stem cell debate, Americans have serious concerns about other novel practices, from cloning to the creation of hybrids to commerce in embryos. Here too, of course, a lack of basic information makes it difficult to draw firm conclusions. But the extent and degree of opposition is quite striking.

On the question of human cloning, rather surprisingly, the respondents expressed somewhat stronger opposition to the cloning of human embryos for research than to cloning for reproduction.

Q.13

As you may know, in the past decade, scientists have cloned a number of animals, including a sheep that was known as Dolly. Some believe human cloning

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is also possible. To clone a human being would involve taking an egg from a woman donor, extracting its genetic content in the lab, and then filling it with the genetic contents of a cell from a second human donor, which could be male or female. The result would be a human embryo that was genetically identical to that second donor. The embryo could then be implanted in a mother's womb to develop to birth or used for research purposes, which would ultimately result in it being destroyed.

In which, if any, of the following instances do you support human cloning? [These options were read and rotated, and multiple responses were accepted.]

25%	TO PRODUCE A HUMAN EMBRYO WHICH WOULD BE IMPLANTED IN A MOTHER'S WOMB TO DEVELOP AND BE BORN
18%	FOR SCIENTIFIC RESEARCH, WHICH WOULD RESULT IN THE DESTRUCTION OF THE EMBRYO
56%	NONE OF THE ABOVE/NEITHER (VOLUNTEERED)
*	OTHER (VOLUNTEERED)
3%	DON'T KNOW/NOT SURE (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

Even when described in terms of the potential to cure some particular diseases—an approach used in most polling conducted by advocates of embryo-destroying research—cloning for research remained unacceptable to most respondents.

Q.14

Which of the following comes closest to your own opinion:

PERSON 1 supports human cloning to allow science and research to pursue cures to diseases like cancer, Alzheimer's, diabetes, and Parkinson's. PERSON 1 supports cloning for creation of human embryos, which would be destroyed when used for stem cells, but is opposed to implanting cloned embryos in a woman to produce a cloned child.

PERSON 2 agrees that it is important to use science and research to cure diseases like cancer, Alzheimer's, diabetes, and Parkinson's, but says that there are more ethical ways, like through the use of new techniques that could create the same kinds of cells without creating cloned embryos. PERSON 2 says it is wrong to create human embryos for the specific purpose of destroying them for their stem cells.

And would you say that you strongly or somewhat agree with PERSON 1/2?

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32%	**TOTAL AGREE PERSON 1 (NET)**
14%	STRONGLY AGREE PERSON 1
18%	SOMEWHAT AGREE PERSON 1
57%	**TOTAL AGREE PERSON 2 (NET)**
20%	SOMEWHAT AGREE PERSON 2
37%	STRONGLY AGREE PERSON 2
8%	NEITHER (VOLUNTEERED)
*	BOTH (VOLUNTEERED)
2%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

In fact, the creation of embryos solely for research—even by IVF, not just by cloning—is rejected by a strong majority.

Q.15

Some scientists wish to use in vitro fertilization techniques to create human embryos solely for research purposes without plans to implant the embryo in a mother's womb to develop and be born. This ultimately results in the destruction of the embryo. Do you support or oppose creating embryos to destroy them for scientific research purposes? And do you STRONGLY or SOMEWHAT support/oppose it?

30%	**TOTAL SUPPORT (NET)**
14%	STRONGLY SUPPORT
16%	SOMEWHAT SUPPORT
67%	**TOTAL OPPOSE (NET)**
15%	SOMEWHAT OPPOSE
52%	STRONGLY OPPOSE
2%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
2%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

The creation of human-animal hybrid embryos, which is now legal in Britain, was also rejected by the vast majority of respondents.

Q.16

Some scientists have suggested that it may be possible to combine cells from a human and cells from an animal to produce hybrid human-animal embryos to be used for research purposes only and then destroyed. Do you support or

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oppose allowing scientists to combine human and animal cells in an embryo for research? And do you STRONGLY or SOMEWHAT support/oppose it?

24%	**TOTAL SUPPORT (NET)**
9%	STRONGLY SUPPORT
15%	SOMEWHAT SUPPORT
71%	**TOTAL OPPOSE (NET)**
11%	SOMEWHAT OPPOSE
60%	STRONGLY OPPOSE
3%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
2%	DO NOT KNOW (VOLUNTEERED)
1%	REFUSED (VOLUNTEERED)

And more than four-fifths of the respondents found commerce in embryos unacceptable.

Q.17

Should scientists and research labs be allowed to buy and sell embryos for research purposes or should the embryos be available for research only if the parents donate them?

69%	PARENTS MUST DONATE EMBRYOS
10%	SCIENTISTS SHOULD BE ABLE TO BUY AND SELL EMBRYOS
13%	NEITHER (VOLUNTEERED)
2%	BOTH (VOLUNTEERED)
3%	IT DEPENDS/NEED MORE INFORMATION (VOLUNTEERED)
3%	DO NOT KNOW (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

Another growing practice, selective abortion following prenatal screening, is also deeply unpopular, except in cases where the condition discovered would be swiftly fatal.

Q.18

New in-utero testing technologies are allowing parents to know in advance some of the genetic characteristics of their developing child fairly soon after conception, such as its sex or if it has any medical conditions or genetic diseases such as Down syndrome. In some cases, parents may choose to terminate or abort a pregnancy after learning the results of these tests. In which, if any, of the following circumstances do you believe parents should be legally allowed to terminate the pregnancy? [These options were read and rotated, and multiple responses were accepted.]

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57%	IF THEY DISCOVER THE CHILD HAS A FATAL DISEASE OR CONDITION THAT WOULD LIKELY RESULT IN ITS DEATH EITHER BEFORE OR SHORTLY AFTER BIRTH
20%	IF THEY DISCOVER THE CHILD HAS A SERIOUS, BUT NON-FATAL, GENETIC DISEASE OR CONDITION SUCH AS DOWN SYNDROME
3%	IF THEY DISCOVER THE SEX OF THE CHILD IS NOT WHAT THEY WANTED—FOR EXAMPLE, THEY WANTED A BOY AND THE CHILD IS A GIRL
30%	NONE OF THE ABOVE (VOLUNTEERED)
1%	OTHER (VOLUNTEERED)
3%	DON'T KNOW/NOT SURE (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

The Abortion Debate

At the end of our survey, we asked the respondents briefly to reflect on the abortion debate, which while distinct from questions of embryo research is of course nonetheless closely related. On the matter of abortion, the respondents certainly had a firmer grasp of the facts, and more solid ground for thoroughly formed views. But on this question, too, public opinion turns out to be quite nuanced. As with the embryo-research questions, the terms employed made a great deal of difference to the results. Apparently, some of the most common terms in the debate can confuse as much as clarify. For example, the umbrella terms "pro-life" and "pro-choice" do not well capture the range of views in the debate over *Roe v. Wade*.

Q.19

Which of the following statements most closely describes your own position on the issue of abortion?

57%	**TOTAL PRO-LIFE (NET)**
13%	ABORTIONS SHOULD BE PROHIBITED IN ALL CIRCUMSTANCES
16%	ABORTION SHOULD BE LEGAL ONLY TO SAVE THE LIFE OF THE MOTHER
28%	ABORTIONS SHOULD ONLY BE LEGAL IN CASES OF RAPE, INCEST, OR TO SAVE THE LIFE OF THE MOTHER
42%	**TOTAL PRO-CHOICE (NET)**
27%	ABORTIONS SHOULD BE LEGAL FOR ANY REASON, BUT NOT AFTER THE FIRST THREE MONTHS OF PREGNANCY
6%	ABORTIONS SHOULD BE LEGAL FOR ANY REASON, BUT NOT AFTER THE FIRST SIX MONTHS OF PREGNANCY
9%	ABORTIONS SHOULD BE ALLOWED AT ANY TIME DURING A WOMAN'S PREGNANCY AND FOR ANY REASON
2%	DON'T KNOW/ REFUSED (VOLUNTEERED)

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These results suggest that only 9% of Americans support the existing abortion regime under *Roe*, which permits essentially no restrictions on abortion even in the third trimester.

Finally, the question of the beginning of life offered a telling insight. When asked when life begins, those who offered answers other than "at conception" (the majority answer) did not bunch around any particular point, but spread almost evenly across the entire range of the pregnancy—suggesting that no particular argument in opposition to the case for conception has taken hold, although a general sense that life begins later than conception does persist among a very sizeable minority of Americans.

Q.20

In your opinion, which of the following best describes when life begins?

56%	AT CONCEPTION
9%	WITHIN THE FIRST SEVERAL WEEKS OF PREGNANCY
10%	SOMETIME IN THE FIRST THREE MONTHS OF PREGNANCY
7%	BETWEEN THE FOURTH AND SIXTH MONTHS OF PREGNANCY
2%	BETWEEN THE SEVENTH AND NINTH MONTHS OF PREGNANCY
3%	WHEN THE BABY IS BEING BORN
7%	AFTER THE BABY IS BORN AND TAKES ITS FIRST BREATH ON ITS OWN
*	OTHER (VOLUNTEERED)
3%	DON'T KNOW/NOT SURE (VOLUNTEERED)
*	REFUSED (VOLUNTEERED)

Modest Conclusions

It is of course difficult to draw solid conclusions about American public opinion on the embryo-research questions based on the results of this and other surveys. The lack of knowledge and of firm opinion that emerges powerfully from the survey—and was even more apparent in the focus groups that preceded it—suggests that these debates remain deeply unsettled. Public views on even the most familiar of the policy questions surrounding stem cell research are easily swayed in either direction by different framings of the facts and formulations of the questions, and sometimes the same respondents offered starkly opposite answers to similar questions asked in different ways.

This suggests that Americans remain uninformed and undecided about the novel possibilities biotechnology presents. The potential for medical advance draws support and excitement; the potential for unethical practices evokes concern and opposition.

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Broadly speaking, Americans are aware that some ethical minefields await us in the age of biotechnology; are alert to their own lack of information and expertise in judging such difficulties; and (as the focus group conversations made especially clear) are anxious also about leaving that judgment in the hands of politicians, of government agencies, or of researchers themselves. This suggests above all that no side in these debates should imagine it basks in warm public support. Advocates of embryo-destructive research and related practices, in particular, are treading on a very thin layer of ice that could easily crack beneath them if some new development underscores the ethical questions surrounding such research, rather than the potential for medical progress alone. Opponents of the research, meanwhile, appear justified in grounding their case firmly in the need to defend human life from harm and from degrading violations, but should not lull themselves into believing that the public is firmly behind them.

As long as ethical principles and biomedical advances are in tension, it is hard to see how the deep internal contradictions in public attitudes could resolve themselves, and therefore how today's biotechnology debates could come to any stable end. Both sides of the argument are persuasive to the public. The solution, it would seem, is to sidestep the argument altogether by seeking means of advancing medical research without threatening human life or undermining human dignity. Ironically, recent discoveries suggest that the stem cell debate, which has been the most heated of our bioethics debates in recent years, may well offer us a model of how that can be achieved—of how scientific ingenuity and a commitment to the defense of human life can work together to find ways around what might at first appear to be intractable dilemmas. If there is one thing we can say with some confidence about American public opinion on these issues, it is that science and ethics marching together, rather than in opposition, would be a sight that all could welcome.

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