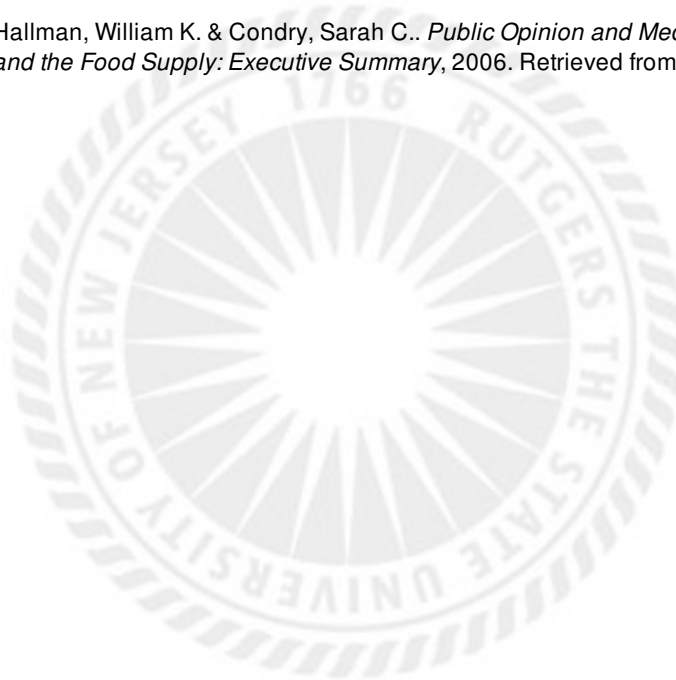


Public Opinion and Media Coverage of Animal Cloning and the Food Supply: Executive Summary

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Public Opinion and Media Coverage of Animal Cloning and the Food Supply November 21, 2006

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As part of its research program examining public knowledge, attitudes and opinions about food biotechnology, the Food Policy Institute recently completed a project examining public opinions about animal cloning and the products of animal cloning in the food supply. The project consisted of three components: 1) a review of the publicly available surveys of public opinion related to the issue; 2) a set of interviews with a group of opinion leaders looking at their mental models of animal cloning and the food supply; and, 3) an examination of media coverage of cloning and animals on websites, in news stories on the Internet, and in American print news stories published in 2005. The purpose of the study was to examine the intersection of rhetoric and opinion regarding the controversial issues related to animals, cloning, and the food supply.

Review of Public Opinion Surveys

In our review of public opinion surveys about animal cloning and the food supply, we examined 17 publicly available surveys published between 2000 and 2006 by the Food Policy Institute (FPI), The Pew Initiative on Food and Biotechnology, The International Food Information Council (IFIC), KRC Research, the Canadian Biotechnology Secretariat, and the Eurobarometer. These surveys suggest that most Americans, Canadians, and Europeans have heard of cloning but say they know little about it. Most also have limited knowledge about the basics of genetics, and little familiarity with both biotechnology and conventional breeding practices.

As a result, while most Americans willingly express an opinion about animal cloning when asked to do so, their opinions are relatively “uncrystallized”. That is, the opinions they express are more likely to reflect their first impressions of the topic rather than indicative of a position developed over time that has been deliberated or supported by a concrete system of beliefs and attitudes.

Therefore, it is likely that these opinions are subject to change and are strongly influenced by the context and wording of the questions asked during the survey. Indeed, changing a single word can have a demonstrable effect. For example, a 2005 IFIC survey found that describing cloning as “a form of animal biotechnology that retains desirable traits by producing animals that are *biologically* identical to the parent” led people to have more negative impressions of animal cloning than when it was simply described as “. . . producing animals that

are identical to the parent”. Similarly, describing animal cloning as providing specific benefits such as improved overall health of animals, or describing it in the context of other ‘assisted breeding’ techniques tends to evoke more positive impressions of the technology.

While perhaps people’s evaluations are reflective of their initial reactions to the idea of cloning animals, first impressions do matter and the surveys reviewed suggest that for many, the word cloning brings to mind negative images evocative of science fiction. As a result, in the absence of concrete, authoritative information about the safety, risks, benefits, and ethics of the technology, the idea of cloning seems foreign, exotic, and vaguely artificial to many; potentially leading to initial feelings of discomfort that are reflected in many of the public opinion surveys.

However, because most people don’t feel qualified to judge these aspects of emerging technologies like cloning, they typically rely on trusted experts like the U.S. Food and Drug Administration (FDA) to evaluate these concerns and provide both authoritative guidance to the public and trusted regulatory oversight to the industry. The surveys suggest therefore, that FDA approval and assurance of safety would likely have a strong influence on the perceived acceptability of animal cloning.

Mental Modeling Interviews

Our in-depth open-ended interviews with a sample of ten well-educated opinion leaders drawn from a relatively affluent community in Central New Jersey confirmed much of what was observed in the national surveys. The interviews were designed to explore the ‘mental models’ people have about cloning and their engagement with the issues. The interviews suggested that initial reactions to the idea of cloning and animals focused on emotions. Most gave initial evaluations of whether they (or others) thought it was a good or bad idea rather than describing what cloning is, what it is designed to do, or how it is accomplished. While many mentioned Dolly (the first cloned sheep), many were confused about the differences between cloned and genetically modified animals, and none focused on any specific scientific concepts or details in their initial responses. Instead, they raised general questions about the evidence of long-term safety of the technology and its products (a few mentioned food), concerns about playing God and potentially disrupting the balance of nature, and made real distinctions between the acceptability of animal versus human cloning.

When asked why people might want to clone animals, the most common responses had to do with making money or improving the economics of producing animals, including improved disease resistance or uniformity. Less often the opinion leaders mentioned the benefits of improving the quality of animals and resulting food products, feeding the hungry, reproducing rare or extinct animals, cloning pets, and providing organs for xenotransplantation. Importantly, many of those interviewed made distinctions between understanding why people would want to clone animals and *whether* they should clone animals. That is, while all could readily identify potential benefits of cloning, few thought that the benefits they identified were solutions to problems that were immediate, applicable to them, or necessarily best solved using cloning technology.

When asked why people wouldn't want to clone animals, the predominant concerns were related to uncertainty and potential unintended consequences, often expressed as vague notions that hidden problems would not be apparent in the short term and as expressions of a lack of trust in science, business, or government to ensure safety. Analogies to problems with Vioxx and Thalidomide were made by a few. In addition, people expressed concerns about 'playing God', going too far with the technology (i.e. leading to human cloning), and about the technology 'falling into the wrong hands' and being misused.

When asked about eating the milk and meat products of cloned animals, the opinion leaders were evenly split in their opinions. Those in favor argued that "I wouldn't know the difference", while those against questioned, "what's wrong with what we already have?" and suggested that they couldn't "think of a benefit big enough to outweigh the uncertainty."

While most of the opinion leaders knew that the *outcome* of cloning is supposed to be an exact copy of another animal, few had any idea of how it works. Many expressed a kind of false fluency, suggesting for example, that you "insert the cell of an animal into a fetus". Others confused cloning with twinning, suggesting that "you split the cell" to obtain a clone. Interestingly, in their discussions of how cloning works, few made any connections to the process of gestation or birth. Indeed, some gave evidence of vague notions that adult animals spring directly from other adult animals.

Given their own readily admitted lack of knowledge about the science involved with cloning, it is interesting to note that when asked what additional information they wanted to have regarding animal cloning, "how it works" was rarely mentioned. Instead, the opinion leaders were more interested in answers to the following: Who is doing it? Where? What are the goals and objectives of the research? What is the current status of the research? What are the risks and benefits to consumers and to the cloned animals themselves? What are the ethical, moral, and philosophical arguments for and against cloning? Who is monitoring/regulating the technology? Is the technology safe? Are the cloned animals normal (i.e. are they really identical to non-cloned animals)? What kinds of problems, if any, do cloned animals experience? How does cloning work? What happened to Dolly? Is food from cloned animals safe to eat? Are we already eating such food products?

Media Analysis

To systematically examine the existing rhetoric regarding animals, cloning, and food presented in the media, internet searches using the Google search engine were conducted using the keywords "animals AND cloning OR cloned" and "animals AND food AND cloning OR cloned". Ten 'pages' of results were examined for each search, yielding a total of 159 original web sources that met the inclusion criteria from the two searches. Additionally, we conducted a search of U.S. newspaper articles related to animal cloning published in 2005, ultimately coding 180 articles from that year.

The results of the study suggest that almost half (46%) the media sources examined were judged to be proponents of cloning, about one-fifth (21%) were opponents, and one-fifth (21%) were judged to be balanced sources, presenting approximately equivalent proportions of both

positive and negative opinions about cloning. Only 12% of the media sources were considered 'neutral' including only impartial opinions or non-evaluative statements about cloning and expressing no clear stance on support or opposition to cloning.

Although the type of media searched ultimately determined the tenor of the specific rhetorical arguments with which one would likely be presented, the overall tenor of the rhetoric was not significantly different across media types. Overall, more than half (52%) of the news articles on the web, and nearly half (46%) of the print news articles were presented from a proponent's perspective. However, websites presented a more equitable distribution of viewpoints, 37% reflected the perspectives of the proponents of cloning, 30% were reflective of opponents' perspectives, 23% were judged to be balanced sources, and 10% were neutral sources.

Further, we found that the addition of the word "food" to the internet searches yielded a majority of links (98%) that led to news articles appearing on the web. Yet, these articles were not significantly different from websites in the overall perspectives presented on animal cloning.

Discussions related to the 'science' of cloning were abundant in the media. Specifically, explanations of the techniques of cloning were more common on the web (79%) than in news articles on the web (57%) or print news articles (48%) and more frequently characterized as positive by websites and cloning proponents.

Yet, while nearly two-thirds (63%) of sources mentioned the idea or importance of ethical issues related to animal cloning, few actually addressed those issues. Yet, opponents and balanced sources¹ were significantly more likely to mention ethics related to animal cloning, and references to ethics or ethical arguments were more likely to be found on websites². Yet, while the majority of websites devoted some portion of space to ethical issues associated with cloning, only a fifth (21%) of websites discussed religion specifically and only 8% devoted any discussion to environmental ethics associated with cloning.

Conclusions

After reviewing the existing public opinion surveys, we concluded that while many have negative initial reactions to the idea of cloning animals, most people know little about the issues, few have thought much about them, and it is not yet on the national agenda. Given the apparent malleability of public opinion regarding the issues related to animal cloning and the potential importance of the FDA imprimatur, it is likely too early to draw firm conclusions from public opinion polls about the eventual acceptability of cloned animals or their products.

However, the preliminary data drawn from our interviews with a sample of well-educated opinion leaders suggests that the reasons for cloning animals are not well understood and may not trump the perceived uncertainty many feel about the unintended consequences the technology may present. Many of the questions asked during our in-depth interviews suggest that the public is likely to focus on issues that go beyond the science of cloning, dealing instead

¹ $X^2 = 22.508$, $p < 0.05$, ($p = 0.000$)

² $X^2 = 21.329$, $p < 0.05$, ($p = 0.000$)

with questions about who controls and regulates the technology, why they are using it, and about the potential risks and benefits associated with it. Moreover, our opinion leaders expressed a keen interest in the ethical, moral, and philosophical arguments related to cloning.

Given both the fact that many of the public opinion surveys suggested that people may have some discomfort with the thought of cloning, we were surprised to find that the majority of the media stories seemed quite positive in their presentation of animal cloning. Moreover, given the clearly trans-scientific interests expressed by our opinion leaders, it was quite surprising to find that much of the media content we reviewed was clearly focused on the science of cloning. Indeed, while many of the articles and websites mentioned the importance of ethics related to cloning, few provided any substantive summary of the ethical, moral, or philosophical arguments on either side of the issue.

In sum, our analysis suggests that public opinion regarding cloning and animals has not yet crystallized. Few people seem to know much about the issue and few seem to have firmly made up their minds about it. However, with the imminent release of FDA policy with regard to the entry of products of cloned animals in the food supply, it is likely that the issue will finally make its way onto the national agenda. When that happens, the questions consumers are likely to have will transcend issues related solely to the science of cloning. However, when they search for information about animal cloning, they are most likely to find discussions about the technology and least likely to find information about the ethical, moral, or philosophical reasons for and against its use.