

Clinical Research Ethics Question of the Month: Research on “Subjects” with Artificial Intelligence

By Norman M. Goldfarb

Scientists have created entities using artificial intelligence technology. These “betas” appear to have human-like intelligence and emotions so they could, for example, serve as companions for people who are lonely. The scientists want to conduct psychological experiments on them to improve their performance and reliability. While betas are not protected by human subjects protection regulations, the scientists have asked your institutional review board to review the ethics of the experiments anyway. What limitations, if any, would you put on such experiments?

Question 1. Would you put any limitations on the experiments?

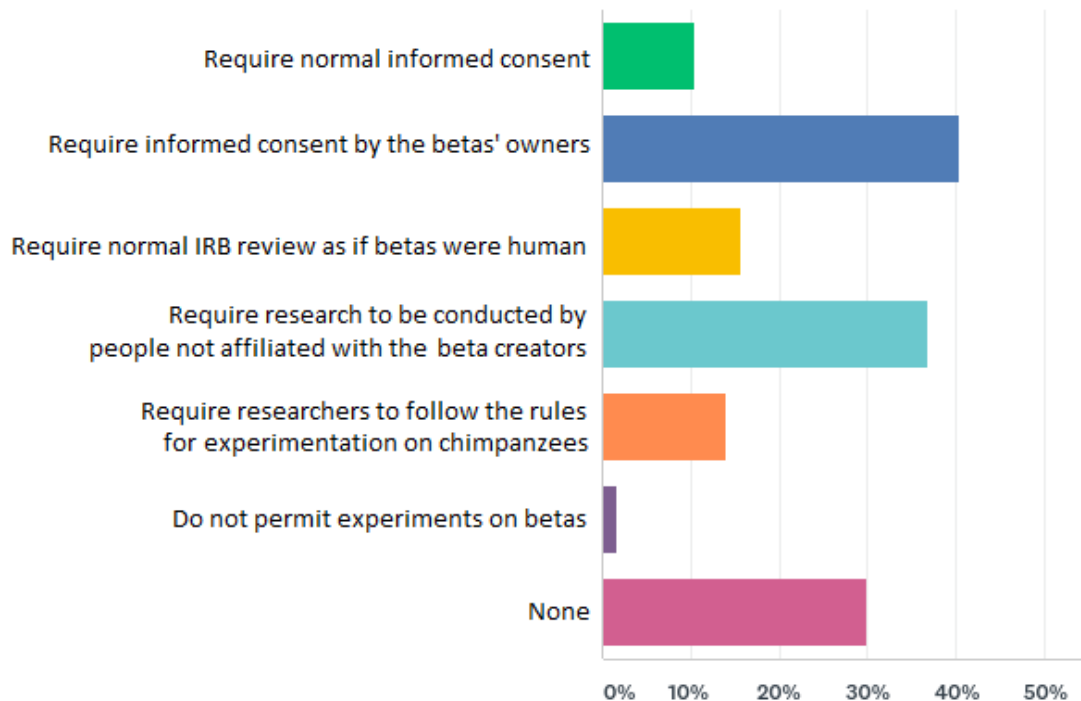
Of the 59 survey respondents, 54% would put limitations on the experiments and 46% would not.

Several respondents expressed concern that the experiments might help develop betas that might threaten harm to humans.

Two respondents would limit the experiments if they involved interaction with people other than the scientists, e.g., companions.

Several respondents stated that betas have artificial intelligence, akin to a computer or software program, so do not warrant ethical protection.

Question 2. What limitations would you recommend?



Forty percent of respondents would require informed consent, 37% would require research to be conducted by people not affiliated with the beta creators, and 30% would place no limitations on the experiments.

One respondent would like to know how the betas view informed consent and process that decision.

Several respondents would want consent from the betas' owners.

Several respondents would want protections similar to those provided to high-functioning animals, e.g., IACUC review. "If [a beta] has emotions and intelligence, how different is it from an animal? I may support human experiments, but I am not with animal experiments. Alternatives should be looked for because...we are not giving the animal any benefits. Just because we do not share equal intelligence does that make us superior with the right to exploit them."

Question 3. Would you limit or forbid experiments that might seriously damage the betas?

Forty-seven percent of respondents would limit or forbid experiments that might seriously damage the betas and 53% would not.

Several respondents cited the need for protecting the beta owners' property rights.

Two respondents expressed concern for the welfare of the betas' human companions.

Two respondents raised questions related to whether the betas' memory could be copied and later restored, or just wiped after the experiment.

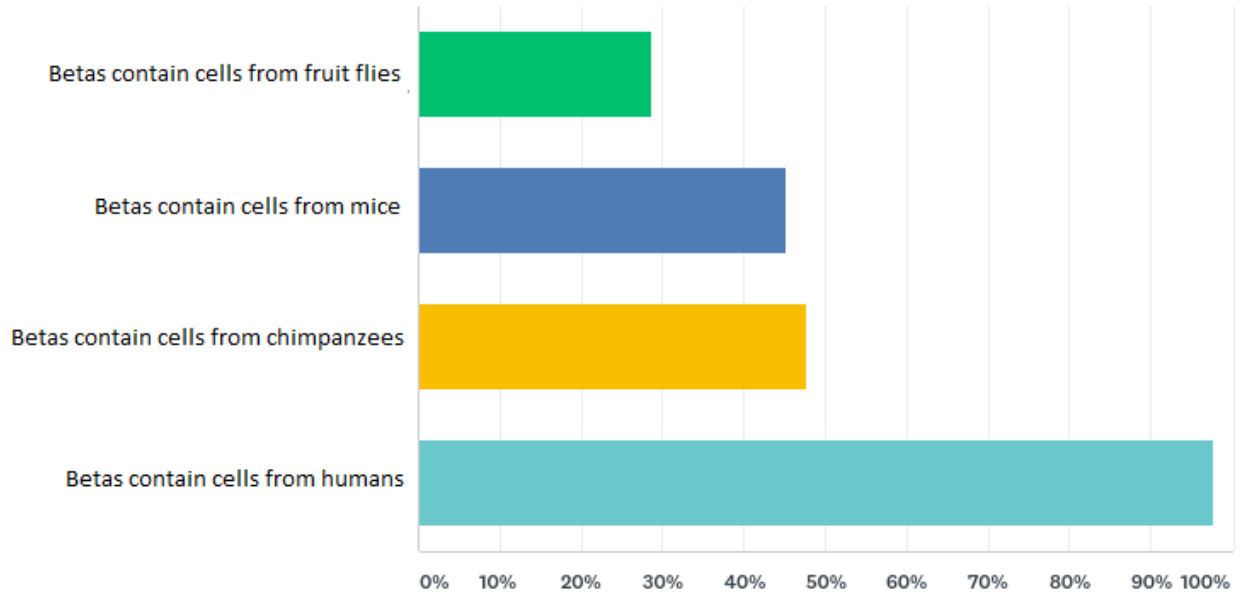
One respondent "would like to avoid a war with artificial intelligence at all costs." In other words, other betas might take a dim view of these experiments and hold human accountable.

Question 4. Would you limit or forbid experiments that could cause the betas to stop functioning?

Forty-seven percent of respondents would limit or forbid experiments that might seriously damage the betas and 53% would not (the same ratio is in the previous question).

One respondent raised the question of whether betas have souls.

Question 5. Which, if any, of the following would cause you to increase the limitations?

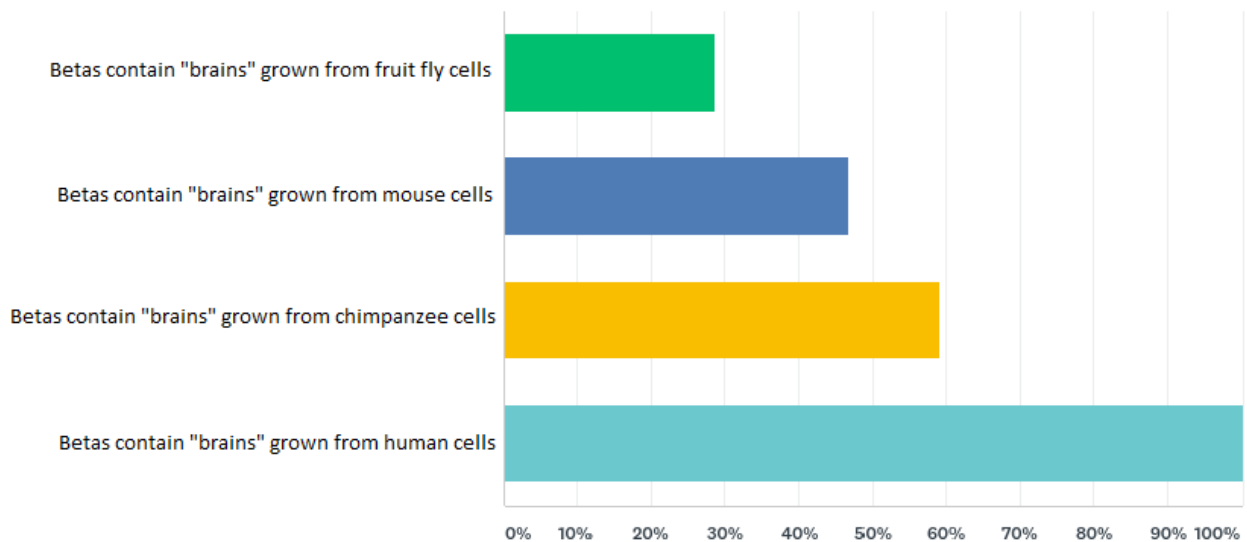


Respondents would increase the limitations if the betas contain cells from humans (98%), chimpanzees (48%), mice (45%), and fruit flies (29%).

One respondent stated: "It is the end result and not the source that matters. If the beta is alive with intelligence and emotion, what difference does it make what cells it has?"

One respondent stated that "human from human is human." The same or a different respondent stated, "machines stay machines."

Question 6. Which, if any, of the following would cause you to increase the limitations?



Respondents would increase the limitations if the betas contain "brains" grown from human cells (100%), chimpanzee cells (59%), mouse cells (47%), and fruit fly cells (29%).

Discussion

This scenario might seem far-fetched today, but check back in 10 or 20 years. (See, for example, "Scientists Are Closer to Making Artificial Brains That Operate Like Ours Do" at <https://futurism.com/artificial-brains-operate-like-humans-close>, "First almost fully-formed human brain grown in lab, researchers claim" at <https://www.theguardian.com/science/2015/aug/18/first-almost-fully-formed-human-brain-grown-in-lab-researchers-claim>, or "How Human Are You?" at <http://howhumanareyou.com/>.)

While the definition of a human, deserving of human protections, is generally clear today, there are hotly disputed questions about rights at the edges of human life — when not yet born or near death. Betas also "live" at the edge of human life.

When people are considering a question of ethics, they often rely on analogies. In this case, respondents appear to first classify betas as akin to machines, animals or humans, and then apply ethical principles accordingly. Betas, depending on their physical composition (e.g., silicon chips vs. human cells) and functionality (e.g., intellect and emotions), might be most comparable to machines, animals or humans.

People have gone to prison for killing someone's pet, but scientists have been applauded for research in which numerous primates have died. This contrast suggests that the impact on humans is decisive in ethical questions involving animals. The impact might be indirect — does a practice offend society? Harming a beta would offend society based on the impact of that harm on humans. For example, if people have emotional attachments to betas, that would argue against harming them. On the other hand, if harming betas would benefit humans, that would argue in favor of harming them.

Modern societies agree that machines do not have human rights. Animist religions, however, can respect the rights of trees and even rocks. Modern societies can also give trees, rocks and even machines what appear to be rights, e.g., by creating parks and historical landmarks, but, here again, it is human society's interests that are being protected. Harming a beta would damage the rights of human society to the extent human society views betas as worthy of protection.

Animal testing is controversial, with many people believing that it is unethical to test drugs on certain animals (e.g., dogs and monkeys) for the benefit of humans. These people take the position that, if humans want to test a new drug that will not benefit animals, that's not the animals' problem. However, many more people support animal testing, provided it is conducted in an ethical manner. This survey reveals a similar moral differentiation for betas.

Human subject protections apply to living persons. One-hundred percent of respondents agree that a "brain" grown from human cells for purpose of scientific experimentation, is equivalent to a living person. The same "brain" grown from the cells of animals appears to have the moral equivalence of that animal. In other words, according to many respondents, two functionally identical betas, one grown from human cells and one grown from fruit fly cells, deserve very different protections. A beta grown from fruit fly cells would probably disagree, as would respondents who give functionality priority over composition. However, those same people might not offer protection to betas created without the use of living cells.

Based on the results of this survey, we can say only that individuals and society as a whole would protect betas based on the extent to which they resemble machines, animals or humans in terms of composition and functionality. A beta grown from human cells with the sentience of a human is likely to gain the clinical research protections due a living person, depending on whether society sees the beta (and the research findings) as a benefit or threat to living persons. We might even see experiments performed on animal-cell-based betas to improve human-cell-based betas.

Next Month's Question

You are the chairperson of a central IRB. You have learned that one of the sites in a study you oversee is achieving subject recruiting and retention rates far superior to that of other sites. An investigation has found nothing unethical or unusual about the site's activities — the subjects just find the investigator's personality irresistible. What, if anything, should you do? Read the full question and give us *your* answer at <https://www.surveymonkey.com/r/37T89ST>.

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