

Table 7-2 Correct answers to factual knowledge and scientific process questions in physical and biological sciences, by sex: 1999–2014

(Percent)

| Science topic/sex | 1999 | 2001 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---------------------------------------|------|------|------|------|------|------|------|------|
| Physical science index ^a | | | | | | | | |
| Male | 72 | 73 | 73 | 74 | 74 | 73 | 75 | 74 |
| Female | 57 | 59 | 55 | 59 | 61 | 60 | 61 | 63 |
| Biological science index ^b | | | | | | | | |
| Male | 59 | 61 | 62 | 63 | 60 | 62 | 59 | 63 |
| Female | 61 | 65 | 65 | 66 | 64 | 64 | 62 | 67 |

^a Physical science index includes five questions:

- The center of the Earth is very hot. (True)
- All radioactivity is man-made. (False)
- Lasers work by focusing sound waves. (False)
- Electrons are smaller than atoms. (True)
- The continents have been moving their location for millions of years and will continue to move. (True)

^b Biological science index includes six questions (questions 3 and 4 have two parts):

- It is the father's gene that decides whether the baby is a boy or a girl. (True)
- Antibiotics kill viruses as well as bacteria. (False)
- A doctor tells a couple that their genetic makeup means that they've got one in four chances of having a child with an inherited illness. (1) Does this mean that if their first child has the illness, the next three will not? (No); (2) Does this mean that each of the couple's children will have the same risk of suffering from the illness? (Yes). Data represent a composite of correct responses to both questions.
- Two scientists want to know if a certain drug is effective against high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many of them experience lower blood pressure levels. The second scientist wants to give the drug to 500 people with high blood pressure and not give the drug to another 500 people with high blood pressure, and see how many in both groups experience lower blood pressure levels. Which is the better way to test this drug? Why is it better to test the drug this way? (The second way because a control group is used for comparison.) Data represent a composite of correct responses to both questions.

NOTES: Data reflect the average percentage of questions in the index answered correctly. "Don't know" responses and refusals to respond are counted as incorrect.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (1999, 2001); University of Michigan, Survey of Consumer Attitudes (2004); University of Chicago, National Opinion Research Center, General Social Survey (2006–14). See appendix tables 7-7 and 7-8 for factual knowledge questions. See appendix tables 7-9 and 7-10 for scientific process questions (probability and experiment).

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