Generation X and evolution illiteracy: 30% or less acknowledge human evolution, although they do get slightly wiser as they age

As the centennial of the Scopes Monkey Trial of 1925 approaches, a new study illustrates that the attitudes of Americans in Generation X toward evolution shifted as they aged.

The study, led by Jon D. Miller, research scientist emeritus in the Institute for Social Research at the University of Michigan, found that while students in middle and high school tended to express uncertain attitudes toward evolution, those attitudes solidified as they graduated high school, went to college and entered the workforce.

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“Some may challenge whether the evolution issue is still of relevance and consider it to be a harmless curiosity,” Miller said. “U.S. science and technology continue to prosper, although a substantial minority of American adults reject the idea that humans developed from earlier species of animals.

“However, we believe that there are numerous examples of public policy over recent decades when an understanding of basic biological constructs would have helped inform public and political debate on those issues.”

The study, published in the journal Public Understanding of Science, used data collected from about 5,000 participants born in the center of Generation X, 1971-1974, over the course of 33 years, from middle school to midlife.

“Research on attitudes toward science typically uses a single survey or a series of surveys of different participants,” Miller said. “Using the three-decade record from the Longitudinal Study of American Life enables our study to investigate how attitudes develop and shift over formative decades in the same individuals.”

Middle school and high school students displayed a good deal of uncertainty about evolution, with a third having no attitude about evolution and 44% saying that the statement “human beings as we know them developed from earlier species of animals” was probably true or probably false, reflecting a degree of uncertainty about the issue.

During the 15 years after high school, 28% of these Generation X young adults concluded that evolution was definitely true and 27% thought that evolution was definitely false, according to co-author Mark Ackerman, a professor at Michigan Engineering, the U-M School of Information and Michigan Medicine.

“These results demonstrate the impact of postsecondary education, initial career experiences and the polarization of the political system in the United States,” Ackerman said.
During the next 15 years (from their early 30s to their late 40s), these Generation X LSAL participants reported a small increase in the proportion of individuals seeing evolution as definitely true (30% in 2020) and a small decrease in the proportion seeing evolution as definitely false (23% in 2020). These results reflect the stabilization of the lives of LSAL respondents, with substantial numbers entering a career of their choice, starting a family and becoming more engaged with their community.

The study investigated the factors that were associated with the participants’ attitudes toward evolution at three points during the study. As in a previous study by the same researchers, factors involving education tended to be strong predictors of the acceptance of evolution, while factors involving fundamentalist religious beliefs tended to be strong predictors of the rejection of evolution.

The experience of college-level science courses, the completion of baccalaureate or more advanced degrees, and the development of civic scientific literacy were strong predictors of increased acceptance of evolution.

“Our analysis of a unique longitudinal dataset allowed us to explore the development of attitudes toward a scientific topic in unprecedented detail,” Miller said. “And understanding the public’s attitudes toward evolution is of particular importance, since evolution is going to continue to be central to biological literacy and—scientific literacy—in the 21st century.”

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