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In Drawing Tests, U.S. Children Draw Female Scientists More Today Than in Previous Decades

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PRESS RELEASE

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The Development of Children's Gender-Science Stereotypes: A Meta-analysis of 5 Decades of U.S. Draw-A-Scientist Studies

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The participation of women in science has risen significantly in the United States since the 1960s. A new meta-analysis reviewed five decades of “Draw a Scientist” tests to determine whether children’s drawings have mirrored that change. The study found that U.S. children and adolescents today draw female scientists more often than in earlier decades, but overall, female scientists are still depicted much less frequently than males in children’s and youths’ drawings.

The study, conducted by researchers at Northwestern University, appears in the journal *Child Development*, a publication of the Society for Research in Child Development.

In the 1960s and 1970s, less than 1% of U.S. children’s drawings depicted a female scientist.In the 1980s and later, that percentage had risen to 28. “These findings shed light on how children learn to associate science with men and how they respond to changes in their cultural environment such as increases in women’s representation in science,” says David I. Miller, Ph.D. candidate in psychology at Northwestern University, who led the study.

The researchers used literature databases such as Google Scholar to identify 78 studies of U.S. “Draw a Scientist” tests over the last 50 years. The studies included more than 20,000 children in kindergarten through 12th grade. While the first study included in the analysis collected data from 1966 to 1977, all of the other studies collected data from 1985 to 2016.

In conducting their meta-analysis of U.S. children’s gender-science stereotypes linking science with men, the researchers hypothesized that these stereotypes would weaken over time as women’s representation in science grew stronger and media increasingly depicted females as scientists. They found that children depicted female scientists more often in later decades.

The study also found that children did not draw significantly more male than female scientists until ages 7-8; in kindergarten, they drew approximately equal percentages of male and female scientists. During elementary and middle school, the tendency to draw male scientists increased rapidly with children's age. These developmental differences suggest a growing awareness of gender differences and greater exposure to male than female science role models in school and mass media.

"Given these results, girls today may develop interests in science more freely than before because children's stereotypes of scientists have become less masculine over time," explains Alice H. Eagly, professor of psychology at Northwestern University, who coauthored the study. "But because stereotypes remain, teachers and parents should present children with multiple examples of female as well as male scientists across many contexts such as in science courses, on television shows, and in informal conversations."

The study was supported by a National Science Foundation graduate research fellowship.

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Summarized from *Child Development*, The Development of Children's Gender-Science Stereotypes: A Meta-Analysis of Five Decades of U.S. Draw-A-Scientist Studies by Miller, DI, Nolla, KM, Eagly, AH, and Uttal, DH (Northwestern University). Copyright 2018 The Society for Research in Child Development, Inc. All rights reserved.