

Science career 'not for me' say many 10 year olds

January 11 2012



Children as young as ten already see a career in science as ‘not for me’. Despite the majority of children enjoying the subject at school and viewing scientists positively, fewer than 17 per cent are interested in pursuing a career in science, according to research from King’s College London, published today. Researchers also found that parents and children still see science careers as predominantly ‘for boys’.

The ASPIRES research team, led by Louise Archer, Professor of Sociology of Education at King’s, is tracking children’s science and career aspirations over five years, from ages 10 to 14. To date they have surveyed over 9000 primary school children and carried out more than 170 interviews of parents and children. After the age of 10 or 11 children’s attitudes towards science often start to decline, suggesting that there is a critical period in which schools and parents can do much to

educate the next generation of the options available to them.

Professor Archer said: "Children and their parents hold quite complex views of science and scientists and at age 10 or 11 these views are largely positive. The vast majority of children at this age enjoy science at school, have parents who are supportive of them studying science and even undertake science-related activities in their spare time. They associate scientists with important work, such as finding medical cures, and with work that is well paid.

"Nevertheless, less than 17 per cent aspire to a career in science. These positive impressions seem to lead to the perception that science offers only a very limited range of careers, for example doctor, scientist or science teacher. It appears that this positive stereotype is also problematic in that it can lead people to view science as out of reach for many, only for exceptional or clever people, and 'not for me'.

Professor Archer says the findings indicate that engaging young people in science is not therefore simply a case of making it more interesting or more fun. She said: "There is a disconnect between interest and aspirations. Our research shows that young people's ambitions are strongly influenced by their social backgrounds – ethnicity, social class and gender – and by family contexts. More needs to be done to make science a conceivable career option for a broader range of pupils, such as incorporating explicit teaching about science-related career opportunities at Key Stage 3."

The research also showed that parents and children still see science careers as predominantly masculine and 'for boys'. Interviews revealed most children still only recognise a very small number of 'famous scientists' who are overwhelmingly white men, with very few women and ethnic minority scientists identified.

The investigation found further evidence to suggest that families, teachers and schools play a part in creating gender patterns of subject choice.

Professor Archer said: 'For many girls – especially those from working class backgrounds – science careers did not fit with their interest, aptitudes and ideas of what constitutes ‘normal’ or desirable femininity. In our research parents of girls commented that a career in science was not very ‘sexy’, not very ‘glamorous’.

'We have found considerable evidence that children's interest in school science declines from the age of 10 onwards. The continued under-representation of girls and women in science is already well documented. Yet our research indicates that there is little or no gender distinction in attitudes towards science at age 10, suggesting that there is a critical period between the ages of 10 and 14 in which to engage students.'

The report, *Ten Science Facts and Fictions: the case for early education about STEM careers*, funded by the Economic and Social Research Council, outlines ten key messages from the findings and makes recommendations for addressing the issues. A key proposal is to integrate science careers awareness into the curriculum. The report authors call for greater support to teachers and families to increase knowledge and awareness about the diversity of science careers and encourage increasing public understanding of how science qualifications can broaden young people’s post-16 options.

Professor Archer said: "We are not suggesting ‘careers advice’ at Key Stage 3. However, you can never start careers awareness too early. This research shows a pressing need to integrate an awareness of STEM (Science, Technology, Engineering and Mathematics) careers into the mainstream school curriculum.

"STEM subjects are vital for the economic and cultural life of the UK. Children in both primary and secondary schools in England tend to conceive of science as leading to an extremely limited range of careers. More children, and families, would benefit from understanding that science and mathematics have a strong exchange value in the education and labor market."

Nicola Hannam, Director, Education & Skills at the Science Council, welcomed the report. She said: "20 per cent of the UK workforce uses science skills to do their jobs and yet children have a very limited knowledge of the career possibilities science offers. We need to shine a light on the scientists hidden in areas such as food production, healthcare and retail. The ASPIRES research work helps us understand how to be more effective in doing that."

Professor Archer concluded: "This failure to engage young people, particularly girls, with pursuing scientific careers points to the need to develop a better understanding of why this is happening and to create a new vision of why careers in science matter, both within schools and in the wider context of society."

Provided by King's College London

Citation: Science career 'not for me' say many 10 year olds (2012, January 11) retrieved 19 April 2024 from <https://phys.org/news/2012-01-science-career-year-olds.html>

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