

Trends in attitudes to science and public engagement with science

BRIEFING PAPER

National Forum for Public Engagement with STEM

Extract from National Forum Response to Science Communication Enquiry 2017

The trends in attitudes to science, and public engagement with science

1. Much has changed over the last 15 years, since the publication of the **Third Report of the Select Committee on Science and Technology**ⁱ in 2000, which identified that: *“Society's relationship with science is in a critical phase. Public confidence in scientific advice to Government has been rocked by BSE; and many people are uneasy about the rapid advance of areas such as biotechnology and IT. This crisis of confidence is of great importance both to British society and to British science”*. Following this report, a range of interventions were made to address the potential breakdown of trust and understanding, including the establishment of the **Science Media Centre**ⁱⁱ and the **Sciencewise** expert resource centreⁱⁱⁱ; the **Factors Affecting Science Communication** research in 2006; the **Concordat for Engaging the Public with Research** in 2011^{iv}; the **BIS Charter for Science and Society** in 2014^v; and the various investments to secure strategic support for PE in universities, led by **National Coordinating Centre for Public Engagement**^{vi} (2008).
2. So what do we know about how public attitudes to science have changed over this period? **The Public Attitudes to Science (PAS) 2014 survey**^{vii} highlights the enthusiasm of the UK public about science, and how attitudes to science in the UK have become increasingly positive over a longer period of time, with 55% in 2014 agreeing that the benefits outweigh the harmful effects, compared to 45% in 1988. PAS 2014 also shows how the public see science as beneficial to society, both in terms of economic growth and the value it brings to their lives, and therefore continue to support government funding of science. According to PAS 2014, Scientists have a **high degree of trust** from the UK public, with a marked difference in trust for those working for universities (90%) compared to those working for private companies (60%). However, Wellcome's 2015 Monitor data^{viii} paints a different picture: with respect to **medical research information**, '59% trust [university scientists] completely or a great deal'; cf. 32% and 29% for pharma scientists and industry scientists, respectively.
3. PAS 2014 reveals that The UK public overwhelmingly think it is important to know about science given the importance of it to their daily lives, but **more people (55%) 'do not feel informed', than 'feel informed' (45%) about science, scientific research and developments**. There is a considerable appetite for hearing more about science – **only 6% say they see and hear too much about science, while 51% think they see and hear too little**.
4. **Wellcome's Monitor survey**^{ix} is conducted every three years to look at changing knowledge and attitudes to medical research, science and health. The 2015 data provides more texture about how the public like to engage with scientists: it reveals that 73% of people who want to hear from scientists, want to hear **via TV, radio or podcast**. A smaller number - just 31% - want to go to a lecture and only 23% want to visit a museum or exhibition. Most of the public (66 per cent) think their understanding of science is **useful** in their everyday lives, but a higher proportion (87 per cent) believe it is **useful for others** – people in general – to have an understanding of science in their everyday lives. Most of the public (62 per cent) say that when they were growing up, **their parents were not interested in science**. (Chapter 3)

5. The Monitor data reveals useful insights in to the role of **museums and science centres** in engaging people with science. One in five (20 per cent) of the public has visited a science museum or science centre in the last 12 months, and seven in ten (71 per cent) say that they have visited a science museum or science centre at some point in their life. Younger adults are more likely than older adults to have visited a science museum or science centre in the past 12 months (27 per cent of those aged 18 to 34 and 28 per cent of those aged 35 to 49, falling to just seven per cent of those aged 65 or over).
6. **By socio-economic group**, those in managerial and professional occupations are most likely to have visited a science museum or science centre in the past 12 months (29 per cent, compared with 10 per cent among those in routine and manual occupations, and 10 per cent also among those who have never worked or are long-term unemployed). By contrast, one- third (33 per cent) of the public have visited a history museum in the last 12 months, and 30 per cent have visited an art gallery. Almost all (**96 per cent**) those visiting a science museum or science centre in the last 12 months **found the experience interesting**.
7. The majority of the public (57 per cent) have **watched a film or television programme** involving science or medical research in the last 12 months, and around one in five (19 per cent) have listened to a radio programme involving science or medical research. Overall, **51 per cent of the public have made a visit to a science-related attraction or event in the past twelve months**.
8. These generally positive changes in public attitudes are paralleled by significant changes in how the **scientific community** approaches engagement with the public. We have seen a shift away from treating the public as ‘empty vessels’ to be told about science and why it is good, to a more respectful conversation which acknowledges that the public may have profound ethical concerns about science; that their curiosity needs to be stimulated; that they have insights and expertise to share, and an appetite to get involved e.g. through citizen science: **a shift from ‘communication’ to ‘engagement’ and dialogue**.
9. We have also seen sustained efforts to **tackle the culture of science**, to address the factors which make it difficult for scientists to engage. The Factors Affecting Science Communication¹⁷ research in 2006 revealed a number of ways in which the professional culture of science was inhibiting scientists from engaging with the public. The National Forum initiated a repeat of the survey in 2015¹⁸ and this revealed a **positive shift** in researchers’ understanding and attitudes to public engagement over the past ten years. Despite the survey finding that researchers are now considerably more personally motivated in this area, it also highlights that considerable challenges remain. Public engagement often struggles to compete for time and resources within the context of a profession that is driven by reward and recognition for research itself. There is further potential that could be tapped within systems of greater reward for public engagement. Many researchers also find it difficult to find opportunities to participate in public engagement activities. **In summary, the findings highlight considerable progress but suggest that more needs to be done to support, reward and recognise researchers to embed public engagement as an integral part of a research career.**

ⁱ <http://www.publications.parliament.uk/pa/ld199900/ldselect/ldsctech/38/3802.htm>

ⁱⁱ <http://www.sciencemediacentre.org/>

ⁱⁱⁱ <http://www.sciencewise-erc.org.uk/>

^{iv} <http://www.rcuk.ac.uk/documents/scisoc/concordatforengagingthepublicwithresearch-pdf/>

^v <https://scienceandsociety.blog.gov.uk/uk-charter-for-society>

^{vi} <http://www.publicengagement.ac.uk/>

^{vii} <https://www.gov.uk/government/publications/public-attitudes-to-science-2014>

^{viii} <http://www.wellcome.ac.uk/About-us/Publications/Reports/Public-engagement/WTX058859.htm>

^{ix} <http://www.wellcome.ac.uk/About-us/Publications/Reports/Public-engagement/WTX058859.htm>