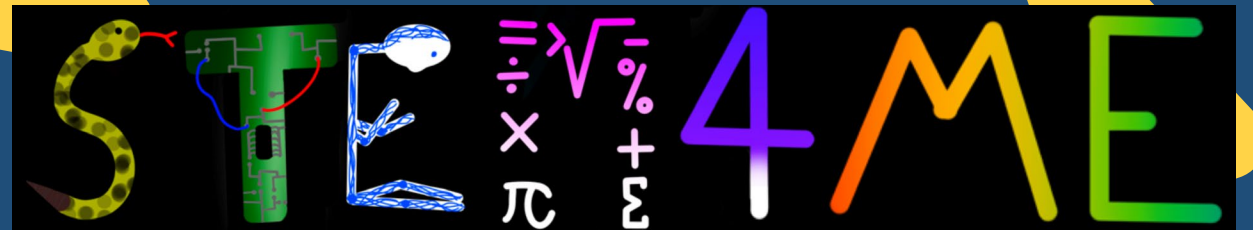


Let's talk about STEM

Dr Josephine Chen-Wilson, Dr Kimberley Hill and Dr Rachel
Maunder

Psychology

University of Northampton



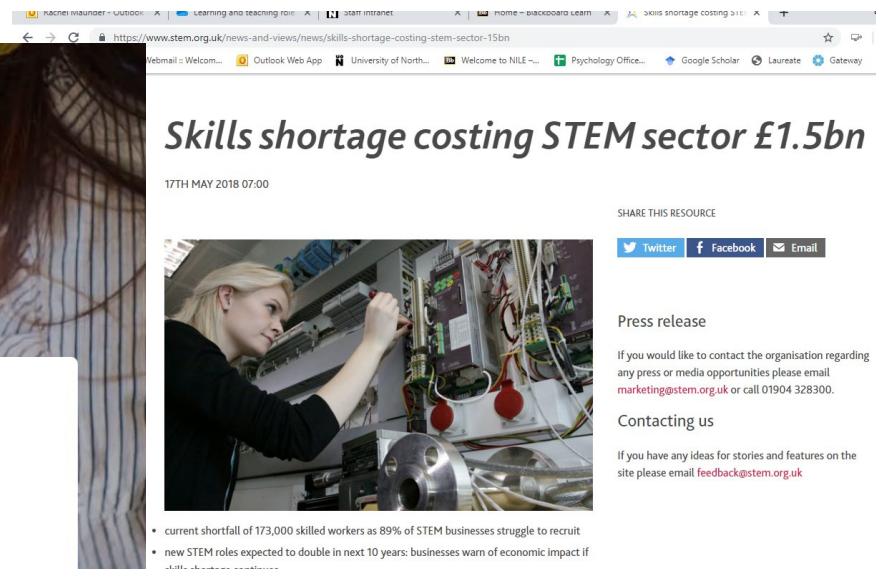
Why should we worry about children's STEM learning and affinity?

- Notion of STEM crisis may still open to debate
- STEM skills shortage is real and persisting
- Gender gaps and issues with diversity also real and persisting (Wise Campaign)

The UK's STEM skills shortage

Micha-Shannon Smith June 2020

Solutions to the UK's shortage of STEM skills must be based on regional and industry-specific needs rather than a one-size-fits-all national approach



Skills shortage costing STEM sector £1.5bn

17TH MAY 2018 07:00

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- current shortfall of 173,000 skilled workers as 89% of STEM businesses struggle to recruit
- new STEM roles expected to double in next 10 years; businesses warn of economic impact if skills shortage continues



Chairman of the National Stem Movement, Datuk Prof Dr Noraini Idris, is

Analytical strategy



Developmental differences

Predicting science affinity

How science is understood



Results of Exploratory Factor Analysis



FACTOR
ANALYSIS

How primary school children thought of science

- 3 factors identified, explained 48.02% of the variance (N=572)
- Children's ideas of what science is, biased heavily towards the traditional lab-based science of biology, chemistry and physics
 - Despite the increased accessibility to technologies and resources

Whiz bang and a bit of human touch (29.19%)

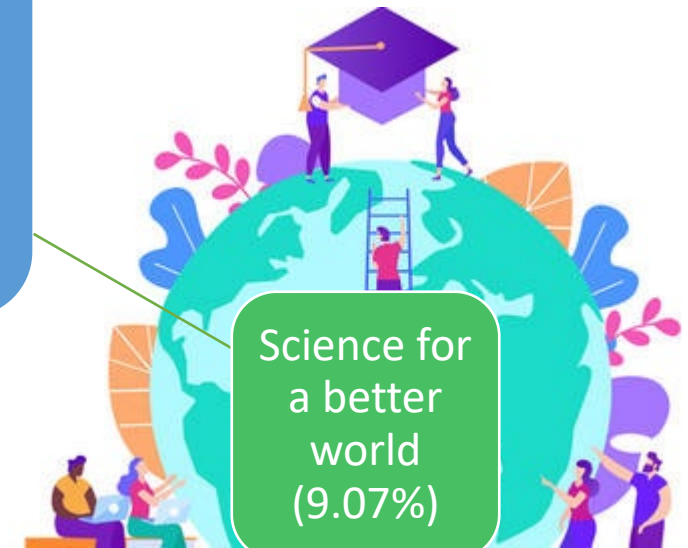


What science is to me

Space and invention (9.77%)



Science for a better world (9.07%)



Children who said they'd like to work in a science related job in the future (N=265)

Reasons why they do (57.14%)

External incentives
(31.63%)

High status and personally satisfying
(13.75%)

Opportunity to help others and interesting
(11.76%)



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External incentives, such as better pays was the dominant factor (31.62%), followed by seeing STEM careers as being high status and personally satisfying (13.75%) and some valued STEM as providing opportunities to help others (11.76%).

Children who said they wouldn't like to work in a science related job in the future (N=303)

Reasons why they don't (55.12%)

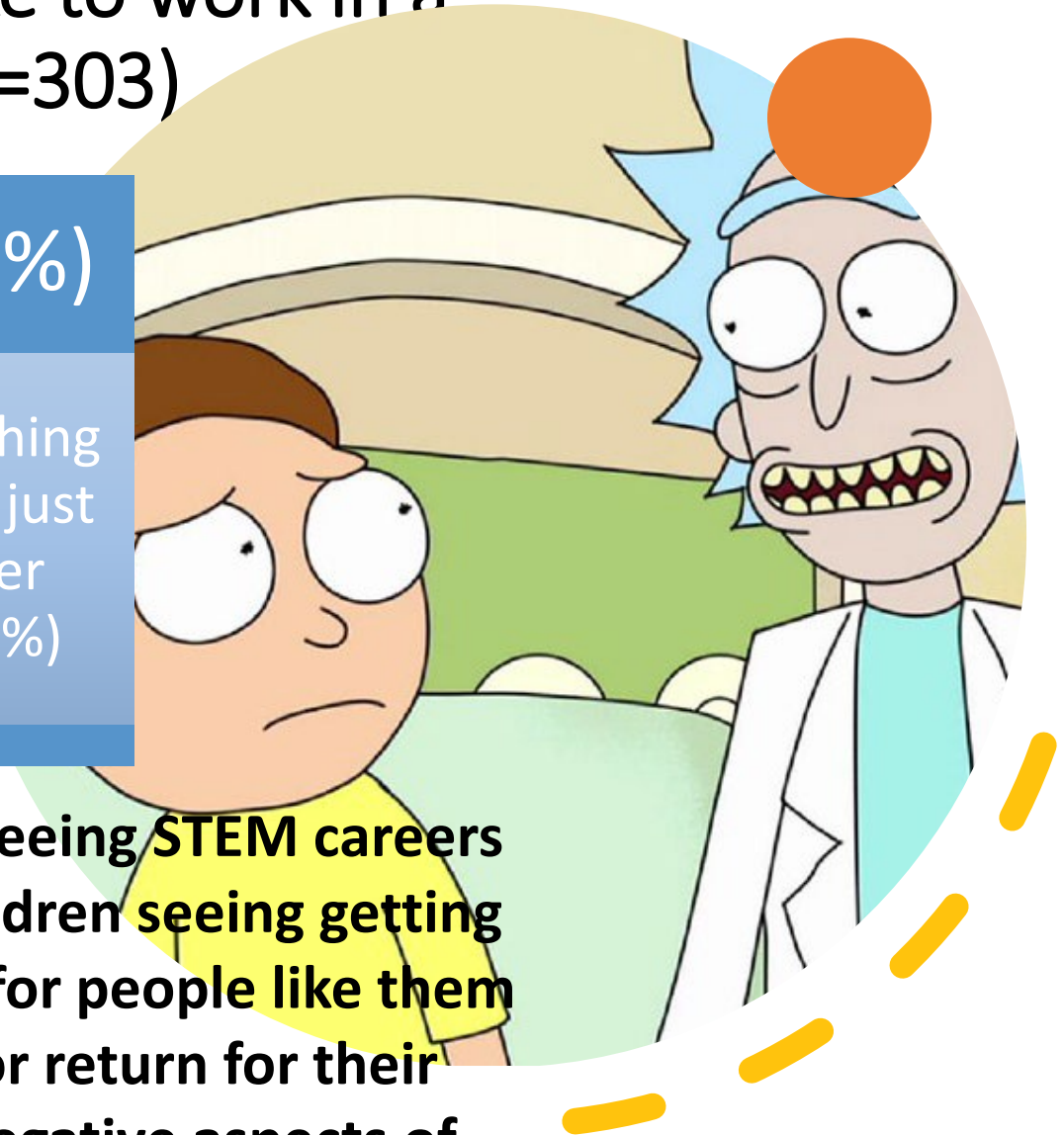
Limited prospect
(25.94%)

Too competitive and not for me
(10.78%)

Poor return
(9.43%)

Something else is just better
(8.98%)

Majority of the reasons put forward related to seeing STEM careers offer limited prospect (25.94%), followed by children seeing getting STEM careers as being too competitive and not for people like them (25.94%), some saw STEM careers providing poor return for their efforts (9.43%). Some children didn't focus on negative aspects of STEM but preferred other careers (8.98%).





Be a part of the children's Science Capital
#STEM4Me

Science buddies at UOW and STEM buddies at UON

Girls4Science team at UoW
STEM4Me team at UON,

Pupils and staff in primary schools in West Midlands
and Oxfordshire

