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Background

Fostering and increasing public trust in geoscience is essential to empower stakeholders to make better informed decisions about the various complex environmental issues facing society. Less than half of surveyed participants in the SFI barometer 2015 on science felt they were well informed about research and development in science, while 70% believed that science was too specialised for them to understand and that they were not well equipped to understand science further (SFI 2015).

Environmental issues are one of the STEM areas that people in Ireland are most interested in therefore trust or distrust is often deepened around issues regarding the natural world. Communication regarding these issues can only be effective if there is a dialogue, an exchange of information, with stakeholders, rather than just a presentation of information. Therefore, before the geoscience community can effectively start that dialogue, we need to understand how the geoscience community is perceived, and how trusted (or not) it is.

This project assessed public perception of, and trust in, geoscience and geoscientists by investigating how members of the public view geoscience and geoscientists in Ireland.

Methodology

A series of semi-structured interviews, were conducted with stakeholders from various targeted groups including: environmental and engineering consultancies, geoscientists, public sector bodies, and various community and partnership groups. Trust in geoscientists was explored in these interviews and compared to other professionals such as environmental scientists and engineers, the general perception of geoscience and geoscientists was also discussed in detail.

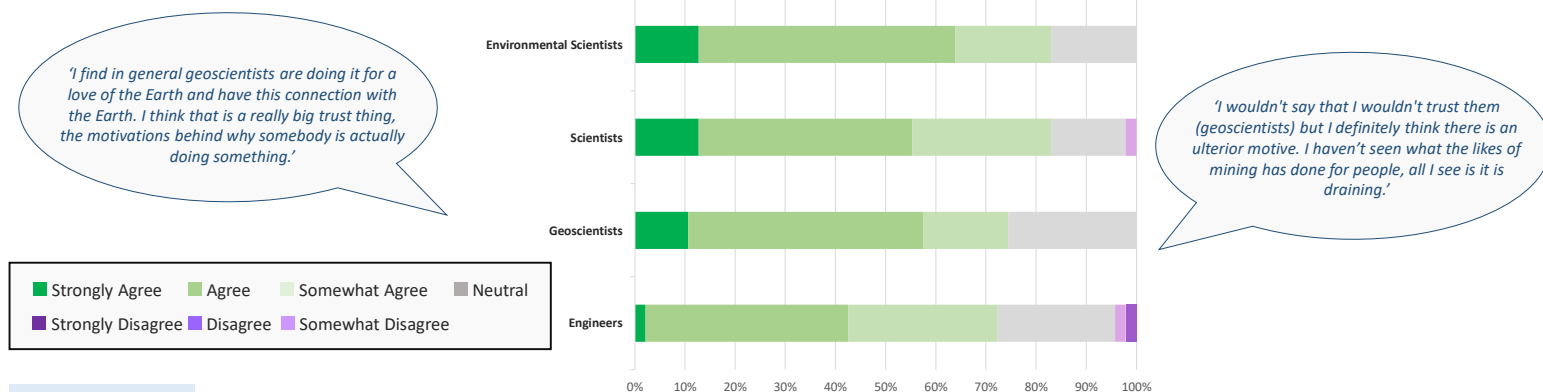
Statements were extracted from the transcripts of the interviews and compiled into a shortlist, incorporating the key areas of trust, scientists, geoscience, environmental science, and engineering. The statements were chosen to represent the full spectrum of opinions surrounding trust in and perception of scientists and used to formulate a Q-sort survey which was circulated to various stakeholders. Each step of the survey contained a number of statements that the participants were asked to rank along a scale ranging from Strongly Disagree to Strongly Agree.

The results from the Q-sort survey, coupled with the thematic analysis of the semi-structured interviews, revealed many interesting trends and opinions. Some of the main findings are summarised below, as well as key quotes from the interviews.

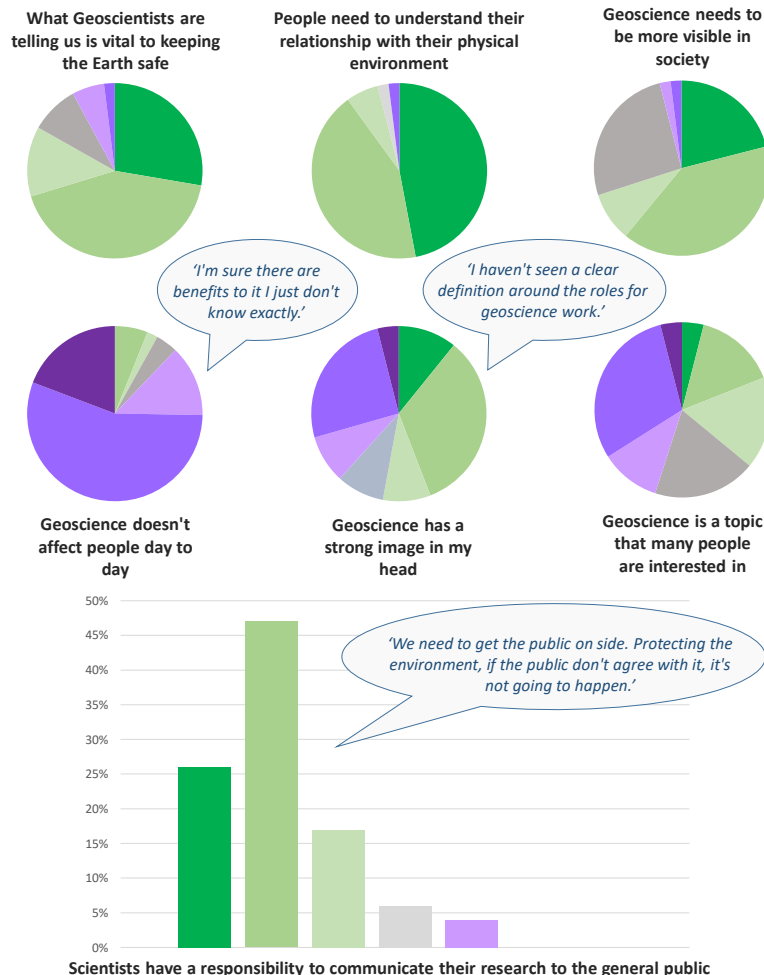
Results

TRUST

Level of trust (x-axis) placed in various scientists (y-axis) by survey respondents



PERCEPTIONS



Word cloud of terms used to describe survey respondents' perception of geoscience



Conclusions

1. Trust in geoscientists is strong, and universal across demographic groups

Although trust is strong for geoscientists there exists a significant level of uncertainty that could be improved upon, even within the geoscience community.

2. Geoscience is perceived as important to everyday life

Overall, all respondents, regardless of their scientific background or other demographic groupings, agree that geoscience is an important subject that affects people day-to-day and needs to be more visible in society. It is important to note that respondents with *any* scientific background (including geoscience) seem to more confidently recognise the importance of geoscience (scoring the relevant statements higher than those without a scientific background), this may indicate the importance of scientific education and engagement to better understand the link between geoscience and society.

3. The image of geoscience is unclear

Although respondents agree that geoscience is important there is a lack of clarity around what geoscience actually is and what geoscientists do. When respondents were asked to describe their understanding of the term geoscience most of the words were vague or generic (see word cloud above). *Earth* was the most popular word used, closely followed by *geology*, *science* and *study*. Other terms used to describe geoscience included *physical*, *natural*, and *surface*. It seems from these terms that geoscience is seen largely as an academic pursuit and although some of its applications are known they don't necessarily come to mind easily.

4. There is a strong desire for science education and engagement

An overwhelming 96% of people showed agreement that people need to understand their relationship with their physical environment, with a sizeable 47% *strongly* agreeing. Furthermore, 98% of respondents showed agreement that 'understanding our physical environment has to be part of formal education', with 57% *strongly* agreeing. Finally, it is worth noting that 89% of respondents agree that 'scientists have a responsibility to communicate their research to the general public'. Therefore it is very clear that people have a desire for science education and for science engagement with researchers.