

What is 'geology'? Preliminary findings from a word association exercise experts and non-experts

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Underground Britain



Rationale and data collection

1. Participant info (van Norden, 2002)

- Gender
- Level of education
- Previous experience with geology



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What does 'geology' mean to you?

What five words come to mind when you see the word 'geology'?

1	
2	
3	
4	
5	

Prev Next

2. Word association (Benthin *et al.*, 1995; Bahar *et al.*, 1999)

- Five words associated with GEOLOGY
- Multiple responses to single trigger (Guerrero *et al.*, 2010)



Data analysis

1. Qualitative: thematic analysis

- a) Emergent coding
- b) Applied coding

2. Semi-quantitative: word clouds

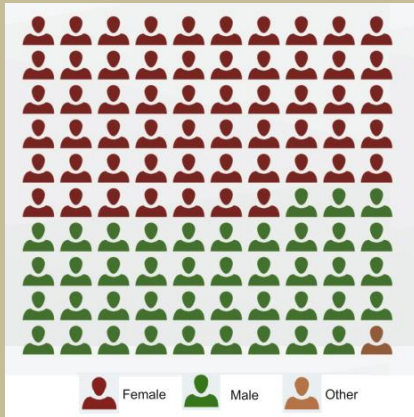
3. Quantitative: statistical analysis (χ^2)



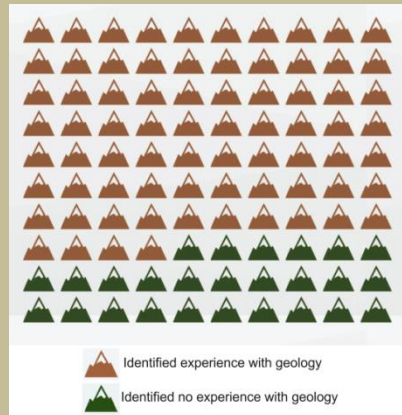
Demographics – study population

896 valid responses (i.e. three or more words submitted), total word count $N = 4460$

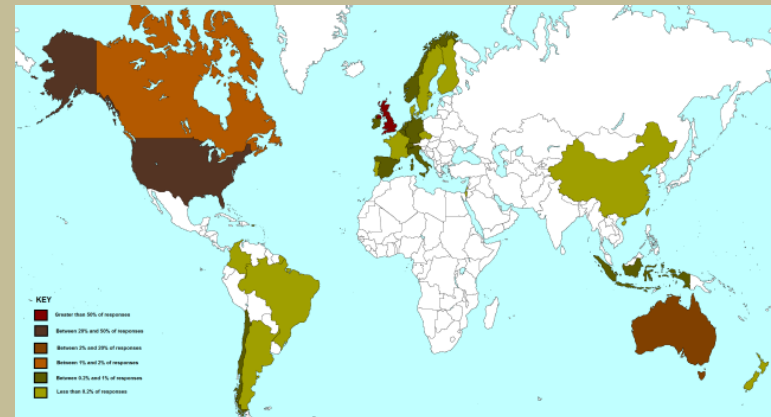
Gender



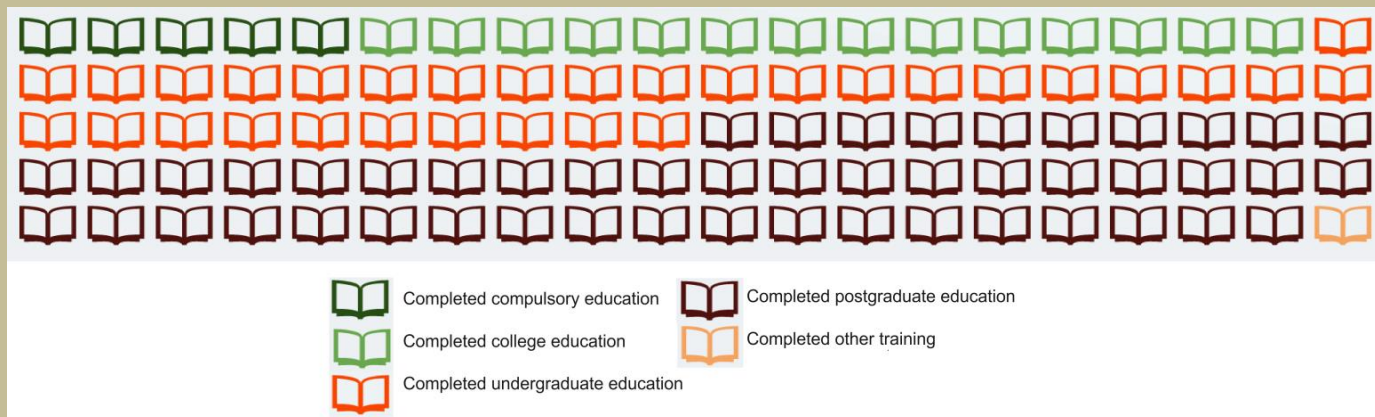
Experience with geology



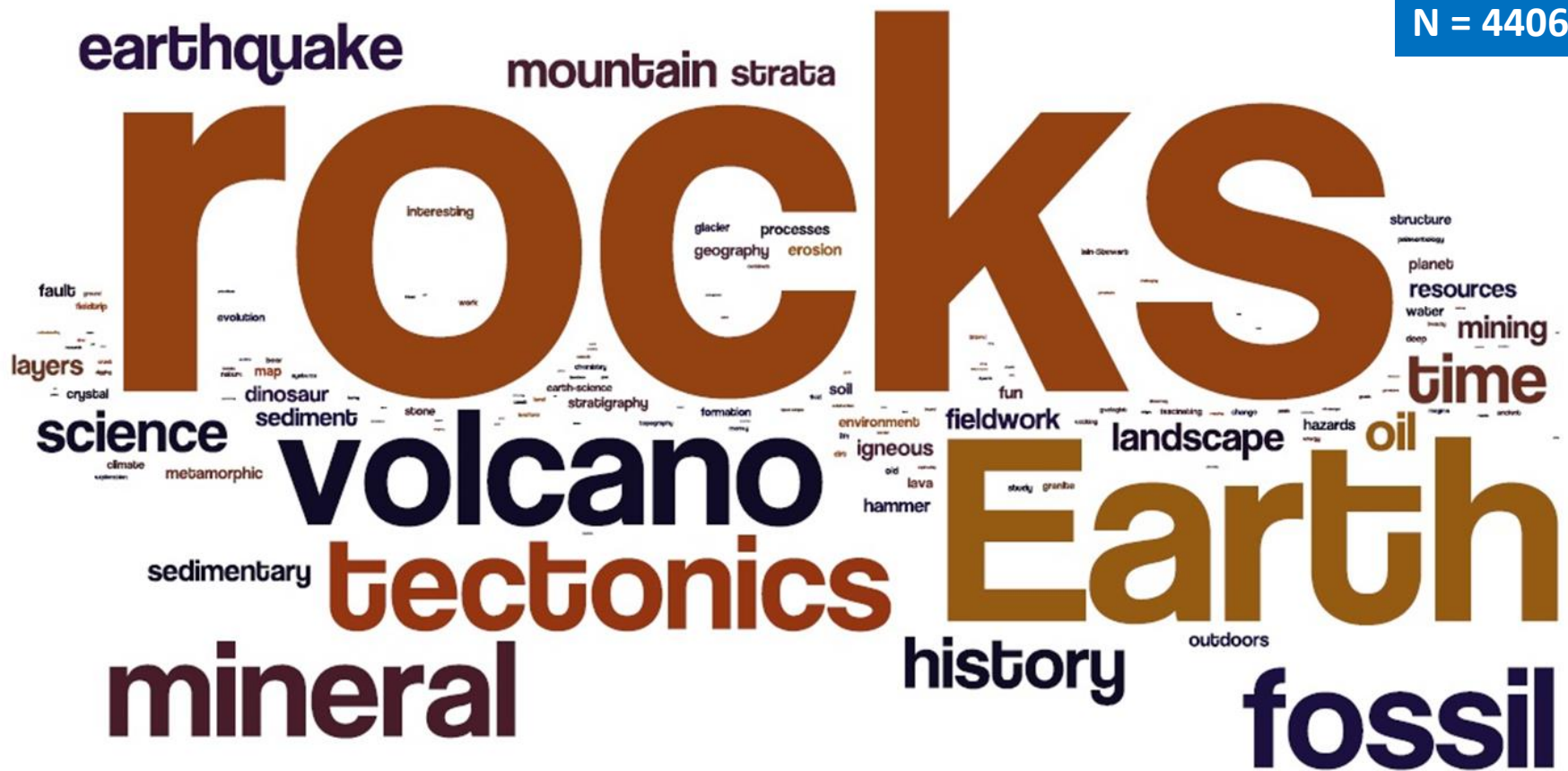
Location



Highest level of education



What five words do people associate with GEOLOGY?



1. Identity: $N = 393$

[illegible][illegible]

tectonics
earthquake
erosion
evolution
change
old
processes
deep
stratigraphy
plate
erosion
change
evolution

Relationships within data

- **General themes**

- Significant relationship between word linked to identity and experience with geology (χ^2 , $p=0.006$)
- Significant relationship between words linked with emotion/experience and both experience with geology (χ^2 , $p=0.005$) and gender (χ^2 , $p=0.025$)

- **Surface / subsurface**

- Borderline significant relationship between level of education and words relating to subsurface (χ^2 , $p=0.053$)



Implications and further study

- Initial findings linking level of education and ideas about subsurface corroborated in interviews
- Overall findings have influenced the methods used to collect information about perceptions of the subsurface
- Findings also have implications for communicating geology, i.e. start a conversation around something visible!

