



Surveys of Institutional Research Culture Can we measure change?

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My perspective

- Academic lead for research improvement and research integrity, University of Edinburgh, 2019-24
- Immersed in quantitative research epistemology
- Substantial experience in human clinical trials in stroke

'Typical' survey question

Scottish people are the kindest people in the world

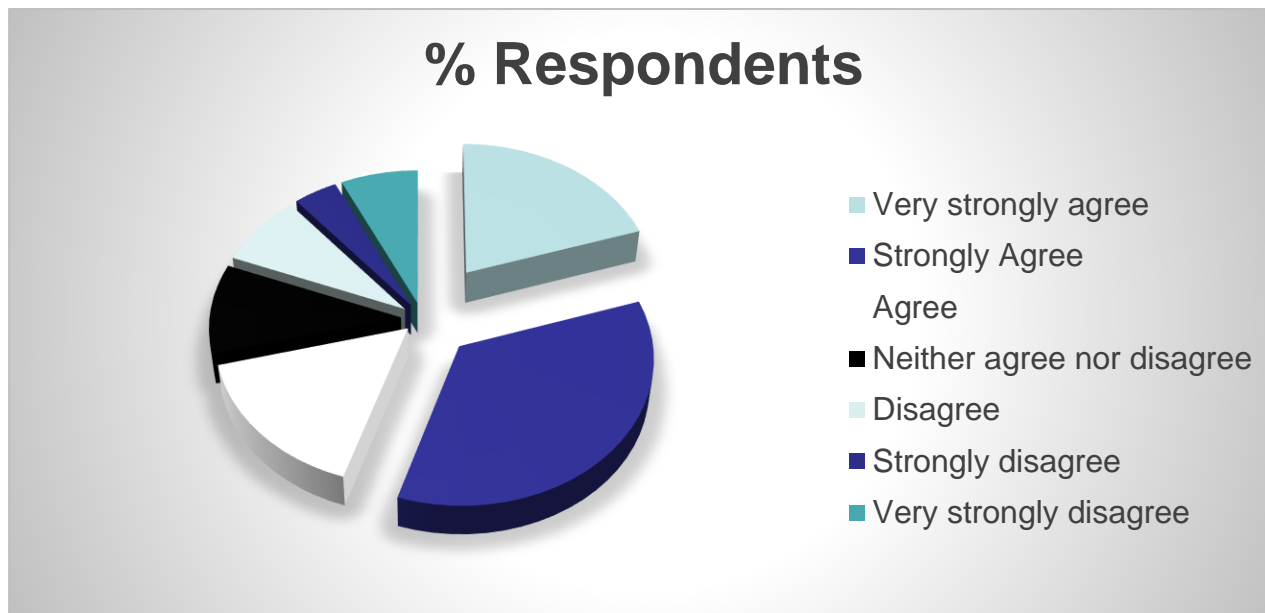
<input checked="" type="checkbox"/>	Very strongly agree
<input type="checkbox"/>	Strongly Agree
<input type="checkbox"/>	Agree
<input type="checkbox"/>	Neither agree nor disagree
<input type="checkbox"/>	Disagree
<input type="checkbox"/>	Strongly disagree
<input type="checkbox"/>	Very strongly disagree

Brexit was a really stupid idea

<input type="checkbox"/>	Very strongly agree
<input type="checkbox"/>	Strongly Agree
<input type="checkbox"/>	Agree
<input type="checkbox"/>	Neither agree nor disagree
<input type="checkbox"/>	Disagree
<input type="checkbox"/>	Strongly disagree
<input type="checkbox"/>	Very strongly disagree

'Typical' survey presentation

- 66% of respondents agreed that Scottish people were the kindest people in the world

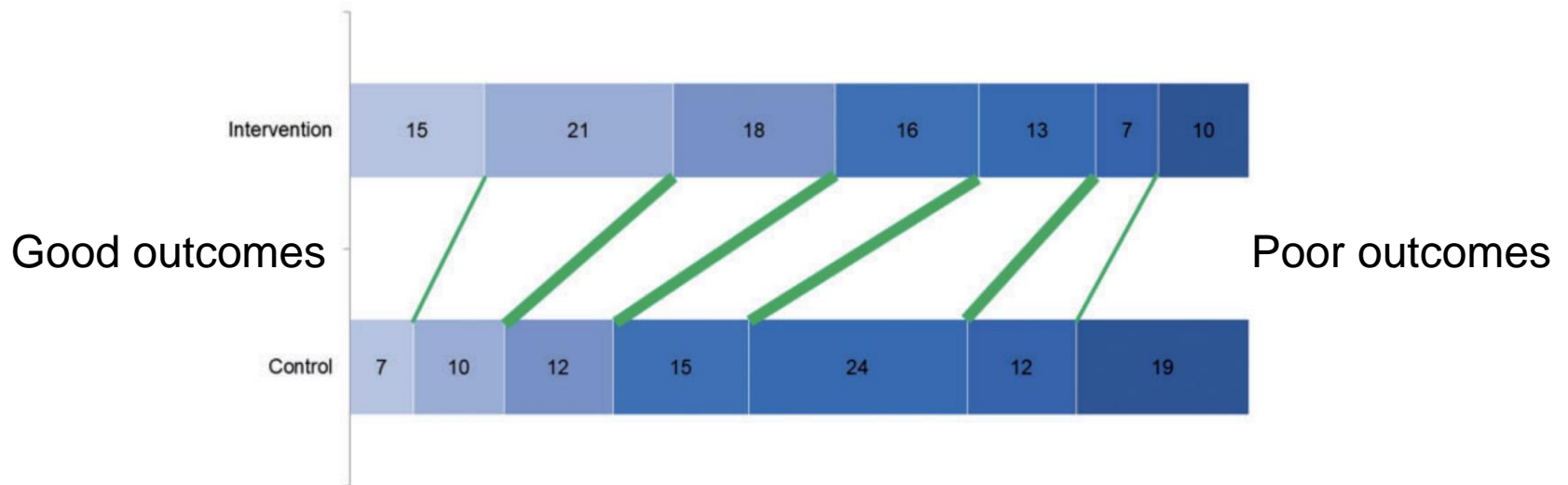




Challenges

- Are responses materially different for different groups?
- Do responses change over time?

Ordinal scales are commonly used as a clinical trial outcome measure





1 versus [2 through 7]
Odds Ratio 1 = 2.34

Odds Ratio = AD/BC



[1 through 2] versus [3 through 7]
Odds Ratio 2 = 2.75



[1 through 3] versus [4 through 7]
Odds Ratio 3 = 2.87



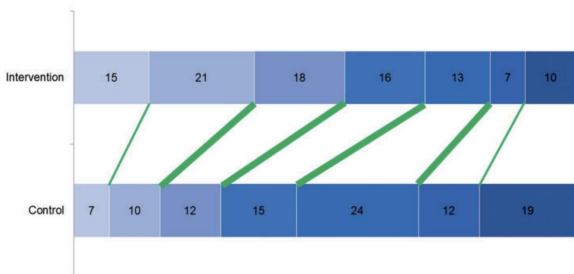
[1 through 4] versus [5 through 7]
Odds Ratio 4 = 2.85



[1 through 5] versus [6 through 7]
Odds Ratio 5 = 2.19



[1 through 6] versus [7]
Odds Ratio 6 = 2.11



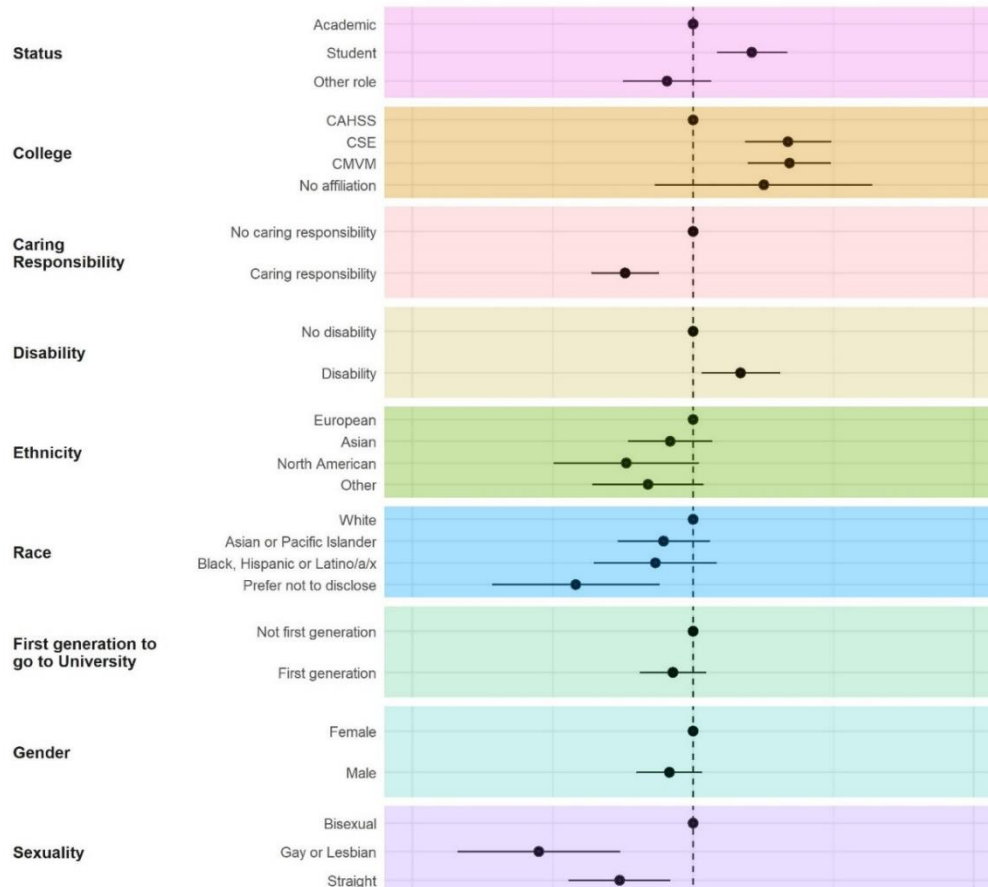
Combined Odds Ratio ~
2.50



Application

- Considering responses within a survey, different experiences of different demographic groups can be assessed
- Considering responses between surveys, changes in responses – adjusted for the different demographics of the respondents – can be assessed

‘My supervisor or line manager values negative results and those that run counter to our expectations’



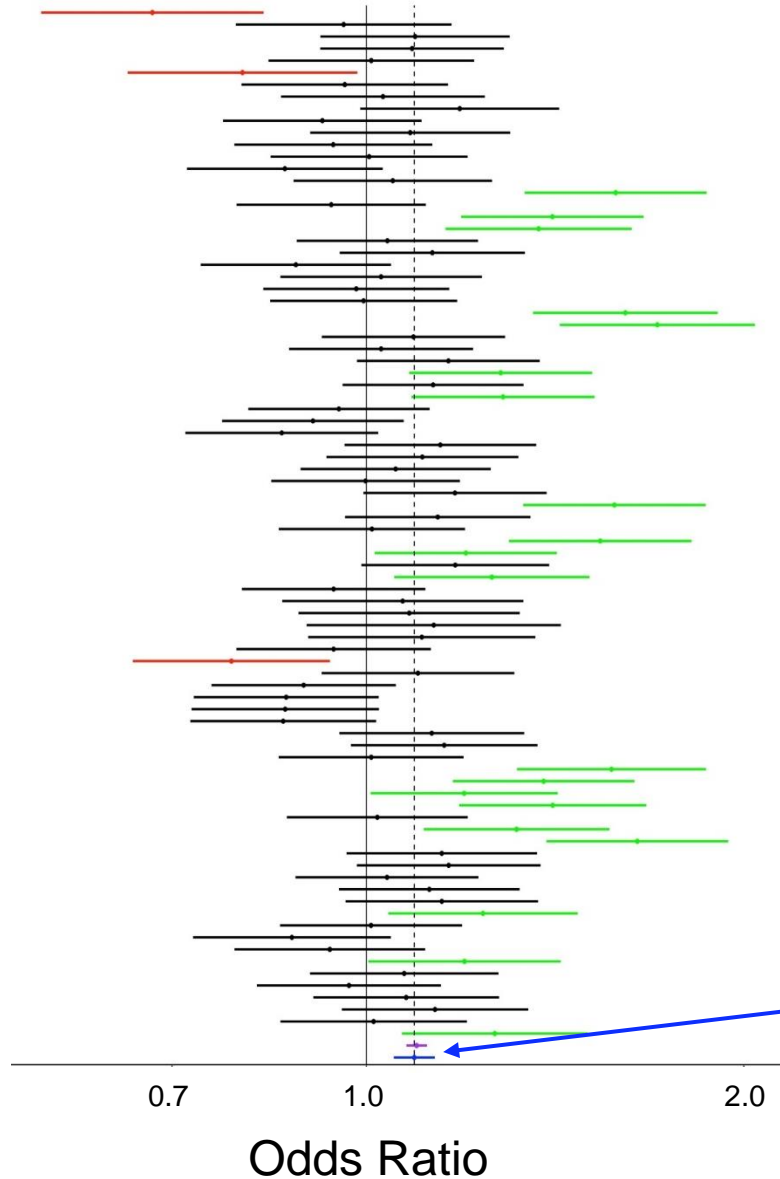
The experience of those from CSE and CMVM is significantly better than that of CAHSS

The experience of those with caring responsibilities is significantly worse than those without

The experience of those with disability is significantly worse than those without

2020 better 2022 better

Questions 1 through 72



72 questions asked in 2020 and in 2022

2020: n = 1491

2022: n = 945

Adjusted for:

- College
- Status (Academic v Student)
- Sexuality
- Gender
- Disability
- First Generation
- Caring responsibilities

Red <- significantly worse

Green <- significantly better

Overall effect

Random effects

OR 1.092 (1.052 to 1.134)

Our conclusions

- It is possible to measure differences in survey responses within and between surveys without information loss
- Differences can be quantified, with an estimate of precision (confidence intervals)
- Such differences have been used to inform the elaboration and fine tuning of our institutional research culture strategy



Materials and data

- Survey materials and reports:
 - OSF: DOI [10.17605/OSF.IO/82F4X](https://doi.org/10.17605/OSF.IO/82F4X)
- Anonymised survey responses:
 - Edinburgh Datashare:
 - 2020: DOI [10.7488/ds/2990](https://doi.org/10.7488/ds/2990)
 - 2022: DOI [10.7488/ds/7485](https://doi.org/10.7488/ds/7485)

Acknowledgements



Winners of the 2021 BNA Credibility Prize

Mar 19, 2021 | News | 0 comments



The British Neuroscience Association (BNA) earlier this week were delighted to announce the winners of the inaugural **BNA Credibility Prizes**. These prizes highlight and recognise some of the excellent efforts to ensure that neuroscience research is as robust, reliable, replicable, and reproducible as possible. Both BNA and UKRN would like to offer our congratulations to the winners!



MRC Impact Prize 2023 finalists Open Science Impact

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