Faith in Reason: developing a survey measure of belief in the rationality of others

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Preprint 2023-04-04

abstract goes here

Introduction

What we believe about other people matters. It is not enough that others *are* trustworthy, reasonable or well intentioned. Successful coordination, as well as individual wellbeing, benefit when we also *perceive* others as trustworthy, reasonable or well intentioned.

Second order effexcts of Disinfo

The generalised belief that others are well informed and reasonable is foundational to democracy. Recent concerns around misinformation may have second order effects, undermining democracy not by generating a misinformed populace, but by generating a populace that believes others are misunformed or unreasonable (Karpf, 2019). Alarmism around misinformation may potentially lower trust in institutions (Hoes, Clemm von Hohenberg, Gessler, Wojcieszak, & Qian, 2022), increase skepticism about democracy (Jungherr & Rauchfleisch, 2022; Nisbet, Mortenson, & Li, 2021), or foster calls of tighter media regulation (Lee, 2021).

Third person effect

There is an established literature of the perception of media influence on others. The 'third person effect' was proposed by (**davidson1983?**), that phenomnenon whereby many people believe others are more surceptible to influence that themselves. The third person effect was proposed as a root cause of censorship instincts and this has been confirmed by subsequent empricial investigations (Feng & Guo, 2012; Olshansky & Landrum, 2020).

Two caveats around the third person effect. Lyons (2022) has recently argued that - for many people - a third person effect of greater media influence on others rather than the self will be an accurate perception

- Some part of the TPE may be driven by accurate perception of others Lyons B (2022) Why we should rethink the third-person effect: Disentangling bias and earned confidence. Available at: https://www.dropbox.com/s/tpzy6e1ovfi0y1o/Why%20we%20should%20rethink%20TPE%20%28v2%2C%202022%29.pdf?dl=0

Rationality

Dawson, N. V., & Gregory, F. (2009). Correspondence and coherence in science: A brief historical perspective. Judgment and decision making, 4(2), 126-133.

Insight. Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. Psychological review, 84(3), 231.

Document prepared with RMarkdown (Allaire et al., 2020) and papaja (Aust & Barth, 2020). CRediT (Contributor Roles Taxonomy) autogenerated using Tenzing (Holcombe, Kovacs, Aust, & Aczel, 2020). Template is available here github.com/tomstafford/rmarkdown_apa

The authors made the following contributions. Tom Stafford: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Visualization, Writing - original draft, Writing - review & editing; Junyan Zhu: Conceptualization, Data curation, Formal analysis, Methodology, Visualization, Writing - original draft, Writing - review & editing; Katharine Dommett: Conceptualization, Funding acquisition, Methodology, Writing - review & editing.

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Influence / Gullibility. Altay, S., & Acerbi, A. (2023). People believe misinformation is a threat because they assume others are gullible. New Media & Society, 0(0). https://doi.org/10.1177/14614448231153379

Confidence in their abilities, friends' and family's abilities, and people's abilities to spot misinformation was measured with three statements adapted from Corbu et al. (2020) and the European Commission (2018): "I am able to identify news or information that misrepresent reality or is even false" "My friends and family are able to identify news or information that misrepresent reality or is even false" "People in general are able to identify news or information that misrepresent reality or is even false"

- negatively conceived
- unidimensional: influence

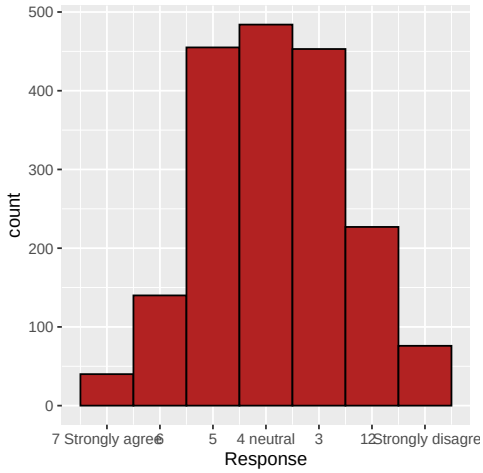


Figure 1. Histogram of responses to Item 1 ("The typical person is often irrational")

Generalised trust

Method

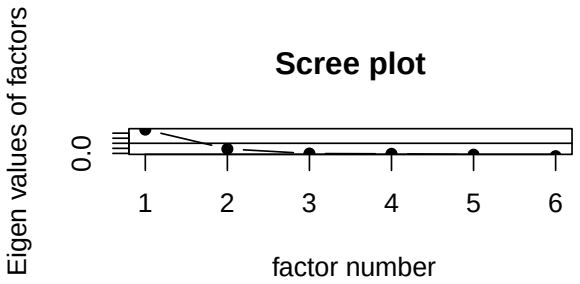
Part of a larger survey

Sample

Item development

correspondance (items 2 and 6) coherance (items 7 and 8) influence (items 3 and 5) insight into behaviour (4) naive endorsement (item 1)

See Table 1

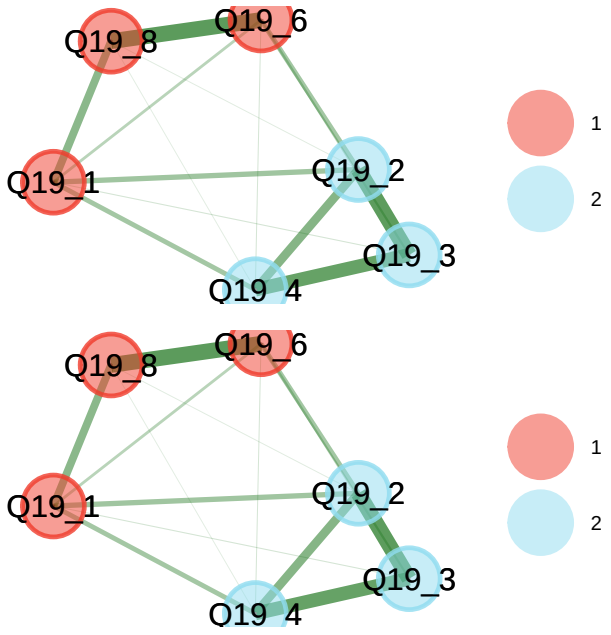


Prereg

Reproducibility

Code and data is open

Reproducible manuscript, origin files at https://github.com/tomstafford/faithinreason



Results

Our data consist of 1875 participants who completed our online survey. 6 failed an attention check and were removed.

Table 1
Scale item wording

nums	items
1	The typical person is often irrational
2	People are often misinformed on important issues
3	People are too easily manipulated
4	People often act for reasons they don't understand or endorse
5	The average person can be persuaded to change their mind if given good reasons
6	Most people hold accurate views about the world
A	For this question please click the middle option, 'neutral', to show you are paying attention
7	An individual's beliefs about the world are generally coherent
8	People's behaviour is generally consistent with their beliefs

Note. Response was on a 7 point Likert scale from (1 = "Strong Disagree", 7 = "Strongly Agree"). Items 1,2,3 and 4 reverse coded so that for all items higher scores represented stronger faith in reason.

TODO

Methods for assessing dimensionality cronbach's alpha + leave on out scree plots and EFA Mokken scale analysis EGA

Write up all of them?

Look at items and make sensible decisions. A single scale of 6 items and 2 subscales?

Junyan

We asked 8 questions about rationality in the survey. To determine the homogeneity and the fitness of the responses, I use Stata to perform Mokken scaling analysis. Testing all 8 rationality variables, the Mokken analysis yields one scale of 6 items. The items with low Loevinger's coefficient of homogeneity (H i), a criterion for scalability, are dropped. If the overall H<0.3, it means the items in the scale are unrelated, thus cannot be accepted to form a cumulative scale. As a rule of thumb, H i must be higher than 0.3 to be kept in the scale. Therefore, there are 6 fitting items in the scale: rationality_1, rationality_2, rationality_3, rationality_4, rationality_6, and rationality_7. The overall H coefficient is 0.41, indicating a medium-strong scalability. The individual critical values in the scale are all lower than 80, so the variables are double monotonous and there is no model violation. Code: loevh rationality_1 rationality_2 rationality_3 rationality_4 rationality_6 rationality_7, pair monotonicity(*) ppp pmm nipmatrix(minvi(0.03) siglevel(0.01)) We can thus generate a rationality variable by aggregating those six variables. Cronbach's α is 0.78, indicating an acceptable internal consistency.

Based on the statistical results, it looks to me that rationality_5 (The average person can be persuaded to change if given good reasons) is a real problem, it doesn't fit at all with other items

3 and must be removed. Rationality_8 (People's behaviour is generally consistent with their beliefs) has a poor fitness, but it is not as bad as rationality_5.

Next, I try to scale the remaining two items that are not included in the above scale – rationality_5 and rationality_8. As expected, these two items doesn't form a separate scale. Empirically, these items are excluded from the rationality measure by Mokken scaling likely because persuasion effect is not a robust indication of rationality?

Tom

Obviously 5 is weakly correlated. Omitting gives biggest boost to Cronbach's alpha, EEGnet suggests weakly related to all other items,

EEGnet suggets two commuities Scree plot of factors suggests border of unidimension and bidimensional mokken analysis suggests 1 domension, BUT if you remove items 5 and 9 you then find 2 dim3nsions at 0.35

Discussion

Normative models

arguably our scale doesn't touch on normative models of rationality as captured by T&K. Bias, prejudice

Deflationary accounts of misinformation (Mercier, 2020; Nyhan, 2020)

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