



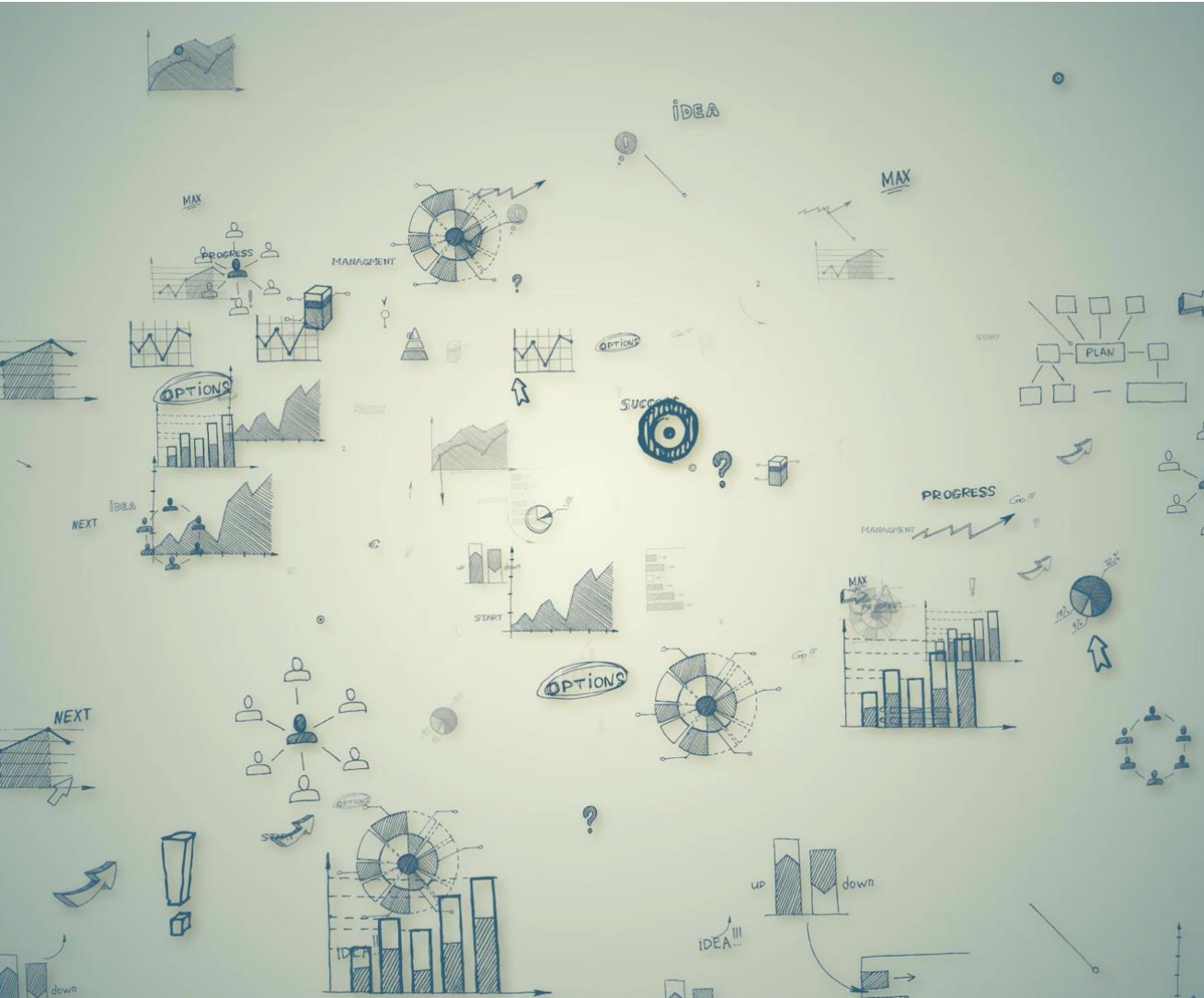
THE DESIGN OF A RESEARCH

business
RESEARCH METHODS



WHAT IS RESEARCH DESIGN?

- A plan for selecting the sources and types of information used to answer research questions
- A framework for specifying the relationships among the study variables
- A blueprint that outlines each procedure from the hypothesis to the analysis



Non-Empirical vs Empirical Research



Non-Empirical Research

- One of the first considerations to be faced is the pre-existing body of knowledge that exists in a particular field.
- This should be used as a source of reference for research previously conducted in the chosen field of enquiry, as well as a source of the body of theory which pertains to the selected subject area.
- Some research depends entirely upon this research method (more generally known as searching and reviewing the literature) on a certain subject, where the subject may be one, for example, of a historical nature which does not lend itself to any other form of investigation.

Empirical Research

- Four different types of research purpose exist: exploratory, descriptive, analytical or predictive.
- Whatever the purpose of the research, empirical evidence is required. They define empirical evidence as data based on observation or experience.
- They use the term *fieldwork* which they say is the study of real phenomena or social settings, and that this research may use positivist or phenomenological methods.

Classifications of Designs

Exploratory study is usually to develop hypotheses or questions for further research

Analytical study is to test the hypotheses or answer the research questions posed

Power to Produce Effects

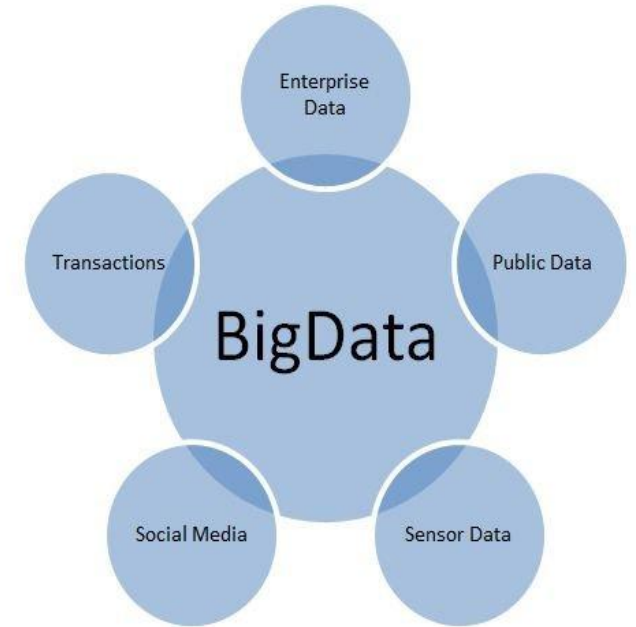


- In an *experiment*, the researcher attempts to control and/or manipulate the variables in the study
- In an *ex post facto design*, the researcher has no control over the variables; they can only report what has happened

Methods of Data Collection



Custom Hybrid



Data collection methods



Observation



Interviews



Focus groups

Purpose of the Study

Descriptive study tries to explain relationships among variables

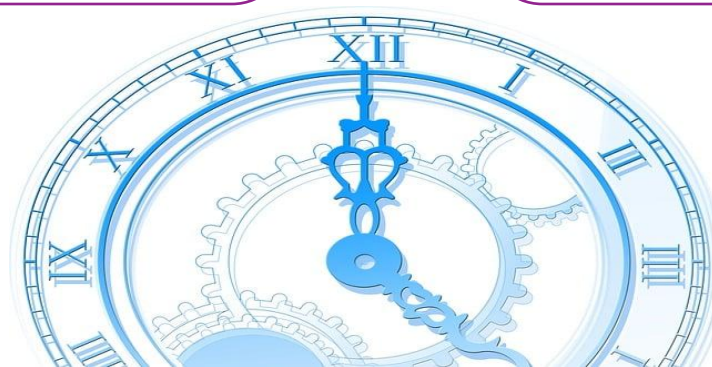
Causal study is how one variable produces changes in another



The Time Dimension

Cross-sectional studies are carried out once and represent a snapshot of one point in time

Longitudinal studies are repeated over an extended period



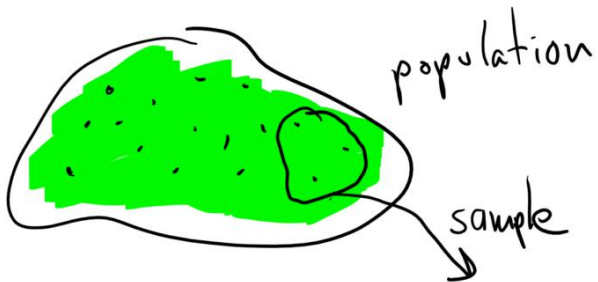
The Topical Scope

Statistical studies

attempt to capture a population's characteristics by making inferences from a sample's characteristics

Case studies

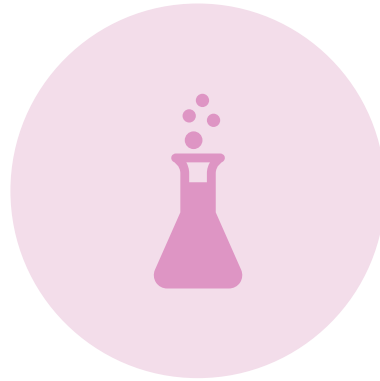
place more emphasis on a full contextual analysis of fewer events or conditions and their interrelations



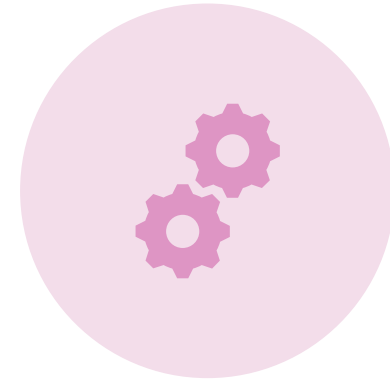
The Research Environment



FIELD CONDITIONS



*LABORATORY
CONDITIONS*

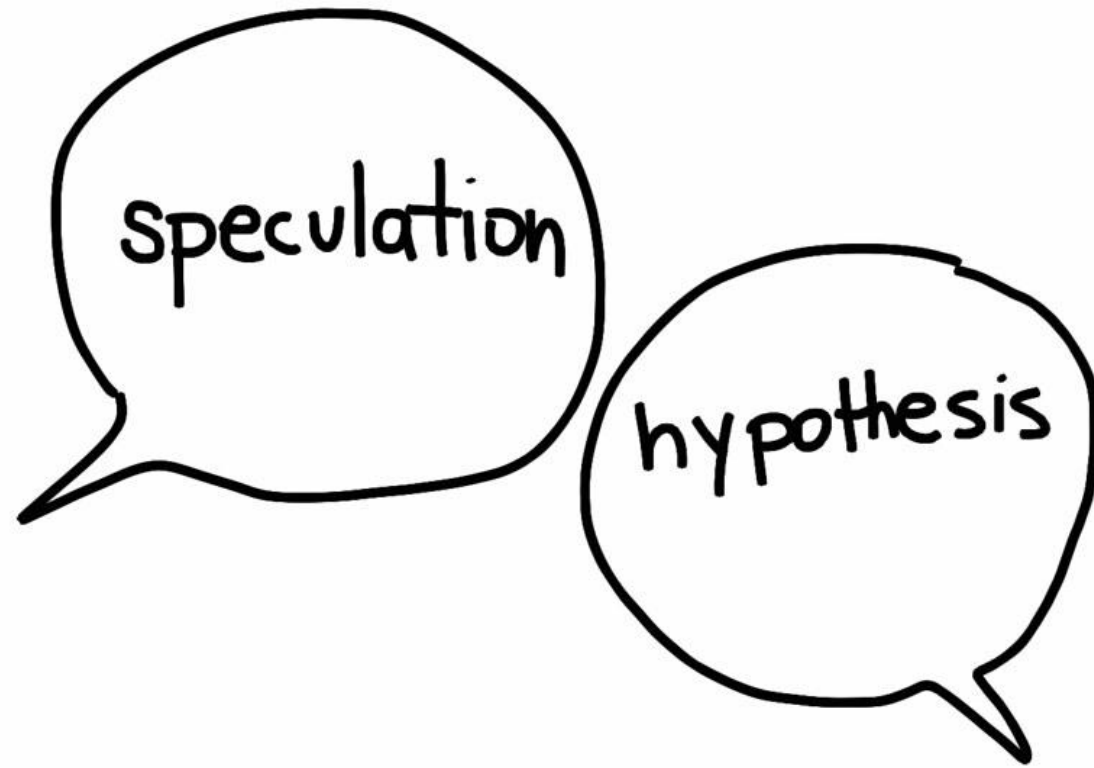


SIMULATIONS

A PARTICIPANT'S PERCEPTIONS



- Usefulness of a design may be reduced when people in the study perceive that research is being conducted
- Participants' perceptions influence the outcomes of the research





WHY DO EXPLORATORY STUDIES?

EXPLORATION IS PARTICULARLY
USEFUL WHEN RESEARCHERS LACK
A CLEAR IDEA OF THE PROBLEMS

Data Collection Techniques

Interviews

Secondary data

Focus groups

Two-stage design



Causation

The essential element of causation is

A "produces" B

or

A "forces" B to occur



Causal Study Relationships



Symmetrical

changes in one variable are associated with changes in another, but there is no clear direction of causality.

Reciprocal

changes in one variable lead to changes in another, and vice versa.

Asymmetrical

An asymmetrical relationship is one where one variable directly influences another, but not the other way around. This type of relationship is directional, meaning that changes in one variable cause changes in another.

Achieving the Ideal Experimental Design



Control

Random Assignment

Matching

Randomization

Manipulation and control of variables

Discussion Questions:

1. How many number of studies were conducted?
2. Which study use longitudinal field experiment?
3. Which type of organization being selected as the target groups for experiment?
4. Will you follow the same practices for your own research design? Why?

Taking Your Team Behind the Curtain: The Effects of Leader Feedback-Sharing and Feedback-Seeking on Team Psychological Safety

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Abstract. Although scholars have highlighted the benefits of psychological safety, relatively few studies have examined how leaders establish it. Whereas existing research points to the importance of seeking feedback, we draw on theories of self-disclosure, trust, and implicit voice to propose that leaders can also promote psychological safety by sharing feedback—openly discussing criticisms and suggestions they have already received about their own performance. In Study 1, naturally-occurring feedback-seeking and feedback-sharing by CEOs independently predicted board member ratings of top management team psychological safety. In Study 2, a longitudinal field experiment, randomly assigning leaders to share feedback had a positive effect on team psychological safety one year later, whereas assigning leaders to seek feedback did not. In Study 3, to explore the processes through which feedback-sharing had an enduring effect but feedback-seeking did not, we conducted qualitative interviews with participating leaders and employees two years later. We found that leaders initiated vulnerability through seeking feedback, but it dissolved due to defensiveness and inaction. In contrast, sharing feedback normalized and crystallized vulnerability as leaders made a public commitment to keep sharing and employees reciprocated, which opened the door for more actionable feedback, greater accountability, and ongoing practices that allowed psychological safety to endure. Our research suggests that to achieve enduring improvements in psychological safety, it may be particularly effective for leaders to share criticism they have received—and that doing so does not jeopardize their reputations as effective and competent.

Supplemental Material: The online appendix is available at <https://doi.org/10.1287/orsc.2021.1498>.

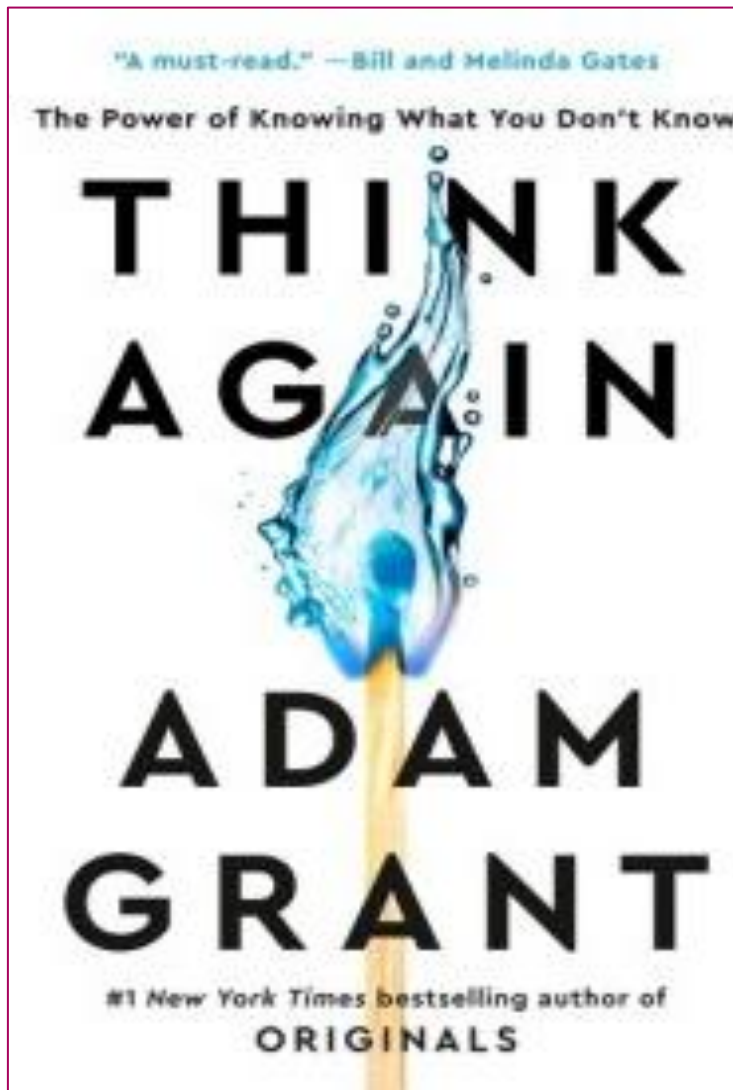
Keywords: psychological safety • feedback-seeking • feedback-sharing • leader vulnerability • teams

**Have you ever
heard the name
of him?**



<https://www.youtube.com/watch?v=lxn8W1hyoo>

What's next?



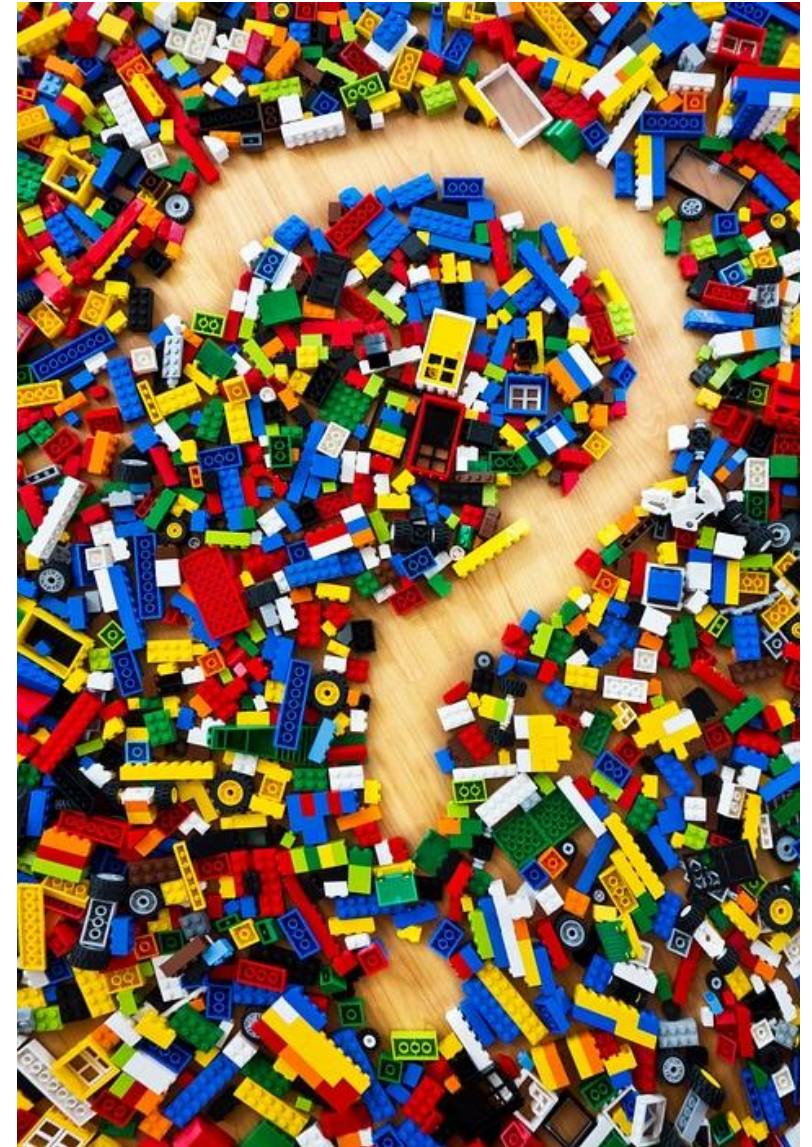


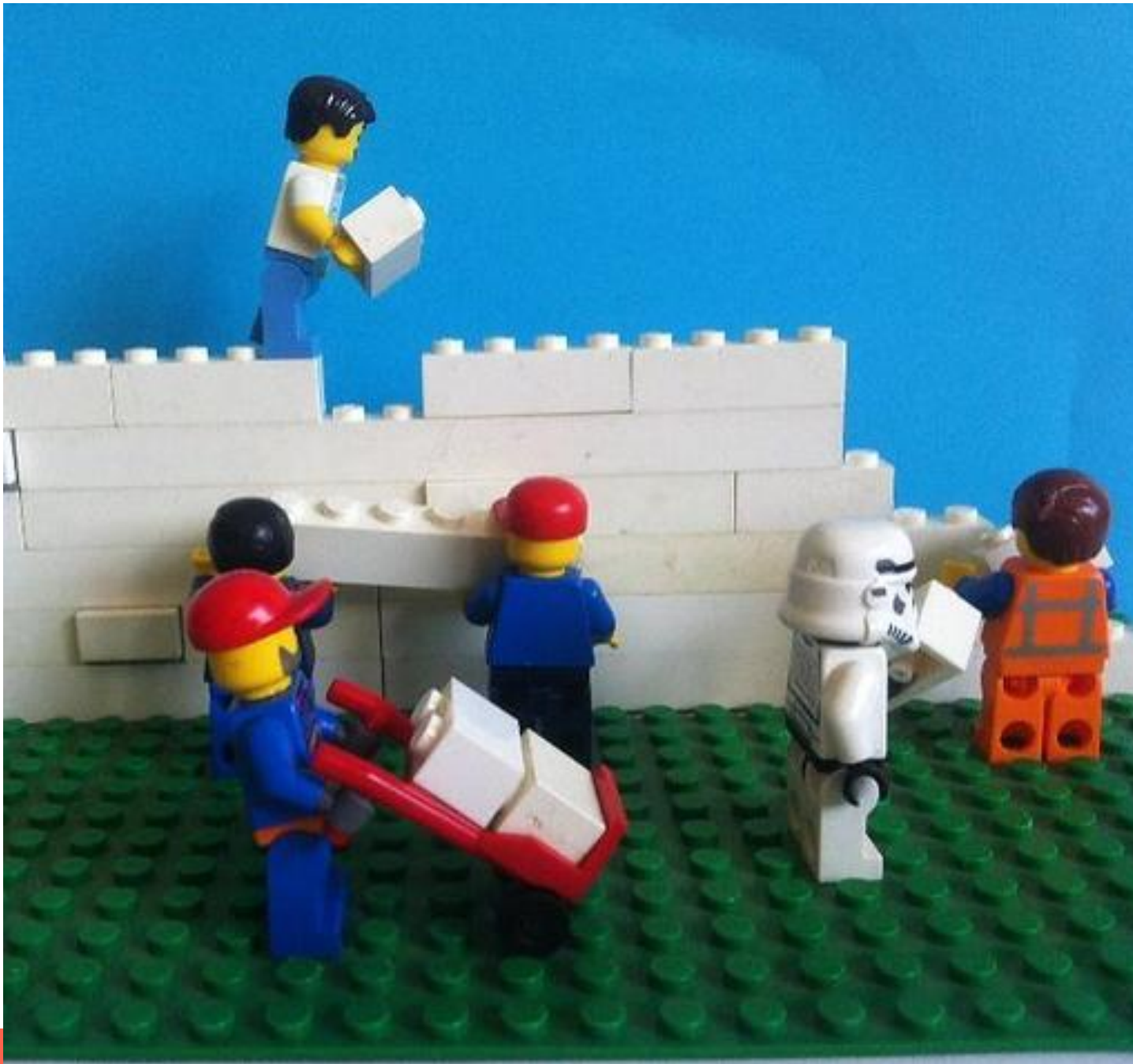
Making an argument with your data

- It is the job of the researcher to persuade the readers that his or her interpretation is plausible and is in some way better than the alternative interpretations.
- This is done by constructing arguments, using your analysis of the data, to show how the data answer your research question in a particular way, and writing up your research to share with others.

Constructing arguments: where to start

- Return to your stated research question, to remind yourself what you are trying to find out.
- Example:
 - Research question: 'Do clients of my organisation value the service that we offer?'
 - You might construct an argument on the basis of the average rating that clients gave to the service, or the qualitative narratives that were given about the value of the service.





Constructing arguments around theory

Return to the theoretical background and aims of your research project, and attempt to answer the question, 'How do my own findings relate to the theory about this topic?'

Relating your own findings to theory

- Do your findings lend support to or contradict any theoretical perspectives that you read?
- What might be the reasons for this?
- Do your findings suggest any further developments that were not already addressed in the literature?
- Perhaps, for example, they demonstrate that the theory can be meaningfully applied in a new context.



Can AI replace humans? Comparing the capabilities of AI tools and human performance in a business management education scenario

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Abstract
This study provides a comparative assessment of the capabilities of leading artificial intelligence (AI) tools and human participants in a business management education context. Specifically, we (a) assess how well current language models perform in providing answers to standardised essay-type assessments in a business and management education context, (b) examine the efficacy of emergent tools in detecting AI-generated texts and (c) evaluate online AI re-writing and paraphrasing tools and their efficacy in evading detection. Using an exploratory qualitative design, this study generated and evaluated 15 standard essays using ChatGPT ($n=5$), Bard ($n=5$) and human ($n=5$). A comparison is provided between the average performance of AI-derived essays and that of ChatGPT-generated essays across all five essays. The results suggest that AI-generated content can achieve reasonably high marks in management and business assessments. According to the findings of the study, AI's performance is highly influenced by the types of prompts used, the user's experience and the degree to which the user can discern between relevant and irrelevant content. According to the findings, Turnitin's AI detection tool is highly effective at detecting content that has been created by AI, but the effectiveness is reduced by rewriters. The Turnitin AI detection tool, however, is significantly more effective at identifying content generated by Bard compared

Activity

- Consider the example (reference #9), what sorts of information have been presented in order to persuade the reader of the authors' arguments?
- How did the presentation of the data/information influence your understanding and evaluation of the research topic?

RESEARCH WRITING





Objectives of a research

States the research question, background, theoretical framework, why the question is important.

Explains the methods that were used so reader can evaluate how likely the methods were to generate valid knowledge.

Explains the findings, with enough supporting evidence to justify any claims made.

Situates the research and findings in a wider context (theoretical and practical).

Which part is the most important?



When you have conducted a piece of research, it is important to let others know what you have learned.

This is how researchers contribute to ***knowledge*** and ***practice*** in their fields.

Contributing with others

Aspect	Theoretical Contribution	Practical Contribution
Definition	Advances knowledge by developing new theories or refining existing ones.	Provides solutions to real-world problems and improves practices.
Focus	Emphasizes the development and testing of theories.	Emphasizes the application of research findings to practical situations.
Audience	Primarily targets the academic community and researchers.	Primarily targets practitioners, policymakers, and industry professionals.
Outcome	Results in new theoretical insights, models, or frameworks.	Results in actionable recommendations, guidelines, or interventions.
Evaluation Criteria	Assessed based on originality, rigor, and contribution to the body of knowledge.	Assessed based on relevance, feasibility, and impact on practice.
Examples	Developing a new theory of consumer behavior.	Creating a new marketing strategy to increase sales.
Publication	Typically published in academic journals and presented at academic conferences.	Typically published in industry reports, white papers, and presented at professional forums.



Research papers often follow a standard & recognised format

Introduction (including rationale for research, background and literature review)

Methods

Findings

Discussion/Conclusion

THE METHODS SECTION

1. Provides a thorough, detailed discussion of the research methods that were used.
 - What was the research strategy and design?
 - Did you use interviews, questionnaires, observations, documents, secondary data, or some combination?
 - What questions or areas of discussion did you ask?
 - How did you sample and invite participants to take part?
 - What was the response rate?
 - What ethical and practical issues did you have to address, and how did you handle them?
 - How did you conduct your data analysis?

THE FINDINGS SECTION

1. Explains what you have learned from the research.
2. Presents data to justify assertions.
3. Qualitative research – data usually in form of quotes; should indicate how typical the quotes are
4. Quantitative research – numbers, percentages, tables, charts and graphs

THE DISCUSSION SECTION OR CONCLUSION

1. Returns to the theoretical framework to highlight the implications of your findings.
 - Were there any findings that surprised you?
 - How do you explain such findings?
 - Do your results have anything to offer to the wider theoretical discussion?
 - What are the practical implications of your findings?
 - What are the strengths and limitations of your study?
 - Are there avenues for further research that you might suggest?
2. As with any piece of writing, it is a good idea to wrap up your discussion section with a conclusion that summarises your main argument.

Some questions to ask as you evaluate research papers

- What were the rationale for research, the key theoretical perspectives reviewed, the methods used, the findings and the conclusions?
- Were you persuaded of the need to undertake this research, and provided enough background to understand what work had been done previously?
- Was the research question stated clearly?
- Were you able to follow the methods in sufficient detail to evaluate whether the author had made the best data collection and analysis choices for this research question?
- Were you persuaded that the findings were a reasonable interpretation of the evidence presented?
- Did the author discuss the findings in the wider theoretical context of the literature review?
- Did the author discuss in sufficient detail his or her own position with respect to the research?



How scientific reasoning correlates with health-related beliefs and behaviors during the COVID-19 pandemic?

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and Eva Ballová Mikušková

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Abstract

We examined whether scientific reasoning is associated with health-related beliefs and behaviors over and above general analytic thinking ability in the general public ($N=783$, aged 18–84). Health-related beliefs included: anti-vaccination attitudes, COVID-19 conspiracy beliefs, and generic health-related epistemically suspect beliefs. Scientific reasoning correlated with generic pseudoscientific and health-related conspiracy beliefs and COVID-19 conspiracy beliefs. Crucially, scientific reasoning was a stronger independent predictor of unfounded beliefs (including anti-vaccination attitudes) than general analytic thinking was; however, it had a more modest role in health-related behaviors.

Keywords

analytic thinking, anti-vaccination attitudes, COVID-19, COVID-19 conspiracy beliefs, preventive behavior, scientific reasoning

Introduction

In disasters brought out by natural hazards, such as the COVID-19 pandemic, people are reminded of the importance of scientific reasoning, given that natural disasters cannot be fully prevented (Weichselgartner, 2001). Viruses are here to stay and so we have to learn to live with them while looking for effective treatments and vaccines. Scientific reasoning is therefore crucial – not only for understanding the causes and consequences of natural hazards, such as the COVID-19 pandemic, but also for sifting through the large amount of conflicting (and often false) information in the media and social networks. People with better scientific reasoning tend to subscribe to the scientific consensus (Drummond and Fischhoff, 2017a), hold fewer

general unfounded beliefs (Čavojová et al., 2020) and question the efficacy of alternative medicine more (Čavojová and Ersoy, 2020). In this paper, we expand this line of research by further examining scientific reasoning as a predictor of health-related beliefs and behavior specific to the COVID-19 pandemic over and above general analytic thinking ability.

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