MRC Cognition and Brain Sciences Unit

UNIVERSITY OF CAMBRIDGE

How to Move Social Media Research Beyond "*It's Complicated*"

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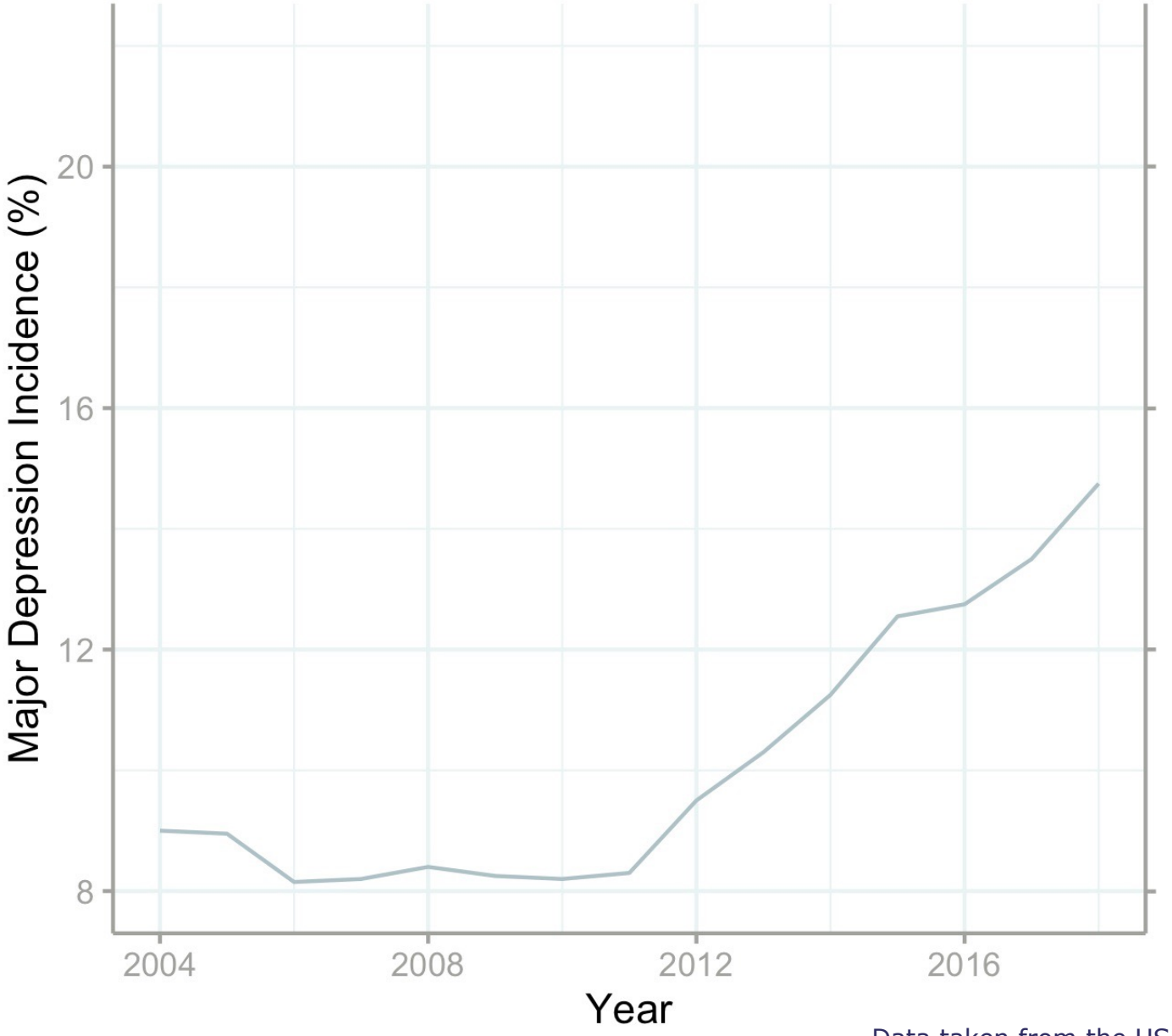
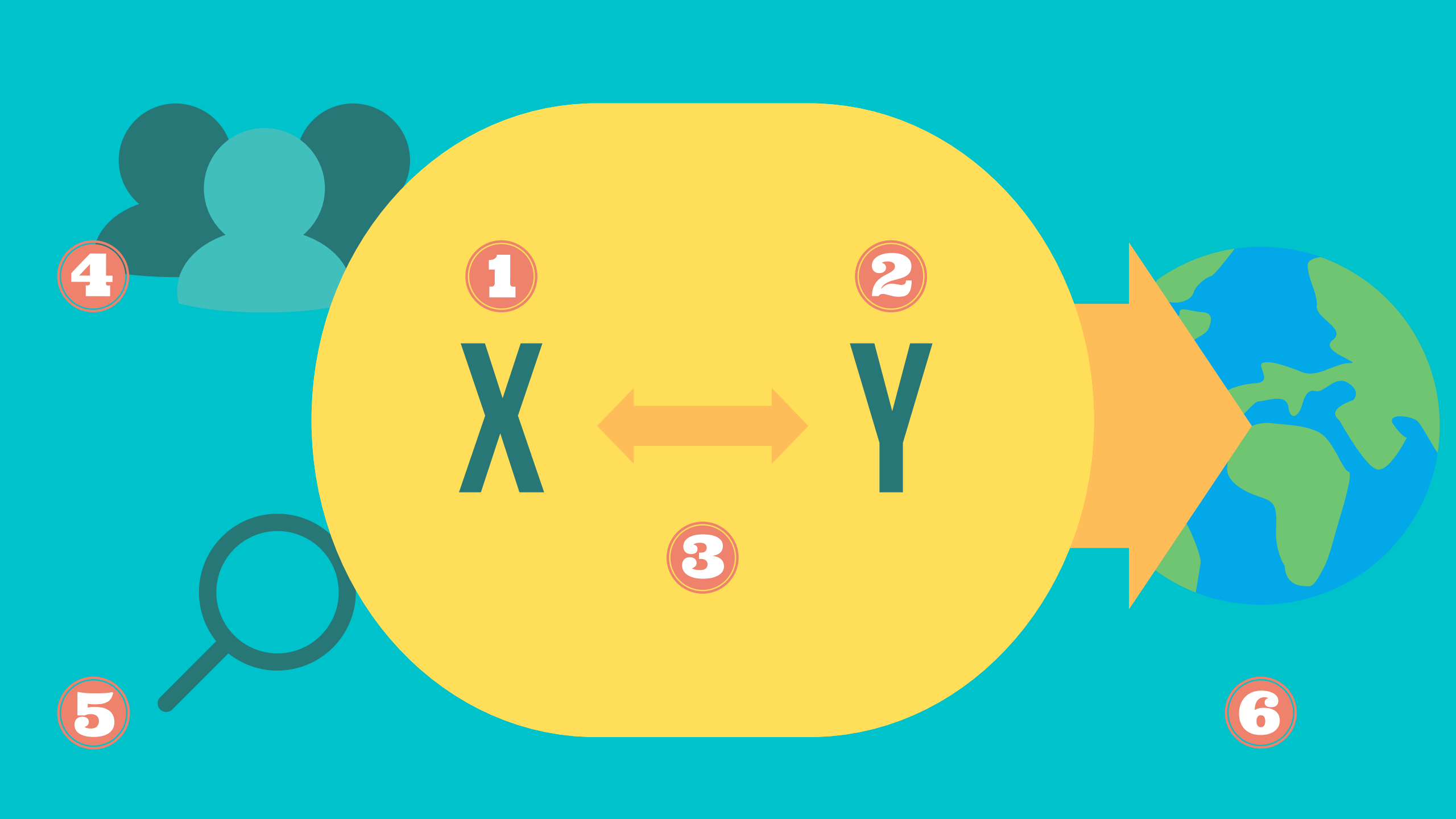


Data taken from the US National Survey on Drug Use and Health, Table 11.2b

IT'S COMPLICATED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1

X

Measurement: Social Media

1. Inaccurate self-report measures (Parry et al. 2021; Ellis et al. 2019)

1

X

Measurement: Social Media

2. Diverse and inconsistent operationalization of social media use (Meier & Reinecke, 2020); “Time spent on social media” fails to capture crucial aspects of social media (Kaye et al. 2020)

1

X

Measurement: Social Media

3. Lack of access to high quality data held on third-party company servers (Livingstone et al., 2022)

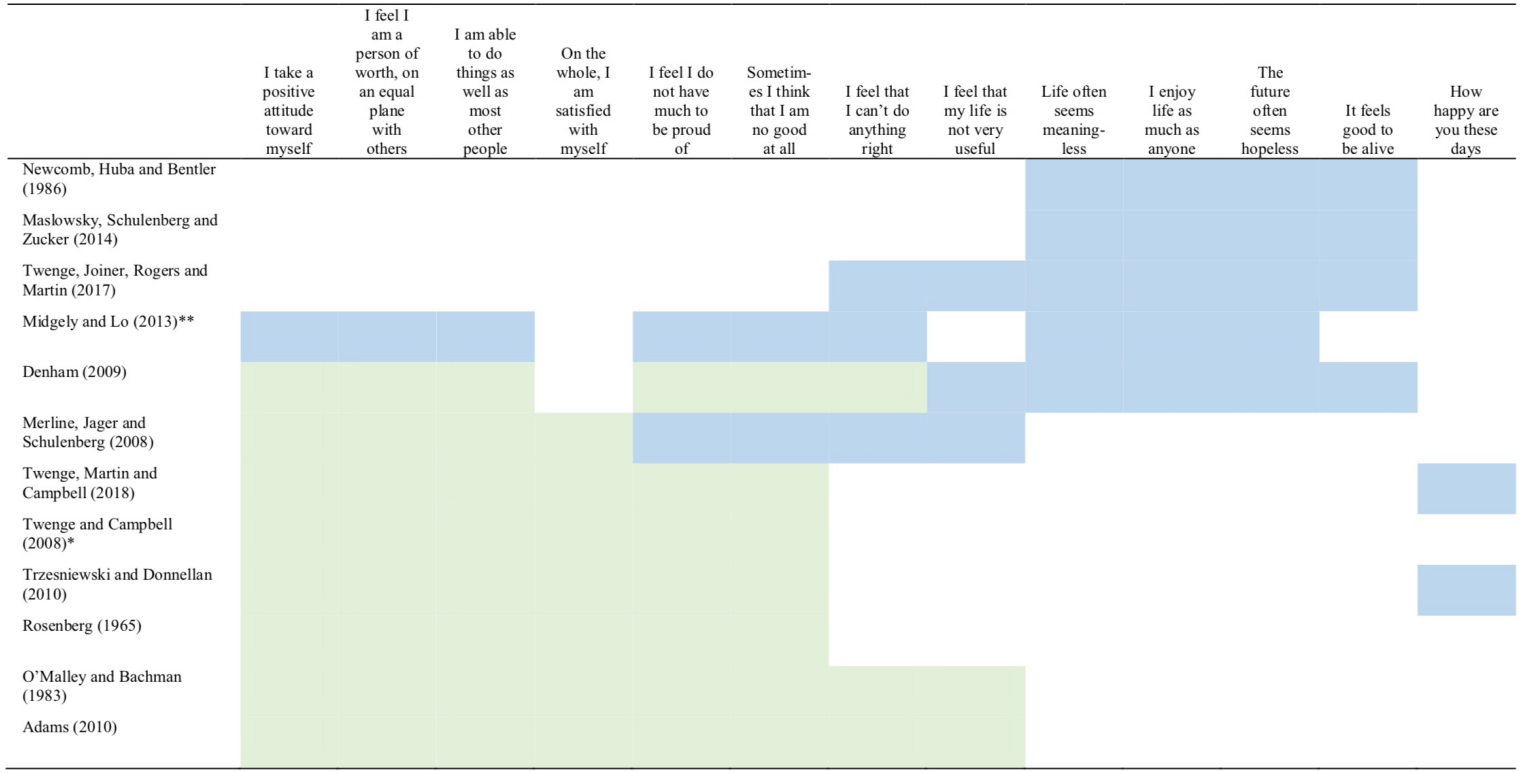
Measurement: Social Media

The Solution

- Field-wide effort to improve social media use measurement
- Technology-centric measures (*how much, how often, what, when*): increase objectivity through forms of technological tracking
- User-centric measures (*why, how):* improve measurement development
- Lobby and speak out for increased open and fair industry data sharing

Measurement: Mental Health

Table showing how research papers have used different combinations of MTF measures to define depressive symptoms (blue) and self-esteem (green). This illustrates the abundance of analytical flexibility in this area. We also include Newcomb, Huba and Bentler (1986) and Rosenberg (1965) who originally devised parts of the scales.



(Orben and Przybylski 2019)

2

Y

Measurement: Mental Health

The Problem

- Aggregate measures of well-being used without much differentiation (e.g., life satisfaction, depression, loneliness, self-esteem, anxiety, Parry et al., 2022; Valkenburg et al., 2022)

The Solution

- Clearer differentiation between different measures of well-being, mood and mental health informed by interdisciplinary collaborations; avoid generalizing across measures

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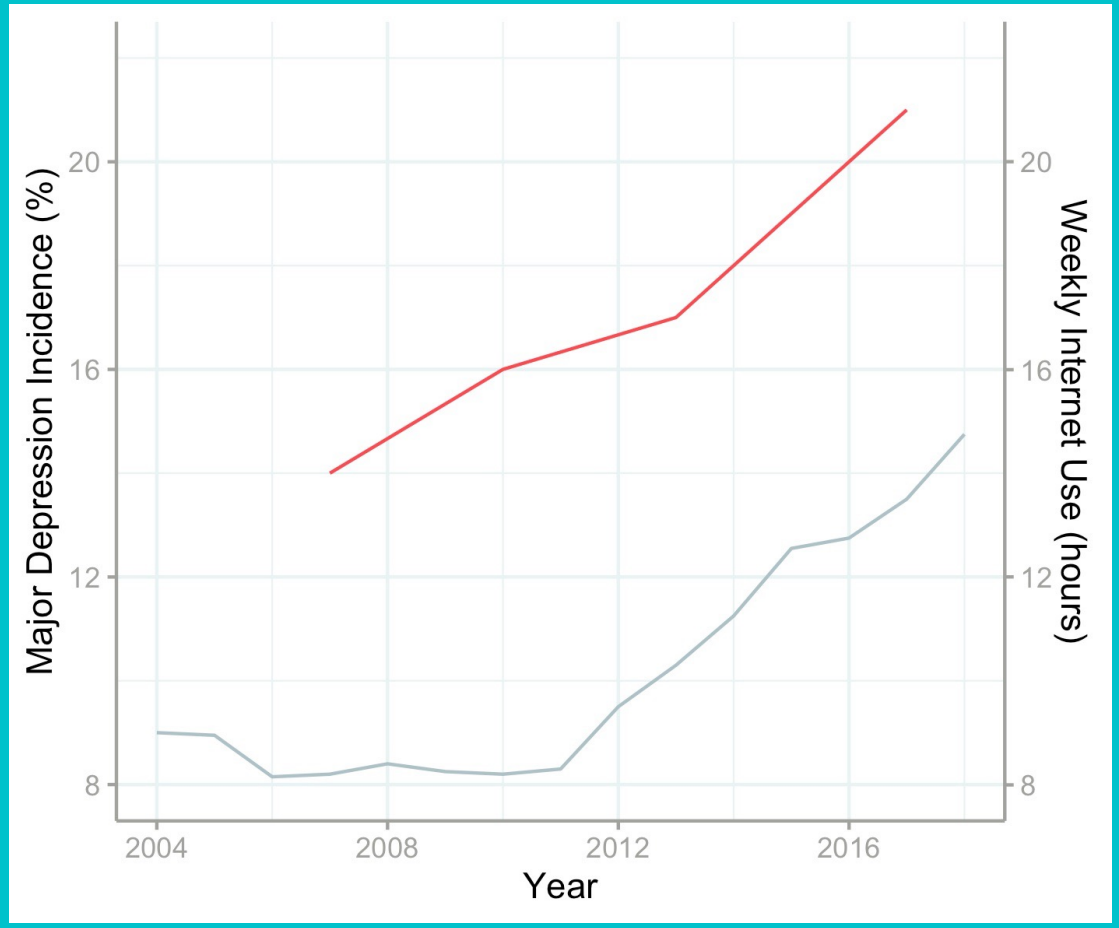
A: Statistical Inference



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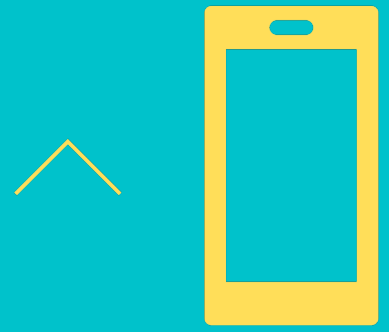
A: Statistical Inference



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A: Statistical Inference

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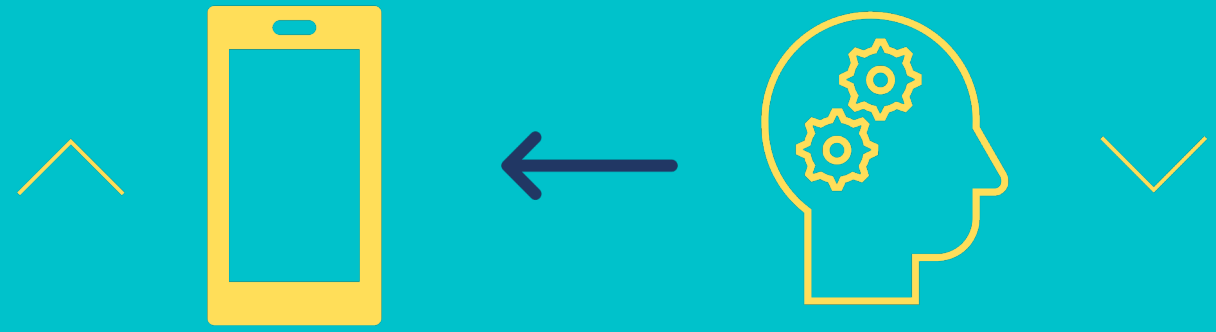

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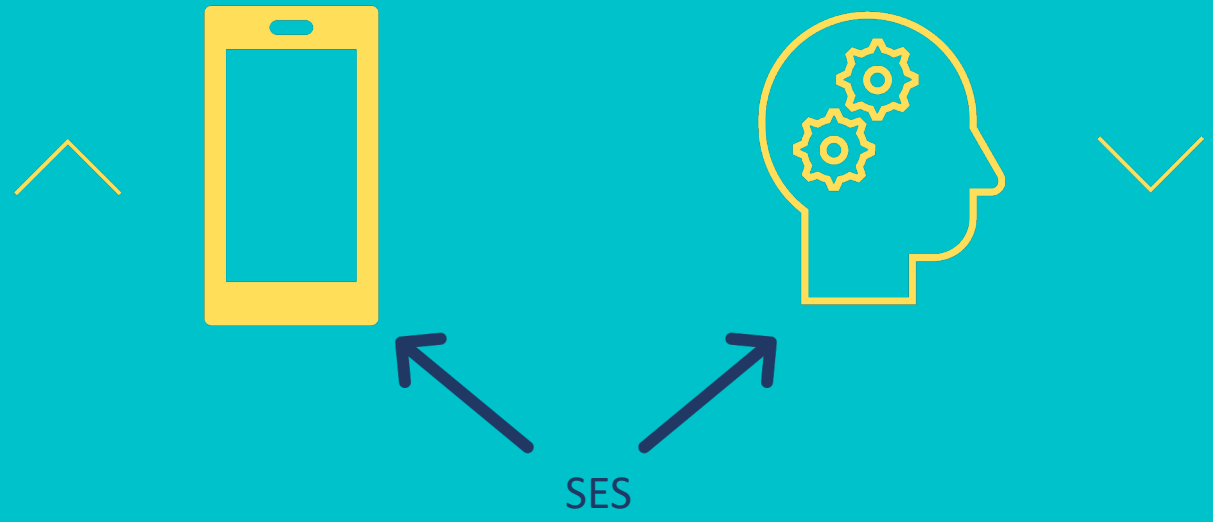

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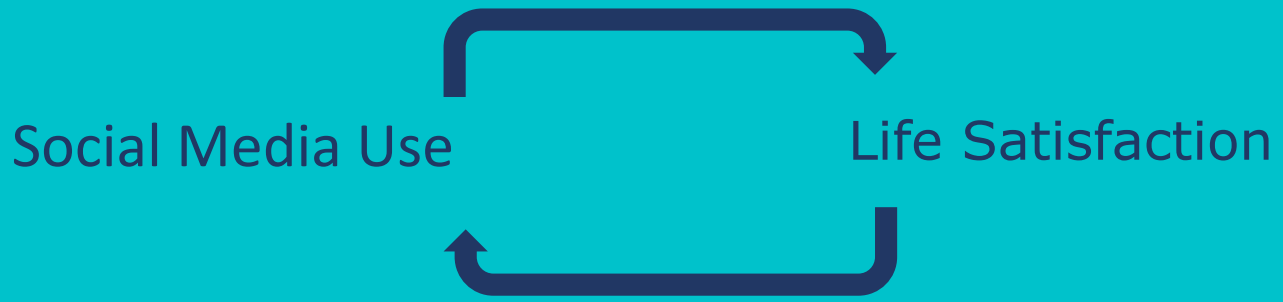

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A: Statistical Inference

The Problem

- Overemphasis on correlational research and sketchy causal inference (e.g., little reasoning about controls); experiments not a silver bullet
- Consistent overreach of conclusions in both the scientific literature and when engaging with media and the public

The Solution

- Support triangulation by diversifying methodology of study
- Boost accountability for over-claiming in papers and press releases

B: Variance

The Problem

- High levels of individual variation in the link between social media use and mental health (Beyens et al., 2020)

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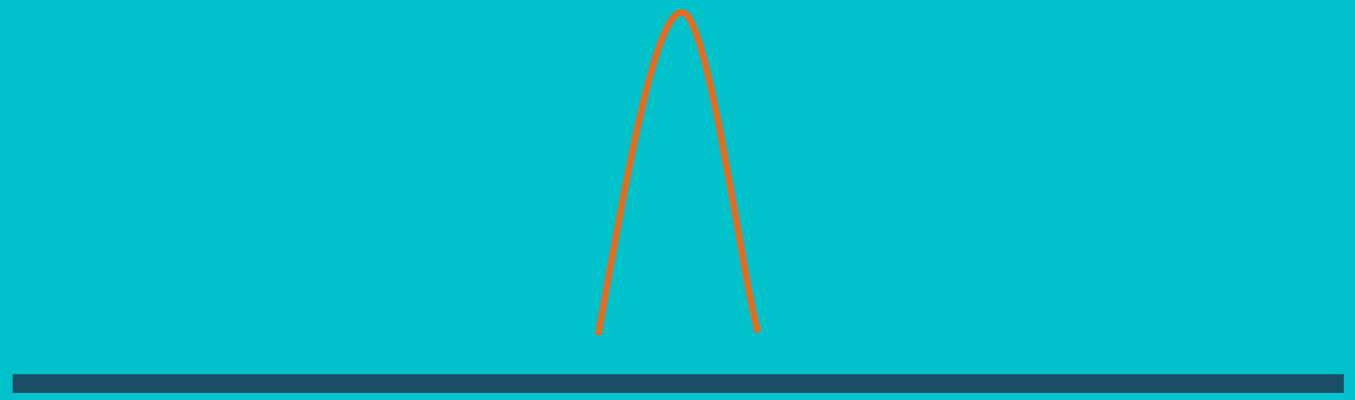
B: Variance



Small Negative Correlation

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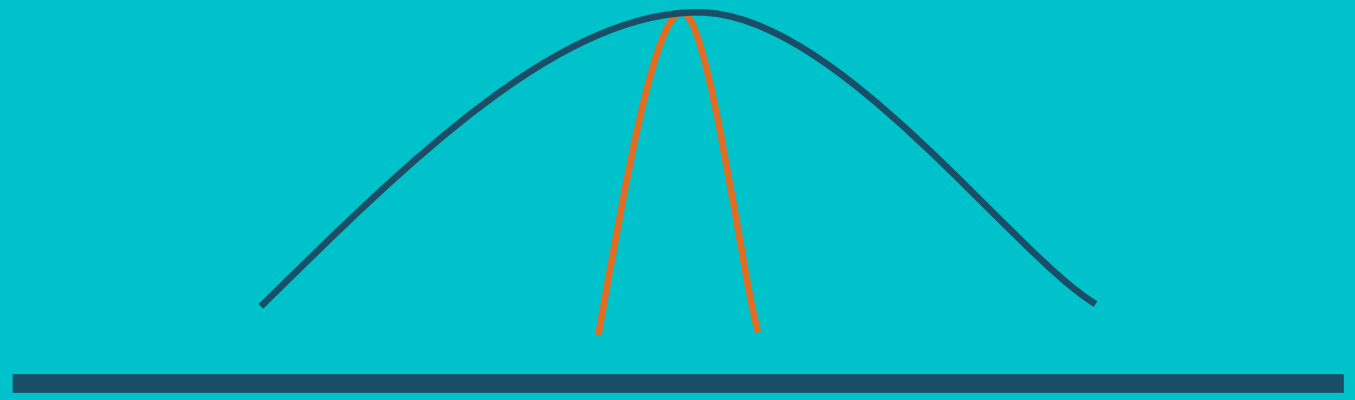
B: Variance



Small Negative Correlation

B: Variance

The Solution

- Research investigating which individual differences predict someone experiencing very positive or negative social media impact
- Intervention design that takes such substantial individual differences into account

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C: Effect Sizes

The Problem

- Much disagreement about what effect sizes matter and how reliable to effect sizes found are (Valkenburg et al. 2022)

The Solution

- Field-wide effort to find consensus on what a smallest effect size of interest is, with researchers explaining their own reasoning in any output that makes a claim that something is of value to society (Anvari et al. 2022)

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Population & Generalization

The Problem

- Very select populations studied (i.e., Global North, Ghai et al. 2022; community samples, Fassi et al., under review) or important individual differences overlooked (e.g., age, Orben et al. 2022)

The Solution

- Diversify populations studied, include clinical samples as well as adding generalizability statements in all papers

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Transparency

The Problem

- High levels of public scrutiny necessitate high levels of public accountability
- Lack of open data, methods, pre-registration which would increase utility of research and speed up scientific progress

The Solution

- Increased use of Open Science methodology, in both academic and industry research
- Mandating data provision

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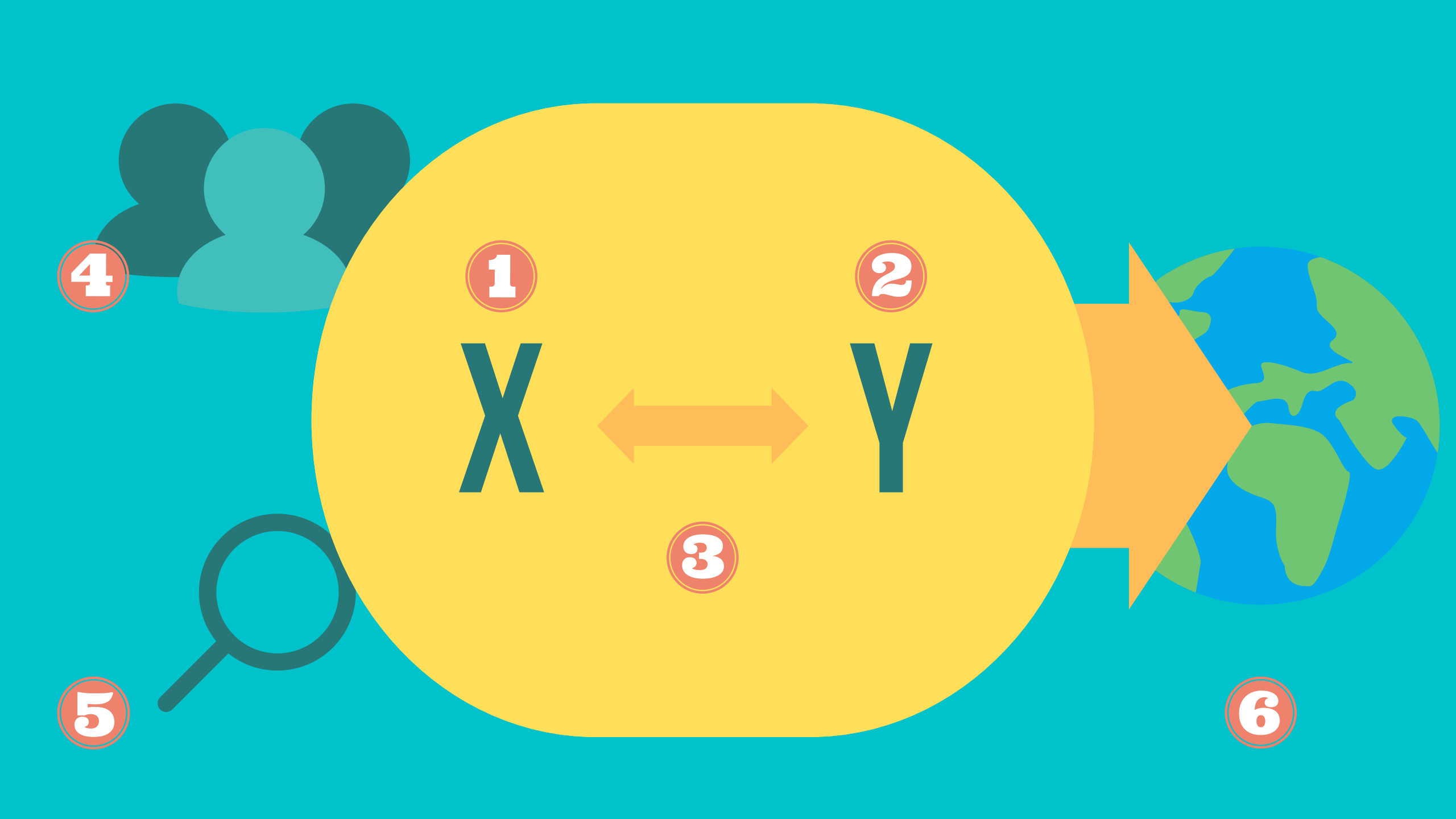
Impact

The Problem

- Core debate about ”Whether a link exists” overshadows important nuanced questions that might have greater potential for impact

The Solution

- Support interdisciplinary research using different methodologies to ensure triangulation (Munafo et al. 2021)
- Think not just about links, but also about mechanisms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Thank You

Group members

Sakshi Ghai
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