Supplementary Material
Die Fakten dicke! Der GESIS Podcast #2/#3

„Coronas Mob trotz“
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Surveys
Surveys and Their Purpose

**Surveys**
are a systematic method for data collection on humans using questionnaires.

\[ \text{i.e., giving respondents questions and answer categories or scales} \]

**Purpose**
is to understand social phenomena.

\[ \text{e.g., Why do people support Donald Trump?} \]
Challenge of Surveys

**Challenge**

is to measure concepts that are not directly observable.

*e.g.*, *attitudes towards Corona measures*
Importance of Surveys

Why are surveys important?

- To generate knowledge
- To advance science
- To make public opinion visible
- To inform public policies
- To democratize society
Population and Sampling Frame

(Target) Population
is the entire set of units (people) for which the survey data is supposed to be used to make inferences.
e.g., German adult population

Sampling Frame
is the list from which the units are drawn for the sample.
e.g., German population register, telephone book, a map
Sample

is a set of individuals selected from a statistical population defined by a procedure/sampling design.

e.g., a randomly chosen set of German adults
Non-Response and Its Types

**Non-Response**

occurs when a sampled individual refuses to participate in a survey (i.e., unit non-response) or does not give an answer to a specific question (i.e., item non-response).

**Missing Completely at Random (MCAR)**

- Estimates are approximately unbiased

**Missing at Random (MAR)**

- Estimation model needs to account for it

**Not Missing at Random (NMAR)**

- Non-response is systematic and cannot be ignored
Systematic Non-Response

In the case of **systematic non-response**, there is no methodological way to completely negate the bias caused by it. That is because the non-response correlates with the survey characteristic itself. *e.g., science skeptics do not fill out scientific surveys as a matter of principle*

However, the caused bias may be reduced by trying the following techniques:

**Adjustment Weighting or Calibration**
- Depends on the relationship of the adjustment variables and the sampling mechanism

**Oversampling or Screening**
- Subgroup needs to have a characteristic for which one can sample or screen

**Non-probabilistic Sampling Strategy**
- Data can only be used for descriptive purposes
Representativeness
Different Perspectives

Statistically or mathematically, representativeness is not defined.

Scientifically, representativeness is often understood as the sample being a sufficient replica of the target population.

In the public reception, representativeness mistakenly means that the results are “true” and generalizable.
Estimation

With the help of surveys, we try to estimate the true value of a variable in the population using either a point or an interval estimate. With each sample, this estimation may vary.

**Point Estimate**
- i.e., a single value

**Confidence Interval Estimates**
- i.e., a range/interval of values

Often people only report point estimators (a single value or “best guess”) and neglect that this estimator has a confidence interval (range of plausible values).
According to Gabler and Quatember (2013), there are five quality criteria that determine the representativeness of a study:

- **Sampling strategy** (each unit of the target population should have a positive probability of inclusion)
- **Discrepancy between target and sampling population** (sampling frame should cover entire population)
- **Variable(s) of interest and their distribution** (whether a study is “representative” should be determined depending on the variables that are analyzed)
- **Sample size** (should be sufficiently big)
- **Non-response** (should not be systematic)
Digital Behavioral Data
Digital Behavioral Data (DBD)

Digital Behavioral Data are all traces of behavior that are either left by uses of digital technology e.g., hashtags in tweets, liking, purchase information, phone calls or that are harnessed by digital technology. e.g., GPS location on mobile phones, sensors.
Advantages of DBD

In contrast to survey data where respondents are asked rather explicitly about their attitudes and behaviors, DBD are collected in a less obvious way. This may lead to the following advantages:

• The data are not influenced by a specific research question but reflect the actual behavior of users of a given technology.
• Information can be quickly retrieved because data are already there. (data traces are produced constantly)
• The data are less affected by memory bias. (data are collected momentarily)

reaction to an event (e.g., development of a new vaccine) via commenting on an online platform thereby producing digital traces (i.e., digital behavioral data)
Disadvantages of DBD

DBD also have some **limits** that need to be kept in mind.

- There is little control over the sample composition. *(it is not necessarily known who uses which platform, there is not always information on socio-demographics available that could be filtered for)*
- There is the effect of self-selection. *(individuals/“users” select themselves into using a certain platform)*
- Data strongly depend on the platform and its “rules.” *(predefined interaction options of the platform influence what users reveal about themselves)*
- Not everything that happens on online platforms is also accessible. *(due to data protection rights and ethical concerns)*
The integration of social sciences with computer science has led to a new field of study: computational social science. Among its subfields are:

- Social networks and group formation (e.g., diffusion of norms, culture or diseases)
- Collective behavior and political sociology (e.g., mobilization of protest and social movements)
- Sociology of knowledge (e.g., consensus building)
- Economic sociology and organization (e.g., interactions in companies)
- Demography (e.g., migration flows)

(Edelmann et al., 2020)
Related Studies, Links, and Media
People who vote for right-wing parties disproportionately often choose the middle category when asked to place their political orientation on an 11-point scale where 0 means “left” and 10 means “right” (Singh & Mendold, 2019).
Trust in Science and Research

How much do you trust science and research?

Source: Science barometer – Wissenschaft im Dialog/Kantar | Minimum of 1,000 respondents each survey wave | Figures are in per cent. Numbers may not add up to 100 per cent due to rounding.
Conspiracy Myths and Beliefs

Wer schreibt? Zoe mit Esra, Marcel, Chantal, Juan, fünf Wissenschaftler:innen aus ganz verschiedenen Disziplinen (Geschichte, Informatik, Sprach-, Sozial- und Literaturwissenschaften).

Worum geht's? Verschwörungstheorien und Wissenschaft

Junge Akademie | Mainz: „Verschwörungs...theorie? Oder wie soll ich das nennen?“
https://www.adwmainz.de/fileadmin/adwmainz/Junge_Akademie/JA%20Twitter%20Analyse/chat.sozi.html#frame5945

Junge Akademie | Mainz: „Felicitas (Mathematikerin) und eine wegen Corona besorgte Person“
https://mathematik-corona-chat.glitch.me
Let’s Flatten the Infodemic Curve

https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve
Let’s Flatten the Infodemic Curve II

Top tips for navigating the infodemic

1. Assess the source:
   Who shared the information with you and where did they get it from? Even if it is friends or family, you still need to vet their source.

2. Go beyond headlines:
   Headlines may be intentionally sensational or provocative.

3. Identify the author:
   Search the author’s name online to see if they are real or credible.

4. Check the date:
   Is it up to date and relevant to current events? Has a headline, image or statistic been used out of context?

5. Examine the supporting evidence:
   Credible stories back up their claims with facts.

6. Check your biases:
   Think about whether your own biases could affect your judgment on what is or is not trustworthy.

7. Turn to fact-checkers:
   Consult trusted fact-checking organizations, such as the International Fact-Checking Network and global news outlets focused on debunking misinformation.

https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve
Vaccine Damage

Cochrane Database of Systematic Reviews | Review - Intervention

Vaccines for measles, mumps, rubella, and varicella in children

Carlo Di Pietrantonj, Alessandro Rivetti, Pasquale Marchione, Maria Grazia Debalini, Vittorio Demichelli

Authors' declarations of interest

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Abstract

Available in  English  Español  فارسی  Français

Background

Measles, mumps, rubella, and varicella (chickenpox) are serious diseases that can lead to serious complications, disability, and death. However, public debate over the safety of the trivalent MMR vaccine and the resultant drop in vaccination coverage in several countries persists, despite its almost universal use and accepted effectiveness. This is an update of a review published in 2005 and updated in 2012.

Global Drug Survey

For 43% of the respondents, alcohol consumption increased throughout the pandemic.

Reasons for that include:

- More available time for drinking
- Boredom
- Drinking with partner
- Feelings of anxiety or depression
- Coping with situation
- Feelings of loneliness

Existential Worries

Toralf Pusch, Hartmut Seifert

Stabilisierende Wirkungen durch Kurzarbeit


53% of short-time workers struggle with existential worries (Pusch & Seifert, 2021).
Corona Accelerates Radicalization

Corona beschleunigt die Radikalisierung warnt Sozialpsychologe Ernst-Dieter Lantermann

Bitte nicht weichzeichnen

Das reflexhafte Beschönigen faschistischer Demagogie und autoritärer Bewegungen ist nicht nur in den USA mitverantwortlich für Exzesse und Gewalt. Die Gefahr lauert in der Mitte der Gesellschaft.

https://www.tagesanzeiger.ch/bitte-nicht-weichzeichnen-766414223872
In 2019, 9,849 cases of politically motivated crime were attributable to the left spectrum and 22,342 cases to the right spectrum.

https://www.bka.de/DE/UnsereAufgaben/Deliktsbereiche/PMK/PMKrechts/PMKrechts_node.html
Survey Statistics

Dr. Matthias Sand is an expert in survey statistics specialized in complex sample designs, weighting, and estimation.

More information on representativeness:
https://www.youtube.com/watch?v=IdCDTqYzBRo

More information on weighting of survey data:
https://www.youtube.com/watch?v=dSFwgviw7-c
Digital Behavioral Data

Dr. Katrin Weller

is an expert in computational social science. Her research focuses on social media, new types of research data, data preservation, and scholarly communication and altmetrics.

You can find an open-access article on „Perspective: Acknowledging Data Work in the Social Media Research Lifecycle“ here: https://www.frontiersin.org/articles/10.3389/fdata.2020.509954/full

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References I


References II


Image Sources

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Icon Sources

All icons were taken from Microsoft PowerPoint and adapted by Lydia Repke.
Enjoy (social) data(ing)!

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Ottos Mops/Lulu‘s Pooch
(Ernst Jandl)

ottos mops trotzt
otto: fort mops fort
ottos mops hopst fort
otto: soso

otto holt koks
otto holt obst
otto horcht
otto: mops mops
otto hofft

ottos mops klopft
otto: komm mops komm
ottos mops kommt
ottos mops kotzt
otto: ogottogott

Lulu's pooch droops
Lulu: Scoot, pooch, scoot!
Lulu's pooch soon scoots.
Lulu brooms room.

Lulu scoops food.
Lulu spoons roots.
Lulu croons: Pooch, pooch.
Lulu broods.

Lulu's pooch drools.
Lulu: Poor fool  pooch.
Lulu grooms pooch.

Lulu's pooch poops.
Lulu: Oops.