What do people do online? Using data donation to understand digital behavior.

a workshop at the SPP Junior Researcher Meeting

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Our Agenda

1️⃣ What is digital trace data?

2️⃣ What is data donation? - The participant’s perspective.

3️⃣ What is data donation? - The researcher’s perspective.

Who are you?

Please raise your hand 🖐️ if you ...

- are familiar with the term digital trace data
- have worked with APIs
- have worked with data donation
- have worked with automated content analysis
- regularly use programming languages (e.g., R, Python)

About me: Frieder Rodewald

🎓 PhD, University of Mannheim & Institute for Employment Research

🧐 Research interests: “I study what people do online.”

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...

👉 part of the SPP project Integrating Data Donations in Survey Infrastructure

Dr. Valerie Hase

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Prof. Dr. Florian Keusch

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Prof. Dr. Frauke Kreuter

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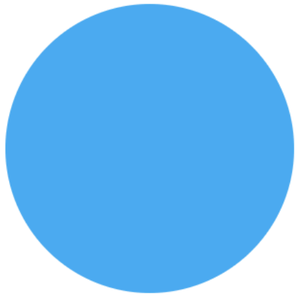

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Our Team

A huge thanks to Valerie Hase, for conceptualizing a previous data donation workshop at CompText in Vienna.

What is the goal of this workshop?

- ✅ Understanding digital data traces as a *type* of data
- ✅ Understanding data donation as a *method* of data access
- ✅ Working through key steps of data donation methods (participant & researcher view)
- ❓ Discussing when (not) to use data donation studies
- ❌ Detailed implementation (e.g., server set-up, coding data extraction scripts)

1️⃣ What is digital trace data?

🤔 Which examples for digital trace data you know?

What is digital trace data?

💡 **Definition:** *The recording and storing of activities on digital platforms to draw conclusions about digital and analog phenomena.*

This might include:

- Tweets, likes, shares on social media
- Geo data (locations, movements)
- Digital payments
- Spotify playlists

Where can we find/collect digital trace data?

- Apps (e.g., running apps)
- Social media platforms (e.g., Instagram)
- Payment systems (e.g., Paypal)
- Wearable devices (e.g., smart watch)

Which (latent) constructs can we measure?

- **Internet use** (Parry et al. 2021) related to ...
  - Well-being (Ohme et al. 2024) or voting (Bach et al. 2021)
- **News engagement** (Reiss 2023) related to ...
  - News diversity (Jürgens and Stark 2022) or public opinion formation (Yan, Schroeder, and Stier 2022)
- **Movements** related to ...
  - Mobility during pandemics (Li et al. 2021) or social networks (Sepulvado et al. 2022)

Why are digital traces becoming more popular?

- **Problems with self-reported data** (e.g., via survey)
  - Self-reported data subject to specific bias (Scharkow 2016; Parry et al. 2021)
  - Response rates in surveys are declining (Luiten, Hox, and de Leeuw 2020)
- **Availabillity**
  - Cheap (e.g., via APIs)
  - Large data sets (“big data”)

⚠️ **Be careful**: These “advantages” are often claimed, but **not** empirically proven.

👉 Digital traces are neither necessarily less biased, cheaper, or larger.

(Dis-)advantages of digital trace data

- ✅ More fine-grained, often longitudinal measures due to timestamps
- ✅ Partly measurement of new variables (e.g., algorithmic inference)
- ❌ Bias due to errors in representation and measurement
- ❌ Implementation can be expensive and cumbersome
- ❌ More data does not mean better data!

How can we collect digital traces?

Platform- and user-centric methods

- **Platform-centric** (based on platform cooperation)
  - API (Jünger 2021)
  - Cooperation with platforms (Wagner 2023)
- **User-centric** (based on user cooperation and informed consent) or “follow the user” approaches (Caliandro 2024)
  - Data donation (Carrière et al. 2025)
  - Linkage (Sloan et al. 2020)
  - Sensors (Struminskaya et al. 2021)
  - Tracking (Christner et al. 2022)

🤔 Questions?

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