

Validity of Subjective Paradata

Results from the National Educational Panel Study and HISBUS Online Access Panel

Background

Paradata, such as user agent strings (UAS), provide online researchers with important client-side information about the technical conditions of web surveys and respondent's behavior. According to § 4 Federal Data Protection Act (FDPA) **each respondent would have to consent to the collection, processing and use of this personal data**. Such an **Informed Consent (IC)** could **negatively affect participation** due to privacy concerns (Couper/Singer 2013). Alternatively, the National Education Panel Study (NEPS) team decided to **directly ask for paradata instead of relying on the automatically collected UAS**. This made paradata part of the regular survey data.

To date it is **completely unclear whether web survey participants are able and willing to deliver UAS information**. Questions for the device used and its configuration might be too demanding for less technically-minded respondents. Besides, they may not want to give any information about their device features and it would also be conceivable that they intentionally make false disclosures.

Therefore, we would like to pursue two research questions:

1. Do our web survey participants provide information about their device and its configuration?
2. How accurate are these self-reported paradata?



Data

At the beginning of the 5th online survey of the **NEPS - Starting-Cohort "First-Year-Student"** we **directly asked** all participants for the **device used** (n=6,998). At the end of the survey the remaining 6,557 participants were asked for the device-switch, the **operating system** and **web browser**.

The **HISBUS Online Access Panel** was a good opportunity to test the validity of these self-reported paradata.

At the end of the survey the remaining 3,125 participants were **directly asked** for

- **device used** (PC/Notebook, Smartphone, Tablet, Others),
- **operating system** (Windows, Mac, Linux, Android, Others) and
- **web browser** (Firefox, Chrome, Safari, IE/Edge, Opera, Others).

Device switchers were categorized according to the device they used first.

Additionally:

- **UAS were collected** at the beginning of the survey and
- categorized according to the parseuas Stata module (Rossmann/Gummer 2016).

Methods

1. NEPS and HISBUS survey data on device and its configuration will be presented
2. HISBUS survey data and UAS information will be compared

NEPS – Starting-Cohort „First-Year-Students“ (SC5)

... since 2010/2011 **longitudinal study** of **higher education students** via CATI, CAWI and CAPI
... data from 5th **online survey** in autumn/winter **2016** (10th panel-wave)
... **switch to a modernized visual layout**, adapted to complete the survey on mobile devices as well
... **netto sample n = 7,020** (interview started); response rate: 58.2 %

sex	average age	current status
female: 62.3 %	27.1 years	students: 46.7 %, employed: 46.5 %, other/refusal: 6.8 %

www.neps-data.de

HISBUS Online Access Panel

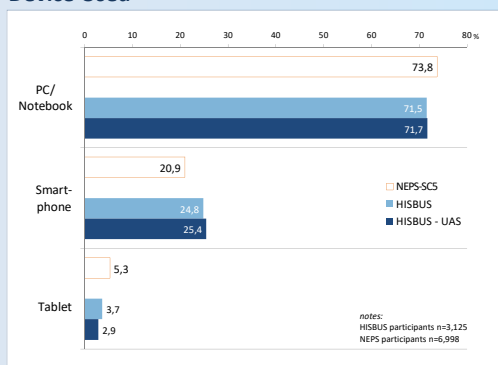
... since 2000 periodic **cross-sectional study** of **higher education students** on current study specific issues
... data from a survey that addressed **panel maintenance** and **survey methods** in winter **2017/2018**
... **static design** with one question per page
... **netto sample n = 4,895**; response rate: 65.1 %

sex	average age	current status
female: 60.8 %	26.3 years	students: 100 %

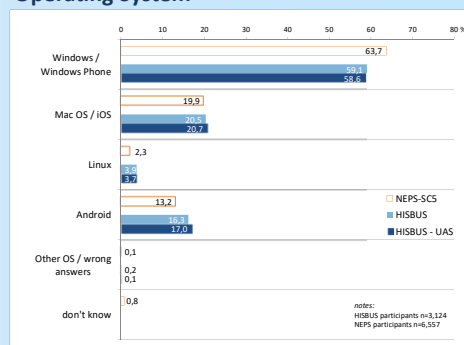
www.hisbus.de

Results

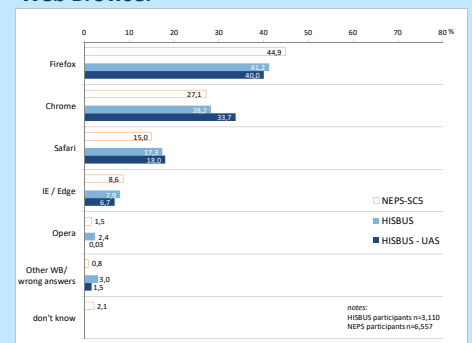
Device Used



Operating System



Web Browser



- **More than one quarter** of the **NEPS** and **HISBUS** participants stated to use **mobile devices**.
- In both studies there were **no refusals** to answer the item.
- The **self-reported HISBUS data** on the **device used** are **almost identical** with the **UAS data (97.9 %)**.

- In both samples there were **no refusals** to answer the items **operating system** and **web browser**.
- With respect to **operating system** the **HISBUS data** are highly related (**97.0 %**).
- The **congruence** is smaller regarding **web browser (90.3 %)**.

Conclusions

There is a **high willingness** to provide information about the device used and its configuration and a **high consistency** between the self-reported data and the UAS.

Directly asking web survey participants is a promising way to get valid information about their technical equipment if UAS data are not available.

BUT further research is needed, because **results are not generalizable**

- HISBUS panelists are very survey experienced and willing to give information
- the willingness to provide information may decrease with the number of surveys
- HISBUS data were collected within a methodology survey

Literature:

- Couper, M. & Singer, E. (2013) Informed Consent for Paradata Use. In: Survey Research Methods 7 (1), p. 57-67.
- Federal Data Protection Act, §4 (1): "The collection, processing and use of personal data are only permitted to the extent that this law or other legal provision allows or orders this or the person concerned has consented.", https://www.gesetze-im-internet.de/bdsg_1990/_4.html.
- Prussog-Wagner, A.; Weiß, T. & Turri, F. (2017) Methodenbericht. NEPS-Startkohorte 5 – Online-Haupterhebung Herbst 2016. B113. Bonn.
- Rossmann, J. & Gummer, T. (2016) PARSEUAS: Stata Module to Extract Detailed Information From User Agent Strings, <https://econpapers.repec.org/RePEc:boc:bocode:s457937>.

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