

gesis

Leibniz-Institut
für Sozialwissenschaften



**Investigating self-selection bias of
online surveys on coronavirus-related
outcomes and characteristics**

**Presentation at Cipher 2021
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- 1 Introduction and Problem
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Introduction

- On January 27th 2020, first COVID-19 case confirmed in Germany (Bundesministerium für Gesundheit, 2021)
- Until full vaccination, non-pharmaceutical interventions (NPI) are essential
- Politics and administration rely on valid compliance estimates of NPI
- Due to its simplicity, many online convenience surveys have been conducted
- Strongly affected by self-selection bias
- The GESIS Panel is a CAWI (online) / PAPI (offline) survey, upon recruitment respondents' preferred mode was determined via a sequential mixed-mode design

Research Questions

- Overarching research question:
Are online-only surveys biased with respect to COVID-19-related outcomes and health characteristics?
- More specifically:
 - 1 Do we find differences among pandemic-related attitudinal and behavioral outcomes by survey mode?
 - 2 Do these differences vary among recruitment cohort (i.e., selective attrition that might reduce differences between modes)?
 - 3 Do we find differences among pandemic-related health characteristics by survey mode? (Schnell et al., 2017)

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The GESIS Panel and the Pandemic I

- Probability-based mixed-mode (CAWI and PAPI) access panel (N \approx 5,000)
- General German-speaking adult population in Germany
- Online (CAWI): 75% of panelists; offline (PAPI): 25% of panelists
- In March 2020, first data collection on the “Coronavirus Outbreak in Germany”

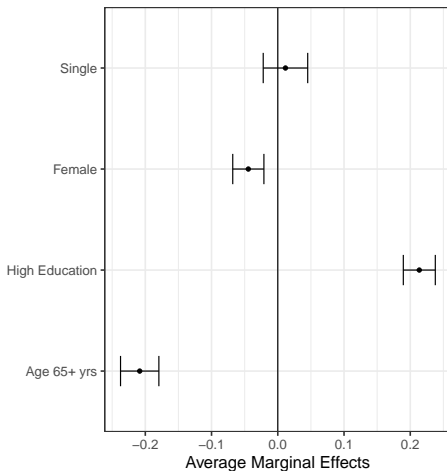
The GESIS Panel and the Pandemic II

- Additional waves fielded in 2020 April-May (hb), June-July (hc), August-September (hd), December-January 2021
- The subsequent analyses will utilize:
 - Four key dimensions of people's responses to the COVID-19 pandemic:
 - Perceived risk of infection with coronavirus (mean)
 - Behavioral changes to reduce the risk of infection with coronavirus (sum)
 - Beliefs in the effectiveness of public policy measures to combat the further spread of coronavirus (mean)
 - Trust in various relevant policymakers and institutions regarding the handling of the pandemic (mean)
 - Belongs to at-risk group (self-reported)

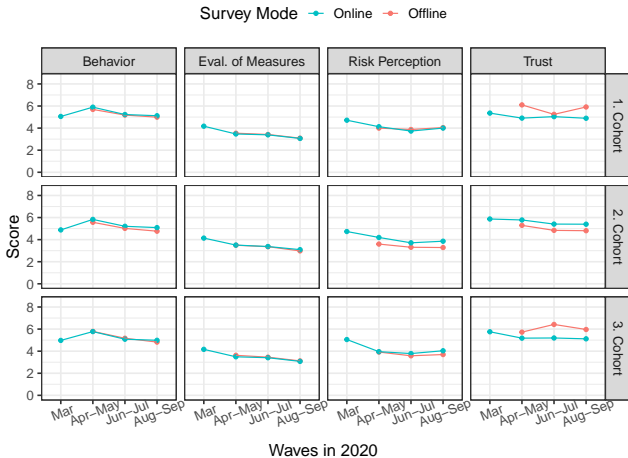
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Predictors of Online Participation

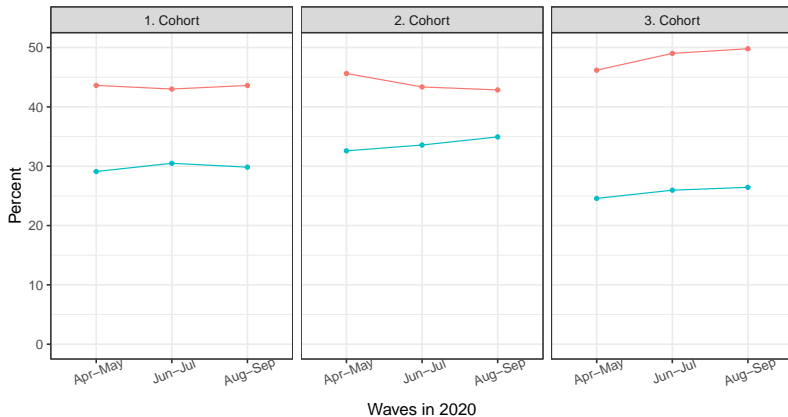


Pandemic-related Outcomes by Mode



At-risk Group by Mode

Survey Mode — Online — Offline



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Conclusion

- COVID-19-related behavioral/attitudinal outcomes:
 - No substantial differences among survey modes (1. research question)
 - No empirical evidence for differences among recruitment cohorts (2. research question)
- Respondent belongs to at-risk group: Considerable differences among survey mode (3. research question)
- Only weak associations between at-risk group and behavioral/attitudinal outcomes ($r < 0.10$)
- For other outcomes such as changed employment situation or childcare duties, we find considerable differences
- Preliminary results, more sub-group-specific research needed



Any questions?

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References I

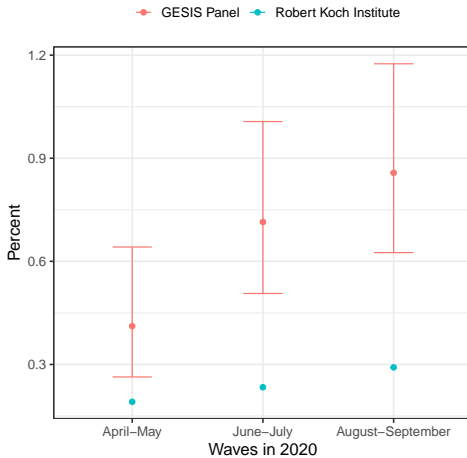


Bundesministerium für Gesundheit. (2021, February 18). *Coronavirus SARS-CoV-2: Chronik der bisherigen Maßnahmen*. Retrieved February 18, 2021, from <https://www.bundesgesundheitsministerium.de/coronavirus/chronik-coronavirus.html>



Schnell, R., Noack, M., & Torregroza, S. (2017). Differences in General Health of Internet Users and Non-users and Implications for the Use of Web Surveys. *Survey Research Methods*, 11(2), 105–123. <https://doi.org/10.18148/srm/2017.v11i2.6803>

COVID-19 Prevalence in the GESIS Panel



Sample Size by Wave and Cohort

GESIS Panel – Number of Cases

