New Avenues in Survey Data Collection



Comparing the Quality of Text and Voice Answers to Political Attitude Question in Smartphone Surveys



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Introduction and Background



- Web surveys are a prevailing data collection method
 - Cost- and time-effectiveness and technologically amenable
- The usage of smartphones facilitates new communication channels
- Measuring political attitudes is an important endeavor in social sciences
- Open answers allow to collect rich information about political attitudes (Geer 1988)
- Possible differences between text and voice answer
 - Cognitive information processing (Zaller/Feldman 1992; Lodge et al. 1989)
 - Respondent burden due to answer delivery (Denscombe 2008)

Research Question: Do text and voice answers to open questions on political attitudes differ regarding linguistic and content characteristics?

Methods: Study Design





- We employed 6 open questions:
 - 1 on the most important political issue in Germany
 - 1 on attitudes towards the German Chancellor
 - 4 on attitudes towards German political parties (CDU/CSU, SPD, Greens, and AfD)
- Each question presented individually
- Text and voice conditions preceded by short instructions
- Optimized survey layout
- Experiment conducted in the Omninet Panel (Forsa) in Germany in December 2019 and January 2020

Methods: Text and Voice Requests





- Example: Open question on the German chancellor
- Text condition on the left
 - Next button is not displayed because of space limitations
 - No character limitation
- Voice on the right
 - SurveyVoice (SVoice) tool (Höhne et al. 2021)
 - No recording time limitation

Results: Answer length







^{23.04.2021} * p < 0.05, t-test N_{Text} = 1,414 to 1,453; N_{Voice} = 667 to 695



Results: Lexical structure



Method: Estimate lexical richness (Yule's K), lexical diversity (TTR), and readability (F-KRS)

All differences are significant on p < 0.05

Condition Text

N_{Text} = 1,414 to 1,453; N_{Voice} = 667 to 695 *p < 0.05, t-test 23.04.2021

Results: Sentiment





Method: Sentiment analysis (SentiWS):

 $S = log \frac{pos + 0.001}{|neg| + 0.001}$

23.04.2021

Results: Average number of topics



Method: Structural Topic Models (STM) for identifying and counting topics



*** p < 0.05, t-test**

N_{Text} = 1,279 to 1,371; N_{Voice} = 605 to 664

Discussion & Conclusion



- Longer answers in voice condition: Indicates open narration and more information
- More lexical structure in text answers: Indicates more conscious answering
- Partial evidence for more extreme answers in voice answers: Indicates less social desirability
- More topics in voice answers: Indicates open narration and different information processing
- Only moderate overlap in topics between conditions: Indicates different information processing

\rightarrow Open questions with voice requests are a promising new method

Literature



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Many thanks for your attention!

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Methods: Data and Sample Characteristics



Cross-quotas:	Gender, age, education, and region (2x3x3x2)
Final sample size:	N = 2,402
Gender:	49% female
Age (in years):	Mean = 43
Education:	23% lower education secondary school
	33% intermediate secondary school
	44% at least college preparatory secondary school
Region:	85% West Germany

Chi-square tests reveal no differences between the conditions (text and voice) regarding gender, age, education, and region.

Results: Effective number of topics





Effective Number of Topics (ENT): ENT = $\frac{1}{\sum_{i=1}^{n} t_i^2}$

N_{Text} = 1,279 to 1,371 N_{Voice} = 605 to 664

Text