

Assessing Online Social Media Recruitment for Reaching and Recruiting Rare Survey Participants

Zaza Zindel & Simon Kühne

Faculty of Sociology
Quantitative Methods of Empirical Social Research
Bielefeld University

ESRA Conference 2021
July, 2nd

Rare Populations

- ▶ Often, there is no sampling frame available for rare populations (e.g., gay men)
- ▶ Classic sampling approaches for general population surveys are inefficient when applied to rare or hard-to-reach populations
 - ▶ Random walks
 - ▶ Random digit dialing
- ▶ Main problem: Large number of screenouts = High costs

Alternatives:

- ▶ Give up (survey-based) project
- ▶ Non-probability sampling, often online convenience sampling

Social Media Usage

- ▶ Facebook and Instagram: Two of the largest social networks worldwide
- ▶ Coverage in Germany (ARD & ZDF 2020):
 - ▶ 32% of 14+ use Facebook at least once per month
 - ▶ 24% of 14+ use Instagram at least once per month
 - ▶ 65% of 14-29 use Instagram at least once per week
- ▶ Recruiting via ads displayed on the networks (timeline, stories) based on socio-demographics, behavior, and interests for targeted advertising

Advantages & Disadvantages

Advantages

- Costs
- Reach
- Time-efficiency
- Targeting
- Ease of use

Great potential to reach potential participants efficiently!



Disadvantages

- Sampling Error / (Self-) Selection Bias
- (Potential) Coverage Bias

Often low data quality and high potential for biased estimates.

(see Burke-Garcia et al. 2020; Lehdornvirta et al. 2021; Pötzschke Braun 2017)

Project 1 - LGBielefeld

- ▶ Online-Survey, in which lesbian, gay, bisexual, trans*, queer people, and rainbow families in Germany were recruited
- ▶ Recruitment via ads on Facebook's Timeline (Desktop and Smartphone) and Instagram's Timeline and Stories (Smartphone only)

Recruiting Phase:
July 3th - August 2nd, 2019



Examples of the Ads on Facebook & Instagram



Campaign Results - Clicks, Respondents, & Costs

- ▶ Costs for ads: 2,710 €
- ▶ 784,820 impressions and 335,461 individuals reached
- ▶ 43,063 link-clicks (80% through Instagram)
- ▶ 12,263 started the questionnaire
- ▶ 7,129 complete interviews
 - ▶ Only 1.7% reporting a heterosexual orientation
 - ▶ 28.4% living with children in household
- ▶ Average net cost for a complete interview: **38 Cents**
- ▶ 98 percent used a smartphone

(see Kühne & Zindel 2020)

Data Quality - Sample Composition (unweighted)

Variable	LGBielefeld		SOEP-Q	
	n	%	n	%
Sexual Orientation				
<i>Heterosexual</i>	121	1.7	85	17.8
<i>Homosexual</i>	4,294	60.3	198	41.5
<i>Bisexual</i>	1,867	26.2	171	35.9
<i>Other Orientation</i>	811	11.4	17	3.6
Gender				
<i>Male</i>	2,748	39.4	245	51.6
<i>Female</i>	3,778	54.1	203	42.6
<i>Trans</i>	133	1.9	9	1.9
<i>Other Gender</i>	324	4.6	15	3.1
Total n	7,129		477	

Data Quality - Sample Composition (unweighted)

Variable	LGBielefeld		SOEP-Q	
	n	%	n	%
Age				
18-24	4,159	59.9	57	12.0
25-34	1,550	22.3	90	18.9
35-49	748	10.8	123	25.8
50+	484	7.0	207	43.4
School Education				
Lower	331	4.7	62	13.0
Medium	1,288	18.2	139	29.2
Higher	4,687	77.1	250	52.5
Total n	7,129		477	

Project 2 - Showing Your Religion

- ▶ Online-Survey on experiences of discrimination in the employment history of Muslims
- ▶ Recruitment via ads on Facebook's Timeline (Desktop and Smartphone)
- ▶ Recruiting Phase: January 15th - February 14th, 2021
- ▶ Targeted to muslim women with and without headscarves, muslim men and non-muslim population living in Germany

Examples of the Ads on Facebook & Instagram

Empirische Sozialforschung - Uni Bielefeld
 Gesponsert · Finanziert von Universität Bielefeld · 🌐

Du bist Muslim? Dann nimm jetzt an unserer Befragung zum Thema „Arbeitswelt und Jobsuche“ teil!



Infos zu dieser Werbe...

WWW.UNI-BIELEFELD.DE
Hier geht es zur Umfrage.
 Befragung der Universität Bielefeld

MEHR DAZU

👍 🤔 😬 Arya T... 5 Kommentare 1 Mal geteilt

👍 Gefällt mir 💬 Kommentare ➦ Teilen

Empirische Sozialforschung - Uni Bielefeld
 Gesponsert · Finanziert von Universität Bielefeld · 🌐

Nimm jetzt an unserer Befragung zur Situation von Musliminnen auf dem deutschen Arbeitsmarkt teil!



WWW.UNI-BIELEFELD.DE
Hier geht es zur Umfrage.
 Befragung der Universität Bielefeld

Mehr dazu

👍 🤔 😬 153 37 Kommentare 13 Mal geteilt

👍 Gefällt mir 💬 Kommentieren ➦ Teilen

Campaign Results - Clicks, Respondents, & Costs

- ▶ Costs for ads: 4,259 €
- ▶ 1,068,760 impressions
- ▶ 21,486 link-clicks with 18,040 individual link-clicks
- ▶ 9,282 started the questionnaire
- ▶ 3,120 complete interviews (before first data cleaning)
 - ▶ Overall reached 37.6% Muslim participants
 - ▶ 14.3% female Muslims wearing a headscarf in everyday life
- ▶ Average net cost for a complete interview: **1,53 €**
- ▶ 79 percent used a smartphone

Data Quality - Violation of Quality Indicators

- ▶ During data collection process:
Evidence of systematic manipulation of study results
- ▶ Initial control based on eight known quality indicators, e.g., implausible and inconsistent data, duplicate enrollments, suspicious survey behavior.
- ▶ First results: Suspicious or fraudulent enrollments detected especially in the target group of Muslim men

No. of violated QI	n	%
No violation	2,500	80.13
1 violation	489	15.67
2 violations	104	3.33
3 violations	24	0.77
4 violations	3	0.10
3,120		

Nearly **20%** of all interviews have at least one violated Quality Indicator!

Summary, Issues & Next Steps

- ▶ Social media sampling = Cost-efficient way to recruit rare populations that are difficult to impossible to reach via other means
- ▶ Methodological Issues
 - ▶ Undercoverage
 - ▶ Nonresponse & Selection bias
 - ▶ Trolls & fake interviews
- ▶ An expansion to other social networks (e.g., TikTok, Snapchat, WhatsApp) and different ad formats connected with the steadily increasing share of users further improves the applicability of the method in the future

References I

- ▶ ARD & ZDF. (2020). Ergebnisse der ARD/ZDF-Onlinestudie 2020. Retrieved from www.ard-zdf-onlinestudie.de/files/2020/2020-10-12_Onlinestudie2020_Publikationscharts.pdf.
- ▶ Burke-Garcia, A., Edwards, B., & Yan, T. (2020). The Future Is Now: Surveys Can Harness Social Media to Address Twenty-first Century Challenges. In C. A. Hill, P. P. Biemer, T. D. Buskirk, L. Japec, A. Kirchner, S. Kolenikov, & L. Lyberg (Eds.), *Big Data Meets Survey Science: A Collection Of Innovative Methods* (pp. 63–98). John Wiley Sons, Inc.
- ▶ Lehdonvirta, V., Oksanen, A., Räsänen, P., & Blank, G. (2021). Social Media, Web, and Panel Surveys: Using Non-Probability Samples in Social and Policy Research. *Policy Internet*, 13(1), 134–155.
- ▶ Pötzschke, S., & Braun, M. (2017). Migrant Sampling Using Facebook Advertisements: A Case Study of Polish Migrants in Four European Countries. *Social Science Computer Review*, 35(5), 633–653.
- ▶ Kühne, S., & Zindel, Z. (2020). Using Facebook and Instagram to Recruit Web Survey Participants: A Step-by-Step Guide and Application. *Survey Methods: Insights from the Field*, Special Issue: Advancements in Online and Mobile Survey Methods'. Retrieved from <https://surveyinsights.org/?p=13558>

Thank you.



**UNIVERSITÄT
BIELEFELD**



Faculty of Sociology

Bielefeld University
Faculty of Sociology
Quantitative Methods of
Empirical Social Research
Universitätsstraße 25
33615 Bielefeld

Zaza Zindel

`zaza.zindel@uni-bielefeld.de`

Twitter: @ZazaZindel

Prof. Dr. Simon Kühne

`simon.kuehne@uni-bielefeld.de`

Twitter: @SimonKuehne