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

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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





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Examples of the Ads on Facebook & Instagram









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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)

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



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Data Quality - Sample Composition (unweighted)

	LGBie	LGBielefeld		SOEP-Q	
Variable	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		



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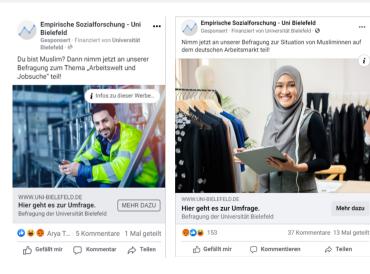
Project 2 - Showing Your Religion

- 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



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Examples of the Ads on Facebook & Instagram





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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



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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!

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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



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Thank you.



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