Advertisements on Social Networking Sites as recruitment tool for online surveys

Meet the Experts

Best practice methods in Survey Methodology and Computational Social Sciences

Steffen Pötzschke & Christoph Beuthner, July 22, 2021
Speakers

Dr. Steffen Pötzschke
- Postdoc in the department Survey Design and Methodology, team GESIS Panel (deputy team lead),
- Project consultant with focus on online surveys and SNS recruitment,
- Research interests: survey methodology, use of digital technologies in survey research, methods of migration research.
- Contact: steffen.poetzschke@gesis.org | @stpoetzschke

Christoph Beuthner
- Doctoral researcher in the Team Survey Operations
- Master in Sociology (Technical University of Dresden)
- Research focus: Optimizing online surveys
- Contact: christoph.beuthner@gesis.org | @c_beuthner
Information prior to the talk

- The talk will be recorded but not the discussion that follows
- Participants are muted
- Please ask questions to "meetexperts" via the chat function
- If the question goes "to all", the messages will be visible to all (incl. your name)
- Questions will be answered after the talk
Advertisements on Social Networking Sites as recruitment tool for online surveys

Meet the Experts
Best practice methods in Survey Methodology and Computational Social Sciences

Steffen Pötzschke & Christoph Beuthner, July 22, 2021
1. Introduction
2. Planning your ad campaign
3. Implementing your campaign
4. Examples
   a) Survey of health professionals in Germany
   b) German Emigrants Overseas Online Survey
1. Introduction
2. Planning your ad campaign
3. Implementing your campaign
4. Examples
   a) Survey of health professionals in Germany
   b) German Emigrants Overseas Online Survey
What this talk is all about

Example 1: Survey advertisement in a user’s Facebook news feed.

Example 2: Survey advertisement as displayed in the Instagram feed.
Why use advertisements on Facebook & Instagram for sampling?

- **Size, in 2020** *(Facebook, 2021a)*:
  - 2.8 billion monthly active Facebook users worldwide,
  - 3.3 billion if all Facebook products (incl. Instagram & Whatsapp) are counted.

- Nearly global coverage and geographically fine-grained targeting possible,

- Facebook Advertisements Manager (FAM) allows using a plethora of targeting variables, e.g.:
  - Demographics: age, gender, place of residence,
  - Language use,
  - Interest in specific topics,
  - Profession and professional association.

- Allows sampling of otherwise hard-to-reach (h2r) populations, e.g.:
  - Members of specific (small) social subgroups (e.g., working in specific sectors),
  - Scattered populations,
  - Very mobile individuals,
  - Individuals without a telephone connection.

- Easy and fast to realize,

- Open to all scholars: Use of FB Inc.’s business model,

- (Much) Less expensive than most established methods.
Limitations

- **Coverage:**
  - Sampling frame includes only individuals that use the internet *and* Facebook or Instagram,
  - Possible effects of digital divides (influenced, e.g., by age, gender, economic status),
  - Targeting (in part) dependent on information entered by users in their profiles,
  - Targeting variables as black boxes, basis of exact assignment to users often unclear ➔ risk of undercoverage.

- **Self-selection of participants.**
Use of advertisements Facebook and (less often) Instagram for survey research (selection)

- Medical and health research (Arcia, 2014; Chu & Snider, 2013; Fenner et al., 2012; Kapp, Peters, & Oliver, 2013; Lohse, 2013; Ramo & Prochaska, 2012; literature review: Whitaker, Stevelink, & Fear, 2017),
- Recruiting migrants (Ersanilli & van der Gaag, 2020; Pötzschke & Braun, 2017; Ryndyk, 2020),
- Recruiting supporters of conspiracy theories (Iannelli et al., 2018);
- Recruiting participants for cognitive pre-tests (Head, Dean, Flanigan, Swicegood, & Keating, 2016),
- Recruiting members of the LGBTQ community (Guillory et al., 2018; Kühne & Zindel, 2020),
- Recruiting service sector employees (Schneider & Harknett, 2019),
- Cross-national surveys of the general population on
  - Privacy concerns (Thomson & Ito, 2014),
  - COVID-19 (Grow et al., 2020).
1. Introduction

2. Planning your ad campaign

3. Implementing your campaign

4. Examples
   a) Survey of health professionals in Germany
   b) German Emigrants Overseas Online Survey
Reminder: Survey design > questionnaire design

A survey project has several components:
- Project‘s Facebook page,
- Facebook/Instagram advertisements,
- Online survey (externally hosted).

Follow Dillman’s *Tailored Design Method* (Dillman et al., 2014). This means, e.g.:
- Use similar design elements across above-mentioned components,
- Take the respondents point of view,
- Keep stimuli of your ad as consistent across devices and services as possible,
  - Use URL parameters to allow consideration of design effects in the analysis.
Tailoring the main survey components

1. Facebook page (idealy, project specific)
Tailoring the main survey components

1. Facebook page (idealy, project specific)

2. Advertisements
Tailoring the main survey components

1. Facebook page (idealy, project specific)
2. Advertisements
3. Online survey

Tailoring advertisements

Use ...

- ... a target specific survey title, e.g.:
  - “Germans abroad – Daily life, Mobility & Communication”
  - “Work and daily life in the health sector”

- ... an engaging ad text, e.g.:
  - “Are you from Germany and live abroad? Please participate in our survey.”
  - “Do you work in the health sector? If so, please participate in our scientific study.”

- ... several images (sparking the interest of different segments of the target population),

- ... the space for short text elements (below pictures) to attract additional attention.

© pictures: hpgruesen - pixabay.com (left); scaliger - stock.adobe.com (right).
Think ahead: Advertisement review

- Ads on any Facebook Inc. outlet have to comply with Facebook’s advertising policies and their community standards *(Facebook, 2021c; King, 2021)*:
  - Plan all components of your ad campaign accordingly!
  - Allow (at least) 24 hours for the initial automated review process,
  - Active ads might be reviewed a second time by Facebook employees (at random or if unusual user activity is detected).

- There may be specific regulations for ads in certain contexts:
  - Current example: COVID-19 *(Facebook, 2021b)*.
Ad campaign structure

- Advertisement campaigns on Facebook have three (nested) levels:
  - **Campaign** (i.e., overall project): can include several ad sets,
  - **Ad set**: can include several ads,
  - **Ad**: can differ in used text elements and/or pictures/videos.
Ad sets are important!

- Targeting variables, fielding time and pricing are defined on the ad set level,
- Besides targeting variables: Facebook does not know which sample characteristics are important to you.

- Facebook AI could increase biases in your sample:
  - Ad budget will *not automatically* be spent in a way that results in a balanced sample composition (e.g., regarding age),
  - Within a given ad set AI pushes successful ads (e.g., those receiving most clicks),
- Solution: Use ad sets to stratify targeting
  - Recommendation: Use URL parameters to record for each observation which ad set (even better: which ad) the participant came from.
- Drawback:
  - Increase of needed budget or reduction of targeting budget available per individual ad set,
  - Increasingly complex sampling design,
  - Example: Using four ads and stratifying the targeting to two gender and two age cohorts in two different locations results in eight ad sets, featuring a total of 32 ads.
## Costs

- Two billing modes: Costs per click & cost per impression,
- No fixed rates → Price determined by automated auction,
- Reported costs per click/impression vary,
- Net advertisement costs per completed questionnaire, examples:

<table>
<thead>
<tr>
<th>Study</th>
<th>Group/Location</th>
<th>Cost (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whitaker et al. (2017)</td>
<td>Lit. review of 17 health related studies</td>
<td>~ 12.13€ (≈ $14.41)</td>
</tr>
<tr>
<td>Schneider and Harknett (2019)</td>
<td>Service sector employees in USA</td>
<td>~ 4.85€ (≈ $5.76)</td>
</tr>
<tr>
<td>Bennetts et al. (2019)</td>
<td>Parents in Australia</td>
<td>~ 1.46€ (≈ AUS$2.32)</td>
</tr>
<tr>
<td>Grow et al. (2020)</td>
<td>General population in 8 countries</td>
<td>1.05€</td>
</tr>
<tr>
<td>Silber et al. (2021)</td>
<td>Health care professionals in Germany</td>
<td>0.86€</td>
</tr>
<tr>
<td>Pötzschke and Weiß (2020)</td>
<td>German emigrants in 148 countries &amp; regions</td>
<td>0.58€</td>
</tr>
<tr>
<td>Pötzschke and Braun (2017)</td>
<td>Polish migrants in 4 European countries</td>
<td>0.47€</td>
</tr>
</tbody>
</table>
1. Introduction
2. Planning your ad campaign
3. Implementing your campaign
4. Examples
   a) Survey of health professionals in Germany
   b) German Emigrants Overseas Online Survey
Some practicalities for starters

- To create an ad campaign, you need an ad account (free of charge),
- An institutional ad account allows several team members access to the same ad campaign,
- New accounts are tricky:
  - They can only use the ‘Costs per impression’ option until some budget (8€ ?) has been spent ➔ Do a small pretest well before your main campaign,
  - Billing amounts increase over time: new accounts might be charged various small amounts in a short period of time ➔ Alert your administration to this beforehand!
Login to the Facebook advertisement manager: https://www.facebook.com/business/tools/ads-manager

The screenshots on this and the following slides are taken from Facebook. The authors of this presentation do not claim any copyright for these pictures.
Create a new campaign …

... and choose your campaign objective.
Editing Ad Sets

Ad Set Name
female, 18-35, BY BW NRW, Industrie

Traffic
Choose where you want to drive traffic. You’ll enter more details about the destination later.
- Website
- App
- Messenger
- WhatsApp

Dynamic Creative
Provide creative elements, such as images and headlines, and we’ll automatically generate combinations optimized for your audience. Variations may include different formats or templates based on one or more elements. Learn More

Performance may be impacted
Evolving changes related to how Facebook can process data may affect your ad set’s delivery and performance.

ePrivacy Directive

Audience Definition
Your audience selection is fairly broad.

Potential Reach: 11,000 people

Estimated Daily Results
Reach
701 - 2.0K

Link Clicks
5 - 18
Editing Ad Sets

Evolving changes related to how Facebook can process data may affect your ad set's delivery and performance.

Audience Definition
- **Specific**
- **Broad**

Potential Reach: 11,000 people

Estimates may vary significantly as people opt out of tracking on iOS 14.5 or use other data controls on Facebook.

Dynamic Creative
- Provide creative elements, such as images and headlines, and we'll automatically generate combinations optimized for your audience. Variations may include different formats or templates based on one or more elements. Learn More

Estimated Daily Results
- **Reach**: 701 - 2.0K
- **Link Clicks**: 5 - 18
Targeting criteria (examples)

Age (ranges)

Gender

Interests, behaviors, industries...

Locations, and how users should relate to them
Placement (examples)

Devices

Platforms

Placement within platforms
Editing Ads

Select and preview media elements

Define text elements

Define URL parameter
URL Parameter (examples)
Finalizing your campaign(s) and fielding

- Copy and adjust ads within your ad set, ad sets, and campaigns,
- Publish your campaign(s) ➔ Review process starts,
- Constantly monitor the progress of your campaign and adjust settings as needed.
Before you activate your ads: record target group estimates (estimated reach) for each ad set,

During the ad campaign’s fielding period: regularly export statistics provided by Facebook in the ad manager (ideally on campaign, ad set and ad level),

Checklist of information to include in methods section/appendix of your publications:
- Campaign structure and duration,
- Used target criteria,
- Estimated reach,
- Advertisement budget,
- Number of impressions, link-clicks, started questionnaires, completed questionnaires,
- Cost-per-click,
- Cost-per completed questionnaire,
- Used pictures,
- Information on incentives (also state if you did not use any).
1. Introduction
2. Planning your ad campaign
3. Implementing your campaign
4. Examples
   a) Survey of health professionals in Germany
   b) German Emigrants Overseas Online Survey
Why Facebook and Instagram?

- Health professionals are at the front line of the COVID-19 pandemic,
  - Increased risk of exposure to SARS-CoV-2 (115,000 deaths due to COVID-19) (WHO 2021).
- High level of stress (even under normal working conditions),
  - Chance for researchers to investigate how the pandemic affects health professionals,
- Health professionals are a hard-to-reach population,
- Contacting them via their workplace nearly impossible, especially given the pandemic,
- Facebook offers possibility to target health professionals with tailored advertisements,
- 3 ways of targeting:
  - General population,
  - Interest: Healthcare,
  - Affiliation: Healthcare.
Survey of Health care professionals in Germany

- German online survey,
- **Comprehensive questionnaire** (median completion time: 15 minutes)
  - Work experience during COVID-19,
  - Vaccination and recommendation of vaccines,
  - Demographics.
- Targeting German health professionals (i.e., individuals working in the German health industry, hospitals),
- Targeting through ads on Facebook & Instagram,
  - Access to survey directly through ads or via Facebook page;
- Questionnaire, ads and FB page in German only,
- No incentives,
- **Field period:**
  - Ad campaign: April 20 to May 3, 2021,
Setup

- 5 advertisements showing health professionals in various situations,

- Quota:
  - Gender,
  - Age (18-35, 36-64),
  - Region (3 groups based on size of federal states).

- Ad Placement: Facebook (Feed, Stories, Right Column) and Instagram (Feed, Stories),

- All devices included (mobile and desktop).
### Ads and Participation

<table>
<thead>
<tr>
<th>Ads Shown</th>
<th>Ads Shown: 641,300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landing Page Visits</td>
<td>Landing Page Visits: 11,779 Participants, 9,690 Bots</td>
</tr>
<tr>
<td>Answered First Question</td>
<td>Answered First Question: 5,628</td>
</tr>
<tr>
<td>Health Workers</td>
<td>Health Workers: 4,923</td>
</tr>
</tbody>
</table>
Facebook vs. Instagram

Participation by Platform

Participation by Ad Placement
Comparing different campaigns
Performance of Ads
Performance of Ads

Participation by Ad

Portion

Campaign

Image 1

Image 2

Image 3

Image 4

Image 5
Anecdotal evidence

- Image 1 lead to provocative comments (mainly related to conspiracy theories surrounding Covid-19),
- Comments were hidden by research team (regular checks necessary),
- One Image was banned by Facebook due to guideline violations.
Takeaways

1. Using the correct targeting mechanism with a large enough reach is important,

2. Mobile devices are very important for recruitment (Facebook mobile feed, Instagram story),

3. The pictures used in ads should relate to the topic and have high symbolic value,

4. Develop a strategy to deal with hate speech, trolls and offensive comments.
1. Introduction
2. Planning your ad campaign
3. Implementing your campaign
4. Examples
   a) Survey of health professionals in Germany
   b) German Emigrants Overseas Online Survey
Migrants are often a hard-to-reach population (Tourangeau, 2014), especially in cross-national research, their sampling is challenging (Careja & Andreß, 2018; Reichel & Morales, 2017; Font & Méndez, 2013), emigrants (usually) present further challenges:
- Geographically dispersed on a global level,
  - Most sampling frames do not cover all countries,
  - Same sampling frames do not exist in all countries on a national level,
- Settlement patterns are not known beforehand.

No well-established methods to sample emigrants in a high number of countries
- But several innovative approaches exist, e.g. register-based sampling (Erlinghagen et al., 2021).

Specific to German emigrants: Previous studies indicated coverage problems for non-European regions beyond North America.
German Emigrants Overseas Online Survey (GEOOS)

- Cross-national online survey,
- Comprehensive questionnaire (median completion time: 19 minutes)
  - Use of SNS and communication behavior,
  - Migration and mobility experience,
  - Demographics.
- Targeting German emigrants overseas (i.e., individuals born in Germany and/or holding German citizenship living in a non-European country),
- 52 ad sets: 13 regions, 2 gender & 2 age cohorts,
- Targeting through ads on Facebook & Instagram,
  - Access to survey directly through ads or via Facebook page,
  - Additional snowball sample.
- Questionnaire, ads and FB page in German only,
- No incentives,
- Field period:
  - Ad campaign: August 13 to August 30, 2020,
Ad campaign metrics and achieved sample size

- Unique users reached: 354,604
- Impressions: 1,805,217
- Unique clicks: 20,220
- Used advertisement budget: 2,222.90 €
- Average cost per click: 0.11 €
- Average costs per completed survey (emigrants broadly defined; ads only/all): 0.62 € / 0.58€

<table>
<thead>
<tr>
<th></th>
<th>Completed surveys (total)</th>
<th>Emigrants broadly defined</th>
<th>Emigrants narrowly defined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements</td>
<td>3,632</td>
<td>3,558</td>
<td>3,222</td>
</tr>
<tr>
<td>Facebook page</td>
<td>74</td>
<td>74</td>
<td>67</td>
</tr>
<tr>
<td>Snowball</td>
<td>189</td>
<td>184</td>
<td>173</td>
</tr>
<tr>
<td>Total</td>
<td>3,895</td>
<td>3,816</td>
<td>3,462</td>
</tr>
</tbody>
</table>
Geographic distribution of GEOOS respondents

- 148 countries and territories,
- Subsamples of n > 50 in 18 and n>10 in 53 countries and territories,
- Biggest subsamples: Canada (n=416); New Zealand (n=359), Australia (n=344); USA (n=323), Brazil (n=155), Turkey (n=144), South Africa (n=140)
Possible inclusion of GEOOS respondents in a population register-based sample

Participants providing answers to all relevant questions

\[ n = 3,226 \]

Deregistered and provided address abroad

\[ n = 740 \text{ (23\%)} \]

Are your still living at this address?

- Yes: \[ n = 384 \text{ (12\%)} \]
- No, but updated adr.: \[ n = 96 \text{ (3\%)} \]
- No: \[ n = 260 \text{ (8\%)} \]

Did not deregister

\[ n = 640 \text{ (20\%)} \]

Do you have an active forwarding order with postal services or does someone in Germany receive mail for you?

- Active forwarding order: \[ n = 11 \text{ (0.3\%)} \]
- Someone receives mail at last German address: \[ n = 288 \text{ (9\%)} \]
- Neither: \[ n = 499 \text{ (15\%)} \]

Deregistered, but can’t remember whether provided address abroad

\[ n = 798 \text{ (25\%)} \]

Deregistered without providing address abroad

\[ n = 1,048 \text{ (33\%)} \]

Deregistered and provided address abroad

\[ n = 740 \text{ (23\%)} \]

Deregistered without providing address abroad

\[ n = 1,048 \text{ (33\%)} \]
Possible inclusion of GEOOS respondents in a population register-based sample

Participants providing answers to all relevant questions

$n = 3,226$

- Deregistered and provided address abroad
  $n = 740 (23\%)$
  - Are your still living at this address?
    - Yes: $n = 384 (12\%)$
    - No, but updated adr.: $n = 96 (3\%)$
    - No: $n = 260 (8\%)$

- Did not deregister
  $n = 640 (20\%)$

- Deregistered, but can’t remember whether provided address abroad
  $n = 798 (25\%)$
  - Do you have an active forwarding order with postal services or does someone in Germany receive mail for you?
    - Active forwarding order: $n = 11 (0.3\%)$
    - Someone receives mail at last German address: $n = 288 (9\%)$
    - Neither: $n = 499 (15\%)$

- Deregistered without providing address abroad
  $n = 1,048 (33\%)$
Possible inclusion of GEOOS respondents in a population register-based sample

Participants providing answers to all relevant questions
\[ n = 3,226 \]

- Deregistered and provided address abroad
  \[ n = 740 (23\%) \]
  - Are you still living at this address?
    - Yes: \[ n = 384 (12\%) \]
    - No, but updated adr.: \[ n = 96 (3\%) \]
    - No: \[ n = 260 (8\%) \]

- Did not deregister
  \[ n = 640 (20\%) \]

- Deregistered, but can’t remember whether provided address abroad
  \[ n = 798 (25\%) \]
  - Do you have an active forwarding order with postal services or does someone in Germany receive mail for you?
    - Active forwarding order: \[ n = 11 (0.3\%) \]
    - Someone receives mail at last German address: \[ n = 288 (9\%) \]
    - Neither: \[ n = 499 (15\%) \]

- Deregistered without providing address abroad
  \[ n = 1,048 (33\%) \]
Takeaways

1. Facebook and Instagram allowed recruiting a comparatively large sample of German emigrants within short time,
2. Using this approach, we were able to survey emigrants on a global level,
3. Strategic use of ad sets allowed for a high degree of diversity regarding countries of residence,
4. Of those respondents who provided the relevant information:
   ▶ Only 15% could have been reached through addresses registered with authorities in the origin countries,
   ▶ 45% could not have been recruited through a register-based sampling approach at all.
GESIS publications using SNS sampling

Beuthner, C., Pötzschke, S., Weiß, B., & Silber, H. (forthcoming): Using Facebook and Instagram to recruit Respondents online, GESIS Survey Guidelines


GESIS Consulting

GESIS offers individual consulting in a number of areas – including survey design & methodology, data archiving, digital behavioral data & computational social science – and across the research data cycle. Please visit our website https://www.gesis.org/en/home for more detailed information.

GESIS consulting is free of charge for researchers who conduct

- scientific projects – financed institutionally or by third-party-funds – at universities or publicly funded research institutions, or
- scientific projects at institutions of the Federal Government or the Länder or other publicly funded institutions.

For other projects consulting is subject to a charge and to available resources.

Expert contact: steffen.poetzschke@gesis.org

General email project consulting: hotline_projektberatung@gesis.org
More Services from GESIS

- **GESIS Survey Guidelines** provide short and hands-on explanations to frequent challenges in survey design and methodology.
- Use GESIS data services for **finding data** for secondary analysis and **sharing your own data**.
- Check out the **GESIS blog** "Growing Knowledge in the Social Sciences" for topics, methods and discussions from the GESIS cosmos – and beyond.
- Keep up with GESIS activities and subscribe to our **monthly newsletter**.
Thank you for your attention.

Contact: 
steffen.poetzschke@gesis.org
christoph.beuthner@gesis.org

@stpoetzschke
@c_beuthner
References


