# Facebook as a Research Tool

## Session 2: Research Participant Recruitment II - Targeting and Advertisement Content

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## This session

1. Introduction: Facebook as a Research Tool

2. Using Facebook Targeting to Create More Representative Samples

3. Advertisement Content and their Impact the Participant Sample

4. Q&A (use the Q&A function)

Recording and slides of this session will be available here:
https://www.gla.ac.uk/research/az/democracyresearch/datamethods/
facebookasaresearchtool/presentationmaterials/

# Why use Facebook for research?

- **Gather information from users directly**: Access to research participants
  - To run a survey (potential issues with representativness of sample)
  - To conduct experiments (internal validity).

- **Gather information about users indirectly**: Extract data, e.g. public posts or social links

- **Intervene directly**: Run experiments on the platform

# What are the advantages of using Facebook?

- **Direct and easy access** (e.g. online)

- **Low costs**
  - UK Facebook survey: cost per respondent £0.25
  - UK Commercial survey company: cost per respondent £4.45

- Especially helpful if your research includes **hard-to-reach populations** or specific groups (e.g. refugees, specific occupational groups)

- **Global reach**

# Step-by-step to participant recruitment

1. Set-up a Facebook account and page

2. Purchase advertisement space on Facebook

3. Run your ads on Facebook

4. Users self-select into clicking on your ad or not

5. Direct users to your survey platform (e.g. Qualtrics, SurveyMonkey, Google Form)

6. Participants complete your survey

# Using Facebook Targeting to Create More Representative Samples

# Facebook Advertisement Manager

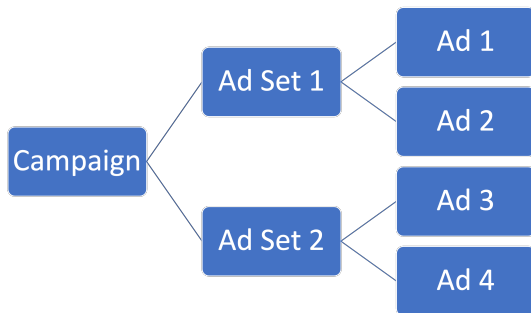- facebook.com/business/tools/ads-manager

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# Three hierarchical levels of Facebook Advertisement Manager

- At the campaign level, you choose campaign objectives
  - Three main options are available; last week we demonstrated that conversion outperforms traffic and reach
  - To set up conversion infrastructure: in addition to our presentation slides and recording, you can also use online resources

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- At the ad set level, you choose the audience, budget, schedule
- At the ad level, you create advertisements

# Facebook Advertisement Manager
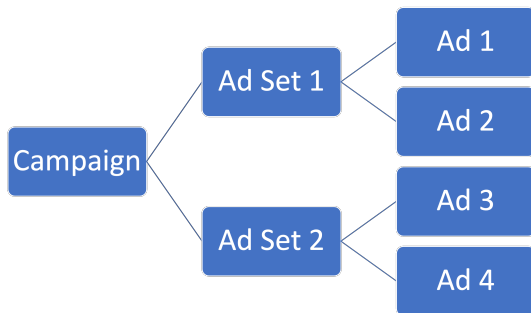
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# Sample biases in Facebook recruitmemt

- Our goal: Creating a sample that will be as representative as possible of a broad population - within the limitations of online sampling
- Challenges
  1. Self-selection bias: Certain groups of Facebook users will be more interested in your advertisements
  2. Facebook's optimization algorithm bias: Facebook will deliver your advertisements to groups of people who are more likely to take action about them

# Facebook's optimization algorithm bias

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- Once Facebook learns which groups of people are more likely to click or convert, it will deliver your advertisements primarily towards those people
- A trade-off for researchers: This will decrease costs but also lead to a homogenous sample

# Biases in Facebook samples

Table: Sample characteristics from a traffic campaign with no targeting in UK

| Categories | Percentages |
|------------|-------------|
| Young | 2% |
| Middle | 6% |
| Old | 92% |
| No college | 45% |
| College | 55% |
| Female | 39% |
| Male | 60% |

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1. Create advertisements that will appeal to broader sections of population: Second part of this session!

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1. Create advertisements that will appeal to broader sections of population: Second part of this session!
2. Use targeting tools on Facebook

# How does targeting work on Facebook: the logic

1. Facebook offers a wide range of targeting options for your advertisement campaigns
   - Standard targets: Age, gender, location
   - Detailed targeting: Education, political targets, hobbies and interests

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2. Targeting choices are available at the level of ad set
   - Each ad set has its own target audience
   - Each ad set has its own budget
3. By creating separate ad sets with separate targets, you ensure that people from these groups will be represented in your sample

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    - Ad Set 1 only targets younger Facebook users; it has its own budget
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- Example structure in Facebook Ads Manager:

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1. Equal budget does not ensure equal number of respondents
   - You can adjust your ad set budgets accordingly
2. Facebook does not always deliver what it promises
   - Age, gender, and location are more successful than other targets
3. Using targets might increase costs

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  - Education: non-college, college, unspecified

# How does targeting affect sample characteristics: Our Study

- We conducted studies in the UK, Turkey, and Spain to see how targeting affects sample composition and size
- Our targets were age, gender, and education
    - Age: young, middle-aged, old
    - Gender: female, male
    - Education: non-college, college, unspecified
- We compared two ways of targeting to no-targeting
    - Campaign 1: No targeting, daily budget of £36
    - Campaign 2: Single targeting, daily budget of £36
    - Campaign 3: Cross targeting, daily budget of £36

# Design of Campaign 1: No targeting

- One ad set with a budget of £36
- No targets defined (except limiting the audience to the UK)

# Design of Campaign 2: Single Targeting

- One ad set for each demographic group; £4.5 per ad set
  1. Female
  2. Male
  3. Young
  4. Middle-aged
  5. Old
  6. Education level lower than college
  7. Education level college
  8. Education level unspecified

# Design of Campaign 3: Cross Targeting

- One ad set for each crossing of sub-groups; £2 per ad set

1. Female, young, non-college
2. Male, young, non-college
3. Female, middle, non-college
4. Male, middle, non-college
5. Female, old, non-college
6. Male, old, non-college
7. Female, young, college
8. Male, young, college
9. Female, middle, college
10. Male, middle, college
11. Female, old, college
12. Male, old, college
13. Female, young, unspecified
14. Male, young, unspecified
15. Female, middle, unspecified
16. Male, middle, unspecified
17. Female, old, unspecified
18. Male, old, unspecified

# Comparing results: Representativeness

- More targeting increases representativeness of the sample

| | | Conversion | | Population |
|---|---|---|---|---|
| | None | Single | Cross | Benchmark |
| **United Kingdom** | | | | |
| Young aged | 5% | n/a | 11% | **29**% |
| No college | 34% | n/a | 48% | **70**% |
| Female | 39% | n/a | 49% | **51**% |
| **Turkey** | | | | |
| Young aged | 13% | 23% | 31% | **37**% |
| No college | 20% | 33% | 44% | **80**% |
| Female | 25% | 32% | 37% | **50**% |
| **Spain** | | | | |
| Young aged | 4% | 10% | 18% | **22**% |
| No college | 37% | 41% | 50% | **73**% |
| Female | 41% | 43% | 47% | **52**% |

# Comparing results: Sample Sizes

- More targeting decreases the sample size

|  | Conversion | | | Population |
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| **United Kingdom** | | | | |
| Young aged | 5% | n/a | 11% | 29% |
| No college | 34% | n/a | 48% | 70% |
| Female | 39% | n/a | 49% | 51% |
| Total (N) | **677** | n/a | **355** | |
| **Turkey** | | | | |
| Young aged | 13% | 23% | 31% | 37% |
| No college | 20% | 33% | 44% | 80% |
| Female | 25% | 32% | 37% | 50% |
| Total (N) | **610** | **593** | **475** | |
| **Spain** | | | | |
| Young aged | 4% | 10% | 18% | 22% |
| No college | 37% | 41% | 50% | 73% |
| Female | 41% | 43% | 47% | 52% |
| Total (N) | **478** | **551** | **391** | |

# Using Weights to get Descriptive Statistics

|           |                   | Population | Sample | Weighted Sample |
|-----------|-------------------|------------|--------|-----------------|
| Education | Under High School | 55.26      | 26.04  | 55.26           |
|           | High School       | 25.09      | 52.26  | 25.09           |
|           | College           | 19.65      | 21.69  | 19.65           |
| Gender    | Female            | 50.32      | 35.79  | 50.18           |
|           | Male              | 49.68      | 64.21  | 49.82           |
| Regions   | Istanbul          | 18.93      | 23.81  | 18.48           |
|           | Ankara            | 7.01       | 7.91   | 6.91            |
|           | Other             | 74.06      | 68.28  | 74.61           |

# Practice: An example campaign with cross-targeting

- Let's assume that I want to control the distribution of gender and age among my participants using cross-targeting
  - Gender: female and male
  - Age: young (18-45) and old (46+)

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    - Gender: female and male
    - Age: young (18-45) and old (46+)
- I can create four separate ad sets
    - Ad Set 1: male, young (18-45)
    - Ad Set 2: male, old (46+)
    - Ad Set 3: female, young (18-45)
    - Ad Set 4: female, old (46+)

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- I can create four separate ad sets
  - Ad Set 1: male, young (18-45)
  - Ad Set 2: male, old (46+)
  - Ad Set 3: female, young (18-45)
  - Ad Set 4: female, old (46+)
- I will assign each of them an equal budget
- I will use the same ad for each of these ad sets

# A Reflection on Political Targets

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  - Directly: Political leaders and parties
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- We used this in two ways
  - Directly: Political leaders and parties
  - Indirectly: Media organizations
- Not very successful in preciseness
- Performance and available categories change a lot across countries
- It might return strong partisans, who will be impervious to experimental treatments

# Lessons learned so far

1. Demographic targeting is needed to create more representative samples, especially if data collection will continue for a longer period of time

2. Cross-targeting produces samples that are more balanced than single-targeting and no-targeting

3. Using targeting usually increases costs, but cost difference decreases over time

4. Some targets will perform better than others

# Advertisement Content and their Impact the Participant Samples

# Advertisement content: Text, Image, and Incentives

# Studying Advertisement Content: Research Design

- Survey conducted in Turkey in May 2021
- Goal: Recruiting voters of the ruling party
- Campaign objective: Conversion
- Demographic cross-targets: Age, education, gender
- 11 different advertisements released at the same time
- Data collection lasted until the recruitment of 250 regime voters by each advertisement

# Advertisement content: Incentives

1. **No incentives**
2. **Direct payment**: Supermarket vouchers worth of 7 TL (£0.6).
3. **Low lottery**: Lottery to win one of seventy supermarket vouchers, each worth 50TL (£4.3).
4. **High lottery**: Lottery to win one iPad (worth £300).

Expected utility for Facebook users who joined our survey through one of the three material incentives and completed the survey is the same, i.e. £0.6.

# Advertisement: Incentives

# Advertisement Content: Text

1. **Vague frame**: *Would you like to participate in our survey? Researchers from the University of Glasgow want to hear your opinions.*

2. **Political frame**: *Would you like to participate in our survey on current political issues in Turkey? Researchers from the University of Glasgow want to hear your opinions.*

# Advertisement Content: Image

1. **Neutral image**: As a base condition, we will use an image showing several microphones.

2. **Human photos**: Male or female

3. **Image of material incentive**

4. **Image of President Erdogan**: This image corresponds to the target group of regime supporters.

# Advertisement Example: Human Images

# Advertisement Example: Political Content

# Comparison of Costs across Samples

| Incentives | Image | Text | Days to 250 part. | Average Cost (£) |
|---|---|---|---|---|
| No | Political | Political | 2 | 0.26 |
| Low Lottery | Incentive | Vague | 2 | 0.44 |
| Direct Payment | Incentive | Vague | 2 | 0.48 |
| Direct Payment | Incentive | Vague | 2 | 0.49 |
| Low Lottery | Incentive | Political | 2 | 0.49 |
| No | Microphone | Political | 6 | 0.74 |
| No | Microphone | Vague | 7 | 0.89 |
| No | Male | Vague | 8 | 1.18 |
| No | Female | Vague | 9 | 1.20 |
| High Lottery | Incentive | Vague | 5 | 1.22 |
| High lottery | Incentive | Political | 7 | 1.49 |

# Demographic Comparisons across Samples

| Incentives | Image | Text | Grad. | Female | 18-34 | 35-54 | 55+ |
|---|---|---|---|---|---|---|---|
| | *Population* | | *13%* | *55%* | *32%* | *40%* | *29%* |
| No | Political | Political | 24% | 22% | 27% | 49% | 24% |
| Low Lottery | Incentive | Vague | 9% | 53% | 35% | 46% | 19% |
| Direct Payment | Incentive | Vague | 14% | 45% | 47% | 36% | 17% |
| Direct Payment | Incentive | Political | 16% | 47% | 43% | 40% | 17% |
| Low Lottery | Incentive | Political | 14% | 48% | 41% | 43% | 16% |
| No | Microphone | Political | 33% | 26% | 35% | 45% | 20% |
| No | Microphone | Vague | 22% | 34% | 31% | 50% | 19% |
| No | Male | Vague | 22% | 36% | 24% | 48% | 28% |
| No | Female | Vague | 22% | 35% | 26% | 44% | 29% |
| High Lottery | Incentive | Vague | 17% | 41% | 54% | 35% | 11% |
| High lottery | Incentive | Political | 19% | 43% | 53% | 38% | 9% |

# Political Comparisons across Samples

| Incentives | Image | Text | V. Interested | Partisan | Strong Partisan |
|---|---|---|---|---|---|
| | *Population* | | *10%* | *83%* | *38%* |
| No | Political | Political | 53% | 85% | 69% |
| Low Lottery | Incentive | Vague | 17% | 70% | 54% |
| Direct Payment | Incentive | Vague | 16% | 74% | 58% |
| Direct Payment | Incentive | Political | 21% | 73% | 61% |
| Low Lottery | Incentive | Political | 18% | 86% | 49% |
| No | Microphone | Political | 50% | 87% | 71% |
| No | Microphone | Vague | 37% | 83% | 68% |
| No | Male | Vague | 35% | 86% | 69% |
| No | Female | Vague | 33% | 86% | 63% |
| High Lottery | Incentive | Vague | 15% | 69% | 53% |
| High lottery | Incentive | Political | 20% | 74% | 52% |

# Lessons learned so far

1. Advertisement content matters. Advertisements offering (low) material incentives produce cheaper and more representative samples.

2. Using political images might be tempting to draw attention but the ensuing sample is usually imbalanced and impervious to experimental manipulation.

3. Advertisement text seems to be less influential.

# Next Week: Using Facebook to Recruit hard-to-reach populations (Steffen Pötzschke, GESIS)

- How to recruit hard-to-reach populations through Facebook and Instagram?

- Available variables for direct and indirect targeting

- Recruitment of a highly dispersed population for a global survey

- The session builds on various recent research projects targeting German emigrants, refugees, and health-care professionals in Germany

# Thank you!

- For any questions: demed-project@glasgow.ac.uk