Effects of Recruitment Images in a Facebook Survey

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JOINT PROGRAM IN SURVEY METHODOLOGY

Acknowledgements

Agenda

- Introduction & Research Question
- Project Structure
- Advertisement Image Experiment
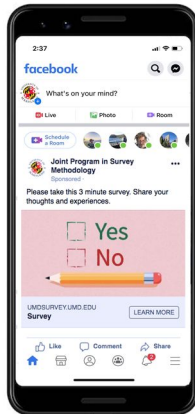- Survey Questions
- Demographics
- UAS and Facebook

Introduction and Motivation

- Building on leverage-salience theory and tailored invitation letters effects on participation (Groves et al., 2000, Groves et al. 2004)
- Explore how images can be used at the recruitment phase for mobile data collection and online surveys

- The COVID-19 pandemic necessitated the rapid deployment of opinion surveys to assess symptoms, mask use, and mental health
- Rise of non-probability surveys
- Facebook (FB) Advertisements offer a mode to rapidly field surveys that are low in cost

Research Questions and Problem Statement

Research Question 1:

How do different advertisement images affect response rate?

Research Question 2:

Does the sample recruited by each image respond to survey topics differently? And how do they compare to answers from respondents recruited on probability based web-panels?

Steps to Create Facebook Ad Campaign

Step 1: Create FB account and page

Step 2: Select advertisement goal

Steps to Create Facebook Ad Campaign

Step 3: Revise advertisement text

Ad Creative
How do you want your ad to look?

Description
Please take this 3 minute survey about COVID-19. Share your thoughts and experiences.

86 / 90 Characters

Step 4: Upload ad image and headline

Headline
COVID-19 Survey

15 / 25 Characters

Step 5: Select text option for button

Button label
Learn More

Apply Now

Book Now

Contact Us

Donate Now

Download

Learn More ✓

Request Time

See Menu

Shop Now

Steps to Create Facebook Ad Campaign

Step 6: Website/Qualtrics survey URL

Website URL
https://umdsurvey.umd.edu/jfe/form/SV_8iB5GHv1JVLCF ✅

Step 7: Specify advertisement category

Special Ad Category   Learn More

Ads for credit, employment or housing offers.   ⬜

Step 8: Specify target audience

Audience Name
US Adults General Pop

Gender

| All | Men | Women |

Age

18 ⬤————————————————————⬤ 65+

Locations

🔍 Locations
    Type to add more locations

United States
United States ✕

Detailed Targeting

🔍 Detailed Targeting   Browse →

Steps to Create Facebook Ad Campaign

Step 9: Budget and time period

Duration

Run this ad continuously
Your ads will run continuously for a daily budget. This option is recommended. Learn More

Choose when this ad will end

Days	End date
7 ⊖ ⊕	☷ May 22, 2020

Daily Budget
Actual amount spend daily may vary. ⓘ

$14.29 ✎

Step 10: Advertisement placement

⊞ Placements
Facebook   ⌃

Where should people see your ad?   ⓘ

Facebook   ☑

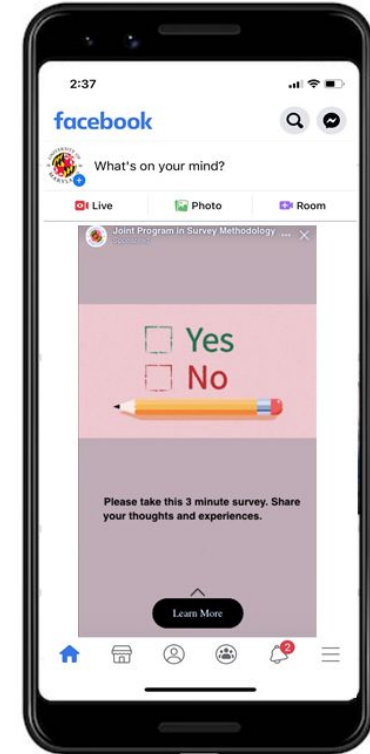Messenger   ☐

Instagram   ☐

Types of Facebook Ad Previews

1. Desktop News Feed

2. Mobile News Feed

3. Desktop In-Stream Video

4. Mobile In-Stream Video

5. Desktop Marketplace

6. Mobile Marketplace

7. Facebook Stories
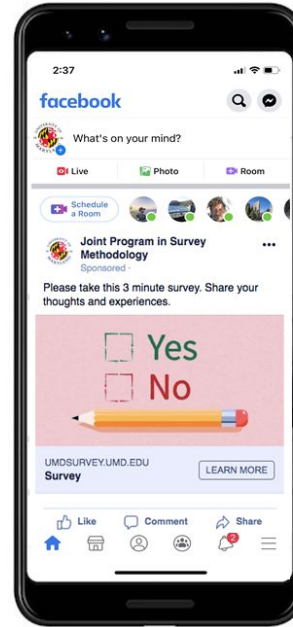
From left to right: FB desktop news feed Ad preview; FB stories Ad preview

Definitions of Facebook Ad Performance Metrics

Link Clicks: # of clicks on links within the ad that led to advertiser-specified destinations, on or off Facebook.

Reach: Estimated # of people who saw ads at least once. Reach is different from impressions, which may include multiple views of your ads by the same people.

Post Engagement: # of actions that people take involving your ads.

Facebook to Qualtrics Survey

- Facebook Users Click on Advertisement Image

- Users are sent to the same survey hosted by JPSM using Qualtrics

- Facebook does not receive responses and JPSM does not receive Facebook user profile information

Qualtrics Landing Page

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This voluntary survey, which will take 3 minutes, is part of University of Maryland research about important issues in the U.S. today. We do not know your name and thus your responses will be completely confidential. To see the first question, please click here:

→

Experiment: Advertisement Images

- One image is assigned to four topical areas: COVID-19, mental health, economics, privacy
- A neutral (control) image is used a baseline comparison to Understanding America Study
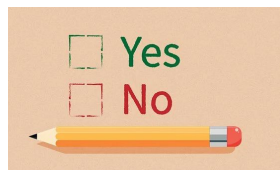
	Neutral (Control)	COVID-19	Mental Health	Economics	Privacy
Reach (Facebook Metric)	8,662	15,357	13,517	14,352	20,768
Engagement (Facebook Metric)	620	1,039	462	362	275
Link Clicks (Facebook Metric)	559	970	207	332	253
Click Consent Statement to see "first question" (Response rate)	77.8% (466/599)	76.9% (746/970)	74.7% (304/407)	45.7% (147/322)	29.6% (75/253)

Survey Questions

Items were fielded in both Facebook Advertisement Study and USC Understanding America Study

COVID-19	● How likely are you to get vaccinated for coronavirus once a vaccine is available to the public? ● Are Federal, state, or local governments currently requiring you to limit non-essential travel?
Mental Health	● In the past fourteen days, how often have you felt nervous, anxious, or on edge? ● In the past 7 days, how often have you felt depressed?
Economics	● The coronavirus may cause economic challenges for some people regardless of whether they are actually infected. What is the percent chance you will run out of money because of the coronavirus in the next three months? ● In the past seven days, were you worried you would run out of food because of a lack of money or other resources?
Privacy	● Sensors installed on a smartphone collect data on health conditions. With consent of the owner, these data are transmitted to a public authority for the purpose of detecting outbreaks of diseases early and for developing solutions. The data are safe, anonymous, and protected from misuse. How acceptable is it to you to use these data for this purpose? ● Smartphones with navigation apps collect location data on mobility. With consent of the owner, these data are transmitted to a public authority. The public authority uses these data to measure social distancing in communities. The data are safe, anonymous, and protected from misuse. How acceptable is it to you to use these data for this purpose?

Demographics by Image

	Neutral (%)	COVID-19 (%)	Mental Health (%)	Economics (%)	Privacy (%)
Gender					
Female	47.9	67.3	77.8	44.8	61.0
Male	52.1	32.7	22.2	55.2	39.0
Total %	100.0	100.0	100.0	100.0	100.0
Total N	333	559	198	142	61
	$X^2 = 72.4$, 4 df, $p < 0.001$				
Marital Status					
Married	66.1	72.4	54.8	71.9	57.4
Not Married	33.9	27.6	45.2	28.1	42.6
Total %	100.0	100.0	100.0	100.0	100.0
Total N	342	568	212	146	61
	$X^2 = 28.4$, 4 df, $p < 0.001$				

Demographics by Image

	Neutral (%)	COVID-19 (%)	Mental Health (%)	Economics (%)	Data Privacy (%)
Age Group					
19-35 years old	2.3	6.1	12.6	4.8	6.6
36-65 years old	42.0	74.0	28.7	38.6	45.9
66+ years old	55.7	19.9	58.6	56.6	47.5
Total %	100.0	100.0	100.0	100.0	100.0
Total N	343	577	214	145	61
	X^2 = 187.39, 8 df, p < 0.001				
Education Group					
HS Grad or Less	19.0	19.3	12.6	9.8	7.4
Some College	45.8	37.0	28.7	29.3	51.9
BA or Above	35.3	43.7	58.6	61.0	40.7
Total %	100.0	100.0	100.0	100.0	100.0
Total N	153	300	89	82	27
	X^2 = 24.36, 8 df, p = 0.002				

Demographics: UAS and Facebook

	UAS Weighted (%)	UAS (%)	Facebook (%)
Gender			
Female	51.7	58.2	61.1
Male	48.3	41.8	38.0
Total %	100.0	100.0	100.0
Total N	6407	6407	1293
Marital Status			
Married	55.8	55.9	67.2
Not Married	44.1	44.0	32.7
Total %	100.0	100.0	100.0
Total N	6402	6402	1325

	UAS Weighted (%)	UAS (%)	Facebook (%)
Age Group			
19-35 years old	26.3	20.6	6.2
36-65 years old	56.1	59.0	57.5
66+ years old	17.7	20.4	36.3
Total %	100.0	100.0	100.0
Total N	6400	6400	1336
Education Group			
HS Grad or Less	38.1	21.5	16.6
Some College	27.7	36.9	37.6
BA or Above	34.3	41.6	45.8
Total %	100.0	100.0	100.0
Total N	6406	6406	649

UAS and Facebook: COVID-19

How likely are you to get vaccinated for coronavirus once a vaccine is available to the public?

	UAS Only (%)	All Other Images (%)	Neutral Image (%)
Very Unlikely	16.8	35.6	38.2
Somewhat Unlikely	9.0	8.1	11.4
Somewhat Likely	19.3	12.1	14.1
Very Likely	43.1	34.8	29.9
Unsure	11.8	9.3	6.4
Total %	100.0	100.0	100.0
Total N	6309	1059	361
		$X^2 = 211.1, 4\ df, p < 0.001$	$X^2 = 117.3, 4\ df, p < 0.001$

X^2 test is between Facebook (all other images or neutral image) to UAS Sample (weighted)

UAS and Facebook: COVID-19

Are Federal, state, or local governments currently requiring you to limit non-essential travel?

	UAS Only (%)	All Other Images (%)	Neutral Image (%)
Yes	45.6	55.5	56.8
No	39.8	30.0	26.9
Unsure	14.5	14.6	16.3
Total %	100.0	100.0	100.0
Total N	6340	1058	361
		$X^2 = 41.5, 2\ df, p < 0.001$	$X^2 = 24.5\ 2\ df, p < 0.001$

X^2 test is between Facebook (all other images or neutral image) to UAS Sample (weighted)

UAS and Facebook: Mental Health

In the past fourteen days, how often have you felt nervous, anxious, or on edge?

	UAS Only (%)	All Other Images (%)	Neutral Image (%)
Not At All	59.6	37.9	56.6
Several Days	29.2	31.9	24.9
More Than Half The Days	6.2	10.9	8.7
Nearly Every Day	4.9	19.5	9.8
Total %	100.0	100.0	100.0
Total N	6287	1062	366
		$X^2 = 382.1, 3\ df, p < 0.001$	$X^2 = 22.4, 3\ df, p < 0.001$

X^2 test is between Facebook (all other images or neutral image) to UAS Sample (weighted)

UAS and Facebook: Mental Health

In the past 7 days, how often have you felt depressed?

	UAS Only (%)	All Other Images (%)	Neutral Image (%)
Not At All	68.5	45.1	57.1
Several Days	22.8	31.4	27.6
More Than Half The Days	4.9	10.2	7.1
Nearly Every Day	3.0	13.3	8.2
Total %	100.0	100.0	100.0
Total N	6288	1061	366
		$X^2 = 302.4, 3\ df, p < 0.001$	$X^2 = 29.1, 3\ df, p < 0.001$

X^2 test is between Facebook (all other images or neutral image) to UAS Sample (weighted)

UAS and Facebook: Economics

In the past seven days, were you worried you would run out of food because of a lack of money or other resources?

	UAS Only (%)	All Other Images (%)	Neutral Image (%)
Yes	7.2	10.8	8.5
No	90.0	85.5	88.1
Unsure	2.8	3.4	3.4
Total %	100.0	100.0	100.0
Total N	6277	1050	354
		$X^2 = 17.9$, 2 df, $p < 0.001$	$X^2 = 1.3$, 2 df, $p = 0.515$

X^2 test is between Facebook (all other images or neutral image) to UAS Sample (weighted)

Discussion

Fieldwork

- Replacing economic and privacy images
- Deliberate graphic choices for image study
- Replication study

Analysis

- Facebook weights
- Item non-response
- Correlations, regression and other multivariate analysis
- Completion rates and break-Off
- Nonprobability & nonignorability
- Subgroup differences: economic threat & vaccinations
- Correlations: gender & mental health

Effects of Recruitment Images in a Facebook Survey

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Back-Up Slides

Summary: How to Create Facebook Ad Campaign

Step 1: Create or use existing Facebook account and page

Step 2: Select advertisement goal ("Get More Website Visitors")

Step 3: Revise advertisement text

Step 4: Upload ad image and revise headline

Step 5: Select text option for button (i.e. "Learn More")

Step 6: Enter website/Qualtrics survey URL

Step 7: Specify advertisement category

Step 8: Specify target audience (U.S. adults)

Step 9: Determine budget and time period

Step 10: Determine advertisement placement (Facebook, Messenger, Instagram)

References

Groves, R., Singer, E., Corning, A. (2000). Leverage-Saliency Theory of Survey Participation: Description and an Illustration. *The Public Opinion Quarterly 64*(3), 299-308. https://www.jstor.org/stable/3078721

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Groves, R. M., Couper, M. P., Presser, S., Singer, E., Tourangeau, R., Acosta, G. P., & Nelson, L. (2006). Experiments in producing nonresponse bias. *International Journal of Public Opinion Quarterly, 70*(5), 720-736. https://doi.org/10.1093/poq/nfl036

Understanding America Study (2020). UAS 244: Coronavirus Tracking Survey Long Form Wave 5.

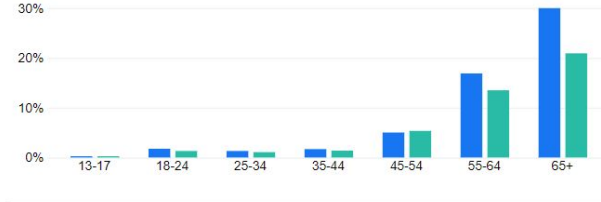University of Southern California, Center for Economic Research. https://uasdata.usc.edu/index.php

Additional Ad Manager Dashboard Demographics

Audience

This ad reached **8,662** people in your audience.
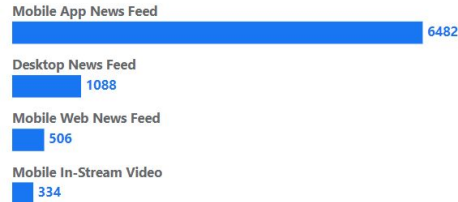
People   Placements   Locations

56.5% Women   43.5% Men

Audience

This ad reached **8,662** people in your audience.

People   **Placements**   Locations

Mobile App News Feed
6482

Desktop News Feed
1088

Mobile Web News Feed
506

Mobile In-Stream Video
334

See All ⌄

Audience

This ad reached **8,662** people in your audience.

People   Placements   **Locations**

California
640

Texas
504

Pennsylvania
498

Florida
474

See All ⌄

Example of audience reached by neutral image for 4 week period

Demographics: UAS and Facebook

	UAS (%)	Facebook (%)
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UAS (%) are unweighted