



Willingness to participate in geolocation-based research.

Innovation in online research

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GEOLOCATION DATA ARE...

GREAT...

Individuals' locations collected at a frequency and level of precision inconceivable using surveys.

- Reduced burden.
- Increased accuracy.

Applications:

- Identify individuals' locations and travel patterns [1]
- Detect individuals accessing pre-specified locations [2].

[1] Geurs, Veenstra and Thomas, 2013)

[2] Clemens and Ginnis, 2017

... BUT NOT PERFECT

ERRORS

Limited precision of the technologies used to geolocate devices (e.g., GPS).

- Example: wrong coordinates, undetected visit to a location of interest.

MISSING DATA

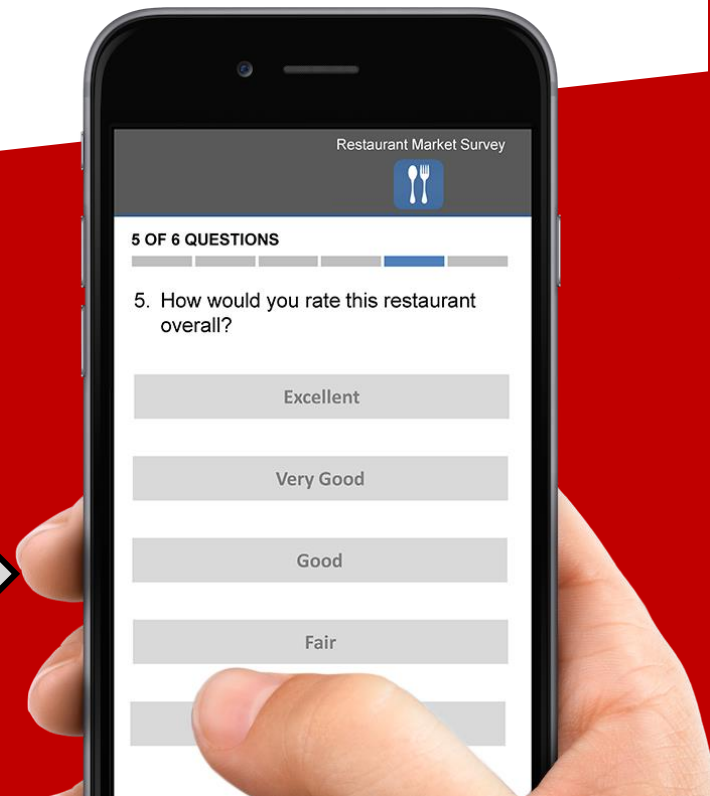
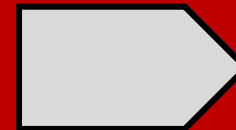
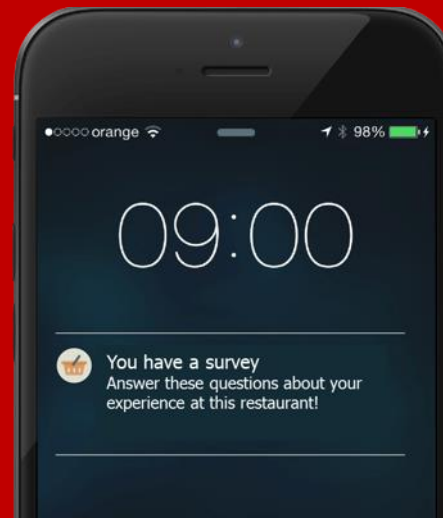
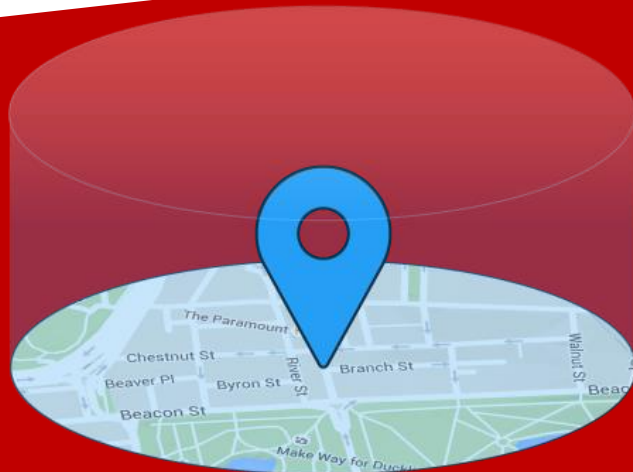
Subjective information cannot be observed using a passive tracker.

- Example: motivation of a travel, satisfaction with the mode of transport.

IN-THE-MOMENT SURVEYS ARE...

Surveys sent (to members of an online panel) right in the moment (or short time after) a location of interest is visited

1. Add missing information.
2. Clarify doubtful information.
3. Reduce the memory errors that conventional surveys suffer from.



LIMITING FACTOR: WILLINGNESS TO PARTICIPATE

Sharing geolocation data

- Already studied under different conditions. Willingness: 20% - 50%.
- Differences among participants not always consistent across studies.
- Little literature about the effect of the conditions offered to participants.

My contribution:

- Effect of project duration and incentives using a Conjoint analysis.
- More scenarios than previous literature.

In-the-moment surveys triggered by geolocation data

- A few actual experiences reported.
- No previous research on willingness to participate.
- Related research: willingness to participate in in-the-moment surveys triggered by metered data.

My contribution:

- Levels of willingness ...
- ... for combinations of 5 attributes.

RESEARCH QUESTIONS

RQ1 – What are the levels of **willingness to participate** in geolocation-based research among members of an online panel:

- (a) share geolocation data
- (b) in-the-moment surveys triggered by geolocation data.

RQ2 – How the **attributes** of geolocation-based research influence the willingness to participate?

Attributes: (1) project duration, (2) survey length, (3) invitation lifetime (time to participate in the survey), (4) geolocation incentive and (5) survey incentive level (compared to a conventional survey).

RQ3 – Are there **significant differences** among panelists?

Sociodemographic variables, personality traits, attitudes/habits and panel experience.

RQ4 – *Main reasons for deciding whether or not to participate stated by the panelists?*

DATA AND METHODS

- **N=1,016 valid surveys**
- Netquest opt-in online panel in Spain.
- 21st of Feb. – 7th of Mar. 2022.
- Mean survey length: 8.8 min.
- Quotas on age(3)+gender(2) and education(3).
- **27% of the participants have installed a meter** (already sharing online behaviors).

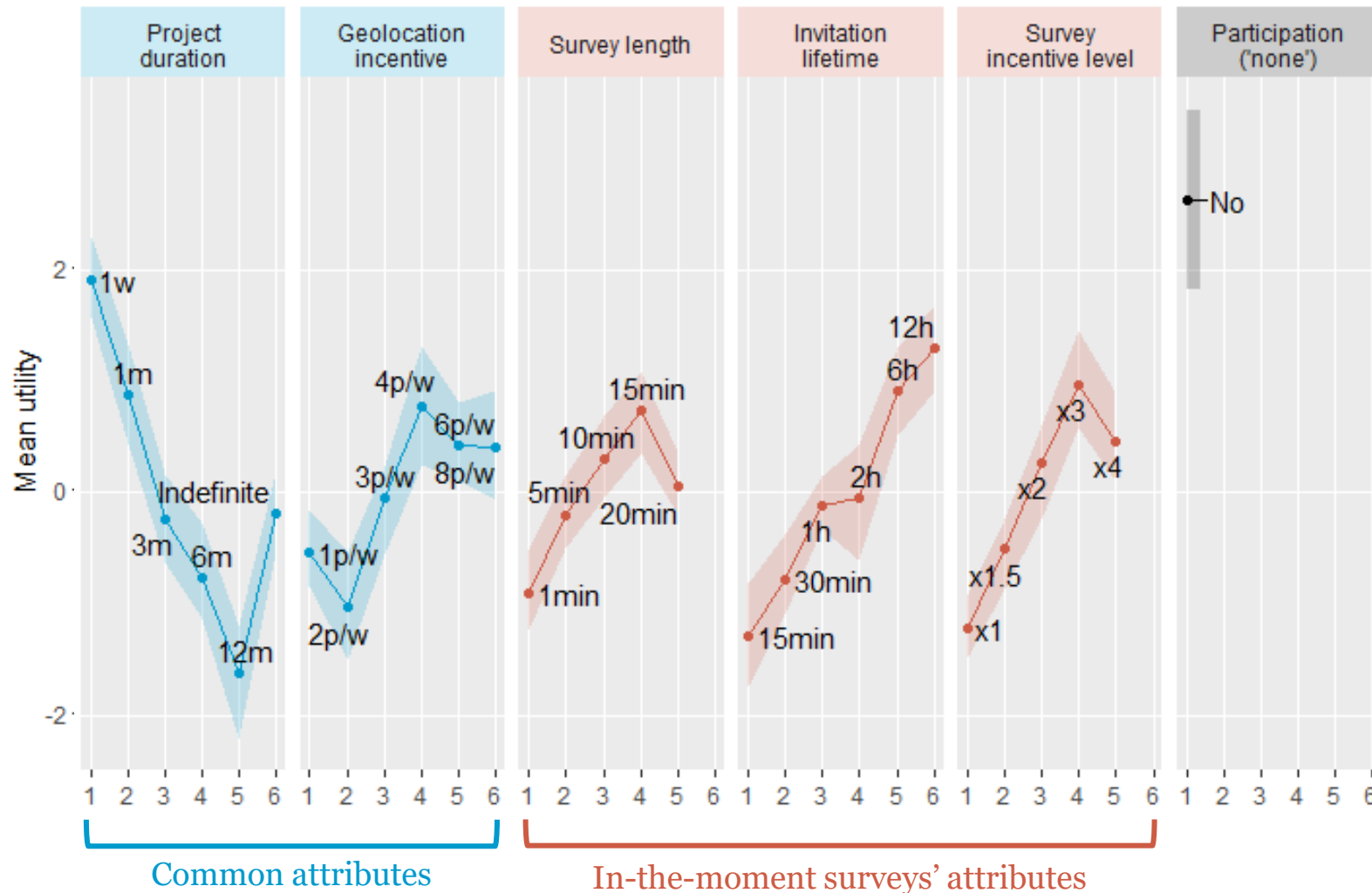
Choice based conjoint (CBC)

Mixed logit model + coefficients (utilities) estimated from participant's choices.



INFLUENCE OF EACH ATTRIBUTE-LEVEL

Average utilities of the mixed logit model (higher utilities = higher preference)



Preference for:

1. Shorter project durations.
2. Larger survey lengths up to 15 min.
3. Larger invitation lifetimes.

and

4. Larger incentives (without significant differences between the two higher levels).

IMPORTANCE

% of variation of each attribute vs. total variation

Sharing geolocation

Attribute	Importance (%)	Percentile	
		2.5 th	97.5 th
Project duration	64.3	54.6	74.5
Geolocation incentive	35.7	25.5	45.4

In-the-moment surveys

Attribute	Importance (%)	Percentile	
		2.5 th	97.5 th
Project duration	29.6	24.9	37.0
Invitation lifetime	21.8	17.1	26.9
Survey incentive level	18.4	15.1	22.3
Geolocation incentive	16.4	12.3	22.6
Survey length	13.7	15.1	22.3

WILLINGNESS TO PARTICIPATE

Willingness to participate in three difference scenarios

Research activity	Scenario	Mean willingness (%)	Percentile	
			5 th	95 th
Sharing geolocation	Best	50.1	46.8	53.7
	Average	43.2	41.1	45.1
	Worst	37.6	35.6	39.6
In-the-moment surveys	Best	57.1	55.2	59.3
	Average	47.2	46.6	47.8
	Worst	34.4	32.4	36.2

Best scenario: Survey / duration: 1 week / invitation lifetime: 12h / survey length: 15 min / 4 points per week / x3 survey incentive

Worst scenario: Geoloc / duration: 1 year / invitation lifetime: 15min / survey length: 1 min / 2 points per week / x1 survey incentive

DIFFERENCES AMONG PARTICIPANTS

Sociodemographic variables

- Moderate effects (5.5% <-> 12.1%)

Personality traits (attitudes)

- Moderate effects (4.5% <-> 15.9%)

Panel experience

- Past participations: only in the last 3 months (+10.8%)
- Metered panelist: +18.1%

Attitudes/habits

- Large effects:
 - Survey privacy concerns: -26.1%
 - Survey safety concerns: -22.9%
 - Sharing contents in SM: +38.7%
 - Installing apps: +26.2%
 - Google maps: +28.1%

MAIN REASONS STATED BY PARTICIPANTS

Main reasons stated to participate

Sharing geolocation (n=520)		In-the-moment surveys (n=593)	
	%		%
Same reasons as for regular surveys	28.8	Incentive	26.7
Incentive	28.6	Same reasons as for regular surveys	21.0
Collaborate	19.1	Collaborate	13.9
Interest / curiosity	14.2	Interest / curiosity	12.3
Others	14.8	Others	17.4

Main reasons stated to NOT participate

Sharing geolocation (n=388)		In-the-moment surveys (n=284)	
	%		%
Privacy	74.0	Privacy	76.1
Not willing to install an app	16.9	Not willing to install an app	17.4
Others	16.6	Lack of time	6.6
		Others	9.7

CONCLUSIONS

1. In-the-moment surveys triggered by geolocation data:
 - Feasible in terms of willingness to participate.
 - But actual participation may differ substantially due to practical issues (not seeing the invitation in time).
2. To ensure high levels of willingness:
 - Short project durations with reasonable invitation lifetimes.
 - Up to 15 min survey length
 - Incentives are still key
3. When using quota sampling, variables other than sociodemographic variables should be considered
4. Developing geolocation-based research on “panelists already sharing online behaviors” may be effective and would allow us to research offline and online events.

Thanks!

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<https://www.upf.edu/web/webdataopp>