



Researching the moment of truth

An experiment comparing in-the-moment and conventional surveys to investigate online job applications.

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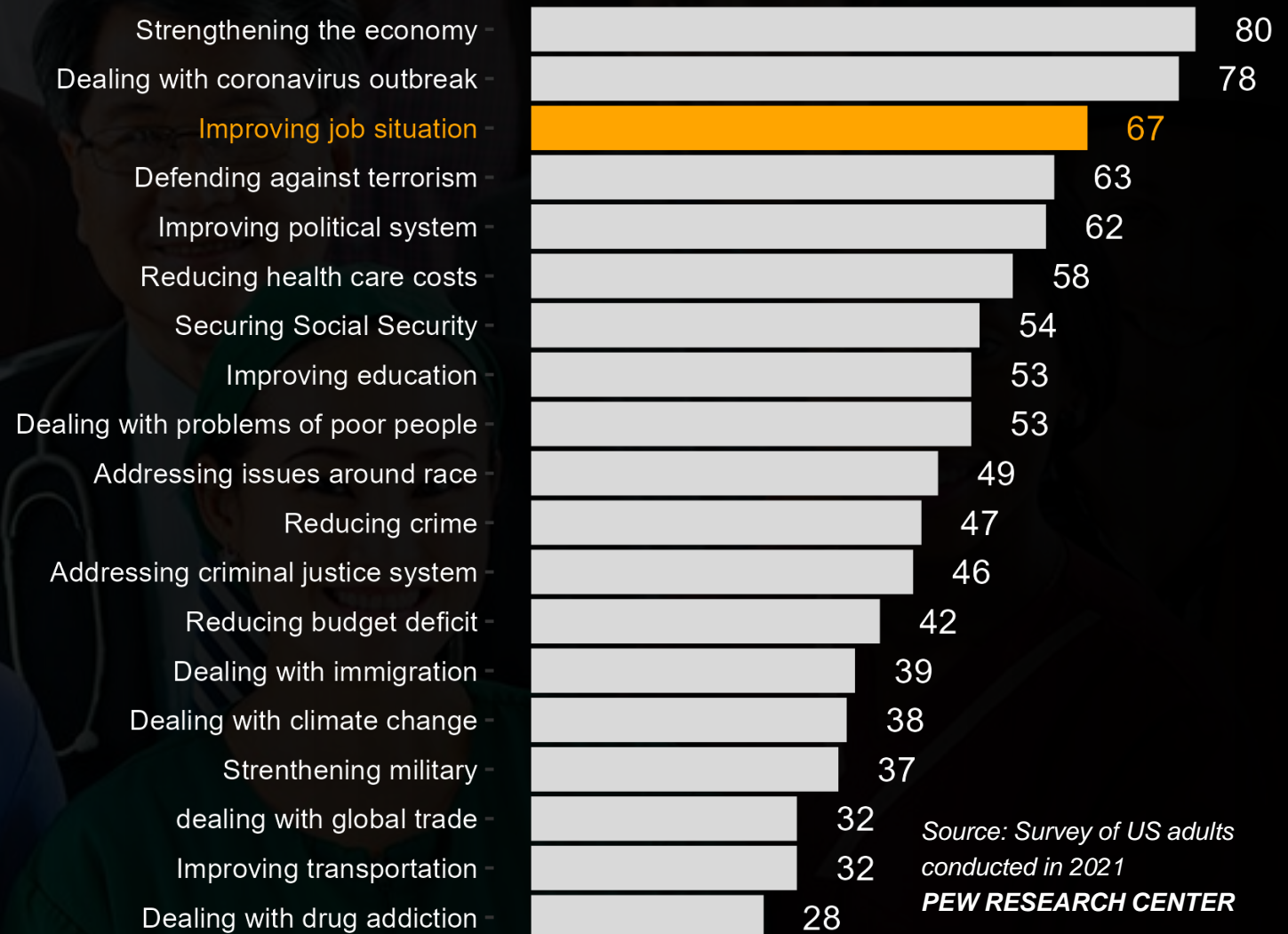
This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No849165), PI: Melanie Revilla.

Importance of employment

- Consistently one of citizens' top policy priorities in most countries.
- Key component of economic growth (Boltho and Glyn, 1995)
- Fundamental aspect of mental health (Ezzy, 1993)

Public's top priorities

% who say ____ should be a top priority for the president and Congress to address this year



Source: Survey of US adults conducted in 2021

PEW RESEARCH CENTER

Job search, increasingly investigated

- Most individuals engage in job search multiple times in their lifespan (Direnzo and Greenhaus, 2011).
- Internet is a crucial employment resource nowadays (Smith, 2015).
- Understanding how people search and apply for jobs online is **crucial for defining policies** against social inequality and discrimination (Karaoglu, and Hargittai, 2022) or helping companies to attract suitable candidates (Mansouri et al., 2018).



Job searches are hard to research

- Research on job search, as most online events, is limited by the lack and/or inadequacy of available data.
- Most existing research uses...

Survey data

Affected by memory limitations
(Tourangeau, 2000) due to

- Repetition
- Low distinctiveness
- Low emotional impact
- Non-rehearsal
- Short duration

× **time!**



Passive data

Individuals consent to be observed and do not play a role in the data collection (e.g., LinkedIn.com reports).

Some opt-in online panels ask their members to install a “meter” and share their online activity.

Not affected by memory issues but...

- Affected by other errors (Bosch and Revilla, 2022).
- Cannot capture all objective data.
- Cannot capture subjective data at all.

Experiments are not always possible

Experiments provide strong evidence to prove causal relationships, but cannot be used to research all the problems (i.e., ethical considerations, feasibility, cost...)



Women are 30% less likely to be considered for a hiring process than men

This is one of the conclusions of the study *Are women less likely to get hired?*, written by María José González, Clara Cortina and Jorge Rodríguez-Menés, researchers at UPF's Department of Political and Social Sciences, published by "La Caixa" Social Observatory.

Unanswered questions...

Harvard
Business
Review

Why Women Don't Apply for Jobs Unless They're 100% Qualified

by Tara Sophia Mohr

You've probably heard the following statistic:
Men apply for a job when they meet only 60% of the qualifications, but women apply only if they meet 100% of them.
(...) [As one Forbes article](#) put it, "Men are confident about their ability at 60%, but **women don't feel confident** until they've checked off each item on the list."



THE
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Women only apply for jobs when 100% qualified. Fact or fake news?

When Sheryl Sandberg published her book *Lean In* in 2013 (...).
It did not take long for journalists to reveal **this claim was only based on a speculative comment made by a senior executive at Hewlett Packard** – no quantitative data was used to generate this "fact".

In-the-moment surveys: the best of both worlds...



1

Detection of a job application through metered data

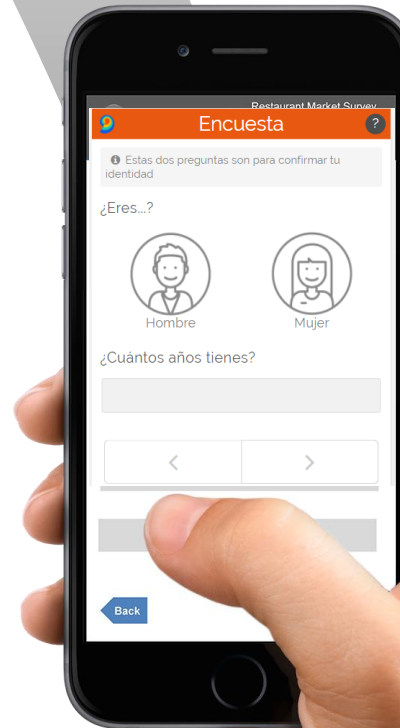
2

Push notification + email invitation "in the moment"



3

Online survey to gather additional objective data + subjective data



This research: methodological + substantive research

Researching a sample of job searchers, using both in-the-moment and conventional surveys, to answer these research questions:

How do in-the-moment surveys compare to conventional surveys?

RQ1. Levels of participation?

RQ2. Evaluation of the experience?

RQ3. Data quality?

RQ4. Different results?

How different groups of people decide to apply for a job?

Do females and males apply differently when ...

RQ1. ... they do not meet the job requirements?

RQ2. ... the job do not meet their expectations?

Main methodological hypotheses



These results are expected for the in-the-moment surveys compared to conventional surveys:

H1. Lower levels of participation

H2. Better evaluation of the participation experience

H3. Improved data quality (e.g., less item non-response)

H4. Different results are expected due to varying sources of error and levels of selection bias + **new results** only available “in the moment”

Sample source: Opt-in online “metered” panel in Spain (Netquest). People that regularly participate in surveys and share their online behaviors in exchange of incentives.

In-the-moment group

- Survey invitation sent 15 min after a job application is detected.
- “Please, answer urgently!”
- Length of interview < 10 minutes
- 70 questions about the job application + sociodemographics + personality traits.
- N = 200?

Conventional group

- An equivalent questionnaire asking for the last job application (if any) in the last 6 months.
- N=200

A key element in this research: software



Very few past experiences of in-the-moment surveys.

- Revilla and Ochoa (2018) used a pop-up invitation to research flight purchases → only 18 individuals completed the survey, due to technological issues and too short allowed delay.

WebdataNow

Software specifically developed to **detect** events of interest and **trigger surveys** developed within the Web Data Opp project.

This solution is expected to improve participation levels:

- Quick detection (<5 minutes)
 - Configurable invitation delay (minimum of 5 minutes)
 - Multiple invitation methods: push notification + email
-

Things are never as easy as they seem

The setting up of the project has been difficult.

1

Elaborating a complete list of job search websites.

jobtoday.com, Infojobs.net, indeed.com, LinkedIn.com/jobs,...

2

Identifying the exact URLs corresponding to confirmed job applications (e.g., infojobs...).

https://api.jobtoday.com/v5/application/external/validation

3

Transforming such URLs into “regular expressions”.

jobtoday\.com\/\S\/application*

4

Reviewing regularly such URLs, since webpages evolve over time.

Several issues may cause the mistaken detections of job searches (both false positives and false negatives)

Potential causes of “false negatives”

Several circumstances will prevent us from detecting all the job applications performed by the sample under study.

Missing job search websites

(e.g., small, regional or specialized websites)

Alternative ways to apply online

(e.g., direct email, corporate job opportunities websites)

Non-identifiable application URLs

(e.g., some URLs do not change when you apply)

Application from non-metered devices

Pausing the meter

Application from Apps

Potential causes of “false positives”

In some cases, a survey could be sent to the panelist by mistake.

Shared metered device

(e.g. another family member applying for a job)

Non-identifiable application URLs

(e.g. in case we decide to send the survey)

False positives force us to add filter/validation questions at the beginning of the in-the-moment questionnaire.

- *Have you applied for this job in the last week?*

The shared device problem represents an ethic issue: revealing a job application from a third party, which requires confirming in a different way.

- *Have you done these online activities in the last week? Reading news / Looking for a job / Purchasing a product....*

Work in progress

After 10 days in fieldwork with the in-the-moment questionnaire...

- 26 valid participations
- 77% answered the question "What percentage of the requirements listed in this job offer do you meet?"
- Average % of requirements met: 74%... for both males and females.
- Delay between the event and survey start:

Mean	Median	Min	Max
71.5 min	19.6 min	6.0 min	457.7 min

Summary

- In-the-moment surveys triggered by metered data are an alternative method to research online activities, which are normally affected by memory effects.
- Better data quality and participants' experience are expected.
- Comparing the answers of two equivalent questionnaires, one in the moment and the other conventional, will allow for the assessment of the benefits of this method
- The execution of such projects are complex, and the resulting observations may be affected by different sources of false positives and negatives.

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Thanks!

Questions?

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