

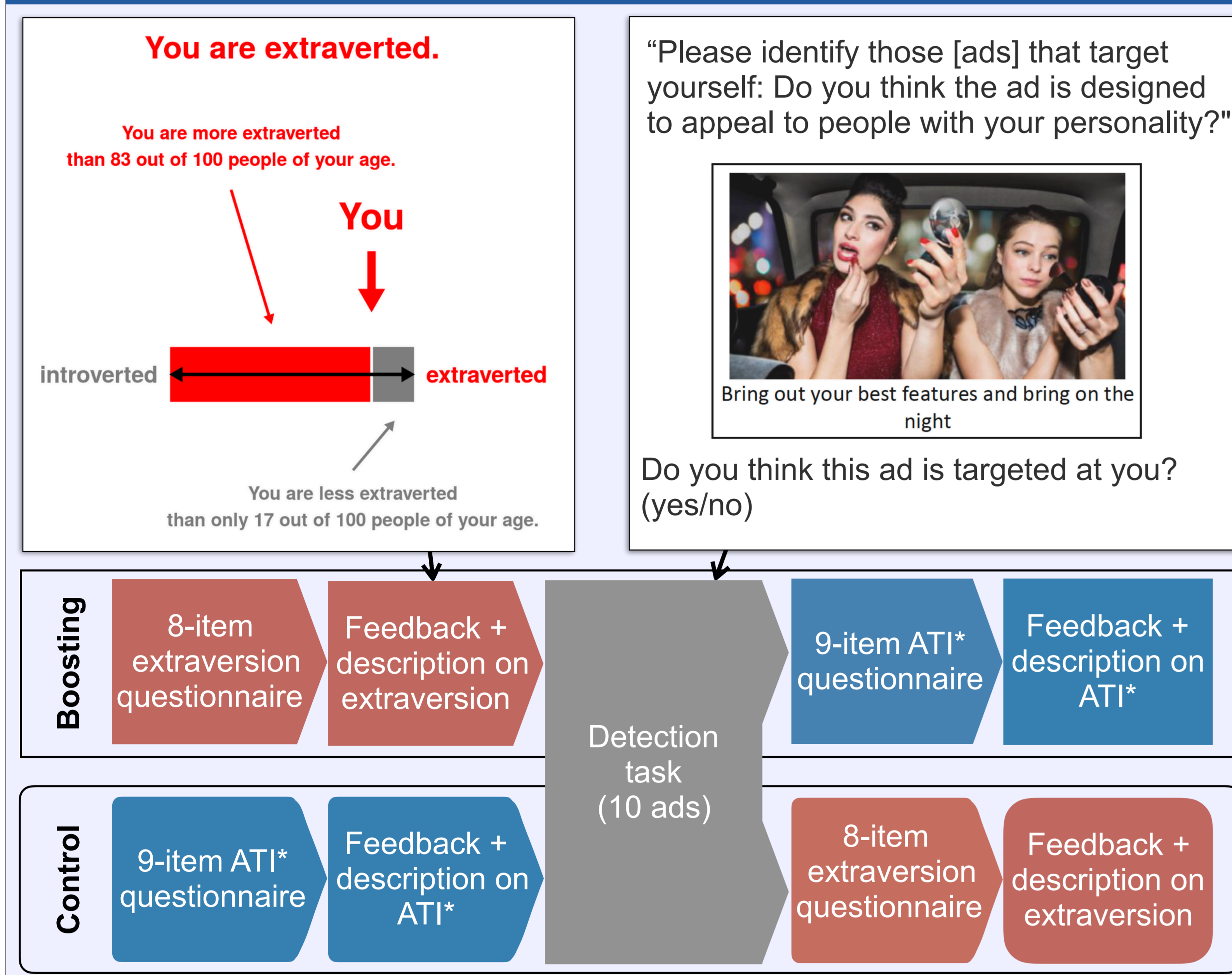
# Boosting the Detection of Microtargeted Advertising

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At a glance	
<b>Research question</b>	Can we boost people's ability to detect ads targeted at their personality?
<b>Methods</b>	Two pre-registered experiments tested three different interventions—(1) personality feedback, (2) self-reflection, and (3) hinting to the targeting strategy—and then asked participants to detect targeted ads.
<b>Key result</b>	Both personality feedback and self-reflection on the targeted personality dimension substantially increase detection of targeted ads.

Motivation
<ul style="list-style-type: none"> <li>Online platforms collect and infer detailed information about users (Youyou et al., 2015), allowing them to target personality-matched ads that can increase product sales (Matz et al., 2017) or influence political attitudes (Zarouali et al., 2020).</li> <li>While often unaware of such practices, people reject personalized advertising based on political and sexual orientation or personality dimensions (Kozyreva et al., 2020).</li> <li>Current regulatory countermeasures are often circumvented by platforms via “dark patterns” and awareness-raising approaches provide only superficial information and have to be actively requested by users.</li> <li>Inspired by the notion of psychological inoculation (van der Linden et al., 2017), which makes people <b>pre-emptively aware of potential manipulation attempts</b>, we test if we can boost people's ability to detect targeted advertising.</li> </ul>

## Study 1 - Proof of concept



286 female UK residents ages 18–40 (mirroring Matz et al., 2017) from Prolific were randomly allocated to either the *Boosting* or *Control* condition.

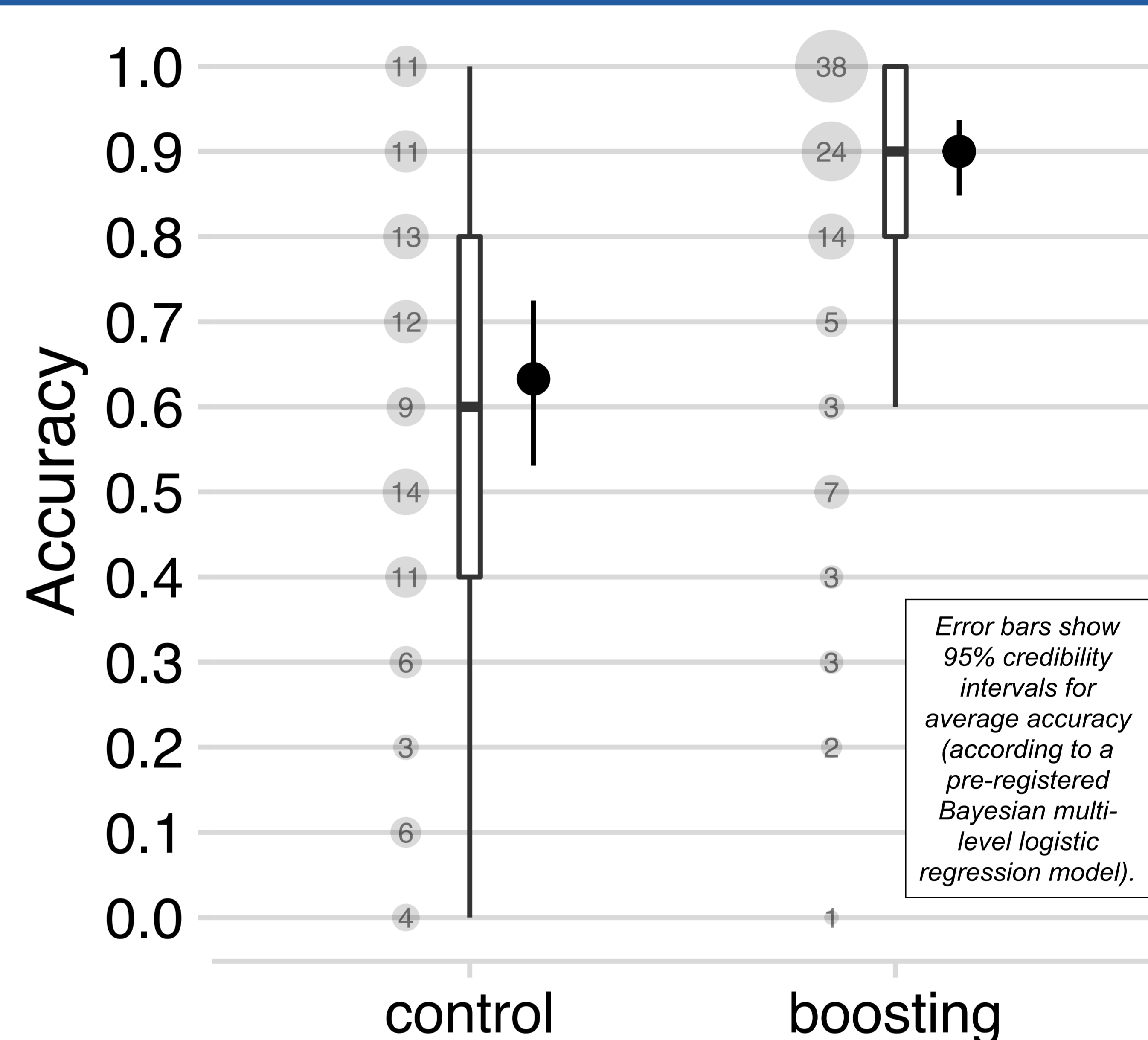
### Detection task:

- Participants were shown 10 beauty ads—5 targeting extraverts and 5 introverts—and identified ads targeted at their own personality.
- These ads were previously found to be effective in increasing product sales when matched with a recipient's personality type (Matz et al., 2017).

### DV:

- Proportion of correctly detected ads (i.e., detection accuracy)

\*ATI = affinity for technology interaction (unrelated dimension)



## Study 2 - Cognitive mechanisms

544 female UK residents ages 18–40 from Prolific were randomly allocated to either one of the two *Boosting* or one of the two *Control* conditions.

### Boosting conditions:

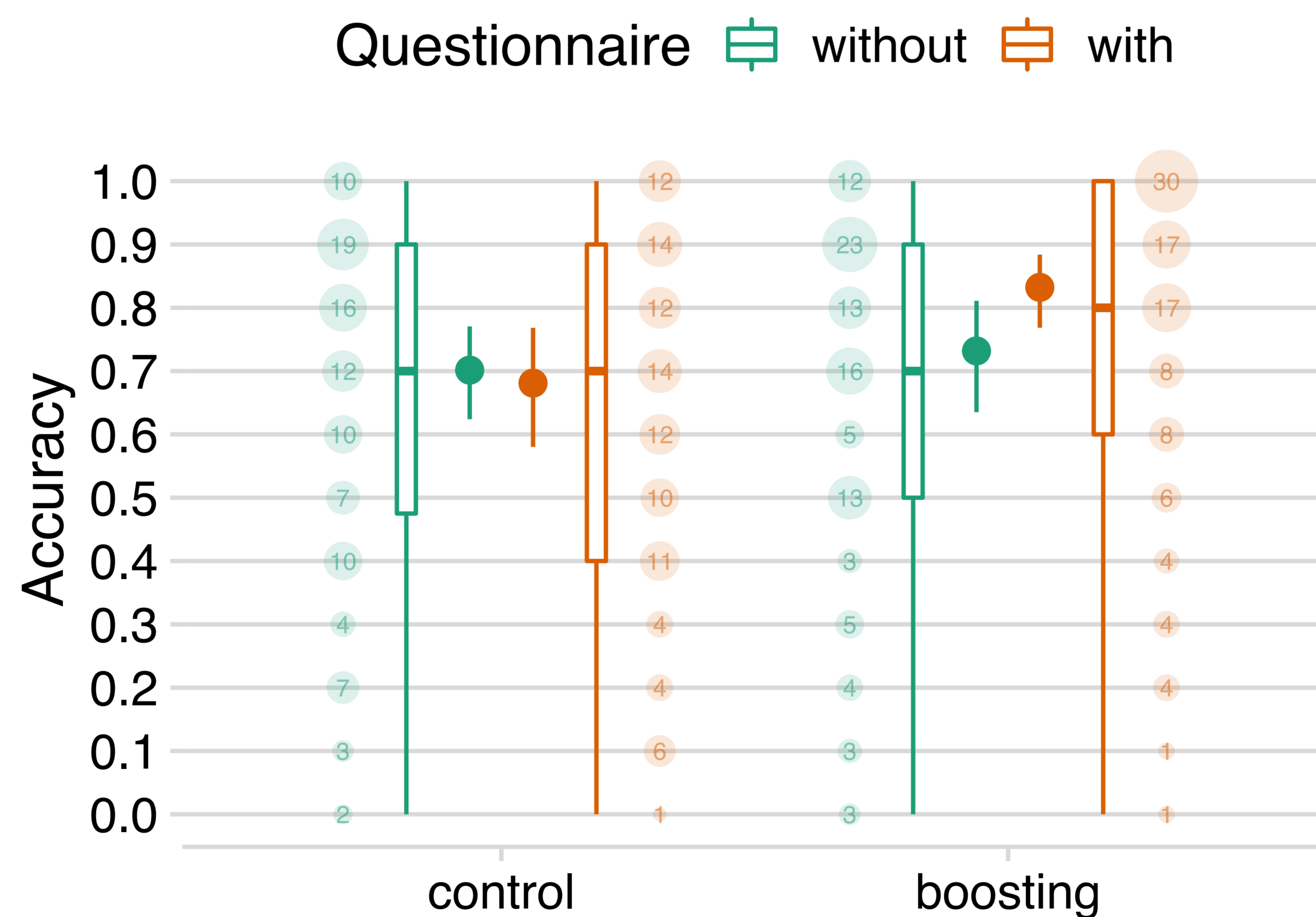
- Identical to Study 1, except that prior to detecting targeted ads participants either 1) only filled out the questionnaire without feedback or 2) were only shown a definition of extraversion.

### Control conditions:

- Identical to Study 1, except that prior to detecting targeted ads participants either 1) only filled out the questionnaire without feedback or 2) were only shown a definition of ATI.

### DV:

- Proportion of correctly detected ads (i.e., detection accuracy)



## Hypothesis tests (pre-registered)

Study 1	
H1: Personalized feedback boosts detection of targeted ads.	<b>SUPPORTED</b>
Study 2	
H2a: Awareness of targeting strategy is sufficient to increase detection.	<b>REJECTED</b>
H2b: Self-reflection is necessary to improve detection.	<b>SUPPORTED</b>
H2c: Personality feedback is required to boost detection.	<b>REJECTED</b>

## Discussion

- Our intervention achieves **effective transparency** and is largely independent of specific platforms or ads and can therefore avoid an arms race with constantly changing advertising technologies and strategies.
- Increased detection might translate into resilience, because ads are less effective when people find out that unacceptable practices have been used, e.g. when using information inferred without user input (Kim et al., 2019).
- Future research should test whether this approach extends to political advertising, where recent microtargeting practices (e.g., Cambridge Analytica during Brexit and the US Presidential Election 2016) have arguably harmed the democratic discourse.

## References

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We acknowledge financial support from the Volkswagen Foundation (funding initiative “Artificial Intelligence and the Society of the Future”). SL was supported by a Humboldt Award from the Humboldt Foundation in Germany during part of this work.

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