Automated Vehicles - Label and Additional Benefits (#147327)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
In a previous study, we found that autonomous vehicles (AVs) as 'Autopilot' leads to higher perceived automation and liability of an AV firm for accidents that occur while the software is engaged, as compared to framing the software as 'Copilot'-even when the true capability of the systems-Level 2 automation-is revealed. We also found that the effect of these marketing labels on ascriptions of liability were mediated by perceived automation.
In this study, we test the moderating effects of non-safety related benefits on the main effect from the previous study by varying whether the participants see an advertisement by the company that touts the environmental benefits of their AVs that are electric vehicles as well. We predict that firm liability decreases when the company promotes additional benefits that their AVs have to offer, and that the effect of perceived automation on ascriptions of liability is moderated by the benefit.

3) Describe the key dependent variable(s) specifying how they will be measured.
The dependent variables are (1) perceived level of automation, (2) the level of responsibility assigned to the driver or the AV software in case of an accident and (3) the level of liability the firm or driver is held to in case of an accident. We will measure preferred levels of autonomous vehicles on a 6-point scale with endpoints, 1 – Level 1 automation (not automated at all) and 6 – Level 6 automation (fully automated). We will measure the level of responsibility with 2 questions on a 100-point scale with endpoints, 0 – completely disagree that the AV system (human driver) is responsible for the accident and 100 – completely agree that the AV system (human driver) is responsible for the accident. We will measure the level of liability with 2 questions on a 100-point scale with endpoints, 0 – completely disagree that the company (human driver) is liable for damages in the accident and 100 – completely agree that the company (human driver) is liable for damages in the accident.

4) How many and which conditions will participants be assigned to?
This will be a 2 (label: autopilot, copilot) x 2 (benefit: absent, present) design. Participants will be randomly assigned to answer questions about the AV labeled either Autopilot or Copilot. Participants are also randomly assigned to see the advertisement on environmental benefits of the AVs or otherwise.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will conduct ANOVA tests with the scores on the responsibility and liability scales as the outcome variables and the label and presence of benefits as the predictors. For both tests, we predict main effects of label and level of transparency, although we are agnostic to whether there is an interaction effect.

Regardless of the ANOVA result, we will conduct t-tests comparing the DV (liability or responsibility ratings) between the autopilot and copilot conditions. We will run this t-test for both benefit conditions, i.e., four t-tests in total.
We will run a parallel mediation analysis with perceived automation as the mediator, the label as the predictor variable and the responsibility and liability measures as the outcome variables.
We will also run moderated mediation models, in which the b path of the above mediation model is moderated by the benefits condition.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude participants who fail any 1 of our 2 attention check questions incorrectly and who fail any 1 of our 4 comprehension check questions incorrectly.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will collect responses from 1000 participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
We will include some demographic questions but nothing identifiable (age, gender, whether they have a driver's license). We will also ask participants how familiar they are with AVs on a 100-point scale with endpoints, 0- Very little and 100- A lot. These will be included as covariates in additional exploratory analyses as robustness checks.