AICulpability_E17_Backfiring (#200157)

Author(s)
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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 discovered a backfiring effect where marketing advertisements emphasizing the safety benefits of automated vehicles increased ascriptions of liability to the firm, regardless of the labels (Autopilot vs. Copilot) used.
In this study, we aim to investigate whether these advertisements increase the perceived capability of the automated vehicles, which, in turn, increases liability ascriptions to the firm. We predict that the advertisements will increase the perceived capability of the vehicles, serving as a mediator for increased liability ascriptions. Additionally, we predict that the label effect is not eliminated by the advertisement.

3) Describe the key dependent variable(s) specifying how they will be measured.
The dependent variables in this study are:

1. What do you perceive as the level of automation for Aeon's [label] Program?
2. Aeon's [label] is responsible for the accident.
3. The human in the car is responsible for the accident.
4. Aeon, the company, is liable for the damages from the accident.
5. The human in the car is liable for the damages from the accident.

For (1), we will measure the perceived level of automation of the automated vehicles on a 6-point scale with endpoints: 1 – Level 1 automation (no automation) and 6 – Level 6 automation (fully automated). This measurement will be conducted after presenting an advertisement about the safety benefits of automated vehicles.

For (2) to (5), participants will rate the extent to which they agree with the statements, presented in randomized order, on a scale from 0 = "Strongly Disagree" to 100 = "Strongly Agree."

4) How many and which conditions will participants be assigned to?
This will be a 2 (label: autopilot, copilot) x 2 (safety 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 safety benefits of the AVs or otherwise.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
If the measures of firm liability and responsibility have a Cronbach's alpha of 0.7 or higher, we will average them to form composite measures. The same procedure will be applied to human liability and responsibility.
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 safety benefits, although we remain agnostic about the presence of an interaction effect. Additionally, we will conduct two t-tests to assess the main effects of label and safety benefits.
Regardless of the ANOVA results, we will conduct t-tests comparing firm and human liability between the Autopilot and Copilot conditions. These t-tests will be conducted separately for each benefit condition, resulting in a total of four t-tests.
We will perform two simple mediation analyses with perceived automation as the mediator, the label as the predictor variable, and the human and firm liability measures as the outcome variables. Additionally, we will run two moderated mediation models (PROCESS Model 7), where the 'a' path of the mediation model is moderated by the safety 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 answer any one of the four 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 apply a Pre-Registered Interim Analysis Design (PRIAD), specifically utilizing the two-stage Pocock design as described by Andre and Reinholtz (2024). Initially, we will gather data from 500 participants. If the measures and mediation effect yield a p-value below 0.0294, we will discontinue further data collection. Otherwise, we will continue to reach a full sample of 1000 participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Only participants who pass two attention checks at the beginning of the survey be eligible to participate in this study. We will include some demographic questions but nothing identifiable (age, gender). We will also ask participants how familiar they are with AV on a 100-point scale with endpoints, 0- Very little and 100- A lot.