

AIMislabeling_E09c_DroneHighPowered (#193132)

Author(s)

This pre-registration is currently anonymous to enable blind peer-review.
It has 2 authors.

Pre-registered on: 10/08/2024 10:10 AM (PT)

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 that the marketing labels used for autonomous vehicles (AVs), specifically 'Autopilot' versus 'Copilot,' significantly influence the perceived level of automation. 'Autopilot' was associated with a higher level of perceived automation, which in turn led to increased ascriptions of liability and responsibility for both the firm and the AV in the event of an accident.

In this study, we aim to generalize these findings to other domains, focusing specifically on AI-powered drones. We predict that 'Autopilot' will be perceived as having a greater level of automation compared to 'Copilot,' which results in higher liability attributions in the case of an accident.

3) Describe the key dependent variable(s) specifying how they will be measured.

We will first measure the perceived automation level of the AI-powered drones on a scale from 0 = "No Automation" to 100 = "High Automation".

Participants will be presented with a scenario where a human is flying a drone using [Autopilot/Copilot]. In a dual-error scenario, both the human and the [Autopilot/Copilot] system fail to detect a power line, resulting in an accident. Participants will then be asked to respond to the following four measures, indicating the extent to which they agree with the statements, presented in randomized order:

1. ☐ HawkVision's [Autopilot/Copilot] is responsible for the accident.
2. ☐ HawkVision's [Autopilot/Copilot] is liable for the damages caused by the accident.
3. ☐ The human using the system is responsible for the accident.
4. ☐ The human using the system is liable for the damages caused by the accident.

Responses will be measured on a scale from 0 = 'Strongly Disagree' to 100 = 'Strongly Agree.'

4) How many and which conditions will participants be assigned to?

There will be two conditions (label: Autopilot vs. Copilot) and participants will be randomly assigned in a between-subjects design.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

If the measures of human liability and responsibility have a Cronbach's alpha of 0.7 or higher, we will average these measures to form a composite measure. The same procedure will be applied to the measures of firm liability and responsibility.

We will conduct t-tests to compare the differences between conditions for all dependent variables. Additionally, we will perform two simple mediation analyses, where the dependent variables are human liability and firm liability, the mediator is the perceived capability of the software, and the independent variable is the label assigned to the software.

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 two 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 2000 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 will be eligible. We will include some demographic questions but nothing identifiable (age, gender). We will also ask participants how familiar they are with AI on a 100-point scale with endpoints, 0- Very little and 100- A lot.