An accuracy self-nudge to reduce misinformation sharing online
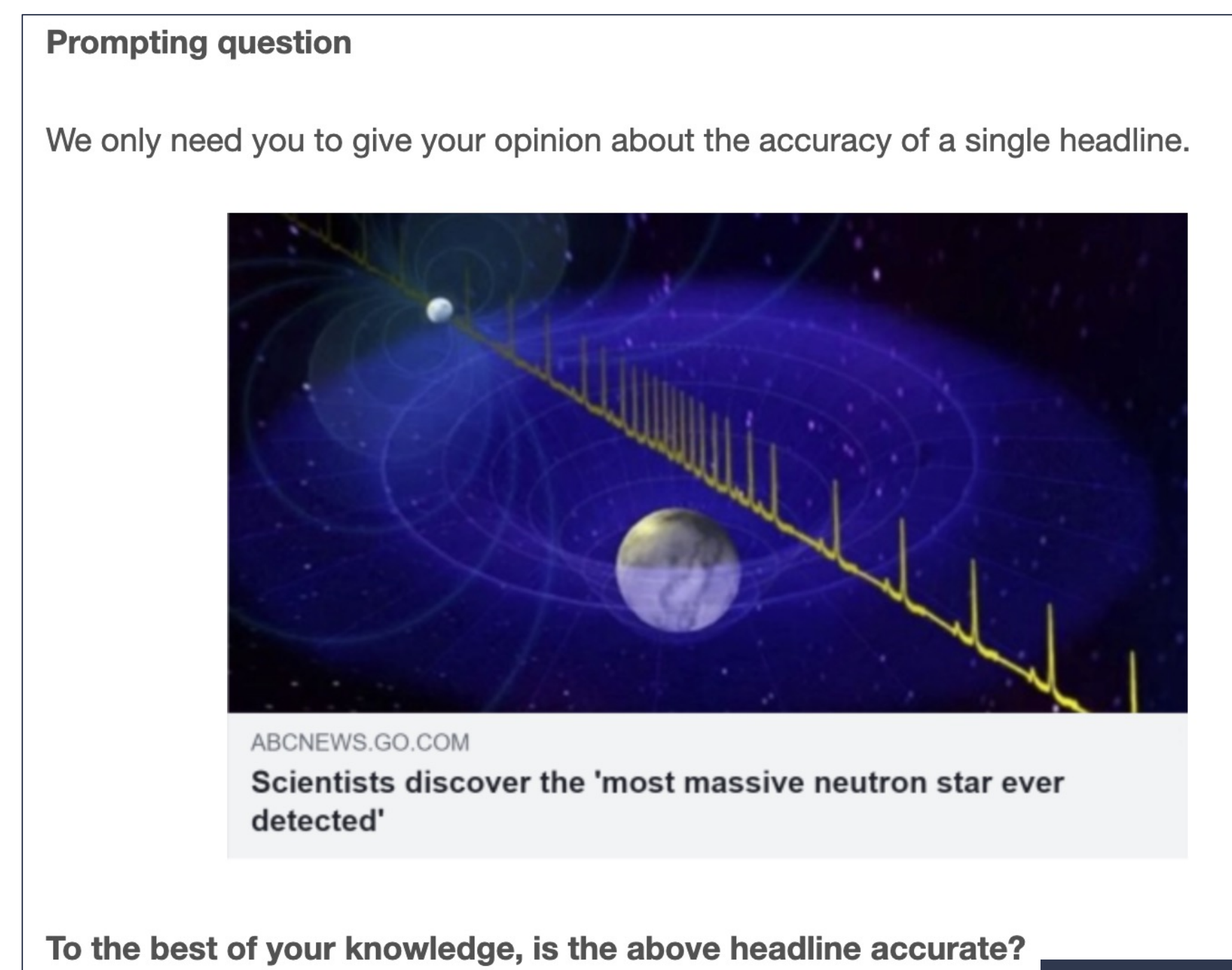
Friederike Stock, Ralph Hertwig, Philipp Lorenz-Spreen

stock@mpib-berlin.mpg.de

MAX PLANCK INSTITUTE
FOR HUMAN DEVELOPMENT

Introduction

The aim of self-nudging interventions is to empower people to redesign aspects of their decision environments to make choices that are in their own best interests—that is, to become their own choice architects (Reijula & Hertwig, 2022). In this study, we adapt the accuracy nudge (Pennycook et al., 2021) into a self-nudge by allowing participants to opt into the nudge in form of a prompting question, to reduce their sharing of misinformation. This approach offers three key benefits: (1) heightened salience of accuracy in sharing decisions, (2) increased intervention transparency, and (3) increased user autonomy by encouraging active decision-making without assumptions about preferences.

Prompting question

We only need you to give your opinion about the accuracy of a single headline.

ABCNEWS.GO.COM
Scientists discover the 'most massive neutron star ever detected'

To the best of your knowledge, is the above headline accurate?

Accuracy nudge

Methods

Participants. N = 965 recruited via Prolific. Mean age 38 years, 469 men.

Design. In the first assessment, participants were assigned to three conditions randomly (choice, nudge, control). Participants in the nudge choice condition could opt into the nudge and if they did, were randomized into receiving the nudge (self-nudge) or not receiving it (potential adopters). After 24 hours, participants in the self-nudge, nudge and control group were invited for a second assessment.

Task. Participants were asked to indicate their sharing likelihood on a scale from 1 (extremely unlikely) to 6 (extremely likely) for 12 real-world headlines (6 false, 6 true) balanced on partisanship.

Outcome. The main outcome variable is sharing discernment, the average sharing likelihood for true headlines minus the average sharing likelihood for false headlines.
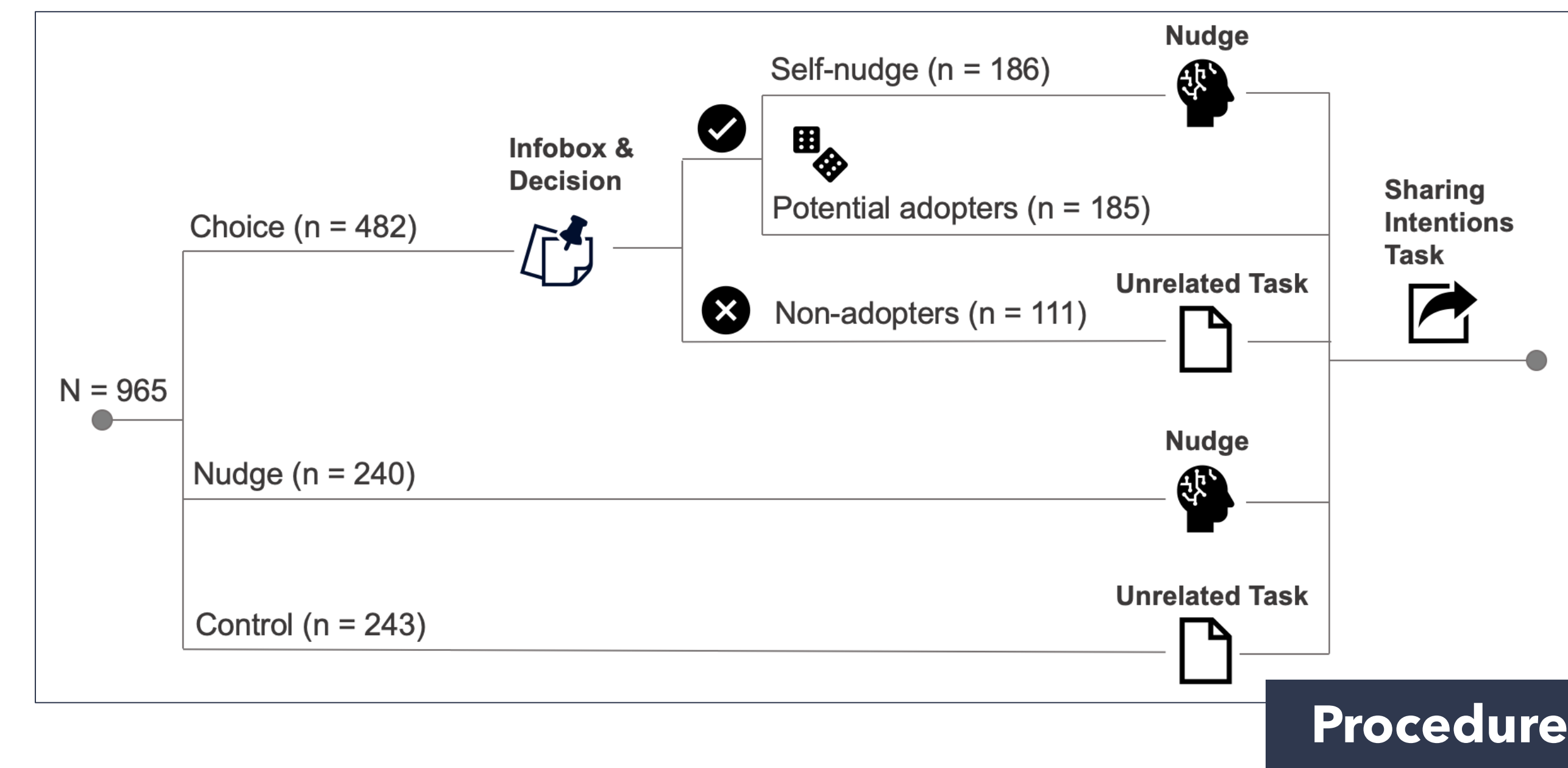
Procedure

Analysis. We ran a Bayesian hierarchical regression model with random effects for headline and individual (preregistered). Sharing discernment is expressed by the interaction of condition*veracity. Intent-to-treat analysis were added to include people who decide against the nudge to interpret treatment effects of the self-nudge (weighing the self-nudge group twice to account for proportions).

Research Questions and Results

1. Is the self-nudge effective in increasing sharing discernment?
Sharing discernment was higher in the self-nudge condition than in the control condition (b = 0.31, 95% CI [0.17, 0.45]). In intent-to-treat analysis, sharing discernment was also higher than in the control (b = 0.24, 95% CI [0.12, 0.35]).

**2. Is the self-nudge more effective than the nudge in increasing sharing discernment?**
Sharing discernment was higher in the self-nudge condition than in the nudge condition, with b = 0.15 (95% CI [0.02, 0.29]). In intent-to-treat analysis, sharing discernment was not higher than in the nudge condition (b = 0.08, 95% CI [-0.04, 0.19]).

**3. Are findings on the effectiveness of the accuracy nudge replicated in the present sample?**
Sharing discernment was higher in the nudge condition than in the control group, with b = 0.16 (95% CI [0.02, 0.28]).

4. Do treatment effects decay over successive trials and, if so, does the nudge show more decay than the self-nudge?
After 24 hours, sharing discernment remained higher in the self-nudge condition than in the control condition (b = 0.28, 95% CI [0.10, 0.44]) or the nudge condition (b = 0.17, 95% CI [0.01, 0.35]). Sharing discernment was just slightly higher in the nudge condition than in the control group b = 0.10 (95% CI [−0.05, 0.26]).
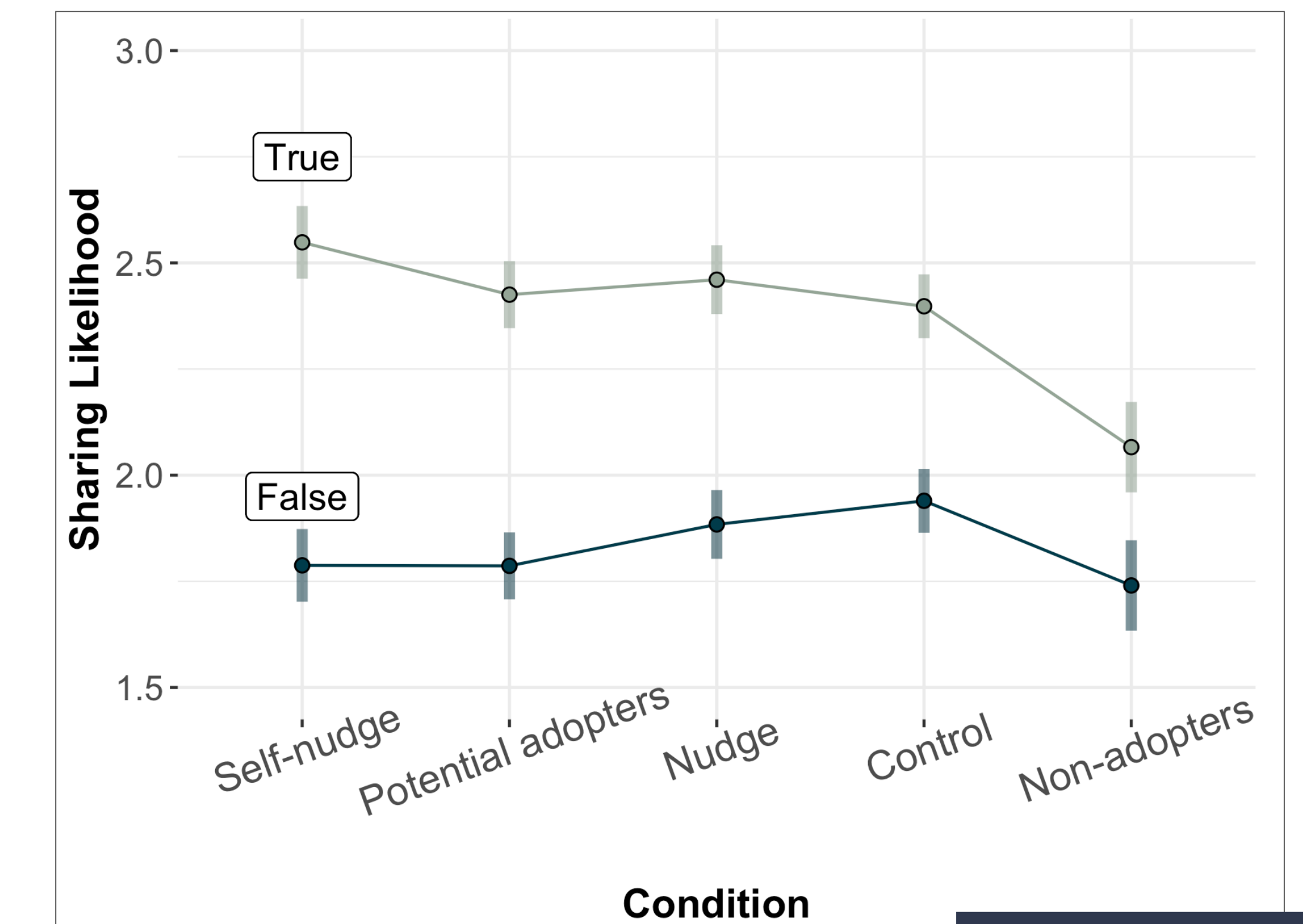
Descriptive results
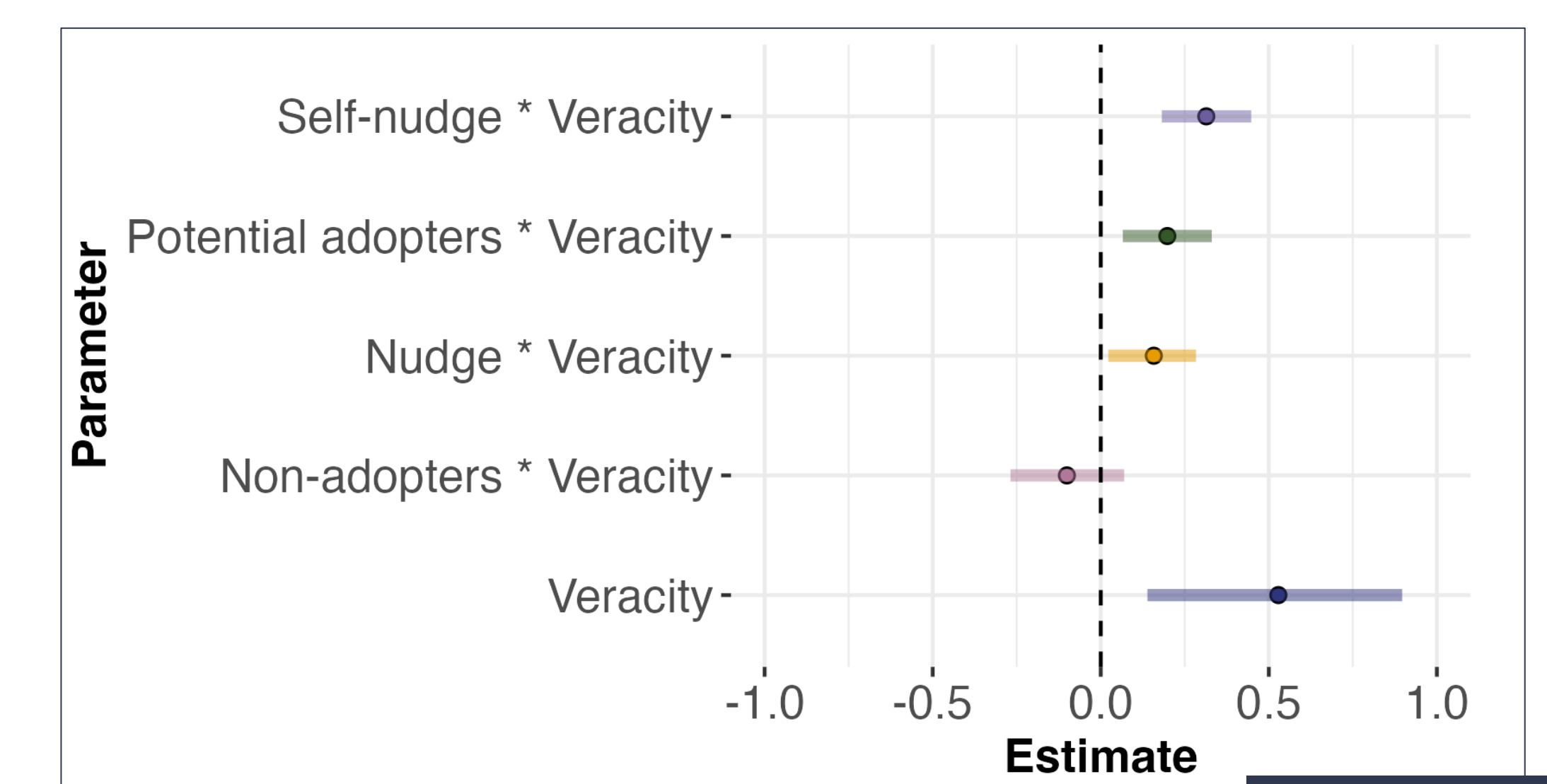
Model results

Summary

The present study provides an experimental proof of concept for self-nudging in the digital sphere and demonstrates how one of the most widely discussed interventions online – accuracy nudges – can be transformed into self-nudges. Beyond introducing an experimental paradigm for self-nudging, the findings advance the debate on the accuracy nudge by showing that its conversion to a self-nudge can increase its effectiveness and address ethical concerns surrounding paternalism and transparency.

References

Reijula, S., & Hertwig, R. (2022). Self-nudging and the citizen choice architect. Behavioural Public Policy, 6(1), 119-149. https://doi.org/10.1017/bpp.2020.5

Pennycook, G., Epstein, Z., Mosleh, M., Arechar, A. A., Eckles, D., & Rand, D. G. (2021). Shifting attention to accuracy can reduce misinformation online. Nature, 592(7855), 590-595.

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