

# The Prescription Gap: People Prescribe Optimistic Feelings but Pessimistic Estimations of Uncertain Events

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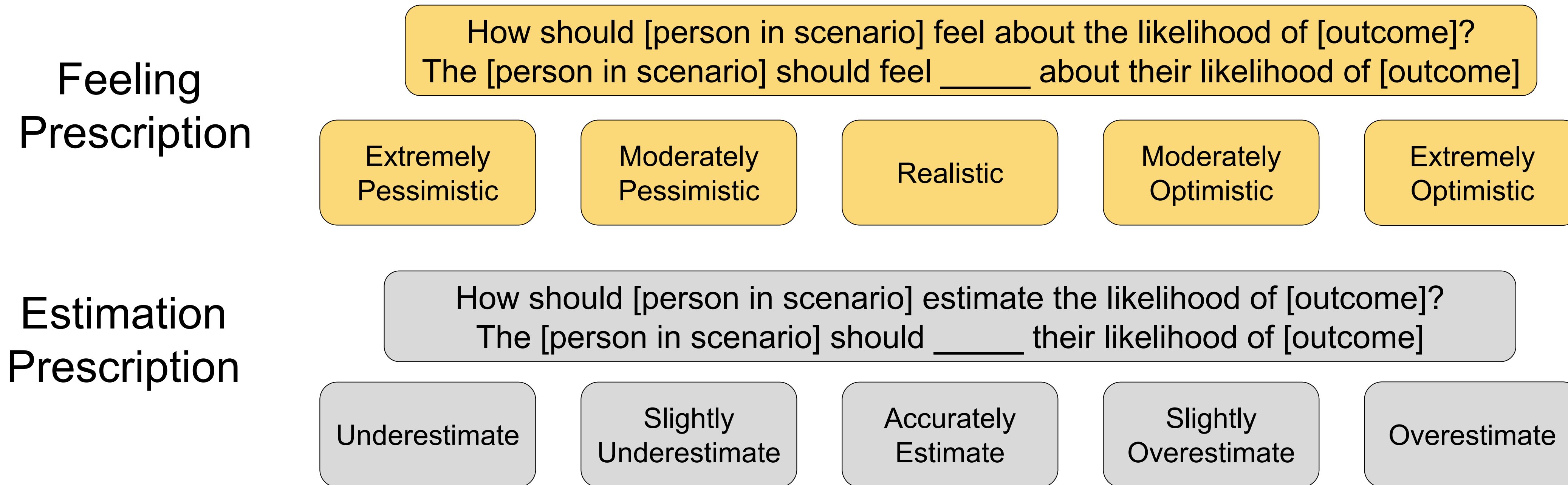
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## Introduction

Despite the intuitive value of accurate judgments, previous research suggests people prescribe optimism—believing it is better for other people to be optimistic, instead of accurate or pessimistic, about uncertain future events.

We argue that there is a key difference between prescriptions of optimism and prescriptions of biased estimation, and that this is due to a distinction between the lay and scientific interpretations of the concept of optimism.

## Key Prescription Measures



## Studies 1 and 2 – Hypothetical Events with Desirable Outcomes

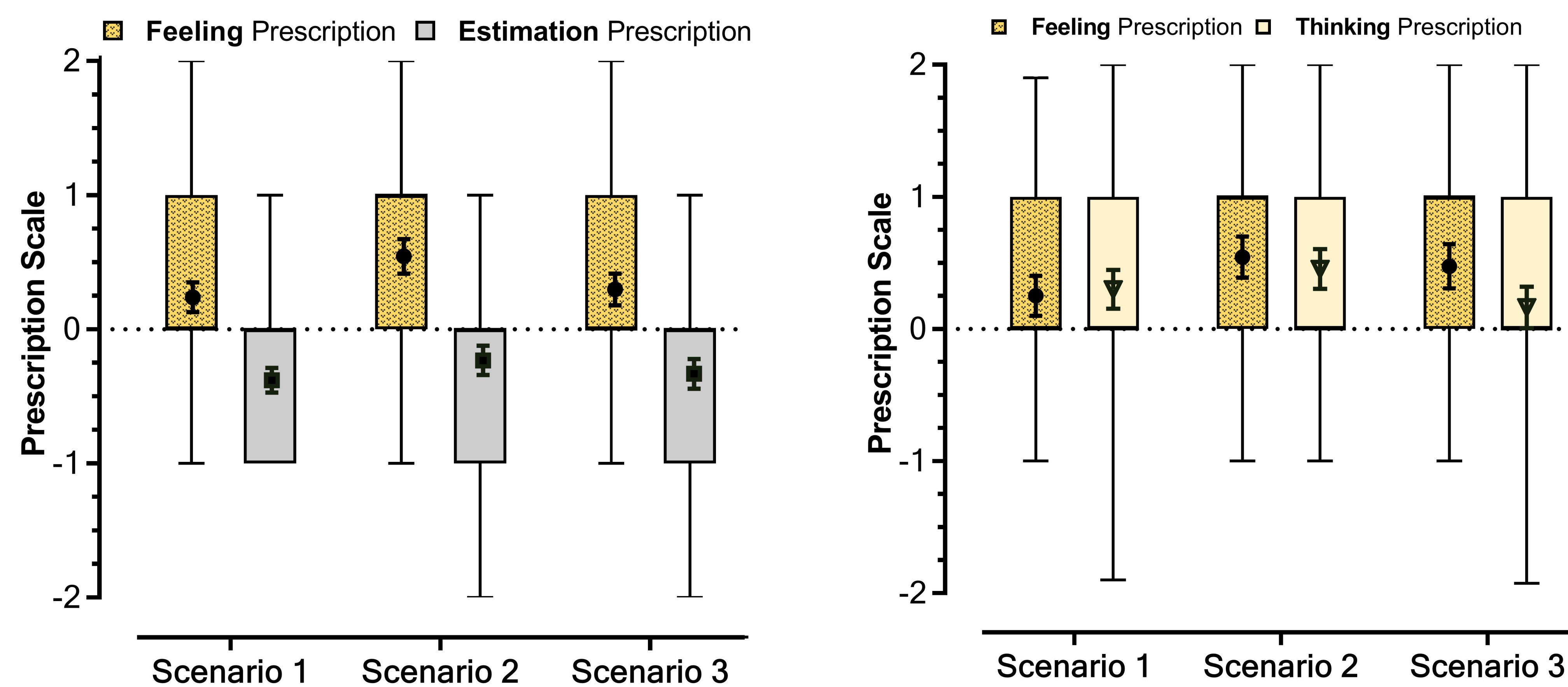
### Participants and Design

- Study 1 *N*: 208 undergraduate students, Study 2 *N*: 124 undergraduate students
- 2 (Prescription Measure) x 3(Scenario Outcome) within-subjects design

### Scenarios and Procedure

- Participants read 3 scenarios adapted from Armor et al., (2008); each is about a person facing an unknown, desirable outcome (i.e., Lisa winning award, Mr. C. having a successful surgery, Jamie having a party)
- In Study 1, they answered Feeling and Estimation prescriptions for each scenario, but in Study 2, they answered Feeling and Thinking prescriptions (i.e., how should they think about the likelihood? with optimism-pessimism anchors)

For all figures, means above 0 reflect optimism, 0 reflects accuracy, and means below 0 reflect pessimism.



In Study 1, participants prescribed that the scenario protagonists should feel optimistic, yet underestimate the likelihood of unknown, desirable outcomes occurring,  $F(1, 204) = 205.45, p < .001, \eta^2_p = .502$ .

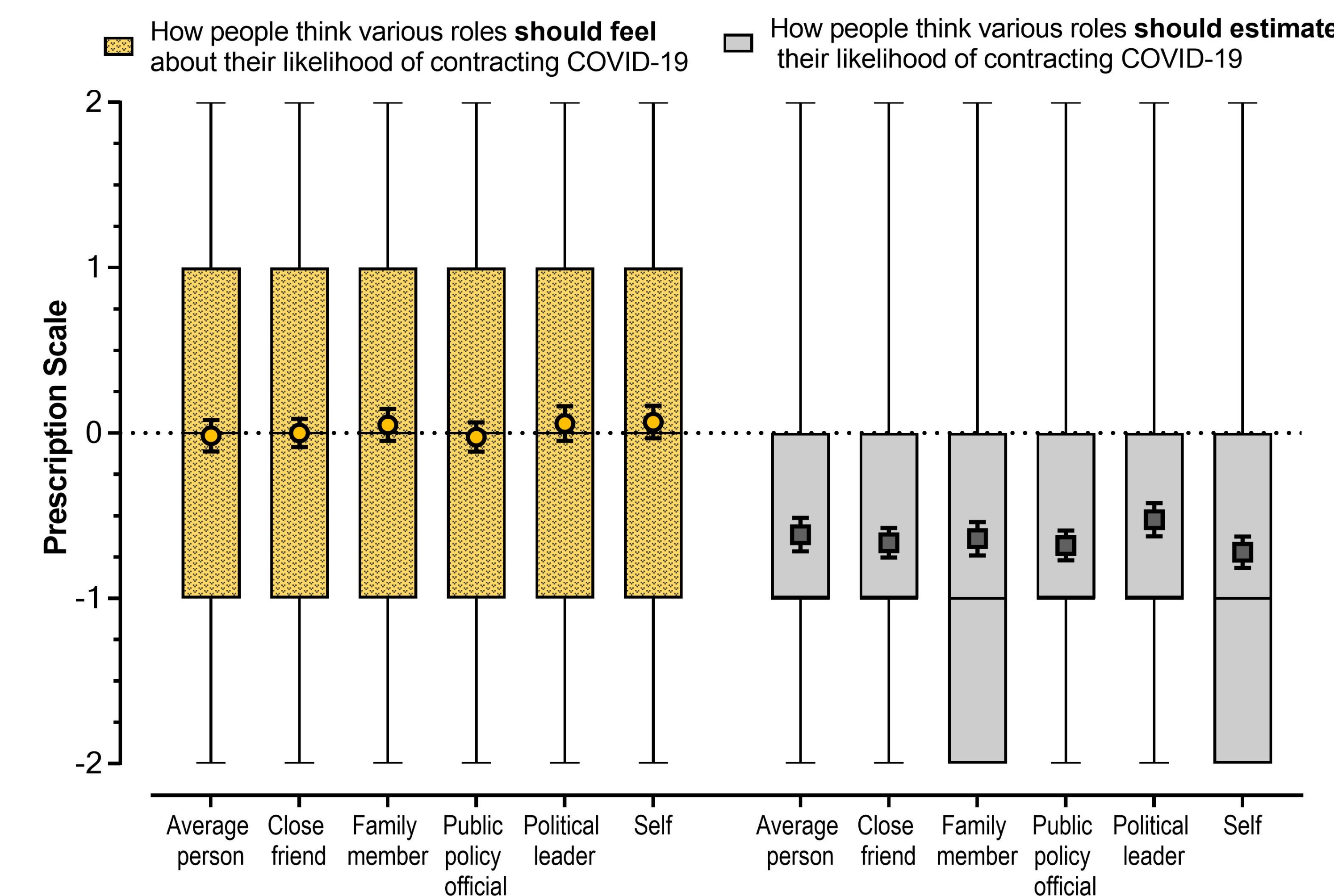
In Study 2, there was no significant difference between responses to the feeling and thinking prescriptions,  $F(1, 120) = 3.14, p = .079, \eta^2_p = .025$ . This suggests that the presence of the word optimism has similar effects even with a more analytically-worded prescription measure.

## Studies 3 and 4 – COVID-19 Events with Undesirable Outcomes

### Procedure and Design

- Both conducted in April 2020; participants answered feeling and estimation prescriptions about how different roles should estimate likelihoods of contracting a COVID-19 infection
- Roles: Average person in the United States, close friend, family member, public policy official who helps make national decisions about pandemics, a political leader, and the self
- Study 3 had a 2(Prescription Measure) x 6(Role) within-subjects design; Study 4 had a 2(Outcome framing: Positive vs negative) x 6(Role) mixed design

For all figures, means above 0 reflect optimism, 0 reflects accuracy, and means below 0 reflect pessimism.



In Study 3, participants (*N* = 122 Mturkers) prescribed that people (in various other roles) should feel realistic about the likelihood they would contract COVID-19, but participants also wanted those roles to make pessimistic estimations about the likelihood they would catch COVID-19,

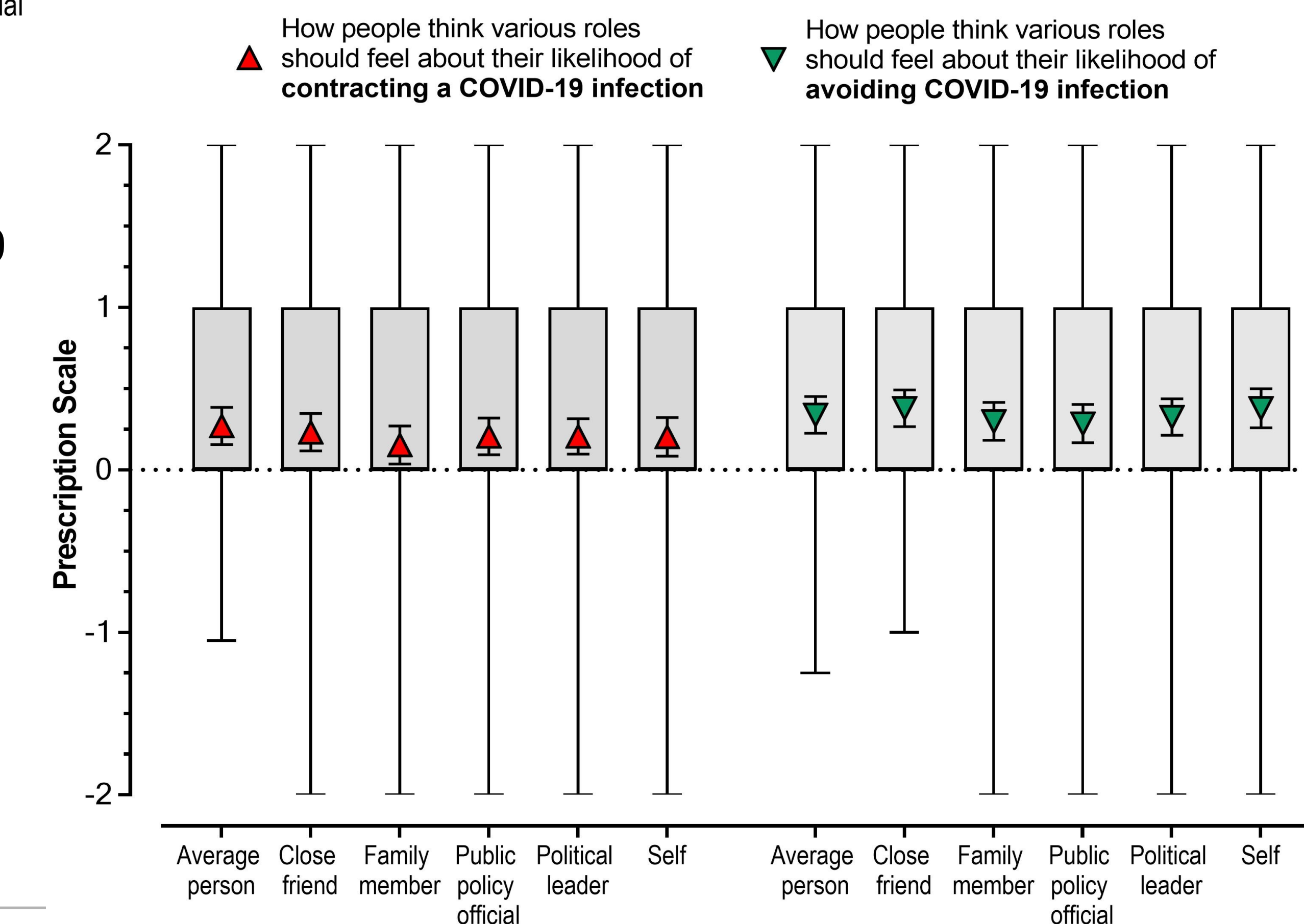
$$F(1, 119) = 36.75, p < .001, \eta^2_p = .236.$$

There was no significant difference in prescriptions made to the various roles,  $F(5, 595) = 0.90, p = .483, \eta^2_p = .007$

In Study 4, participants (*N* = 153 Mturkers) were randomly assigned to answer Feeling prescriptions with a "positive" or "negative" frame (i.e., avoiding COVID-19 infection vs. contracting COVID-19 infection).

There was no significant difference between prescriptions in either framing condition  $F(1, 147) = 0.74, p = .393, \eta^2_p = .005$ .

This suggests people generally desire for others to feel optimistic despite the valence of the outcome, even if they do not desire for them to be biased in their estimations about the same outcome.



## Conclusion

- Across four studies, we show that there is a key measurement issue regarding the use of the term optimism when examining prescriptions of how others should think, feel, and estimate desirable and undesirable future outcomes.
- Various associations people have with the words "optimism" and "pessimism" underlie the tendency to favor an endorsement of optimism when presented with it as an option.
- When asking people if they should be optimistic about outcomes, scientists must be specific if they are asking about feelings/affect or about under/overestimation of uncertain outcomes.
- Our Estimation prescription measure provides directly interpretable and important information about how people believe others—either protagonists in hypothetical scenarios or real people during a global crisis—should think about their prospects for future outcomes.