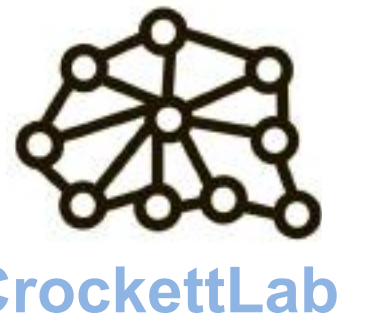


Self-inferred desires to benefit self and other



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Introduction

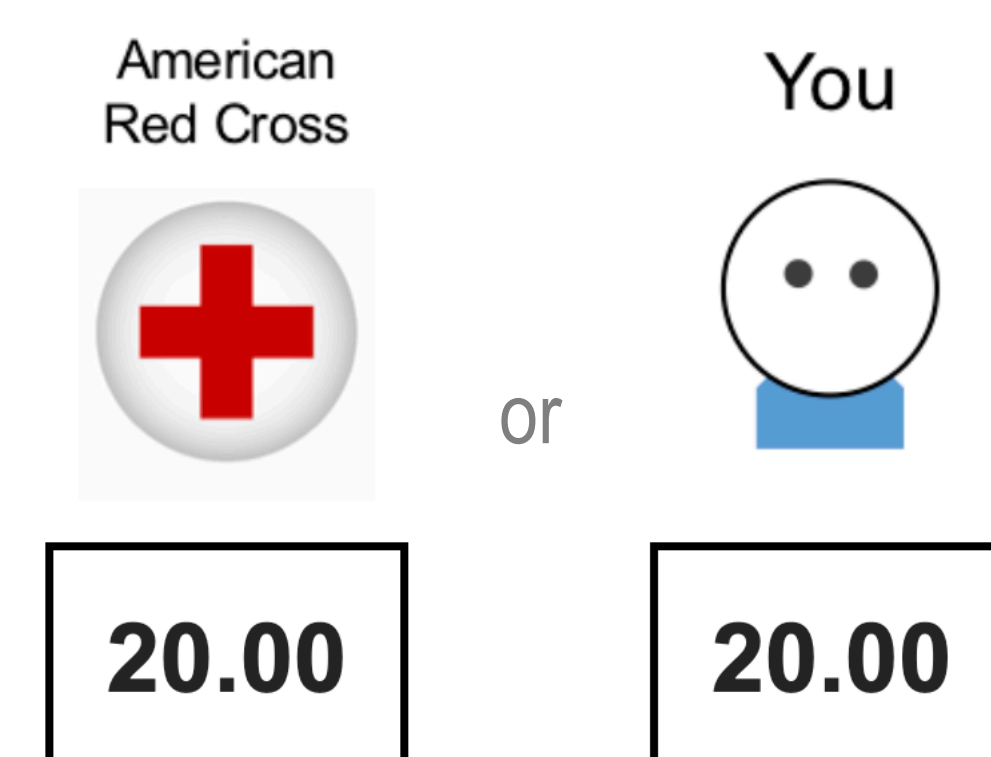
Self-inferences shape how people see themselves, and how they interact with others. Yet little work has examined the inferences people draw about their own desires. Here, we investigate these self-inferences.

Prior accounts of self-inference often reflect one of two views—the first holds that self-inferences are coarse and inaccurate¹⁻⁴, whereas the second holds that, in some cases, self-inferences can be fine-grained and precise⁵⁻⁶.

To weigh in on these competing takes, here we asked: how well do self-inferred desires align with peoples' actual choices?

Method: Choices

Participants (Ps) made 52 choices to either financially benefit themselves or a charity:

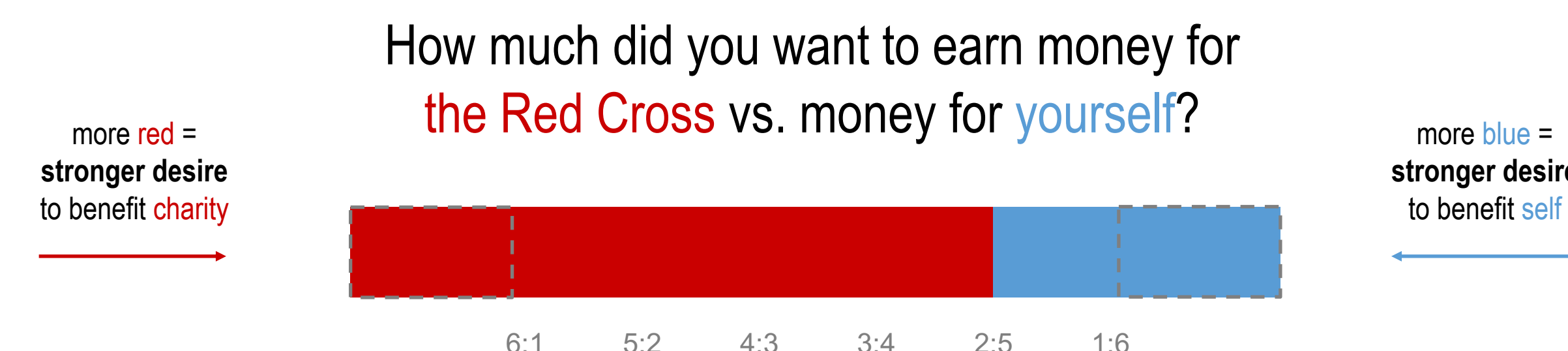


Choice amounts ranged from 6 times more money for charity to 6 times more money for oneself.

Method: Inferences

Self-inferences: Ps made inferences *retrospectively* (after their choices). Half of Ps also made inferences *prospectively* (before making any choices). Lastly, Ps reported their *confidence* in these inferences.

Ps reported desires for one reward over the other by shifting the proportion of two colored bars:



Model estimates: We compared self-inferences to model estimates of desires based on Ps' actual choices:

$$\Delta V = s - \alpha(c)$$

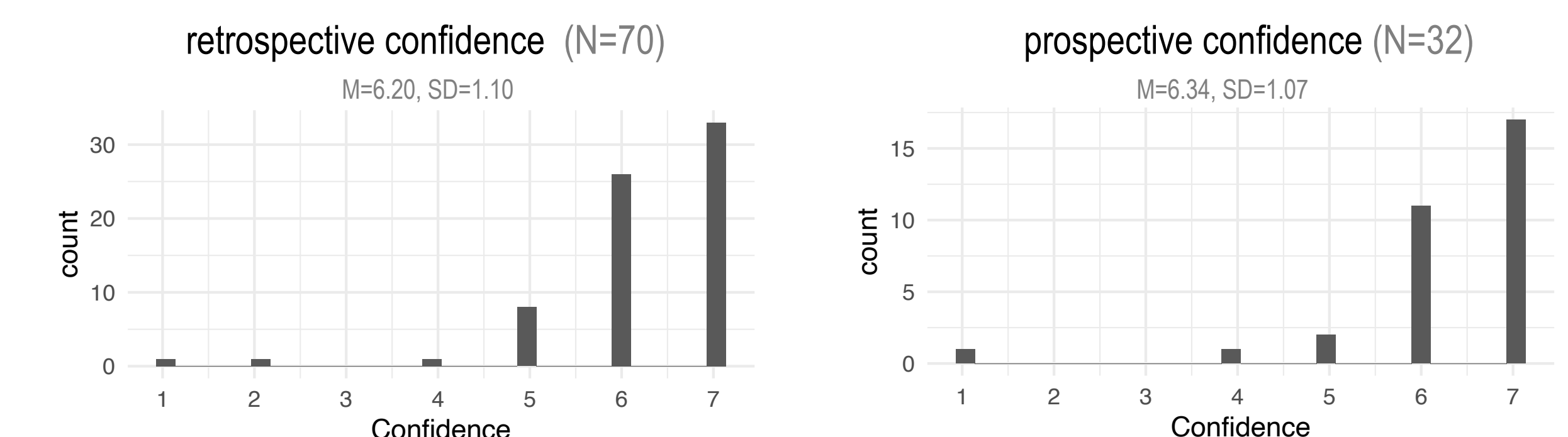
ΔV is the difference in subjective value between each option
 s and c are the objective amounts of money for self and charity
 α weights the value of gains for charity, and thus captures the relative desire strength for each reward

When α equals 1, deciders value each reward type equally, and will choose based on which reward they can earn more of. As α approaches 0, deciders will choose to benefit themselves over charity, irrespective of the amount of money that could be earned for charity.

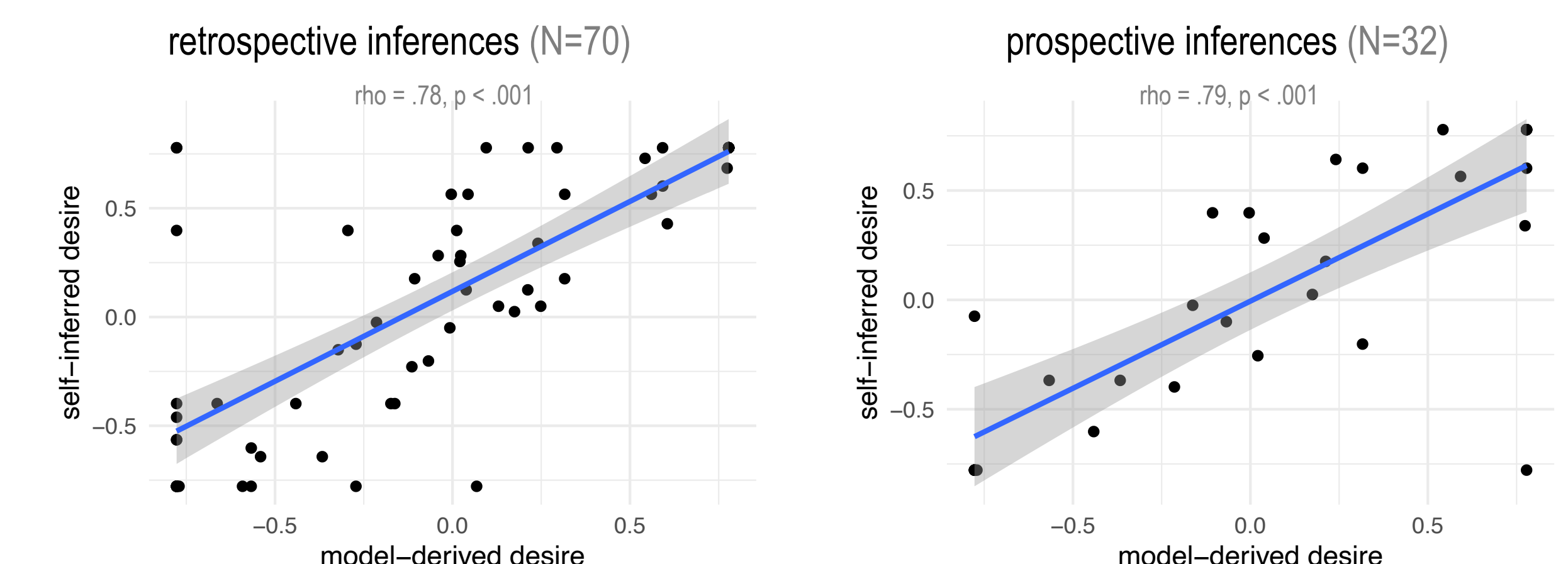
We used Ps' 52 choices to estimate their most likely α , within the parameter space of the choice trials, via maximum likelihood estimation.

Results

Ps were highly confident in their inferred desires, before and after making choices:



Moreover, Ps self-inferences were highly correlated with choice-based model estimates of their desires. This was true for both retrospective and prospective inferences:



Conclusion

People were highly confident in their self-inferred desires, and these inferences accurately reflected their choice preferences as well. These findings hold even when such inferences were made prospectively—suggesting that, contrary to skeptical accounts¹⁻⁴, people may draw on rich, internal representations of their desires to make self-inferences.

One exciting future direction is to directly compare self- and social inferences of desires. Indeed, discerning differences between these processes could deepen our understanding of self-knowledge.