Paying an unfair price for a fair prize: Profit-seeking as an explanation for the Uncertainty Effect

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Introduction

• People seem to dislike uncertainty to an extreme degree: their willingness-to-pay (WTP) for an uncertain prospect is even lower than their WTP for that prospect's *worst* outcome[1, 2, 3].

• On the other hand, an uncertain prospect can be just as attractive[4], and sometimes even more attractive[5] than its *best* outcome.

• The Uncertainty Effect is highly sensitive to framing effects (whether the uncertain offer is described by a frame associated with risk, such as lottery ticket, or coin flip)[6], as well as to the preference elicitation method (it seems to occur only when a pricing measure, such as WTP, is used)[7].

• Unexplained transaction features alone are sufficient to cause the UE[8].

When evaluating a regular transaction (e.g., a gift card), people's concern for fairness prevents them from providing too low a price.

When evaluating an irregular transaction that has game-like features (e.g., a coin flip), people are less constrained by fairness concerns, and more motivated to seek profit, which lowers their reported valuation.

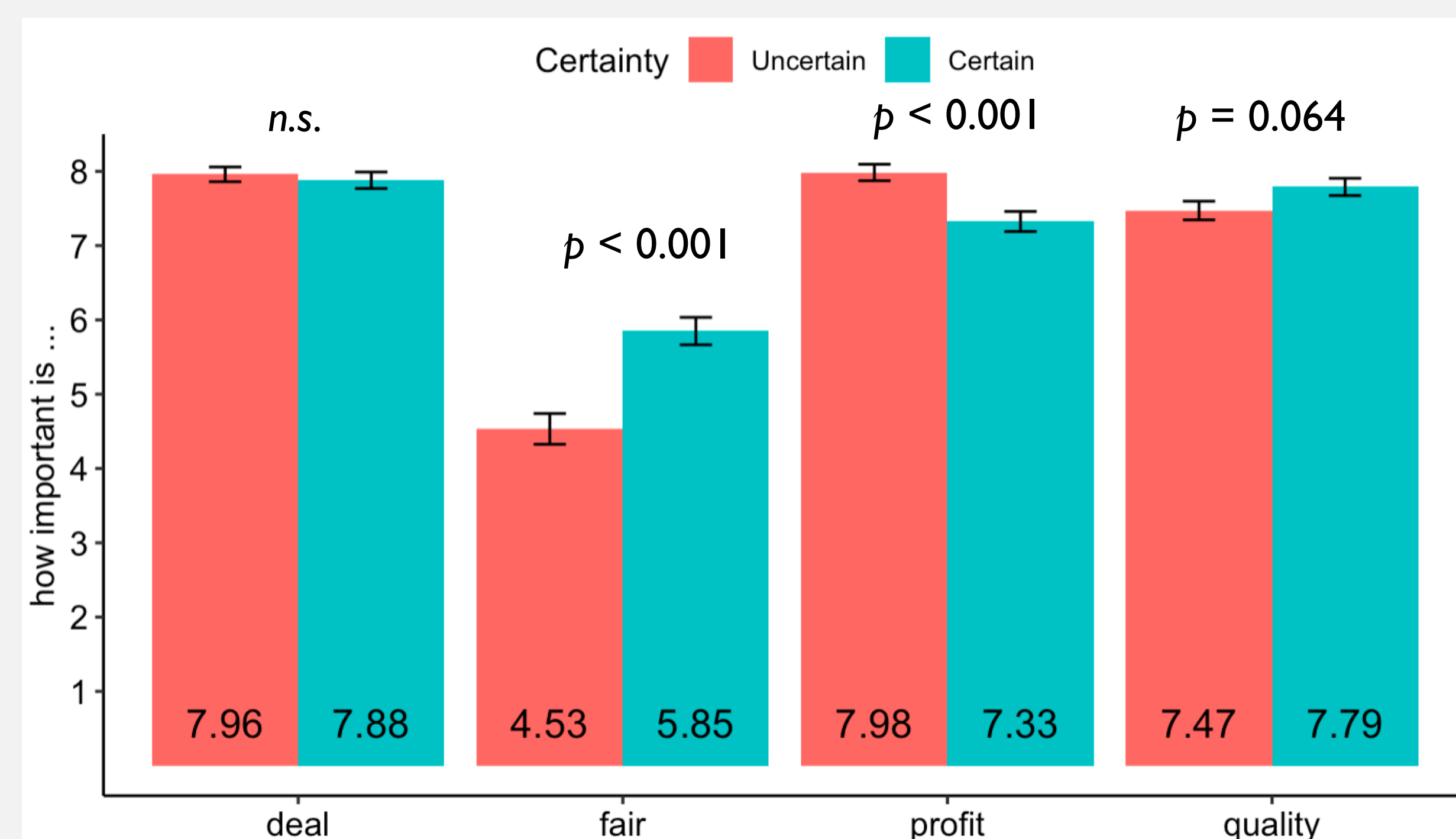## Study 1: People are more profit seeking and less fair when evaluating an uncertain offer (N = 397)

Purpose: We test the underlying motives behind people's WTP decisions in certain vs. uncertain conditions.

Design: 2 between-subjects conditions: certain (worse) vs. uncertain

Certain: a $50 Amazon gift certificate.

Uncertain: participating in a coin flip. If it lands on heads, you will receive a $50 Amazon gift certificate. If it lands on tails, you will receive a $100 Amazon gift certificate.

DV: "When you considered how much you would be willing to pay for the $50 Amazon gift certificate [participating in the coin flip], how important is each of the following: **getting the best possible deal / being fair to the seller / maximizing the profit / quality and usefulness of the item you are receiving**" (1 = not at all important, 9 = very important)

Conclusions

• People are more profit seeking and less fair when evaluating an uncertain offer (Study 1 & 4-6).

• People's risk taking propensity does not appear correlated with their WTP for an uncertain offer (Study 2), casting further doubt on the "direct risk aversion" account for the UE[6, 7, 8].

• People do not display uncertainty aversion when there is no opportunity for exploitation (Study 3). We replicated the UE in a charitable giving context (Study 7-10), suggesting that its disappearance in Study 3 was not due to the charitable giving context.

Contributions

• **We propose a novel account for the Uncertainty Effect, which could reconcile the seemingly contradictory findings in the literature.**

• **Our findings carry potentially broader implications for how people make valuation judgments. We are currently examining whether other (riskless) game-like features could lower valuation.**

Study 2: Risk propensity is not correlated with WTP for an uncertain offer (N = 200)

Purpose: We test whether risk-averse people exhibit larger UE.

Design: Same as Study 1, except that we measured WTP, and Risk Propensity[9]:

• Taking risks makes life more fun
• My friends would say that I'm a risk taker
• I enjoy taking risks in most aspects of my life
• I would take a risk even if it meant I might get hurt
• Taking risks is an important part of my life
• I commonly make risky decisions
• I am a believer of taking chances
• I am attracted, rather than scared, by risk

(1 = strongly disagree, 5 = strongly agree)
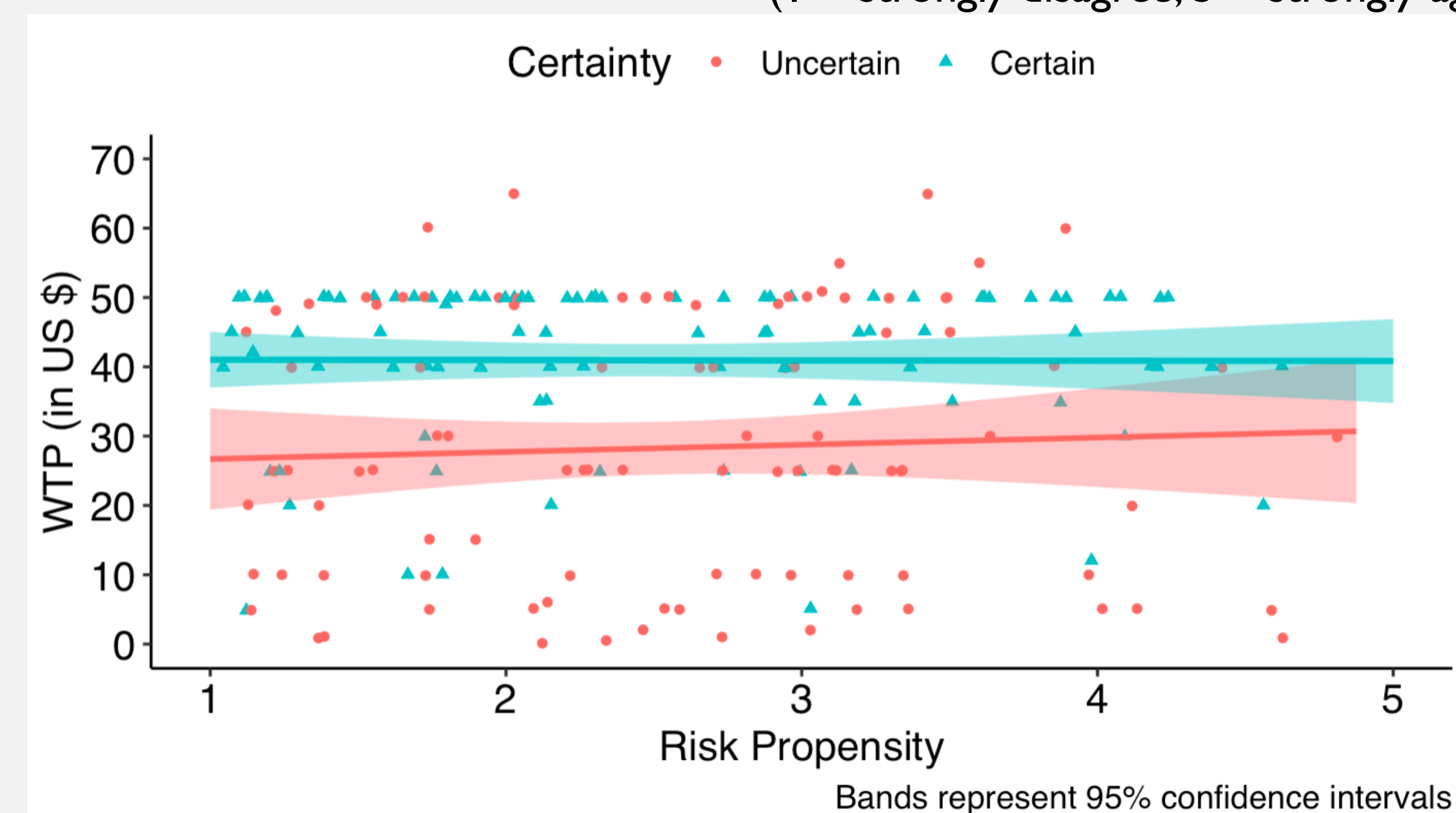
Effect of Certainty, $t = -2.48$, $p = 0.014$
Effect of Risk Propensity: $t = 0.63$, $p = 0.532$.
Certainty × Risk Propensity Interaction: $t = 0.665$, $p = 0.507$.

Additional Results

Study 4-6 (total N = 3272):
• replicated results from Study 1
• profit-seeking motives mediated the Uncertainty Effect

Study 7-10 (total N = 1605):
• replicated the Uncertainty Effect in a charitable giving setting, when we asked WTP for gift cards to be donated to charity (and thus keeping the opportunity for exploitation)

Study 3: People do not display uncertainty aversion when there is no opportunity for exploitation (N = 400)

Purpose: We predict that the Uncertainty Effect would disappear when we remove the opportunity for exploitation by eliciting willingness-to-donate to a charity instead of willingness-to-pay for a gift card (to be donated). With this design, the charity receives whatever amount the participant chooses to donate, not a guaranteed amount (as in the classic paradigm).

Design: 2 between-subjects conditions: certain (worse) vs. uncertain
Participants first rank four charities according to their preferences, which determined a preferred charity (top ranked choice) and a less preferred charity (third ranked choice) for each participant.
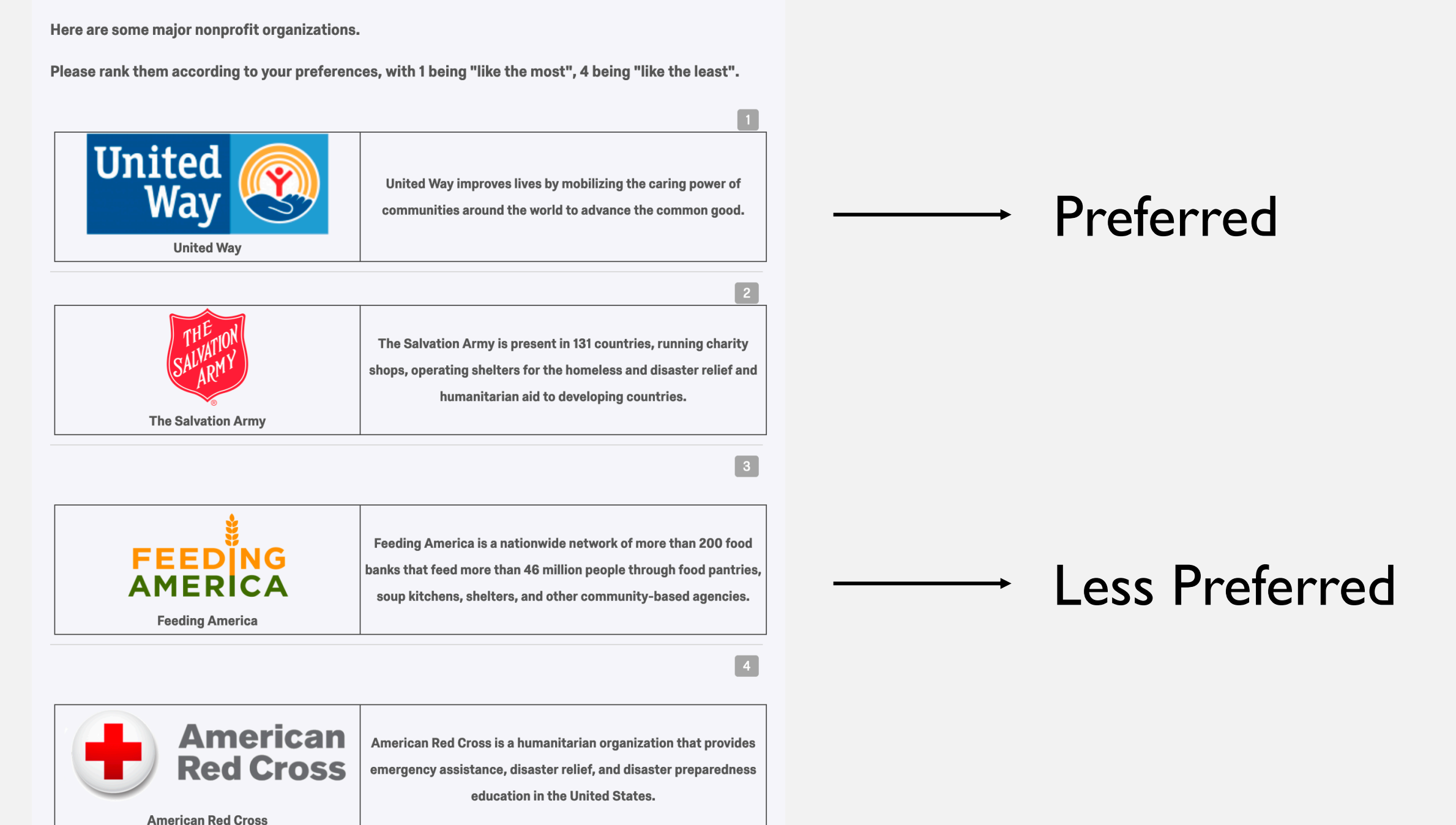
Certain: Imagine that you are considering donating to Feeding America.

Imagine that you have $100 available. You will donate part of it to Feeding America, and keep the rest of it for yourself. What is the highest amount of money you would be willing to donate to Feeding America?

Uncertain: Imagine that you are considering donating to Feeding America or United Way but you are not sure which one.

You will flip a coin and decide which one to donate to. If it comes up heads, you will donate to Feeding America; if it comes up tails, you will donate to United Way.

Imagine that you have $100 available. You will donate part of it to the chosen charity, and keep the rest of it for yourself. What is the highest amount of money you would be willing to donate to the chosen charity?

	N	Mean	SD	Median
Less Preferred Charity	201	28.49	23.48	20
Uncertain Charity	199	36.78	27.55	25

$t(398) = 3.24$, $p = 0.001$ Wilcoxon rank sum test: $Z = 3.19$, $p = 0.001$

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