Loss aversion, the endowment effect, and gain-loss framing shape preferences for non-instrumental information

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SUMMARY

Do we value information like we do objects? Surprisingly few insights from the extensive literature on how we value material goods have been tested for mental entities like information.

This paper tests if the predictions of prospect theory — which is generally used to describe how we value material outcomes — also hold true for *non-instrumental* information. We find that people exhibit loss aversion and the endowment effect for information; and are more risk seeking in the domain of losses than in the domain of gains.

Information "loss" is operationalized as not fulfilling people's expectations that information (in this case the answer to a trivia question) will be learned.

STUDY 1 (N = 400; pre-registered)

- Demonstrate **loss aversion** by showing that people are less likely to accept the same gamble if **framed to include loss of information**.

- Participants saw 6 incomplete trivia facts, such as:
  "In this U.S. state you cannot use someone else's Netflix account."
- Choice: Learn 3 facts for sure or 50/50 chance of learning 6 vs 0 facts.
- Those in 'mixed gamble' condition were first 'endowed' with 3 facts.

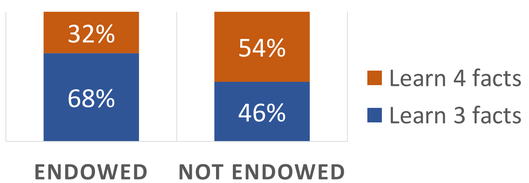
	Mixed gamble condition		**Gains gamble condition**	
A	Get **your** 3 facts for sure	56%	Get **these** 3 facts for sure	36%
B	Win: **Get 3 additional facts** Lose: **Lose your 3 facts (get no facts)**	44%	Win: **Get 6 facts** Lose: **Get no facts**	64%

$\chi^2 = 15.2$, $p < .0001$

STUDY 2 (N = 146)

- Demonstrate the **endowment effect** by showing that people prefer to learn fewer (vs. more) facts if they were first "endowed" with those facts.

- Participants saw 7 incomplete trivia facts, as in Study 1.
- Choice: Learn a set of 3 or 4 facts randomly selected from the list.
- Those in 'endowed' condition were first 'endowed' with the 3 facts: told they would learn these facts before being given the option to switch.



$\chi^2 = 7.03$, $p = .008$

STUDY 3 (N = 601; pre-registered)

- Demonstrate the **reflection effect** by showing that people are more risk seeking when faced with a potential loss than gain of information.

- Conceptual replication of Asian Disease Problem (Tversky & Kahneman, 1981)
- Participants saw a set of 3 related incomplete facts (e.g. funny state laws)
- Choice: Learn 1 fact for sure or ⅓ chance of learning 3 vs ⅔ of learning 0.
- Those in 'loss frame' considered facts that would *not* be learned.

	Gain frame condition		**Loss frame condition**	
A	**Reveal** 1 fact for sure	47%	**Black out** 2 facts for sure	25%
B	⅓: **Reveal** all facts ⅔: **Reveal** no facts.	53%	⅓: **Black out** no facts ⅔: **Black out** all facts	75%

$\chi^2 = 32.16$, $p < 001$