L2 speakers are not more rational than L1 speakers when it comes to loss aversion

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Foreign language effect in loss aversion

Decision-making is predictably irrational (Tversky & Kahneman, 1981): choices are affected by how information is framed.

Asian Disease Problem (ADP): A new disease will kill 600 people; you must choose one of two available medicines to combat it. They would have the following consequences:

Gain frame:
If you choose Medicine A, 200 people will be saved. (safe option)
If you choose Medicine B, there is a 33.3% chance that 600 people will be saved and a 66.6% chance that no one will be saved. (risky option)

Loss frame:
If you choose Medicine A, 400 people will die. (safe option)
If you choose Medicine B, there is a 33.3% chance that no one will die and a 66.6% chance that 600 will die. (risky option)
Which medicine do you choose?

Framing effect: safe option chosen more frequently in gain than in loss frame by L1 speakers, indicating loss aversion bias

“Foreign language effect”: L2 speakers might not show the same loss aversion (Costa et al., 2014; Keysar et al., 2012). But why?
- Are L2 speakers more rational in their L2 because of reduced emotionality?
- But: Does “200 people will be saved” mean exactly 200? At least 200? At most 200?
- Interpretation of number term changes which choice is rational (Mandel, 2013)

Is the difference between L1 and L2 framing effects due to subtle differences between native and non-native interpretations?

Experiments

• 2 versions of ADP (disease & economic scenarios); one in gain and one in loss frame
• Forced choice between safe and risky option
• L2 proficiency: self-rated on continuous scale from minimal to excellent
• L2 emotionality: self-rated emotional weight of swear/taboo words and terms of endearment on continuous scale from minimal to maximal
  (both scales underlyingly quantified as 1-100)

Experiment 1
• Materials: same numbers as previous studies (600 – 400 – 200)
  L1: 48 native speakers of English
  L2: 47 native speakers of Spanish

Experiment 2
• Materials: numbers chosen to promote exact interpretations (633 - 422 - 211)
  L1: 46 native speakers of English
  L2: 43 native speakers of Spanish

Results

Experiment 1
• L1: expected framing effect (p = .04)
• L2: also framing effect (p = .003)
• No difference between language groups (interaction: p = .86)

L2 Emotionality
No correlation between emotionality and framing effect (p = .49)

L2 Proficiency
Higher L2 proficiency correlates with stronger framing effect (p < .05)

Experiment 2
• overall framing effect (p < .01), but it differs between scenarios (interaction: p = .01):
  Disease: p = .84
  Economic: p < .001
• No difference between language groups in either scenario

L2 Emotionality
No correlation between emotionality and framing effect in either scenario

L2 Proficiency
No effect of L2 proficiency on framing effect in either scenario

Why is there a framing effect only in the economic scenario?

Numbers used in scenarios:
  Disease: 633 – 422 – 211
  Economic: 633,000 – 422,000 – 211,000

Numbers in economic scenario might admit inexact interpretations, unlike numbers in disease scenario.

Summary

• Absence of a framing effect for L2 speakers did not replicate.
• Number terms that promote exact interpretations reduced the framing effect for L1 & L2.
• Loss Aversion Bias: highly proficient L2 speakers behave like L1 speakers (both with materials susceptible to pragmatic enrichment / inducing exact interpretations)
• No evidence that L2 emotionality affects loss aversion bias

References