Biased Information Encoding Influences Both Gist and Verbatim Post-Decision Memory for Attribute Information

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INTRODUCTION
- Making a choice biases memory for the options (Lind et al., 2017), sometimes because of post-choice bolstering of the chosen option (Mather et al., 2000).
- DeKay et al. (2014) found that pre-choice ratings of attribute information predict post-choice memory biases for that information.
  - This result held even when controlling for the chosen option.
  - But their studies assessed recognition memory only.

Goal: Extend DeKay et al.'s findings to two additional tasks: gist and verbatim recall of attributes information.

TWO NEW STUDIES
- Study 1 (N=506 MTurk workers) had 6 binary decisions with 5-8 attributes each.
- Study 2 (N=271 MTurk workers) had 2 binary decisions with 20 attributes each. This study was pre-registered.

METHODS
- Participants in the choice condition viewed information sequentially and evaluated the appeal of each attribute (as shown below) before making a final choice.
  - After making all choices, they answered the memory questions described in the next panel.
  - Study 1 participants answered memory questions only for their last decision.

Independent Variable
- Pre-choice information ratings: Corrected for the means from a no-choice control condition.
  - Higher values indicate that the information favored Option B (the second option).

Dependent Variables
There were two memory tests.

Gist Memory
- Participants recalled which option had the higher or larger number for each attribute.
  - Higher scores indicate that attribute memory favored Option B.

Verbatim Memory
- Participants recalled the exact values for each numerical attribute.
  - Higher scores indicate that verbatim memory favored Option B or disfavored Option A.
  - We controlled for true attribute values.
  - Because different attributes had larger or smaller numbers, we used natural logs.
  - Verbatim Memory = ln(Option B) – ln(Option A)

RESULTS (for both studies combined)

Gist Memory
- Pre-choice attribute ratings predicted which option was recalled as being better on each attribute (b = 0.05, p = .008).
  - The figure is based on a mixed-effects regression which controlled for (a) participants' final choices and (b) the true directions of the attributes.
  - The lines show positive slopes for most participants.

Verbatim Memory
- Pre-choice attribute ratings predicted corresponding memory differences for the numerical attribute values (b = 0.13, p = .009).
  - This models also controlled for (a) participants’ final choices and (b) the true numerical values of the attributes.
  - For the verbatim results, participants' final choices did not predict verbatim memory differences (b = 0.01, p = .73).

CONCLUSIONS
- Post-choice memory for the attributes of choice options seems to depend on the pre-choice encoding of that information.
- Memory biases do not reflect only post-choice bolstering of the chosen option.
- To our knowledge, current theories of memory do not account for the reported effect of pre-choice encoding.

BIBLIOGRAPHY