Acknowledgements

Perceptual and conceptual fluency in auditory hindsight bias

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Introduction
Hindsight Bias: Overestimating one’s own or others’ prior knowledge when outcome is known (Fischhoff, 1975).
Priming: Prior processing of stimulus improves fluency (e.g., speed) of subsequent processing (Bodner & Masson, 2001; Alter & Oppenheimer, 2009). Fluency may underlie hindsight bias (Harley, Carlsen, & Loftus, 2004).

Research Question
Is Hindsight bias due to perceptual or conceptual fluency?

Method
Participants heard 40 common words 0, 1, 3 or 6 times (auditory prime to induce later perceptual fluency). Participants then read flashcards showing written versions of those words before hearing a distorted version. Participants estimated % of naive peers who would identify distorted word.

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<th>Exp. 1</th>
<th>Exp. 2</th>
<th>Exp. 3</th>
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<tbody>
<tr>
<td>Auditory prime</td>
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<tr>
<td>Written word</td>
<td>Weak articulatory suppression (“La, la, la”)</td>
<td>Strong articulatory suppression (Count backward by 3s)</td>
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<td>↓</td>
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<tr>
<td>Distorted audio</td>
<td>Written word</td>
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<td>↓</td>
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<td>Estimate % peers</td>
<td>Distorted audio</td>
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<td>Estimate % peers</td>
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Ignorant identification: Naïve participants heard distorted word and identified it.
Hindsight: Participants heard clear word, followed by distorted version of same word, and estimated for peers.
Hindsight Bias = hindsight estimate minus ignorant identification

Experiment 1: No articulatory suppression (N=51)
Indicates auditory hindsight bias is due to conceptual fluency.

Experiment 2: Weak articulatory suppression (N=42)
Replication using articulatory suppression to prevent auditory recoding of the stimulus.

Experiment 3: Strong articulatory suppression (N=40)
Another replication (articulatory suppression with a cognitive task).

Discussion

Experiment 1: Conceptual fluency is sufficient to cause auditory hindsight bias because overestimation increases with priming.

Participants may have recoded visually presented words auditorily: possible confound with perceptual fluency.

Experiment 2 and 3: With participants prevented from recoding visual stimuli auditorily, we replicated data pattern of Experiment 1.

Conclusion

Conceptual fluency (knowing the identity of a stimulus) is sufficient to cause auditory hindsight bias.

References