

Graph Designs Do Not Improve Visual Memory

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Background

To convey data-based arguments, people need to remember the patterns in your data.

Visual short-term memory can be better for perceptually diverse items³, though more similar items can also be easier to recognize⁴

Instead of a diverse set of graph formats, people often choose only bar graphs, which show data more accurately than other graph types ²

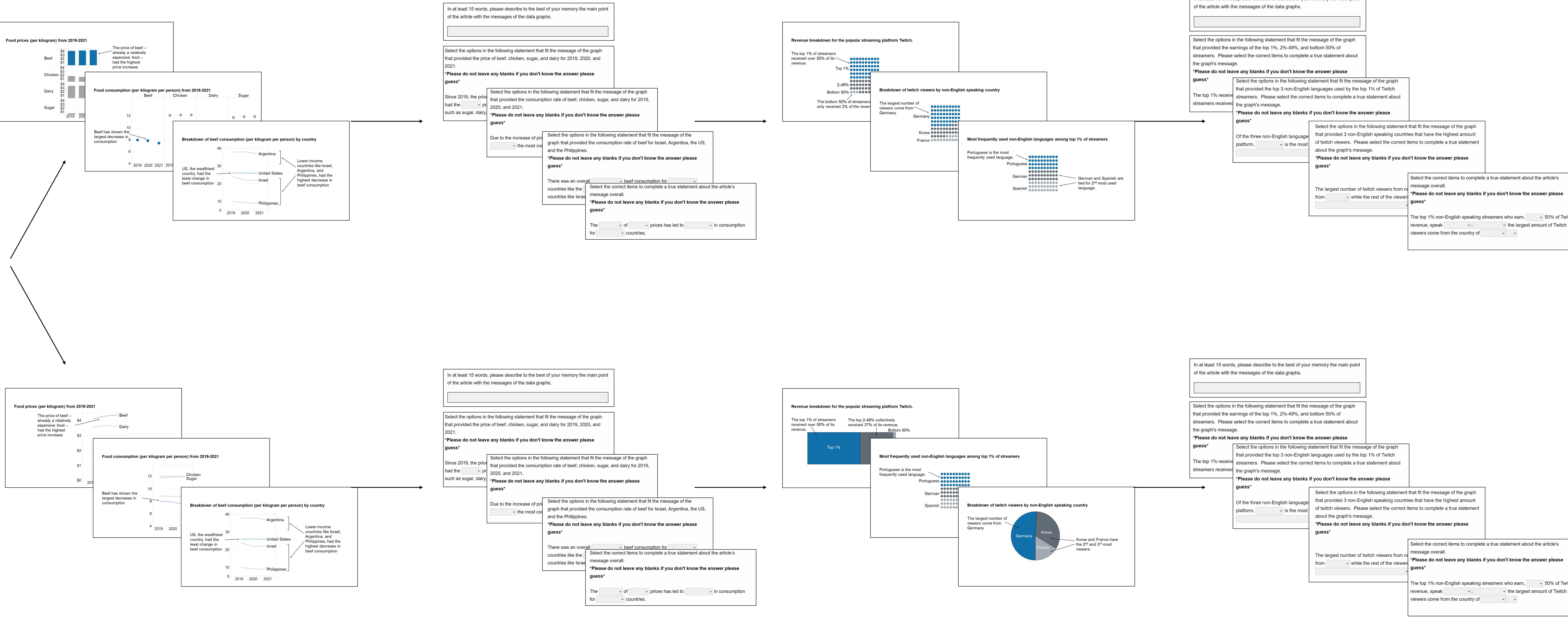
Conclusions

We found no indication that perceptual diversity improved memory for visualized data. The same null effect was present in a previous experiment that measured more purely visual memory

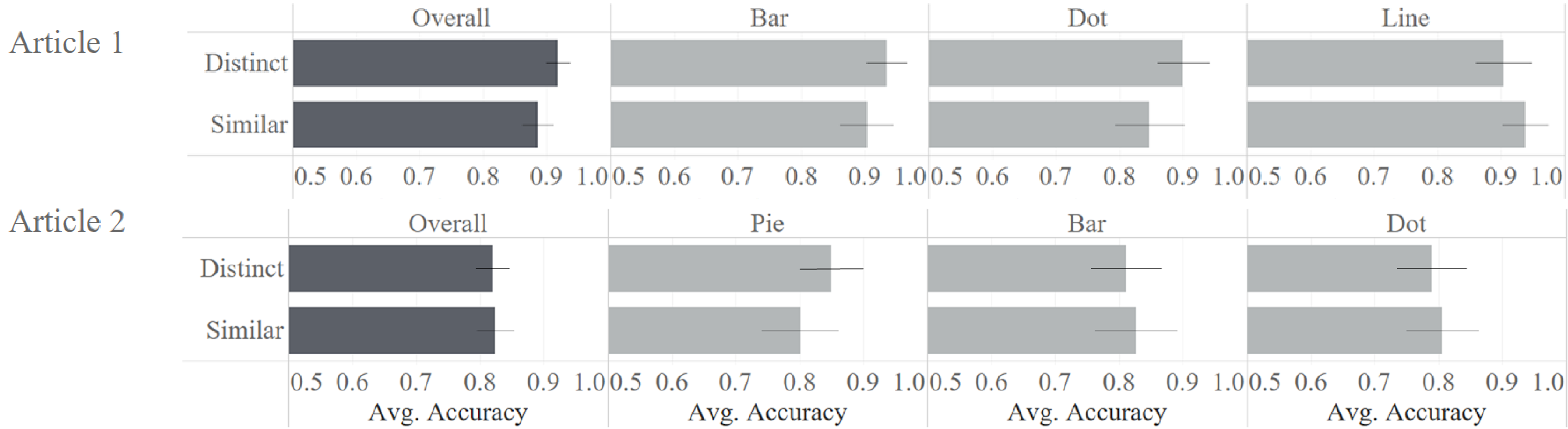
How does these results compare to past results?

- Some past work shows that objects with more diverse features are more memorable, presumably because more distinct features are less likely to overwrite each other. Here, that could make it easier to recall or recognize the graph formats but maybe not the patterns of data.
- Some past work shows that objects with more similar features are more memorable, by constraining variation to a more focused set of features. Here, that could make it easier to encode the actual data patterns, by removing the variation in graph formats.

Methods



Results



References

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- [3]Konkle, T., Brady, T. F., Alvarez, G. A., & Oliva, A. (2010). Conceptual distinctiveness supports detailed visual long-term memory for real-world objects. Journal of Experimental Psychology: General, 139(3), 558.
- [4]Mate, J., & Baqués, J. (2009). Short article: Visual similarity at encoding and retrieval in an item recognition task. Quarterly Journal of Experimental Psychology, 62(7), 1277-1284.
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Demo & Reprint

Demo:



Poster:



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