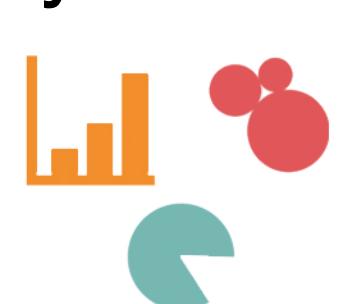


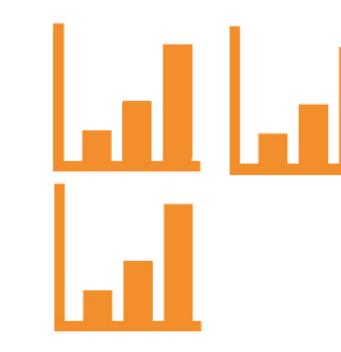
Background

People need to remember patterns in your data to understand the main takeaways.

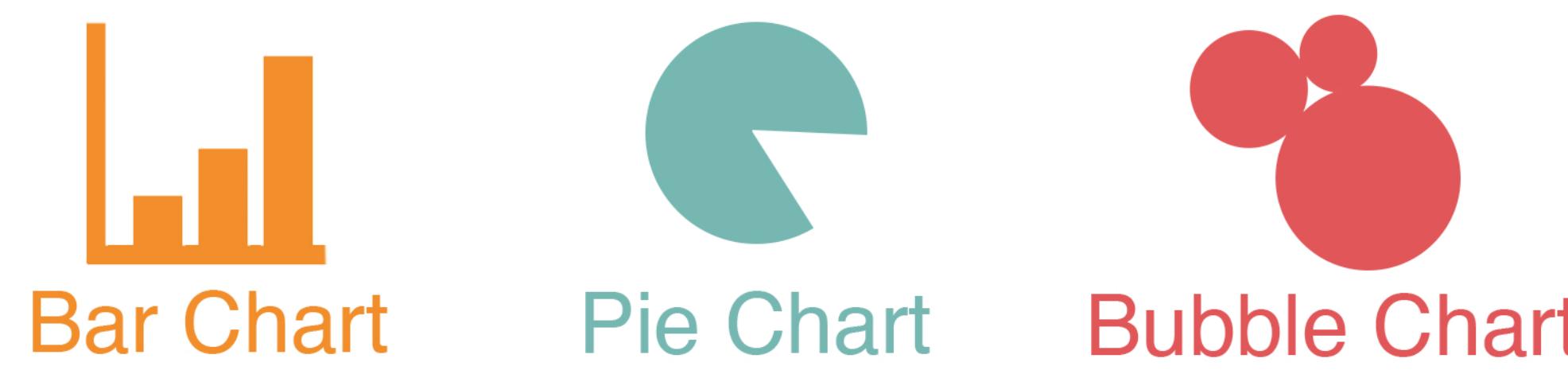
Visual short-term memory can be better for perceptually diverse items.^{1,3}



More similar items can be easier to recognize.⁴

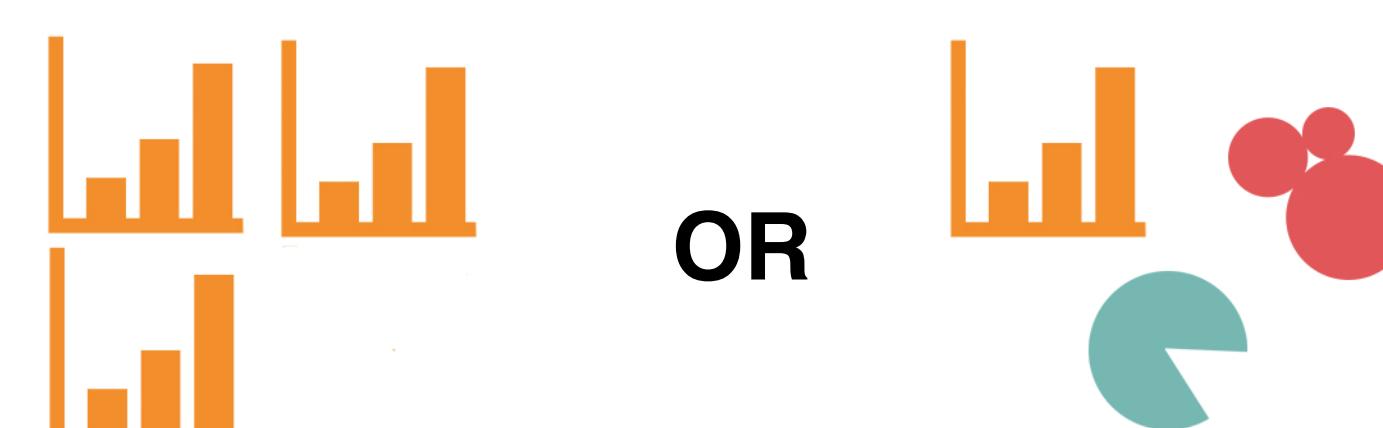


Rather than a diverse set of charts, people often choose only bar graphs, which show data more accurately than other chart types.²



Questions and Hypotheses

Does using a diversity of chart types help people remember data?

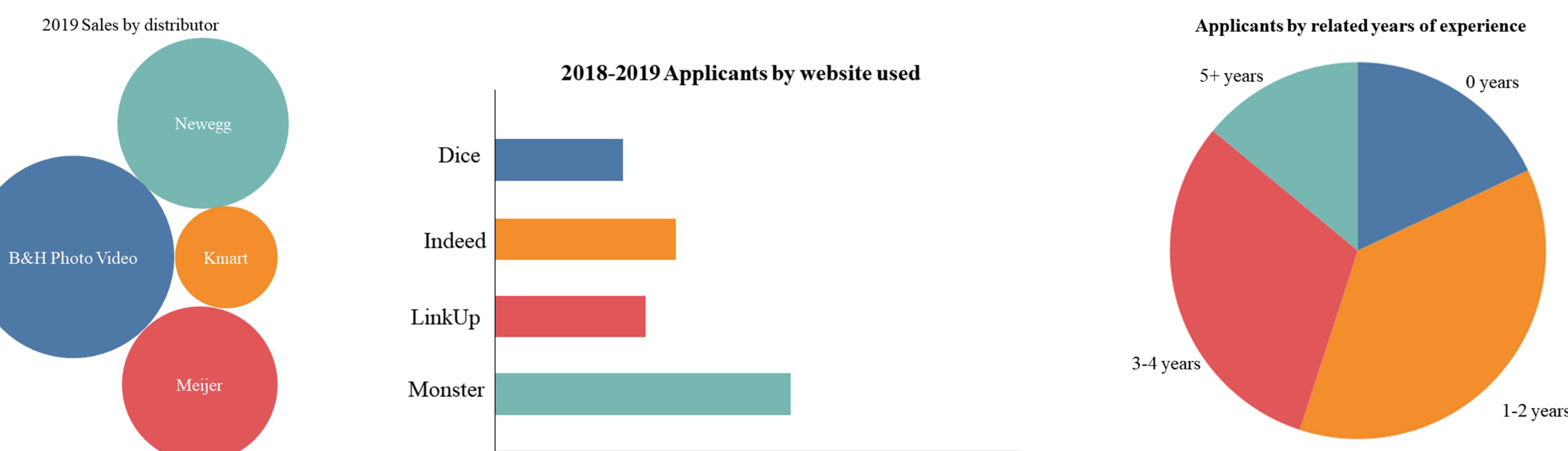


We hypothesized that participants will recreate charts from diverse sets of charts more accurately than from similar sets.

The Effects of Visual Diversity in Series of Charts

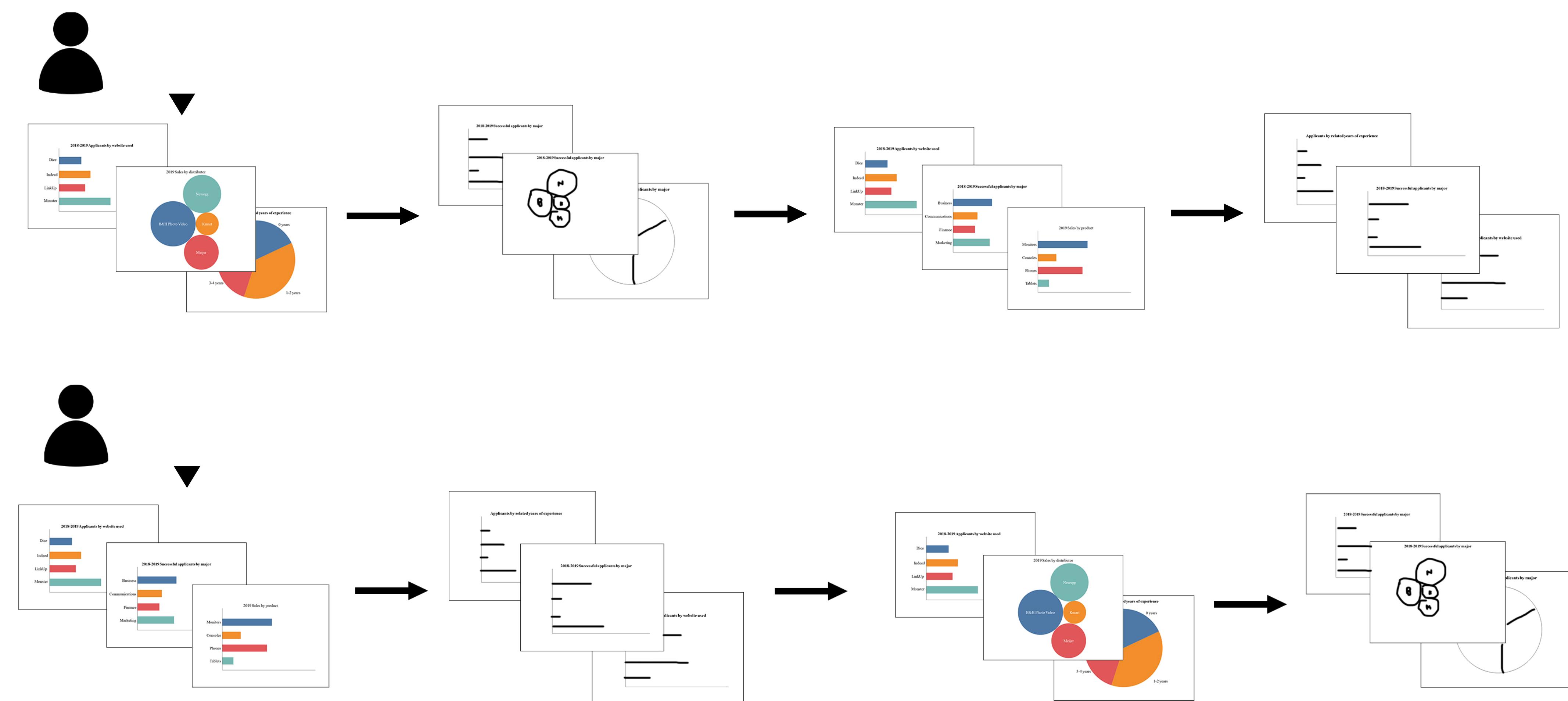
Kylie Lin, Madeline F. Awad, Steven Franconeri

Departments of Psychology and Cognitive Science, Northwestern University

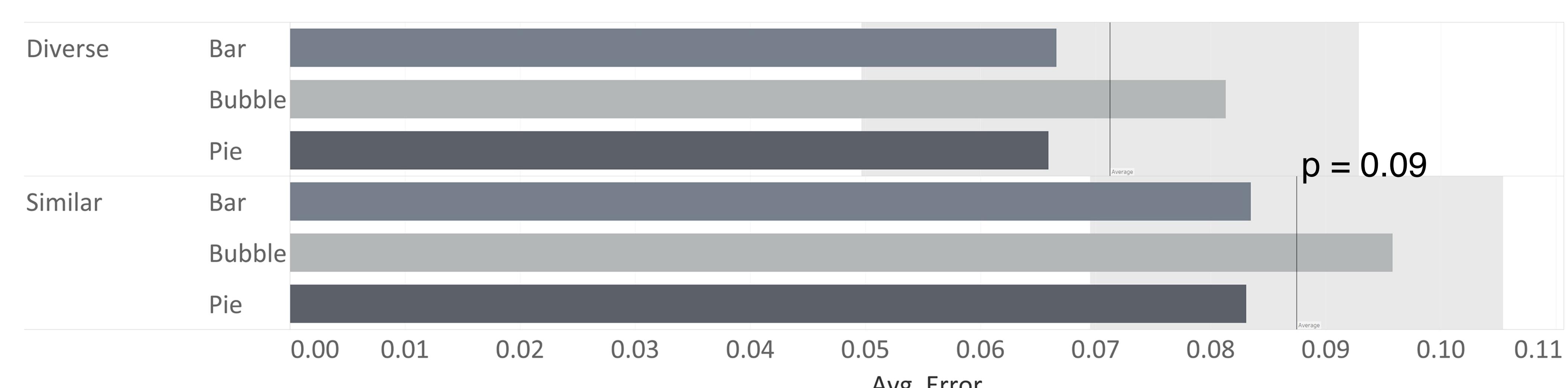


Examples of charts shown to participants of our study.

Participants (N=48) from Prolific, directed to Qualtrics....



Results



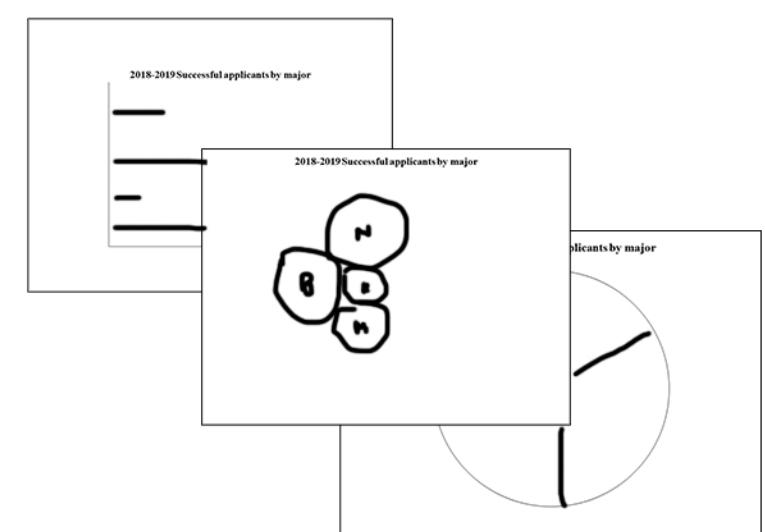
Conclusions

No significant main effect of chart set (diverse/similar) on error scores overall.

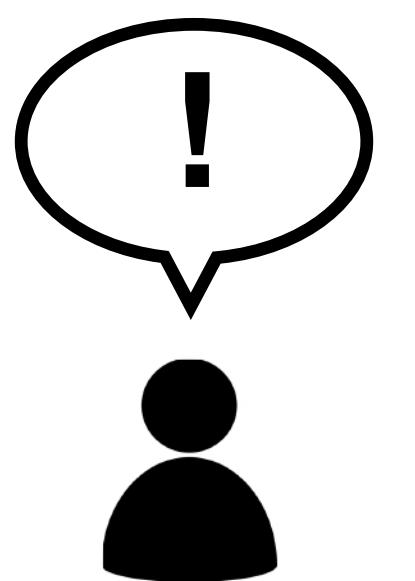
Seeing diverse sets of graphs that include uncommon graphs may not be applicable.

Future Work

Rather than examining people's ability to recreate charts...



....understand whether there are differences in their conclusions.



Future Work Demo

This research was funded by the Northwestern Cognitive Science Department Summer Undergraduate Research Fellowship.

References

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- [2]Cleveland, W. S., & McGill, R. (1984). Graphical perception: Theory, experimentation, and application to the development of graphical methods. *Journal of the American statistical association*, 79(387), 531-554.
- [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.



Original Project Demo:



Madeline F. Awad VSS Poster: