

Frequent phrases are easier to recall, but not easier to recognize

Cassandra L. Jacobs¹, Gary S. Dell¹, Colin Bannard², Aaron S. Benjamin¹

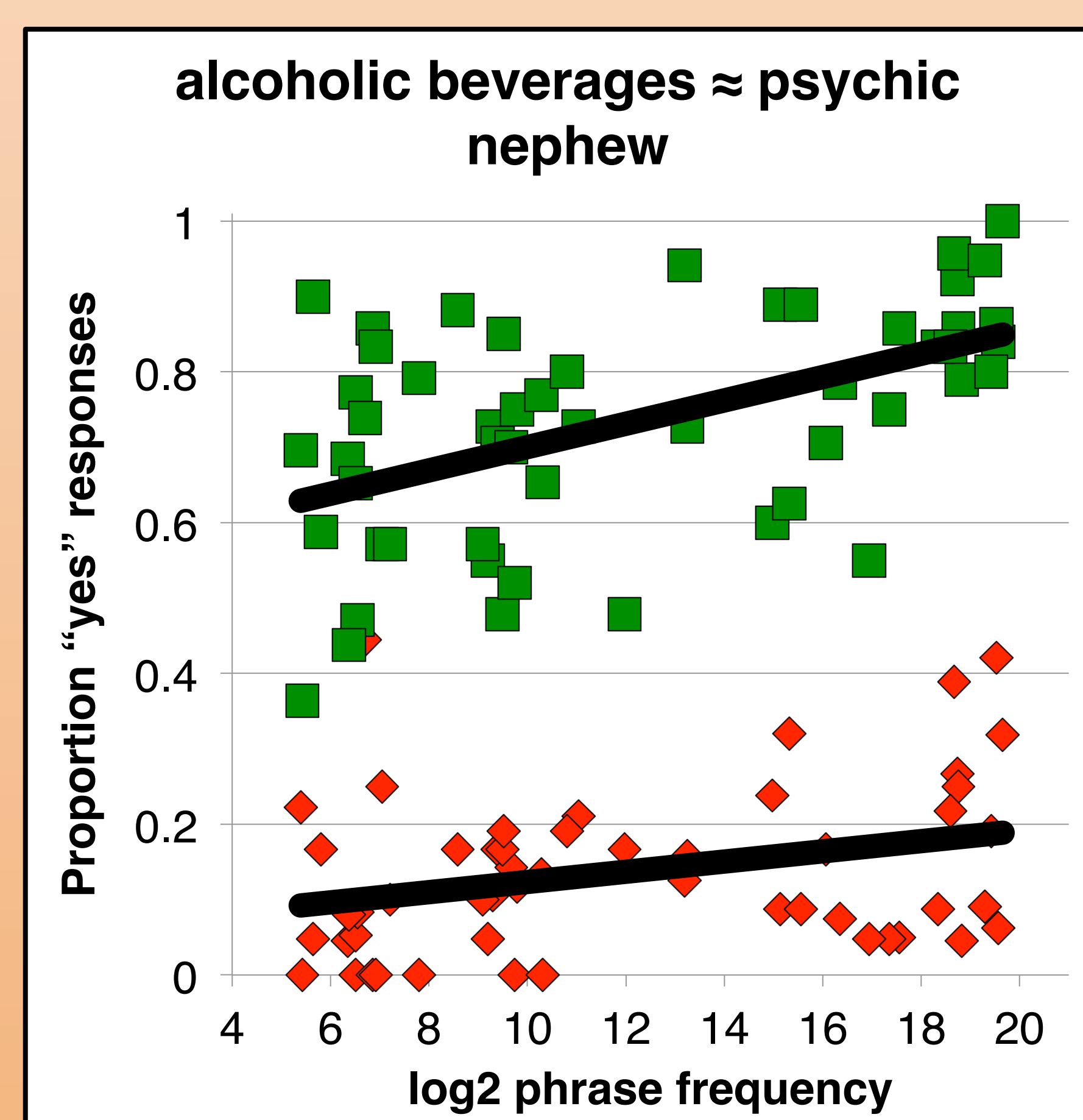
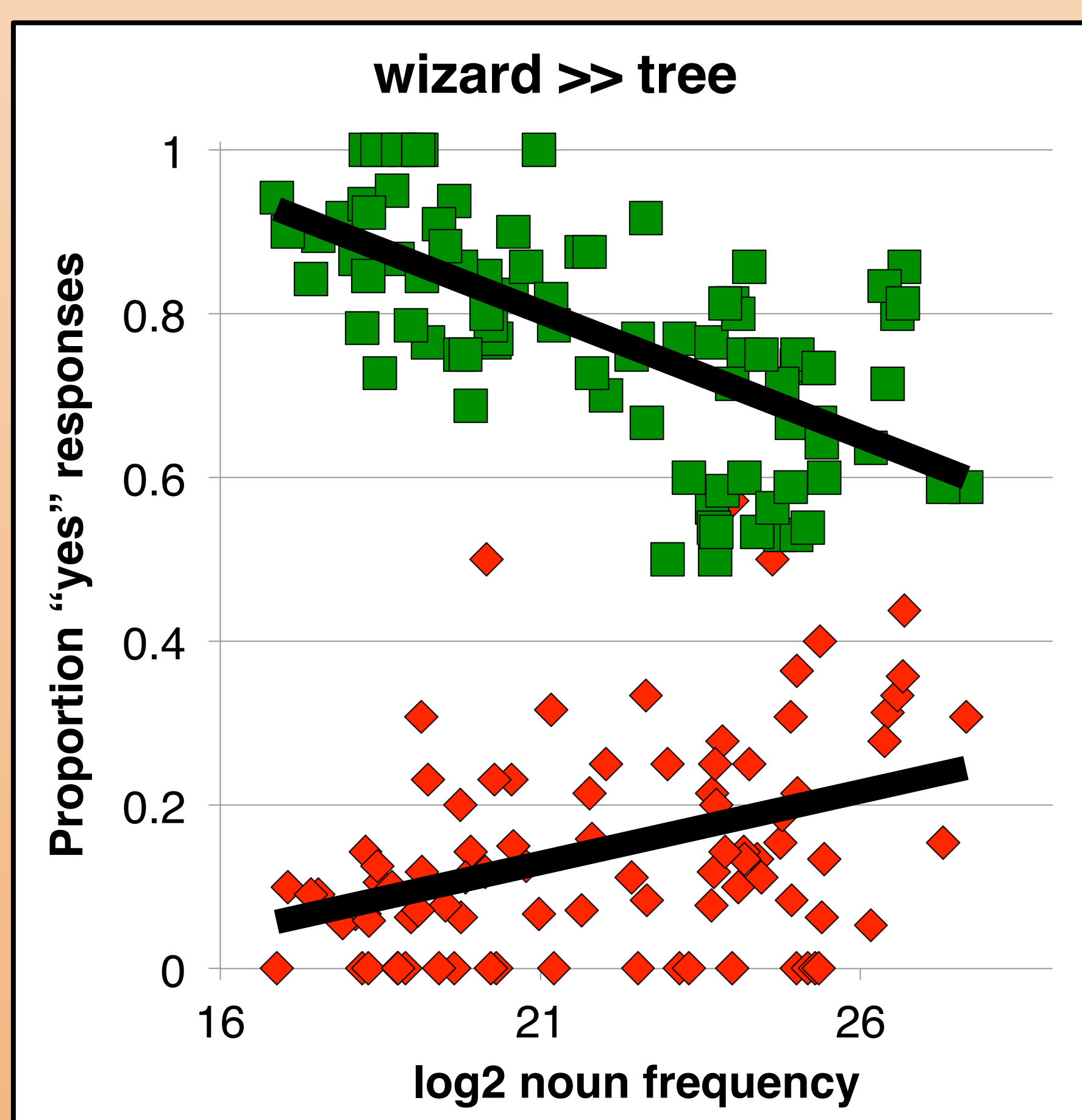
1: University of Illinois at Urbana-Champaign, 2: University of Liverpool

Is the retrieval of phrases in episodic memory similar to the retrieval of single words?

- Phrases may act like “big words” as evidenced by frequency effects for phrases (Arnon & Snider, 2010)
- Are high frequency phrases (e.g. *alcoholic beverage*) remembered more easily than low frequency phrases (e.g. *psychic nephew*)?
- We examine both yes-no recognition and free recall

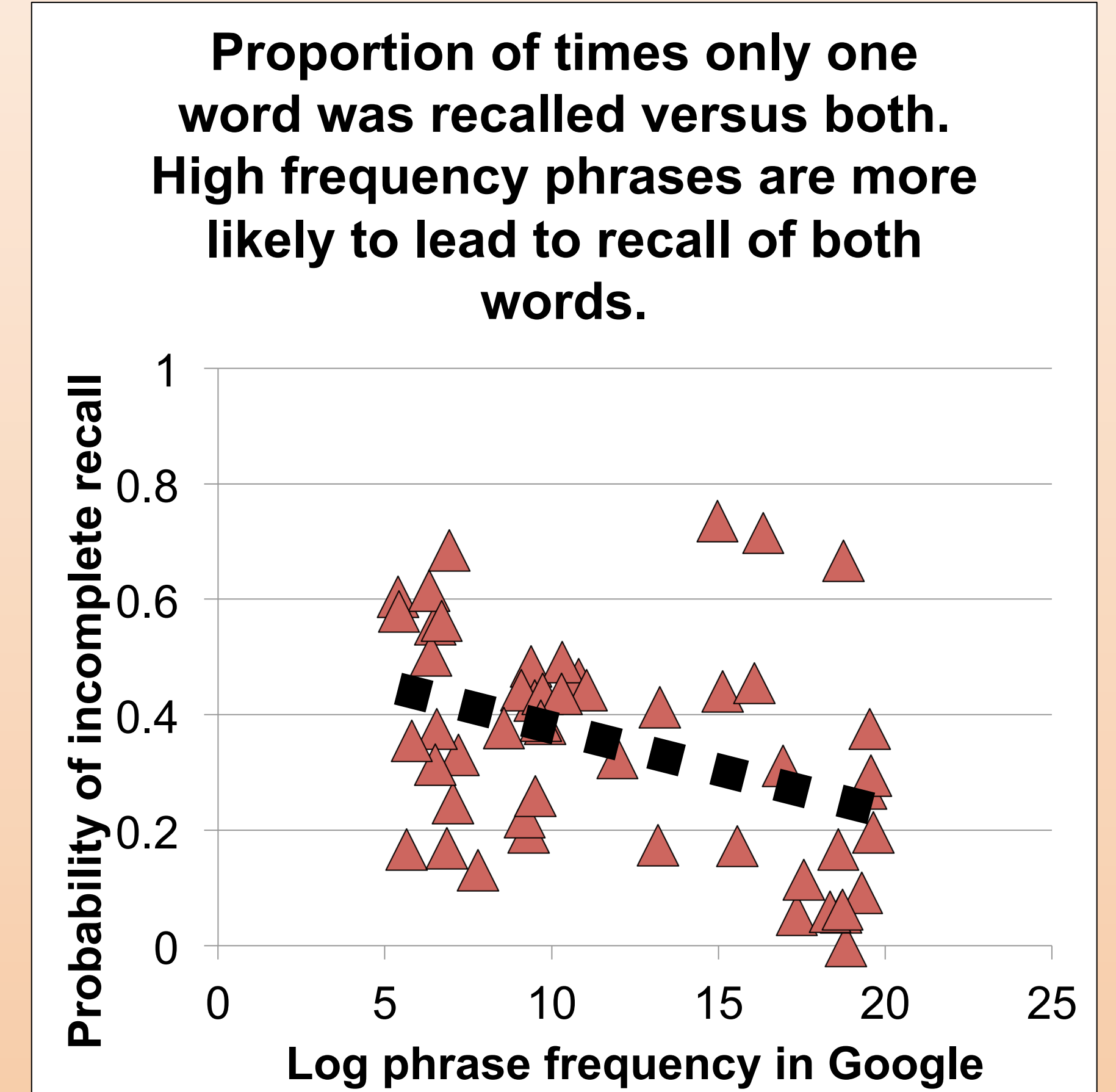
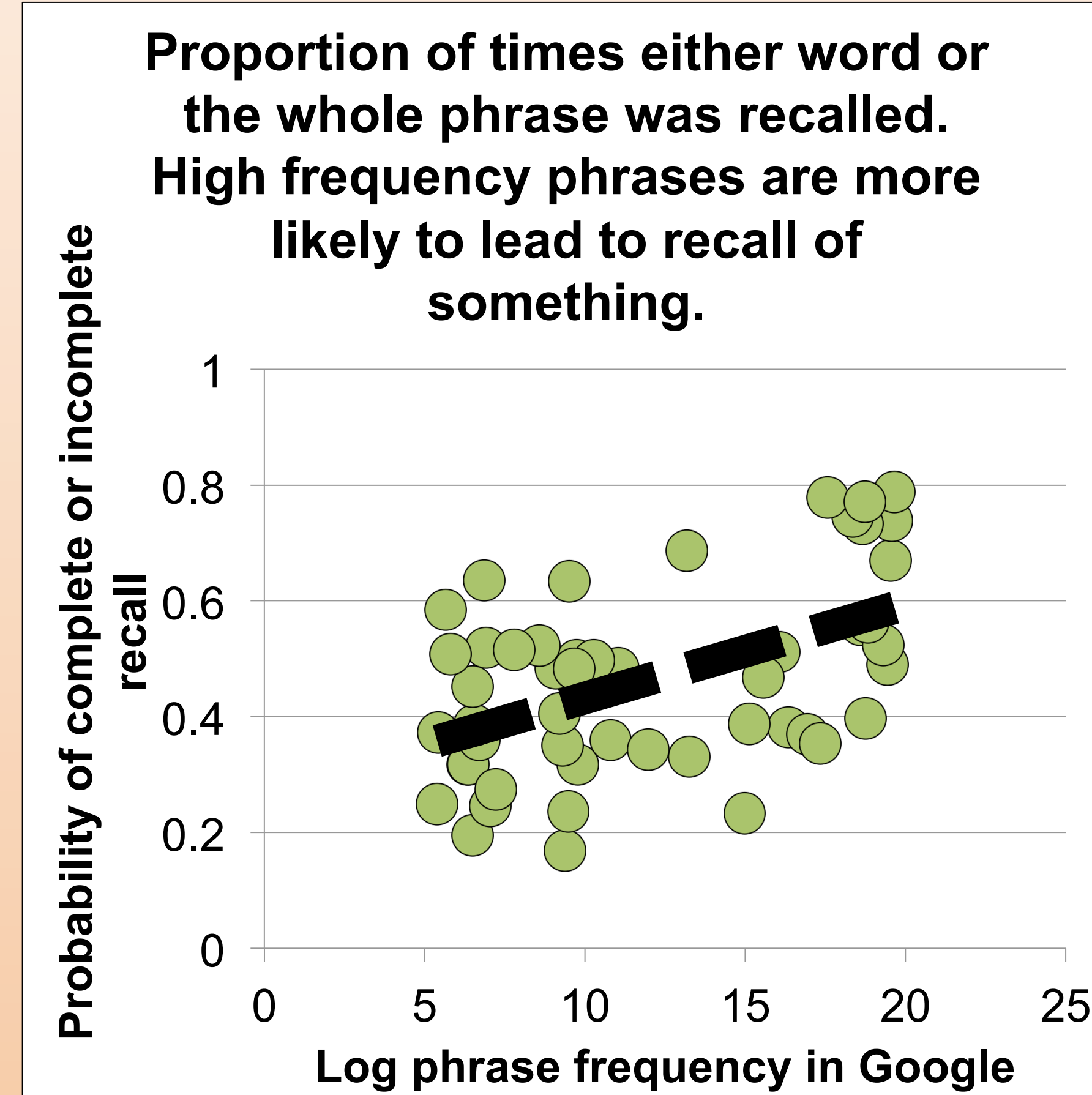
Exp. 1: Recognition memory for words and phrases

- Discriminability **decreases** as a function of **word** frequency
- High and low frequency **phrases** are **equally** well-recognized but frequent phrases get more yes responses (Jacobs et al., in press)



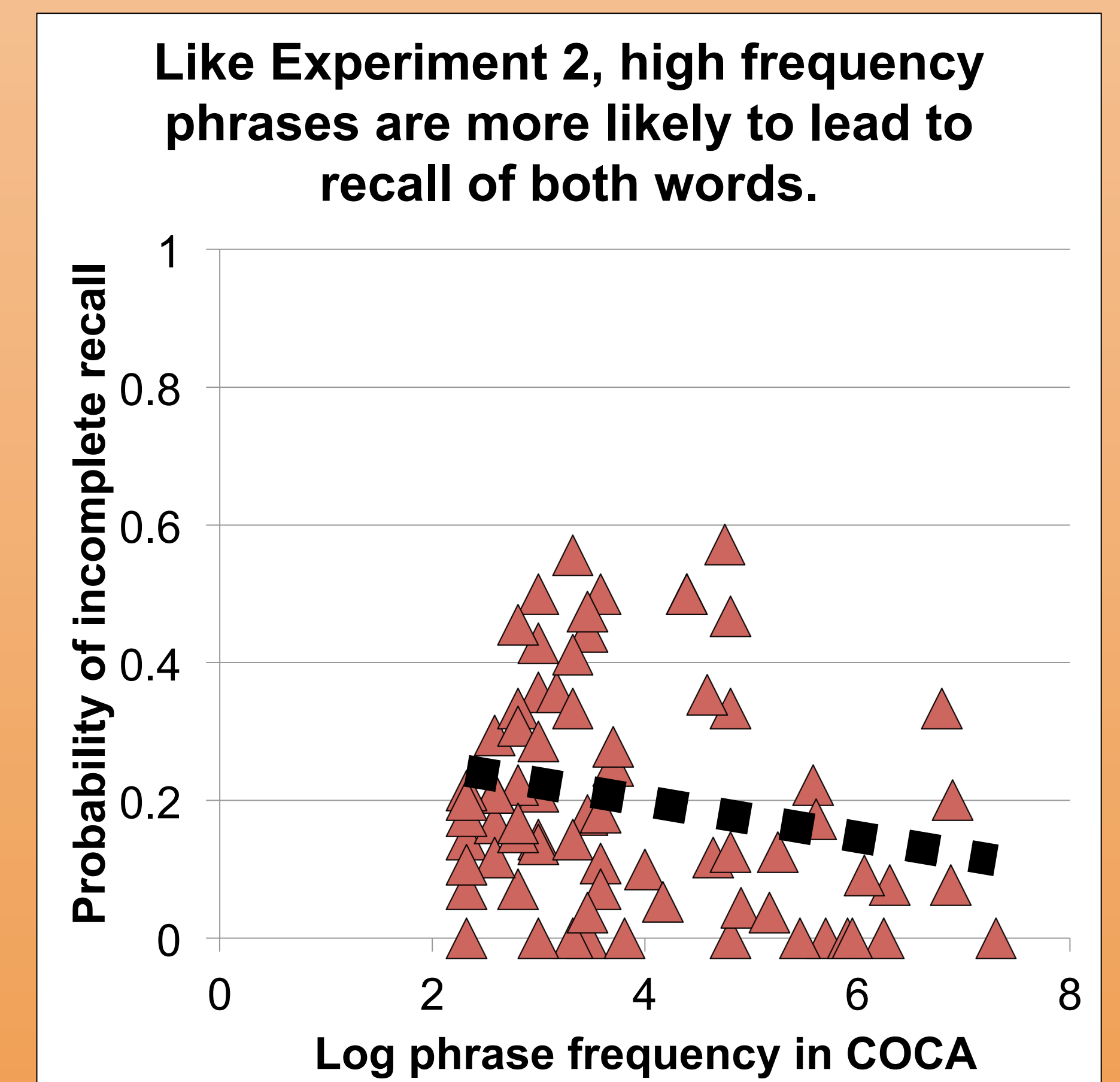
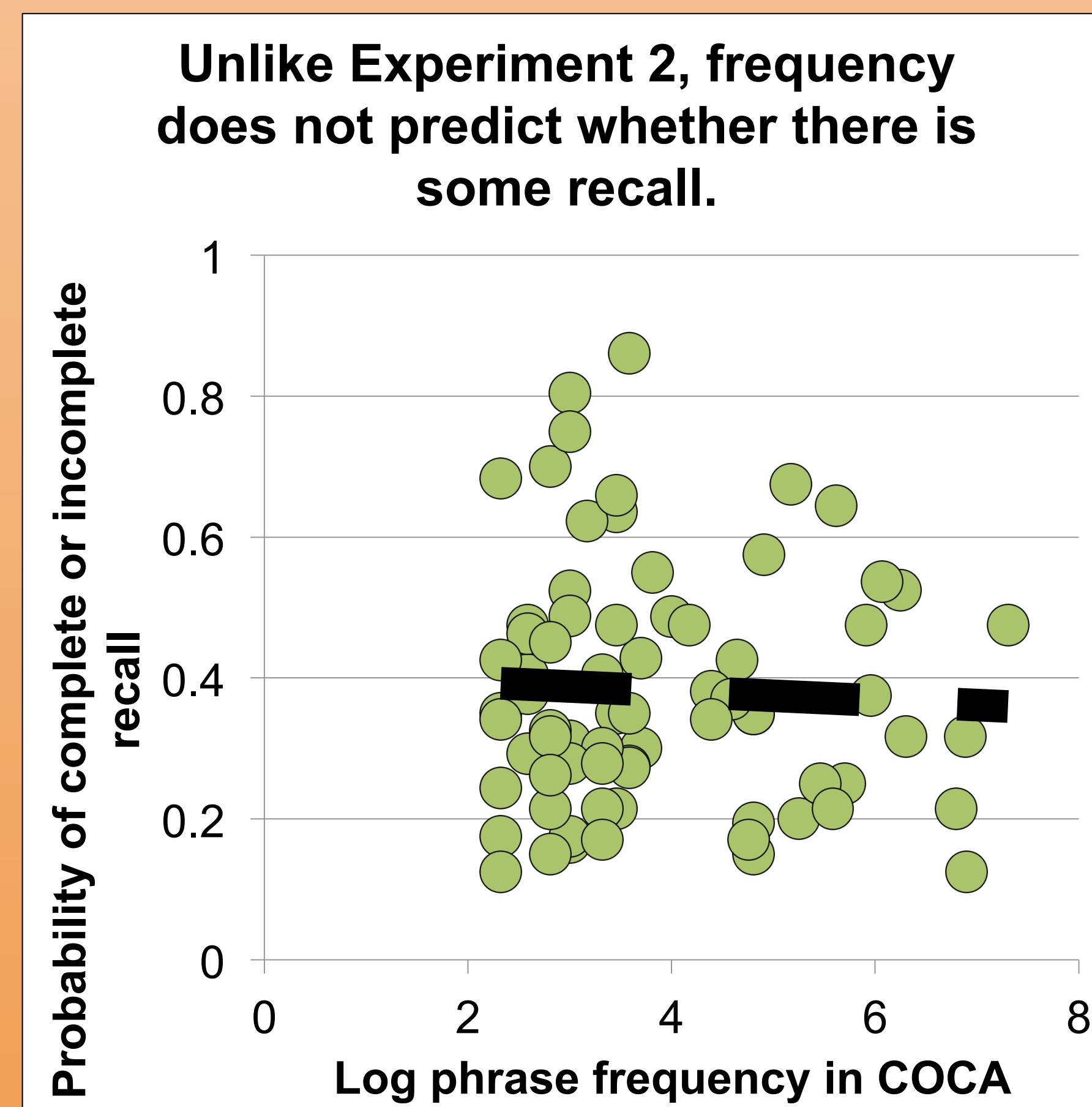
Exp. 2: Recall of varied adjective-noun phrases

- High frequency leads to more recall of one or both words
- High frequency also tends to **prevent** incomplete recall



Exp. 3: Recall of highly compositional adjective-noun phrases from spoken corpus (COCA) (e.g. angry crowd)

- Imageability and compositionality not correlated with phrase freq.
- Prediction: Possibly more limited frequency effects than with Google



What about recall?

A multinomial framework

Three likely outcomes for recall: **omissions**, **partial recalls** (one of the two words), and **complete recall**.

Where does phrase frequency matter?

Experimental Context (cue for recall)

Here?

Omissions: Nothing retrieved

Something retrieved

Here?

One word

Both words

References

Arnon, I., & Snider, N. (2010). More than words: Frequency effects for multi-word phrases. *Journal of Memory and Language*, 62(1), 67–82. doi:10.1016/j.jml.2009.09.005

Jacobs, C. L., Dell, G. S., Benjamin, A. S., & Bannard, C. (in press). Part and whole linguistic experience affect recognition memory for multiword sequences. *Journal of Memory and Language*.

Conclusion

- Frequency affects word and phrase memory differently
- Recall: **Redintegration** for high frequency phrases’ words, which cue each other, leading to more intact recall of phrases. (*Nothing analogous for recall of single words*)
- Recognition: **Bias** to say yes to high frequency phrases regardless of whether they were studied (*For single words, low frequency words are better remembered*)
- Bias and redintegration phrase frequency effects demonstrate **learning of abstract phrase representations** in long term memory