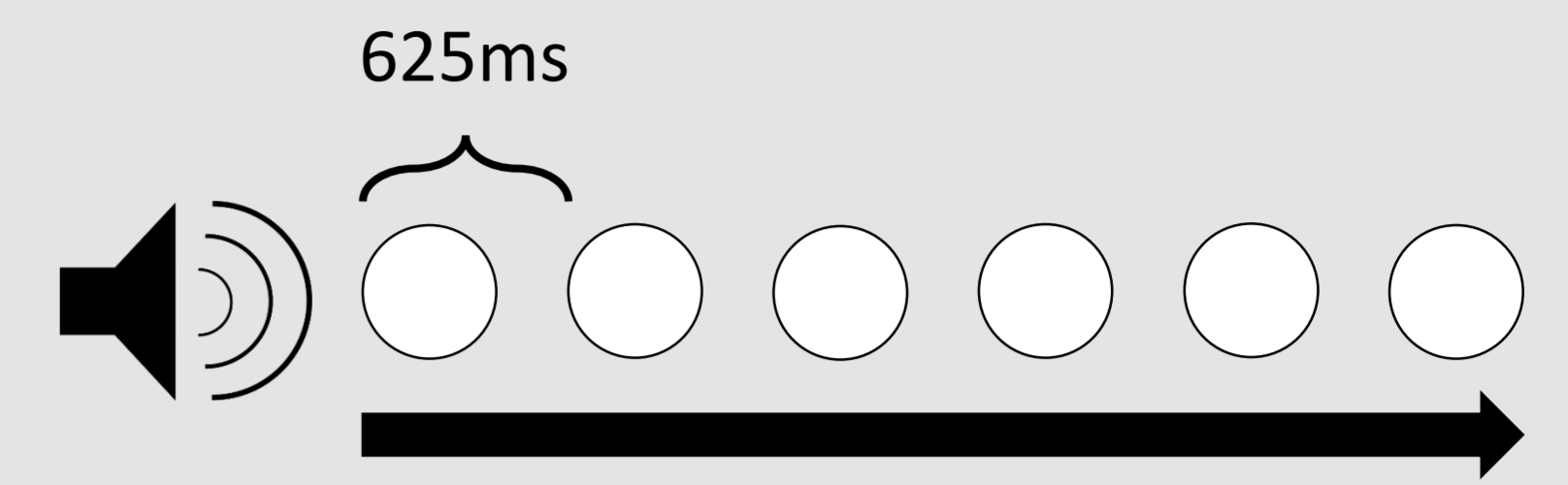


Introduction & aim

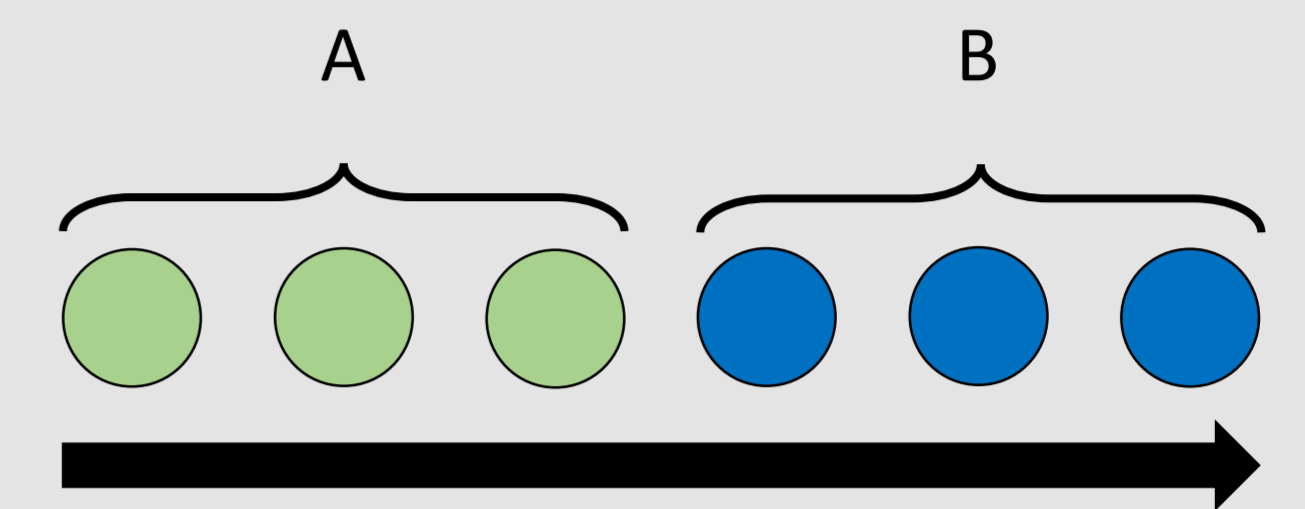
Short-term memory (STM) for item information, i.e. the ability to recall memoranda independently of their serial position within a list, is typically enhanced by long-term memory (LTM) knowledge. In contrast, the interactions between STM for serial order, i.e. the ability to recall items in their correct serial position, still remain poorly understood. Yet, some theoretical models postulate **interactions between serial order STM and linguistic LTM** (e.g. Acheson & Macdonald, 2009; Burgess & Hitch, 2006; Majerus, 2009). This study aimed at assessing whether item and serial order processing could interact, by focusing more specifically on **semantic knowledge**.

Method

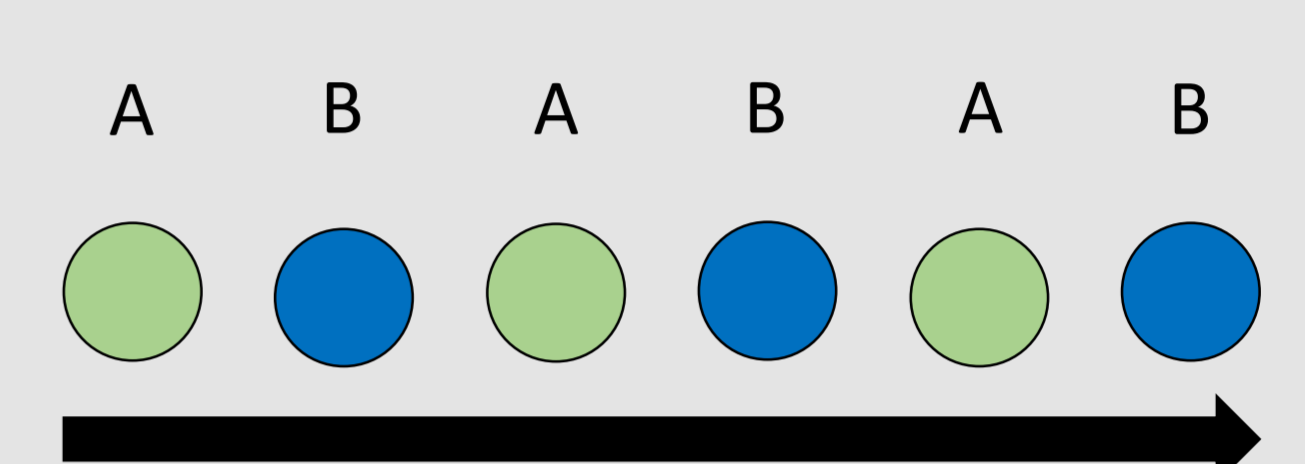
Immediate serial recall. Participants listened to auditory lists of **6 words** and had to recall each word in correct **serial position**.



Experiment 1 – Direct semantic grouping. ($N = 39$) Words in the list were **semantically related or not**. The words were semantically related by **groups of 3** (e.g. **three, leaf, branch, cloud, sky, rain**) in the related condition.

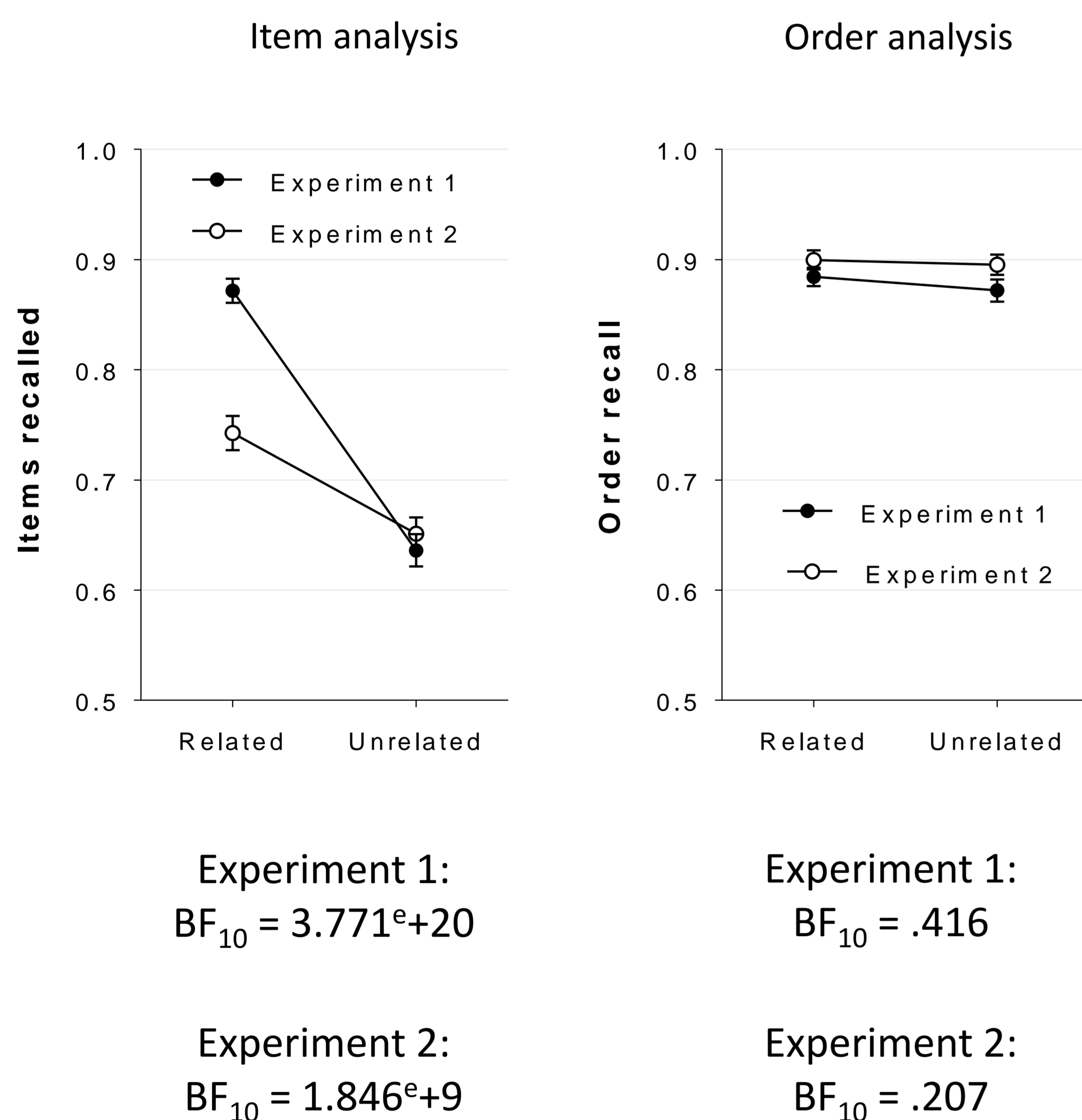


Experiment 2 – Interleaved semantic relatedness. ($N = 40$) Contrary to Experiment 1, the semantically related words were presented in an **interleaved format** (e.g. **three, cloud, leaf, sky, branch, rain**).

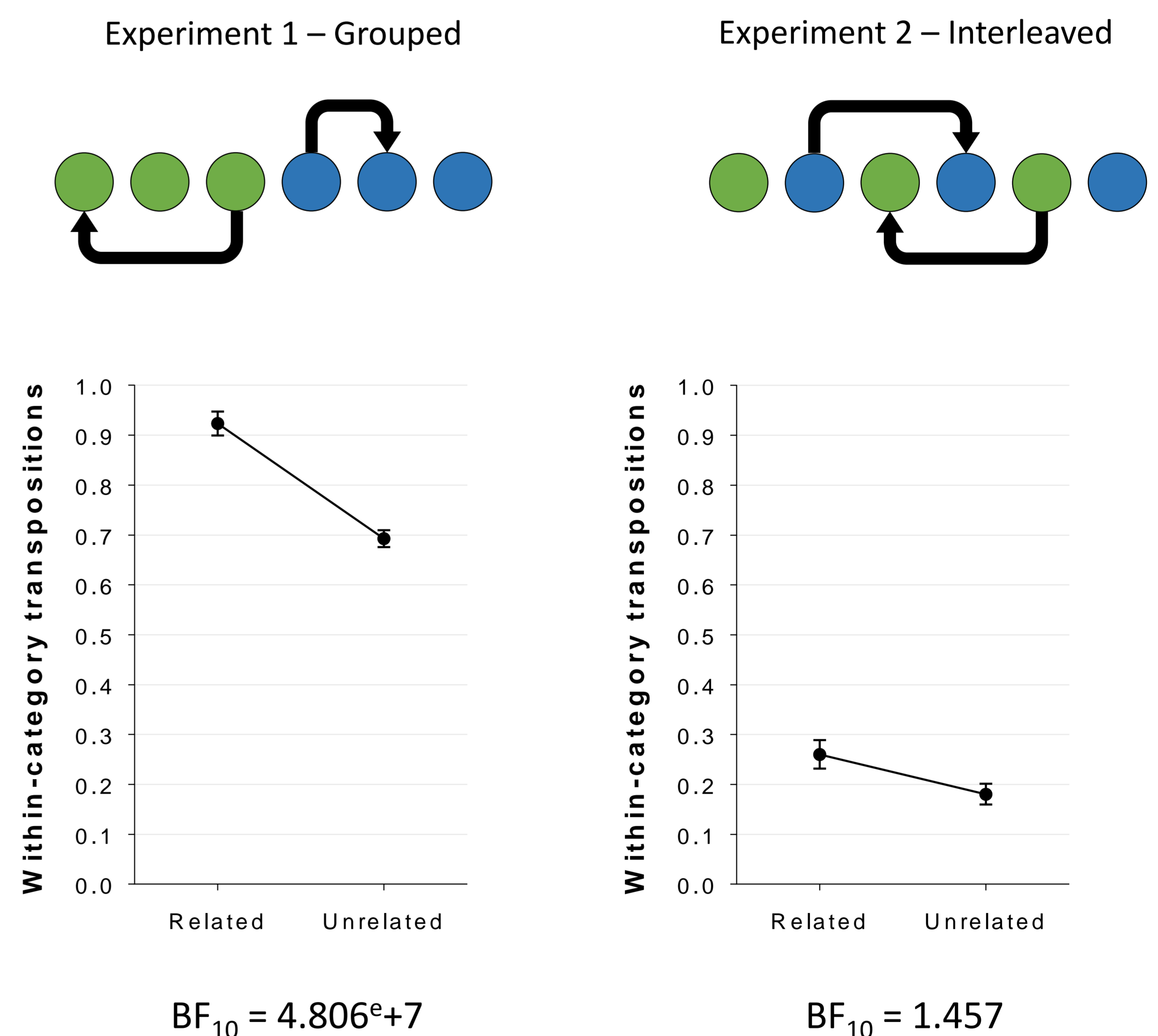


Results

Item and order recall performance



Transposition error analysis



Discussion & conclusion

Semantic relatedness:

- Increased item recall in line with previous studies
- Did not impact overall order recall performance
- Led to increased transposition errors, but only in the direct semantic grouping condition, in which both semantic and serial position codes were similar and confusable

These results indicate that:

- Direct interactions between the coding of verbal item information and the coding of serial position information need to be incorporated
- Available frameworks allowing for these interactions need further specification, especially at the semantic level (e.g. Burgess & Hitch, 2006; Majerus, 2009)
- A more general integration with models specifying mechanisms at the linguistic level (e.g. Acheson & MacDonald, 2009) could be accomplished

References

Acheson, D. J., & Macdonald, M. C. (2009) *Psychological Bulletin*, 135(1), 50–68.
Burgess, N., & Hitch, G. J. (2006) *Journal of Memory and Language*, 55(4), 627–652.
Majerus, S. (2009) In *Interactions between short-term and long-term memory in the verbal domain* (p. 244).

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