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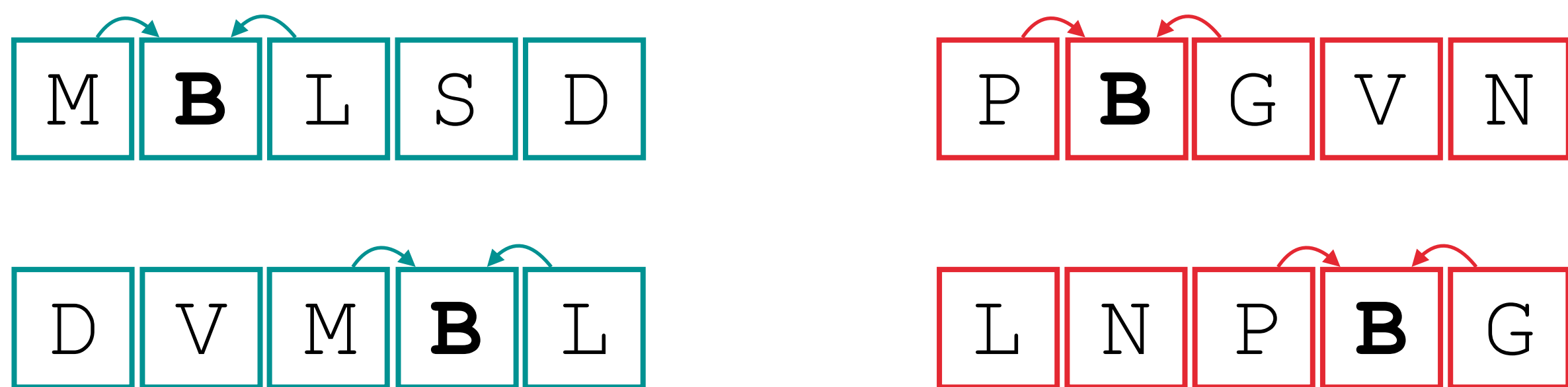
Single letters are more easily identified when embedded in lexical contexts, suggesting that the visual processes involved in reading are deeply affected by linguistic knowledge. Such knowledge comprises not only word forms, but also the statistical regularities inherent in the language: **do skilled readers rely on this information during the early stages of orthographic processing?**

## MATERIALS

On the basis of **transition probabilities (TP)** between Italian letters, we constructed one **high-TP** and one **low-TP** triplet for 10 consonants.

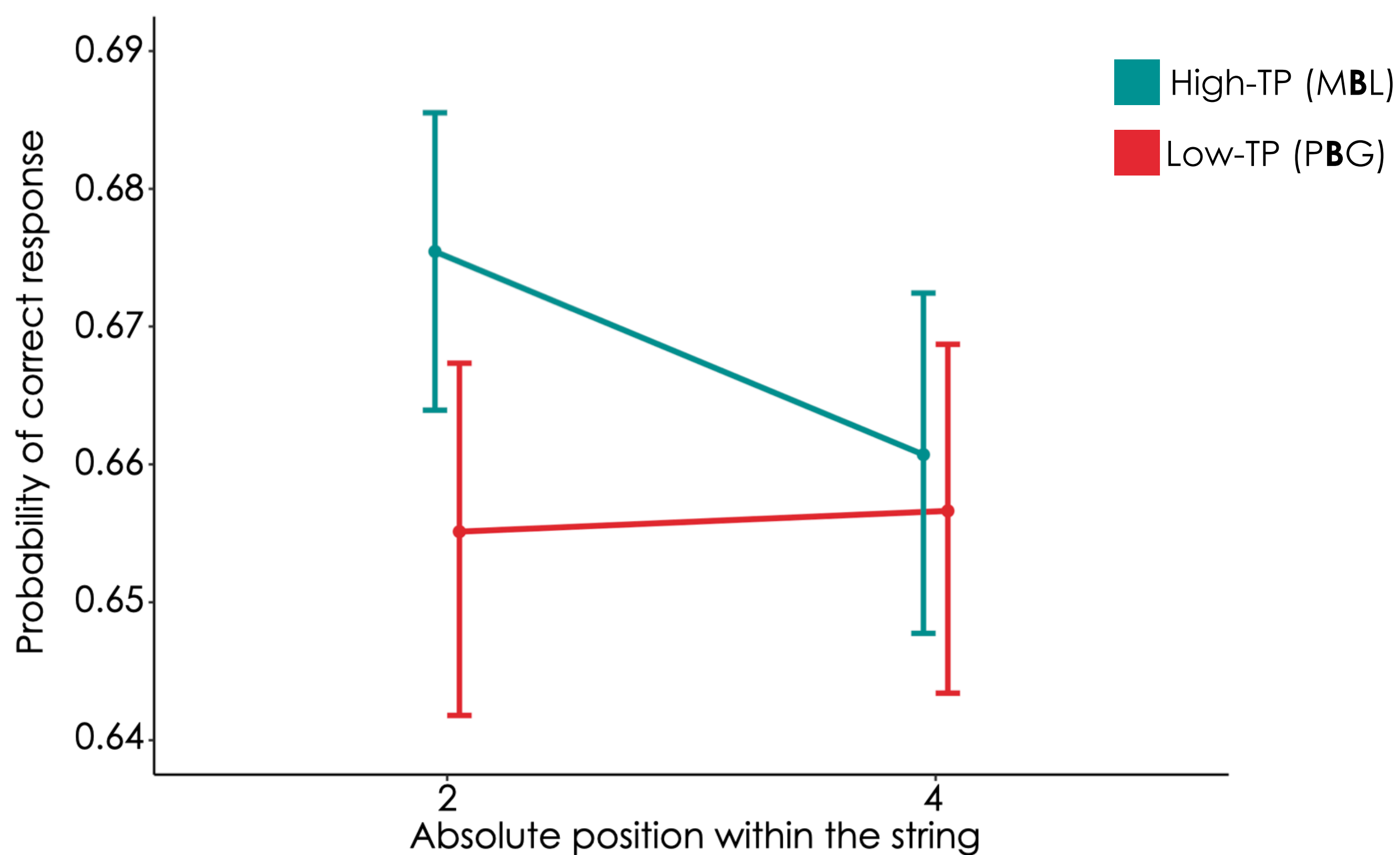
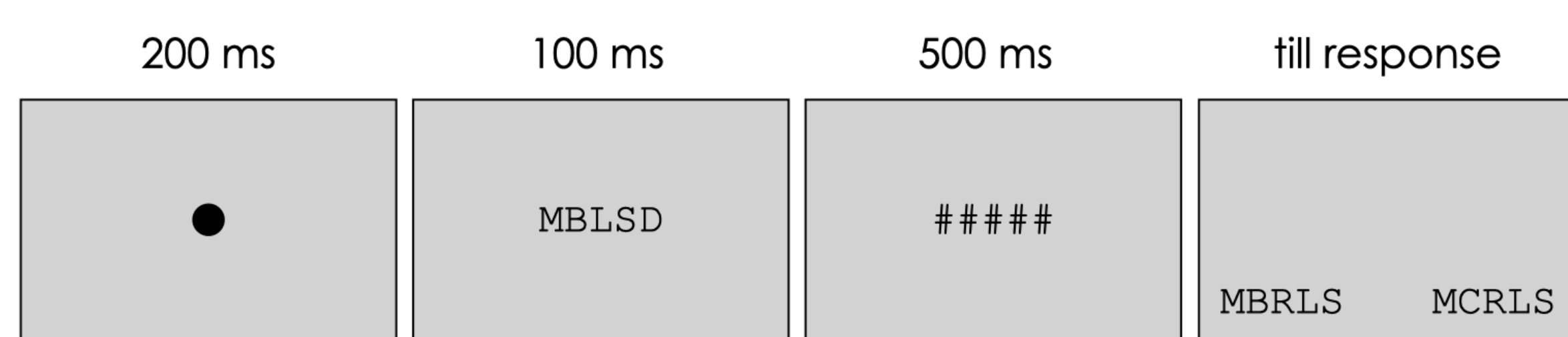


Triplets were then embedded in five-letter long strings, so that the target letter would appear in both **second** and **fourth** position.



## EXPERIMENT 1

54 Skilled readers Whole-string two-alternative forced choice task



Letters embedded in **high-TP** triplets were identified more accurately compared to **low-TP** triplets (main effect of context:  $\chi^2=6.743$ ,  $p=0.009$ ). The interaction between context and position failed to reach significance ( $\chi^2=2.237$ ,  $p=0.134$ ).

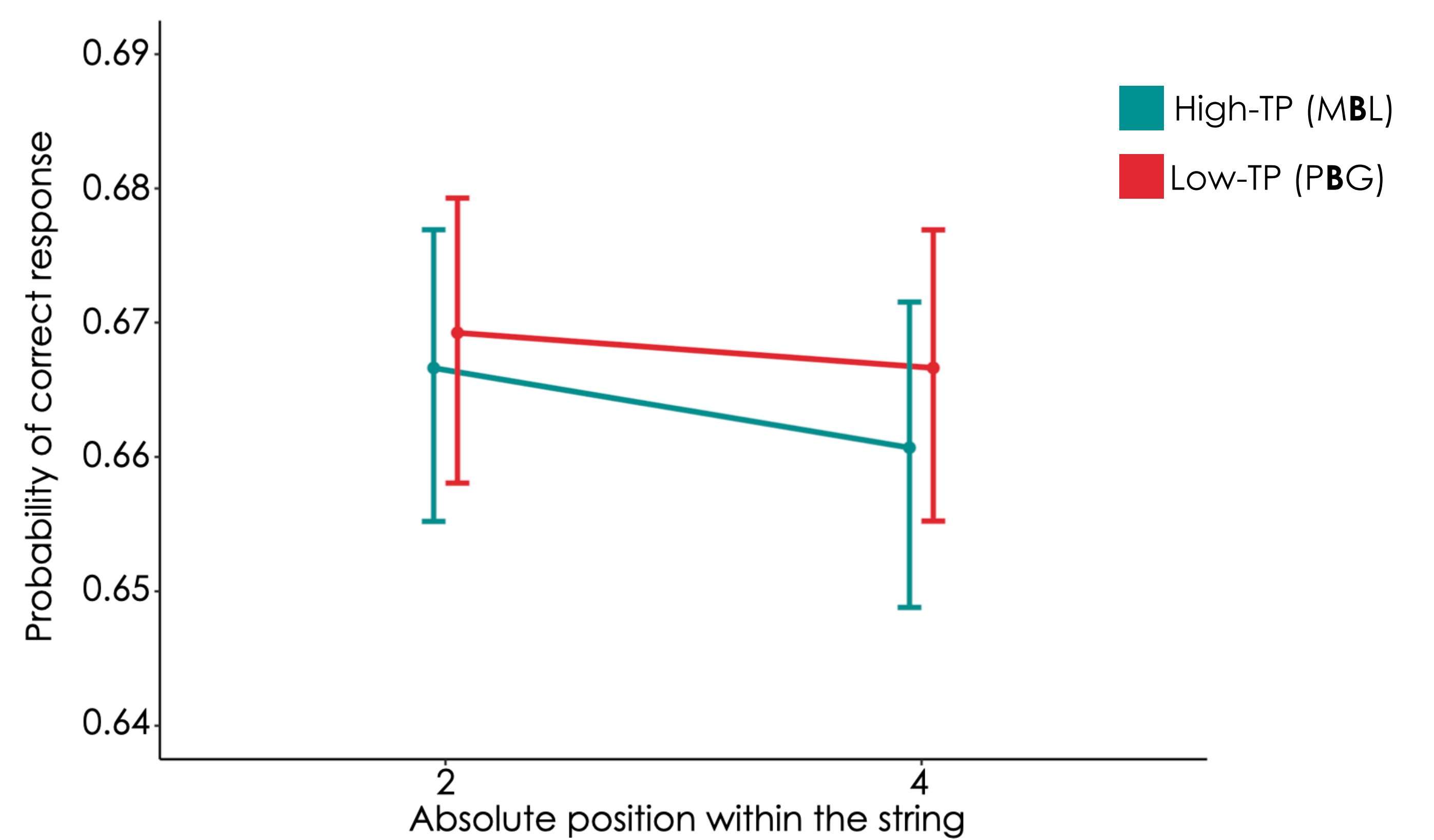
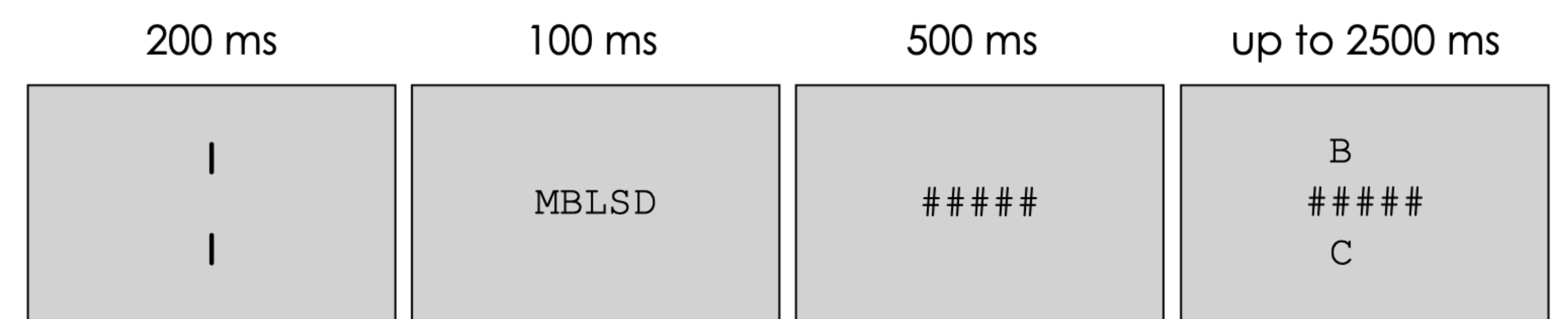
## CONCLUSIONS

- During the **early stages of reading**, skilled readers capitalize on their **lifelong experience** with **letter co-occurrence regularities**.
- The effect of letter co-occurrence statistics is modulated by task demands, as it emerges with tasks that encourage a more **holistic** processing.
- With increasing task demands (e.g., response-time constraints), co-occurrence regularities interact with the encoding of **positional information**.

## EXPERIMENT 2

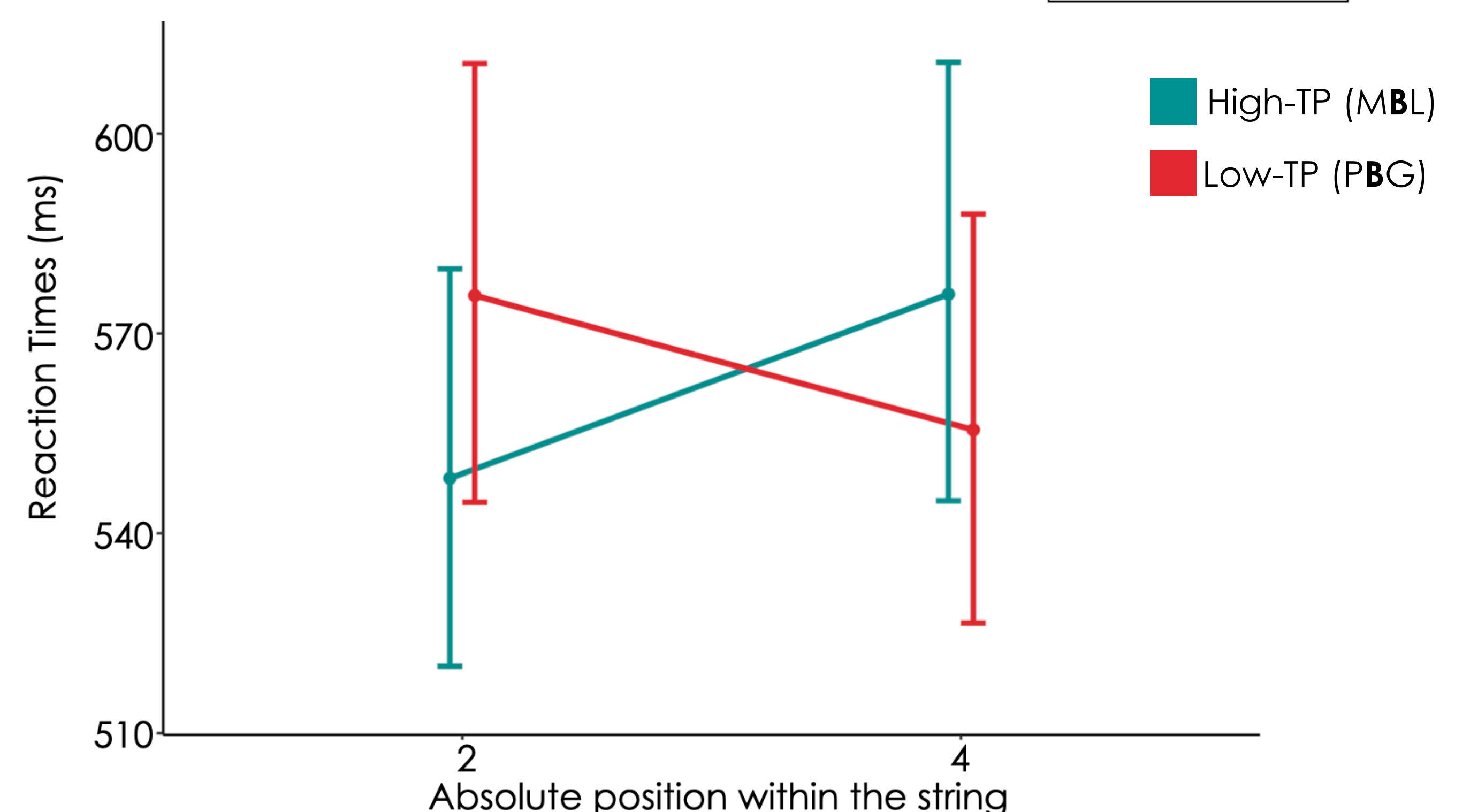
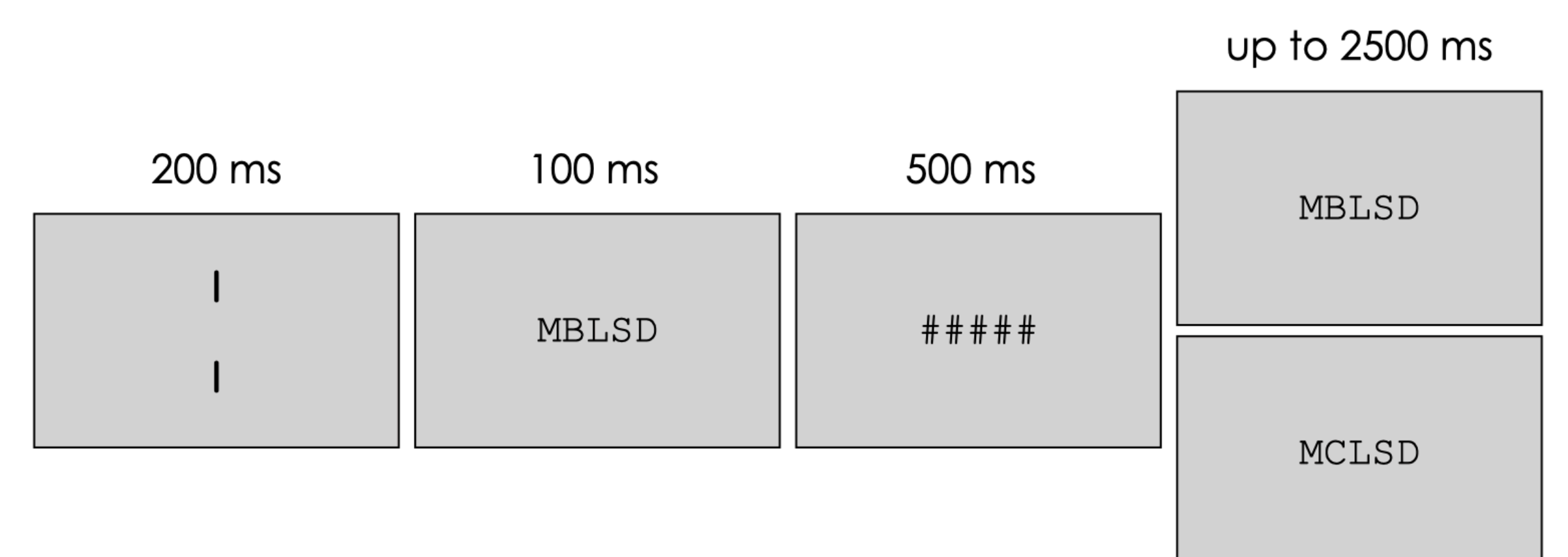
61 Skilled readers 1. Reicher-Wheeler task 2. Same-Different matching task

### REICHER-WHEELER TASK



Letter identification accuracy was not significantly affected by context ( $\chi^2=0.141$ ,  $p=0.707$ ).

### SAME-DIFFERENT MATCHING TASK



**High-TP** triplets elicited faster same responses compared to **low-TP** triplets for targets in **second position**; this pattern reverses for position four (main effect of context:  $\chi^2=5.385$ ,  $p=0.020$ ; position x context interaction:  $\chi^2=7.277$ ,  $p=0.006$ ).