# Supplemental Material for:

# Person-Based Organisation in Working Memory

# Sho Ishiguro and Satoru Saito

**Supplemental Material 1**

# Reading Time

## Experiment 1. The mean reading time for a sentence was calculated for the participants. The reading time for a sentence when a computer-related error occurred was excluded. The mean reading time was longer in the single person condition (M = 5.18 seconds) than in the multiple person condition (M = 5.06 seconds), *t*(31) = 2.76, *p* < .01.

## Experiment 2. The mean reading time was longer in the single person condition (M = 5.90 seconds) than in the multiple person condition was (M = 5.74 seconds), *t*(31) = 4.41, *p* < .001.

Experiment **3**. The second and later sentences in each trial in the single person condition and all the sentences except the first sentence in the first trial in the constant person condition included a demonstrative, “sono” (“the”). Therefore, comparing the reading times of the second and later sentences for both conditions enabled controlling for the sentence length. A two-way repeated measures ANOVA with sentence position factor (the first position and rest positions conditions) and person representation factor (single person and constant person conditions) was performed. The first position condition focused on the reading time for the first sentences in the trials. The rest positions condition targeted the second and later sentences in the trials. The person representation factor did not lead to statistical differences, *F*(1, 46) = 1.83, *p* = 0.18. The sentence position factor affected the reading time, *F*(1,46) = 150.8, *p* < .001. The interaction between the two factors was statistically significant, *F*(1,46) = 10.2, *p* < .01. For the observed interaction, the simple main effect was tested. For the first position, the reading times differed in the two conditions of the person representation factor (M = 5.19 and 5.30 seconds for the single person condition and the constant person condition, respectively), *t*(1,46) = 2.78, *p* < .01. For the rest positions condition, in contrast, the reading times did not statistically differ (M = 5.72 and 5.70 seconds for single person condition and constant person condition, respectively), *t*(1,46) = 0.56, *p* = .58.

Experiment **4**. An analysis, as done in Experiment 3, was performed to Experiment 4. The object representation factor (the single object vs. the constant object conditions) did not show statistical differences, *F*(1, 71) = 2.85, *p* = 0.10. The sentence position factor affected the reading time, *F*(1,71) = 87.7, *p* < .001. The interaction between the two factors was statistically significant, *F*(1,71) = 21.9, *p* < .001. Because the interaction was observed, the analysis of the simple main effect on both of the first and rest position conditions was performed. For the first position, the reading times differed in the two conditions of the object representation factor (M = 5.22 and 5.36 seconds for the single object condition and the constant object condition, respectively), *t*(71) = 3.34, *p* < .01. For the rest position, however, the reading times did not differ in the two conditions (M = 5.66 and 5.64 seconds for the single object condition and the constant object condition, respectively), *t*(71) = 0.89, *p* = 0.37.

## Discussion

In Experiments 1 and 2, the reading time was longer in the single person condition compared to that in the multiple person condition. This could be due to the differences in the length of the sentences, which included “sono” (“the”) only in the single person condition.

In Experiment 3 and 4, the analysis of reading time also suggested that long sentences, which included a demonstrative word, required a longer duration for reading (first position condition). When the lengths of the sentences were matched, the reading time did not statistically differ by the presentation of person representation or object representation (rest positions condition). As the duration for the first sentences was likely to have little influence on memory and the duration for the rest sentences was likely to be equivalent in the two conditions, the differences in WM performance in Experiment 3 can hardly be attributed to the differences in the duration of reading.