

# **Relationship between four measures reflecting representations of fraction magnitude in adults: number line estimation, comparison, calculation of fractions, and immediate serial recall of fractions**

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**Abstract:** Our previous studies (presented at the London meeting of EPS in 2017 and submitted for ICPS 2017) suggested that immediate serial recall tasks access magnitude representation of fraction. A subsequent research task is to explore the inter-correlations among four tasks stimulating representations of fraction magnitude: an immediate serial recall task with fraction stimuli and three typical tasks, number line estimation, comparison, and calculation of fractions. The purpose of this study is to examine whether our new measure, the size of the magnitude similarity effect on immediate serial recall of fractions, relates to other typical measures for adults. The results from 36 university students showed a significant correlation between the size of the magnitude similarity effect and the RT of fraction calculation tasks but no correlations among any other tasks. This result suggests that it is necessary to reexamine what tasks could access the magnitudinal representation of fraction in adults.