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Using playing cards as stimuli: the role of order and magnitude in the SNARC effect

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The SNARC effect reflect a left-to-right mapping of numbers resembling a mental number line. However, disentangling the roles played by numbers' magnitude and order in the SNARC effect remains a challenge due to their inherent correlation. This study examined the impact of order and magnitude on the SNARC effect using playing cards as stimuli. While most people organize cards in ascending order (AO), a subset of individuals arranges them in descending order (DO). For individuals in the DO category, there is a stable tendency to associate low-magnitude cards (e.g.,2) to the right and high-magnitude cards (e.g.,6) to the left, creating conflicting spatial mappings for cards' order and magnitude. In our first lab experiment, DO participants (N= 31) engaged in a magnitude classification task involving both simple numerals and playing cards as stimuli. A one-sample t-test conducted on mean regression weighs showed that they deviated significantly from zero in the simple-numerals condition, in line with the SNARC effect. However, no difference emerged when classifying cards. To further investigate this null effect, we conducted an online experiment with a larger sample of DO participants (N=59) to replicate Experiment 1 and clarify spatial associations in card classification. Surprisingly, results showed that DO participants consistently exhibited SNARC effects in both number and card classification tasks, suggesting that magnitude played a decisive role, regardless of card order.
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