Differential auditory SNARC effect in young adults along the spectrum of hypnotizability

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The spatial-numerical association of respond codes (SNARC) refers to the association between the spatial organizations of response codes and numerical magnitude information. This phenomenon indicates an "automatically" activated mental number line incrementing from left to right. To examine whether SNARC is an automatic process, the current study tested participants on a numerical oddity judgment task after they are exposed to Reverse Suggestion (RS) or Ordinary Suggestion (OS). The RS group received suggestions of an imaginative, reverse-order, mental number line, while the OS group received suggestions to strengthen the regular order of magnitude. After receiving suggestions (without any hypnotic induction), participants were asked to close their eyes and perform an auditory SNARC task in which they judge the oddity of an auditory number by pressing the left or right button. Finally, participants were tested on a Chinese version of the Harvard Group Scale of Hypnotic Susceptibility (HGSHS) to measure their hypnotizability. The results show a trend of linear relationship between the imaginative digital number suggestion effect and hypnotic suggestibility. In particular, under the "one-large" suggestion, the slope of the "anti-SNARC effect is significantly correlated with HGSHS scores. The results indicate that hypnotic suggestibility could be a significant predictor of the suggestion effect on the imaginative mental number line, even when participants have not experienced hypnotic induction. To conclude, the mapping between the spatial organizations of response codes and numerical magnitude may not be as automatic as proposed in extant theories for the SNARC effect.