

## **Exploring unconscious knowledge: Individual differences in ideomotor response**

### **ABSTRACT:**

#### **Background**

For centuries, people have asked questions to hand-held pendulums and interpreted their movements as responses from the divine. These movements occur due to the ideomotor effect, wherein thinking of a motion causes muscle movements that swing the pendulum.

#### **Aim**

We investigated whether pendulums can aid decision-making and which personality traits predict this performance.

#### **Method**

In Study 1, 80 participants completed two tasks. In the verbal task, participants searched for a target in a series then stated whether they saw it. In the pendulum task, participants instead "asked" a pendulum whether the target was present; we told them certain movements meant *yes* and *no*. We recorded their accuracy and personality measures.

#### **Results**

Only transliminality (sensitivity to subtle stimuli) predicted pendulum performance. Response bias was higher in the verbal task, which we confirmed in Study 2 (N=40). We next tested how these results generalise to other domains. In Study 3, 91 participants completed a similar procedure but instead answered questions about videos. This time, transliminality negatively correlated with pendulum accuracy. Sense of agency also predicted accuracy: those who felt less effort over the pendulum movements performed better. In Study 4, we examined top-down influences on these agency reports. By giving suggestions to 60 participants, we were able to reduce their feelings of agency.

#### **Conclusions**

People have a different decision strategy when using a pendulum. This finding may help explain why some people can accurately answer questions with pendulums and Ouija boards. Identifying the differences between ideomotor and verbal responses could lead to practical ways to improve decision-making.

#### **Keywords**

Ideomotor action, Unconscious processing, Agency, Ideomotor effect

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