Hypnosis is known to influence behaviour and sensory processing. The neurological mechanisms underlying hypnosis and the stable trait of hypnotic susceptibility are not well understood.

We investigated the association between level of hypnotic susceptibility and reaction time.1

Method

Eighteen right-handed participants underwent a hypnotic induction and were categorised as “high” (score > 6) or “low” (≤ 6) responders using the Stanford Hypnotic Susceptibility Scale: Form C (SHSS:C).2

Participants completed simple (SRT) and choice (CRT) reaction time tasks in and out of hypnosis. The task involved rapid flexion of the left or right index finger. LEDs embedded in the body and keys of the manipulandum provided warning, precise and stimulus signals. EMG from bilateral flexor digitorum superficialis muscles and response force from each key were recorded.

Figure: Different factors and number of trials at each level. A total of 424 trials were completed in eight blocks of 53 (including 5 catch trials), four blocks each in the non-hypnotised and hypnotised states. An equal number of left and right SRT and CRT trials were randomly distributed within each block.

Level of hypnotic susceptibility does not affect simple, choice reaction time, or choice – simple reaction time difference

Hypnosis is associated with reduced motor time, but does not alter premotor time

Conclusions

Hypnotic susceptibility, in contrast to hypnotic state, has little or no association with performance in simple or choice reaction time tasks that involve high stimulus-response compatibility. The hypnotic state appears to result in prolonged muscle activation time (motor time). This effect may be due to the relaxing nature of the hypnotic induction.

References