

Placebo research

Below are details of some of the studies on the placebo effect that have been published in the scientific literature. The studies in Table 1 concern how the colour, cost, packaging and number of tablets can influence the placebo effect. Table 2 details two studies that compared the strength of the placebo effect in patients who received different types of placebo treatment.

Type of psychosocial context	Description of study	Outcome
Number of tablets	Looked only at the placebo data from many placebo-controlled clinical trials of stomach ulcer medications. Placebo groups in which two sugar tablets a day were given, were compared to those in which four sugar tablets a day were given. In all trials, ulcers were diagnosed unambiguously using a gastroscopy camera passed down into the stomach (Moerman, 1983).	The rate of disappearance of ulcers in patients receiving four tablets was significantly higher than those receiving two: a stronger placebo effect was obtained with an increasing number of tablets. The same findings were made in a more recent study that used a different dataset (de Craen, 1999).
Tablet colour	Before being given an hour-long lecture, 52 students were each given one or two sugar pills, which were either blue or pink in colour. Students were told that the pill they were given was either a stimulant or a depressant (Blackwell et al, 1972).	The subjects' alertness was measured (including their pulse, blood-pressure, and pupil size). Those that took the blue pills were less alert than those who took the pink pills. This result probably reflects the cultural significance of these colours: blue means calm; red means action. Two sugar pills were also more effective than one.
Tablet	835 women with headaches	Unsurprisingly,

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packaging	were treated with aspirin or sugar pills. The pills were packaged either in a blank box or in a box belonging to a widely recognised brand name (Bratihwaite and Cooper, 1981).	aspirin had a greater effect on headaches than sugar pills. But the effect of both aspirin and the placebo was significantly higher in those who took pills from the branded boxes. This illustrates the importance of preconceived ideas about the medication that we take.
Tablet cost	A pill purportedly containing a new painkiller drug was given to 82 individuals. Half were told that the pill cost \$2.50 and the other half were told that it cost \$0.10. Participants were asked to rate the level of pain experienced from electrical shocks to the wrist both before and after taking the pill (Waber, 2008).	Pain reduction was greater for those taking the more expensive pill. It seems there is a relationship between price and the placebo effect, reflecting our belief that if something costs more it is likely to be of a higher quality.

Table 1: How the colour, cost, packaging and number of tablets taken influence the placebo effect

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Treatments compared	Description of study	Outcome
Pills and injection	Looked at the placebo data from 22 clinical trials to compare the effect of salt-water injections to sugar pills for the treatment of migraine (Kleijnen, 2000).	Salt-water injections were more effective than pills. This might be because an injection is a more dramatic form of treatment and so patients expect it to have a greater therapeutic effect.
Pills and acupuncture	270 individuals suffering from arm pain were either given a sugar pill that they were told was an analgesic, or were given sham acupuncture, in which the needle went up the shaft instead of piercing the skin (Kaptchuk, 2006)	The sham acupuncture was a more effective method of pain relief. This may be explained by the drama and comparatively high level of patient-physician contact involved in acupuncture.

Table 2: How the type of treatment influences the placebo effect

References

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