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EXPLORING THE IMPACT OF EXPERIMENTER'S KNOWLEDGE ABOUT PLACEBO TREATMENT ON PAIN REPORTS

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Background: Healthcare providers, their characteristics and their expectations about treatment affect treatment outcome.

Aims: We report incidental findings of effects of experimenters on placebo treatment and pain reports, by a secondary analysis of data from an experiment.

Method: 48 males and 50 females underwent a placebo treatment against pain. Four minutes of heat pain was induced in a pre-test, a conditioning phase, and a post-test, and a placebo cream was administered before conditioning and the post-test. Participants were tested by either an experimenter informed that all creams (i.e., Certain Information; CI, 45 participants), or half of the creams (i.e., Uncertain Information; UI, 53 participants) were active. A videotaped experimenter instructed the participants, therefore, the experimenters had minimal interaction with participants.

Preliminary results: In the post-test, the CI experimenters elicited lower pain reports compared to the UI experimenters. The conditioning strength, i.e., the reduction in pain from pre- to conditioning, and the reinforced expectations i.e., increase in expectations from conditioning to post-test, predicted larger pain reduction in the CI group in the post-test. In the UI group, stress was associated with higher pain in the post-test.

Discussion and Conclusion: The experimenters' individual features and their knowledge about the placebo cream reduced the pain. Secondly, the CI experimenters enhanced the effects of conditioning and expectations, while mitigating the effects of stress on pain. The presence of an experimenter with certain beliefs about treatment may weaken participants' stress and amplify the effects of learning and positive expectations on pain. Conclusively, the presence and knowledge of experimenters significantly reduced pain, possibly through subtle nonverbal cues, despite attempts to control them. The findings highlight the experimenter's role in shaping responses to treatments, even in situations with minimal interaction between the experimenter and participants. Thus, in settings where virtual providers are used, the physical presence of experimenters may still influence the results.

Keywords: Experimenter belief, Provider belief, Placebo effects, Nonverbal behaviours

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