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Behavioral and Endocrine Effects of Essential Oils in Humans

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The influence of New Caledonian sandalwood oil on the autonomic nervous system and on the saliva cortisol level, on subjective evaluations on the Profile of Mood States (POMS), and the resulting perception of facial attractiveness were measured on 50 subjects (25 males and 25 females) in a within subjects experiment. The study focused on the possible aphrodisiac effect of sandalwood oil and its potentially identifiable effect between the sexes. Each participant was tested in three sessions where either sandalwood oil or geranium oil was vaporised or no odor was present. The order of introducing the oils or clean air was arbitrary, and unlike other studies [1, 2] the subjects did not know that odors were present in the room. At the beginning and at the end of each session, blood pressure was measured, and the participants had to fill in a questionnaire concerning their subjective emotional status. In addition, saliva samples were collected in order to determine saliva cortisol. During the sessions various physiological parameters were recorded, and the subjects judged the attractiveness of a series of male and female faces presented briefly on a computer monitor using a 5-point visual rating scale. At the end of the last session participants were debriefed and rated the oils on their familiarity and pleasantness. The results indicated no significant influence of New Caledonian sandalwood oil on the parameters of the autonomic nervous system or on the mood status, and no endocrine effects were found. For both sexes the perceived attractiveness was significantly higher under the influence of sandalwood oil in comparison with geranium oil or clean air. The evaluation of the oils' familiarity showed a significant difference between the sexes: sandalwood oil is less and geranium oil is more recognizable for men than for women.

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