The Effects of Sensory Deprivation on Olfactory Thresholds

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Abstract

Olfactory thresholds are not obviously influenced by visual or auditory deprivation. Olfactory testing in the office should be undertaken accurately without the need to address these factors, but further data from more subjects will help to underline this.

Introduction

The aim of this study was to determine if olfactory thresholds are influenced by removal of other sensory inputs, namely hearing and sight.

Materials and Methods

A prospective study was conducted whereby fifty consecutive olfactory threshold tests in total where performed on four subjects (mean age of 38 years; range 29 years – 60 years) over a three month period in 2006. Each subject underwent threshold testing with the odour phenethyl alcohol using a computer-driven olfactometer device. Subjects were tested both with a blindfold and ear-defenders, and then without, and this order was randomised. These olfactory thresholds were compared and analysed for a statistical difference.

Results

There was no significant difference between the olfactory thresholds performed with visual and auditory deprivation, and the olfactory thresholds without visual and auditory deprivation (p = 0.01). The statistical analysis does not however confirm equivalence.

Conclusion

Olfactory thresholds are not obviously influenced by visual or auditory deprivation. Olfactory testing in the office should be undertaken accurately without the need to address these factors, but further data from more subjects will help to underline this.

Keywords: olfactory test, olfactory thresholds, odours, sensory deprivation