

PSYCHOLOGICAL BIAS CAUSED BY NOTIFICATION OF ODOR NAME IN SENSORY EVALUATION TEST OF ODOR

Toshio Yamanaka^{1†}, Kazunobu Sagara¹, Hisashi Kotani¹,
Akihisa Takemura¹ and Misako Fujiwara²

*1 Osaka University, Japan

*2 Nissan Motor Co., Ltd., Japan



Toshio Yamanaka

SUMMARY

In this study, the effect of preliminary information about the name of odor on the odor evaluation were tested using building materials such as **tatami**, **white cedar** and **concrete**. The effects of notification of odor name and information of fake odor name were investigated by means of odor bag method. Used olfactory evaluation scales are “odor intensity”, “hedonics”, “familiarity” and “acceptability”. Familiarity is one of four scales (familiarity, freshness, complexity, warmth) used for the estimation of odor impression (Takemura et al. 2007).

TEST METHOD

Odor bag method: 3 litre polyester bags were used.

Test N & I : Firstly, panels were **not informed** of the name of odor source before testing odors, and secondly panels were **informed** of the right name of odor source before testing the same odor.

Test F & R : Firstly panels were informed of the **fake name** of the odor source before testing, and secondly panels were told the **right name** of the odor before testing the same odor.

PANELS: Eight subjects ranging from 20 through 23 years old

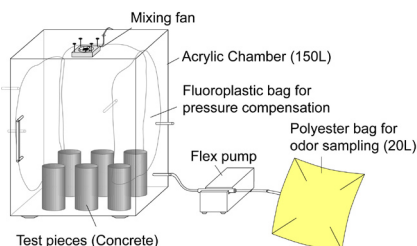


Figure 1. Setup for odor sampling

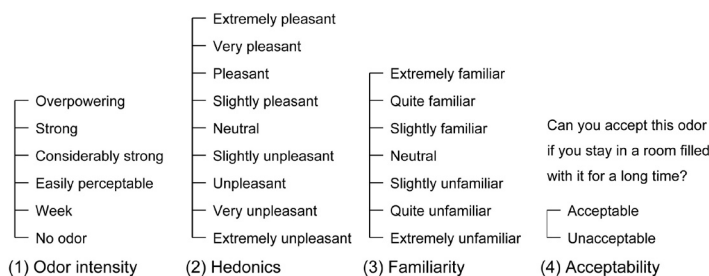


Figure 2. Scales for sensory evaluation

RESULTS

Effects of notification of odor name (Test N & I)

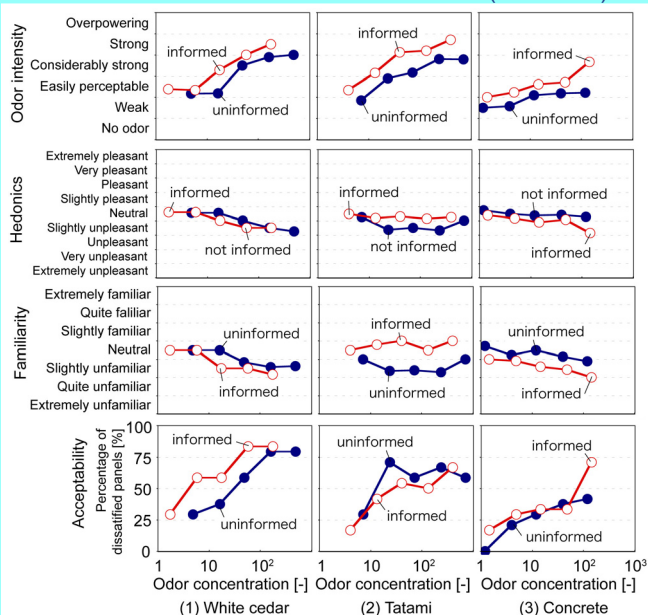


Figure 3~6. Relationship between odor concentration and odor evaluations (Test N & I)

- (1) The panels informed of the name of odor tend to feel stronger odor than the panels not informed.
- (2) The hedonics will not be influenced so much by the information of odor name, but the recognition of tatami tend to relax the unpleasantness of tatami odor slightly.
- (3) As for tatami, the informed panels might feel “slightly familiar” with the odor even at high odor concentration.
- (4) At high odor concentration, the percentage of panels voting “unacceptable” increases, but the information of white cedar accelerate the unacceptability of odor. On the other hand, the information of tatami odor decrease the percentage of unacceptable due to the familiarity of tatami.

Effects of fake odor name (Test F & R)

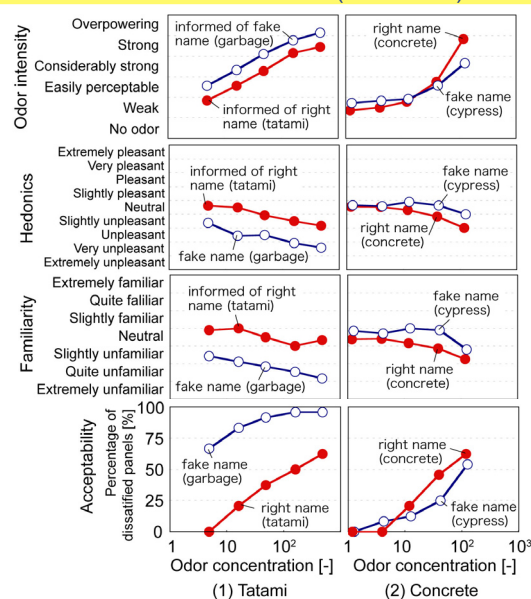


Figure 7~10. Relationship between odor concentration and odor evaluations (Test F & R)

- (1) As for tatami odor, the panels informed of fake name “garbage” vote higher intensity than rightly informed panels. In the case of concrete, the difference between fake name (“cypress”) and right name (“concrete”) is not so large as tatami.
- (2) The panels believing it to be garbage odor feel unpleasantness much stronger than the panels thinking it to be the odor of tatami. In the case of concrete, the fake name of “cypress” relieves a little the unpleasantness of this odor.
- (3) The basic tendencies in the familiarity of odor vs odor concentration are the same as hedonics, but the effect of fake name is larger than the hedonics.
- (4) The effect of “garbage” and “cypress” is the largest in acceptability. The psychological bias on the olfactory response appears strongest in the evaluation of acceptability.