

Abstract

This study examined the relationship between personality and the ability to imagine aromas portrayed in visual images. A 2 x 2 mixed factorial design was performed to assess the relationship between sensitivity (high, low), type of image (pleasant, disgusting), and olfactory imaginability. Previous studies have found that disgusting images affect participants' attention longer than non-disturbing images (Hooff et al., 2013). It has been theorized that, because of an early human survival instinct, disturbing elements usually have a higher impact on participants' senses than non-disturbing images. Approximately 28 male and female adults participated in the present online study. Participants included both CLU students and others accessed through the researcher's social media sites. Participants completed a measure of sensitivity (Highly Sensitive Person Test) and viewed 14 images that portrayed either pleasant (e.g., a flower) or unpleasant (e.g., garbage) smells. Participants rated the images in terms of how well they could imagine the smell being portrayed. I predicted that participants scoring high on sensitivity would report being able to imagine the aroma of the disgusting images more strongly than the non-disgusting images, whereas participants scoring low on sensitivity would score low on ability to imagine the scents of both types of images.

Introduction

Humans can store visual, auditory, tactile, gustatory, and olfactory memories. However how well can they recall the olfactory memories? Are certain individuals better at recalling sensory memories? Do some olfactory memories cling to them more than others and is it those that leave a negative impression? Researchers suggest that as part of a primal survival instinct humans avoid unpleasant smells for fear of being poisoned or getting sick (Hooff et al., 2013). Humans are no longer in those primitive ages, but the instinct is still ever present, and humans continue to be repulsed by certain items. Research also shows that some individuals are more sensitive or susceptible than others. The question was are they also more susceptible to negative smells? If humans learn to avoid danger and retain the information for later use, are they more alert to those negative smells later in life? The present study focused on the relationship between an individual's level of sensitivity and the images (positive, or negative) that they were most likely to imagine an aroma from, after viewing. Will the sensitivity of the individual matter in whether they can imagine more smells or not? Will the type of image (positive or negative) impact the level of difficulty to imagine a smell?

Hypotheses

Participants scoring high on a sensitivity scale would report being able to imagine the aroma of disgusting images more strongly than non-disgusting images, whereas participants scoring low on sensitivity would score low on ability to imagine the scents of both types of images.

Method

Participants

- 28 male and female participants both from CLU students and others accessed through the researcher's social media sites.
- 39.3% White, 46.4% Hispanic or Latino or Spanish Origin, 3.6% Black or African American, 3.6% Asian, 3.6% Multiethnic, and 3.6% preferred not to disclose.
- 25% Male, 75% Female
- 18 – 32 years of age ($M = 21.00$, $SD = 2.92$)

Materials

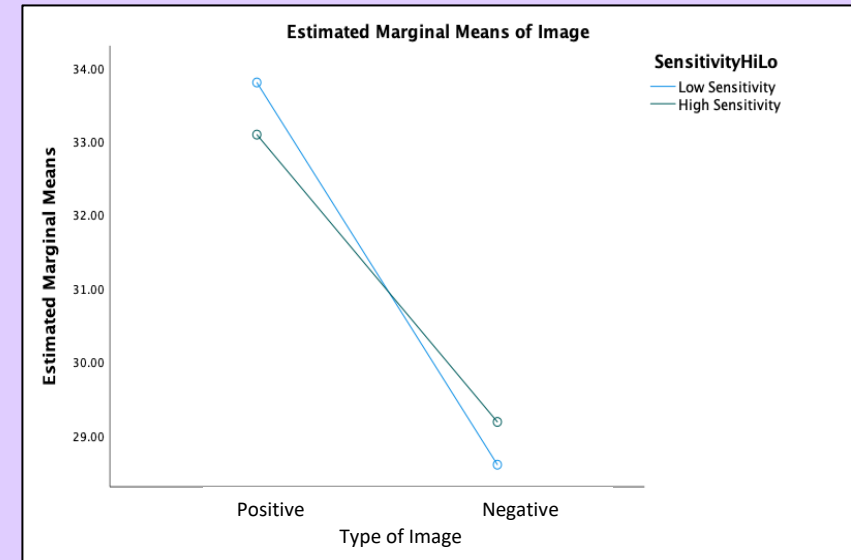
- Informed Consent Form
- Demographics Questions
- Written Instructions
- Sensitivity Questionnaire
- Written Instructions
- Positive and Negative Images

Procedure

1. Participants followed link to Qualtrics study
2. Informed consent form signed
3. Participants answered Demographics Questionnaire
4. Participants read written Instructions and then completed the sensitivity questionnaire
5. Written Instructions read
6. Rated positive and Negative Images

Results

Whether participants were sensitive or not, was not a basis for imagining aromas from images. Also, contrary to predictions, positive images ($M = 33.43$, $SD = 8.02$) were imagined more strongly than negative images ($M = 28.90$, $SD = 10.69$), $F(1, 19) = 5.86$, $p = .026$, partial eta-squared = .24, a large effect size. There was no significant interaction between sensitivity and type of image.



Discussion

Hypotheses were not supported. Possible reasons include:

- Sensitivity Questionnaire may not have been the best indicator of aroma sensitivity
- Directions may have been unclear. Asking someone to imagine an aroma, does not mean the same to all participants.
- Small sample size
- Some of the images shown may have been objects never encountered by the participants. They were not able to imagine an aroma if they have never smelled it firsthand.

Future research should address the above issues and could explore the relationship between positive images and the olfactory sense, use a sensitivity scale focused and directed on the olfactory system, and include a larger sample.