

SHAPING ATTITUDES TOWARDS THE BRAND THROUGH PERCEPTION OF THE PERFUME AROMA

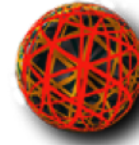
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NEUROTREND

ВЗГЛЯД ИЗНУТРИ



Università Commerciale
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INTRODUCTION

STUDY OBJECTIVES:

To explore the difference in perception of the perfume image, that is based on the advertising, compared to the image based on the aroma tasting

TASKS:

To study perception of the perfume based on the advertising

To study perception of the fragrances through the «blind» tasting

To compare TVC and tasting images

EQUIPMENT AND TECHNOLOGY

Eye-tracking – to register eye movements and attention.

Electroencephalography equipment – to measure memory retention and emotions.

Polygraph – to register emotional impact and emotions.

HD camcorders – to record facial expression and identify emotions.

- The system of high-speed binocular eye tracking RED250
- Professional digital polygraph (PEP) «Energy»
- Electroencephalograph B-Alert X24
- Controllable high resolution camera (Logitech C920 Pro)



THE SCALES AND THEIR VALUES – NEUROMETRICS

ATTENTION

Based on the eye-tracking records

0 = no long fixations (fixations of 180 Ms or longer)

100 = all fixations for the time period (frame) are long

INTEREST

Based on the eye-tracking records

It's a ratio between total time of the long fixations and total time of the short fixations, adjusted to the values from 0 to 100.

ENGAGEMENT

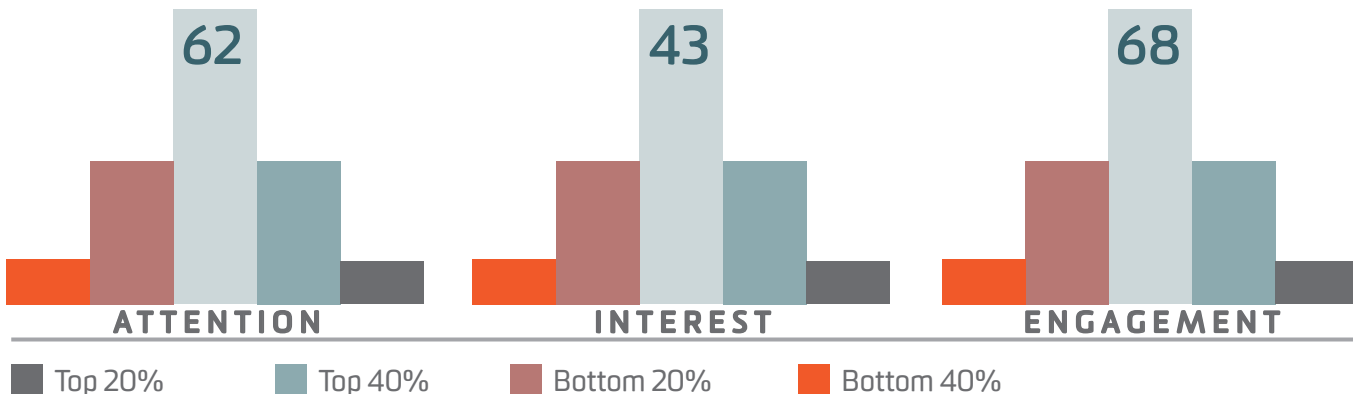
Based on the polygraph and EEG device records

0 = no changes (theoretically not happens for living people)

50 = test stimulus for calibration (included in all experiments)

100 = theoretical maximum possible for a period of 30 to 120 seconds (a human being can't handle more without extreme emotional stress and following blackout)

AND EMOTION



Since 2013 we've tested more than 500 ads, g-spools of TV commercials used for testing or ads in the advertising clutter.

KEY MEASUREMENTS

Attention is associated with selective sensual perception of audio-visual content elements targeted at information scanning **with a focus on the most important details.**

Interest is a cognitive need to learn what's going on on the screen/**direct interest in the audio-visual information.** Attention and interest measures are derived from the data recorded with eye-tracker and electroencephalography device (hereinafter referred to as «EEG»).

Emotional **engagement** is a measure of **emotional reaction to the presentation of the stimulus.** Emotional engagement is calculated based on the data recorded with EEG and polygraph.

Change of emotional engagement value provides information about **emotion valence** (positive or negative).

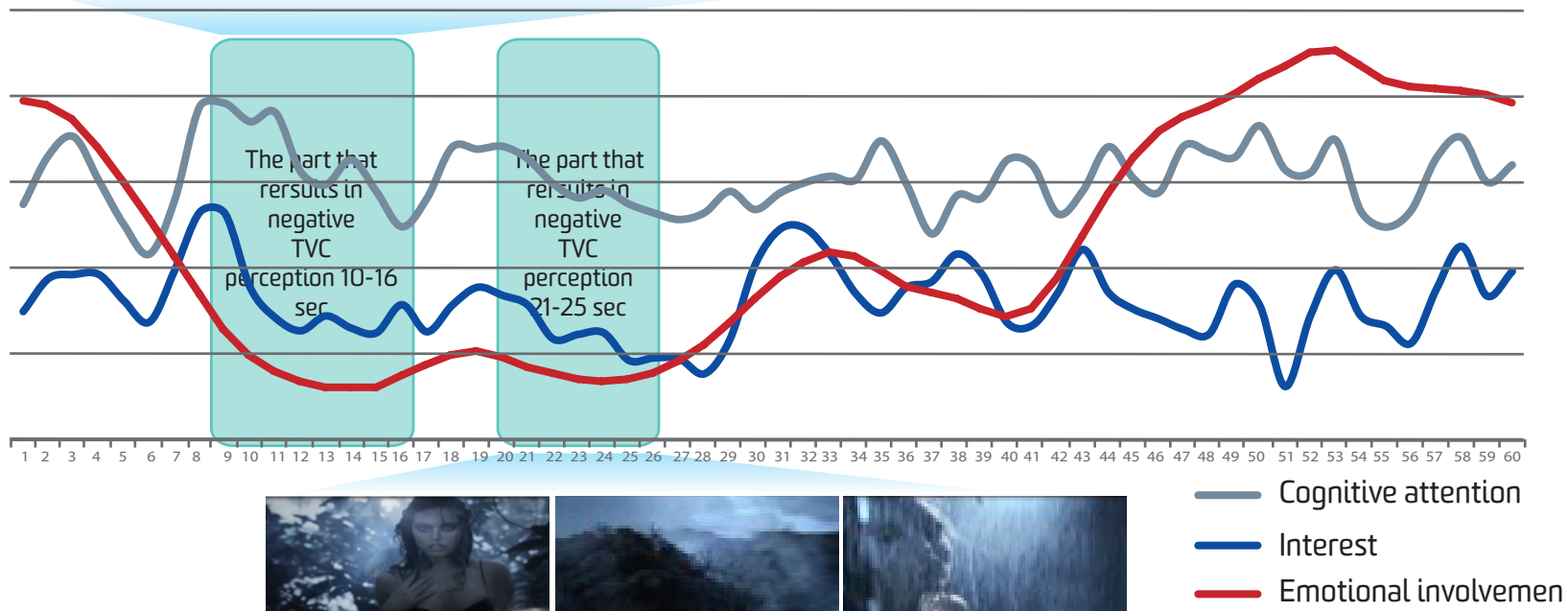
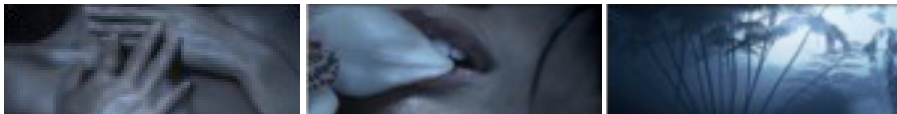
RESEARCH DESIGN

RESEARCH STAGE SEQUENCE

1. To fill in the socio-demographic and perfume usage blocks of the questionnaire
2. To display audio-visual materials (neutral background with a static sky image, the test commercial, neutral background with a static sky image, the control commercial, neutral background with a static sky image, the video clip «Nature», neutral background with a static sky image)
3. To fill in the TVCs evaluation questionnaire
4. To conduct the «blind» tasting of fragrances (three fragrances were used in the test: one experimental aroma was used in the TVCs part and two controls – male and female aromas – were used only during the second stage of the experiment)
5. To fill in the fragrance assessment questionnaire and evaluate correspondence between fragrances and commercials.

Research sample includes 29 respondents – 20 women and 9 men between the ages of 25 to 55.

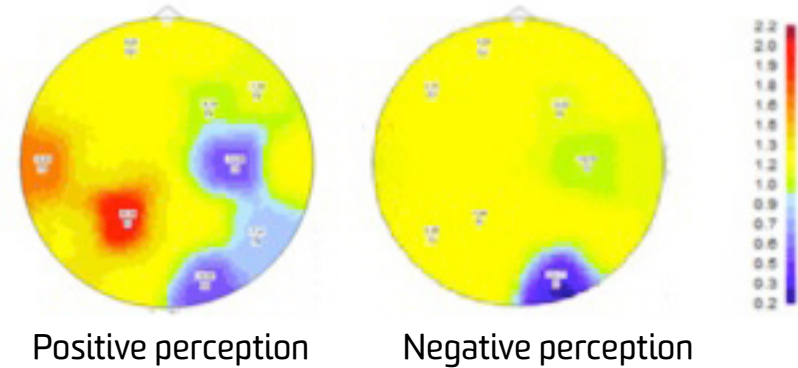
TVC PERCEPTION



TVC PERCEPTION

During the TVC demonstration we've registered the change of hemispheric asymmetry of the alpha rhythm power logarithm in postfrontal leads (F3, F4) compared to the background level.

This measure can be used as a correlate of positive emotions during audio-visual content demonstration as well as a choice predictor (Vecchiato G, Toppi J, Astolfi L, et al. «Spectral EEG frontal asymmetries correlate with the experienced pleasantness of TV commercial advertisements». Medical and Biological Engineering and Computing. 2011; 49(5):579–583; Tomarken A. J. et al. Psychometric properties of resting anterior EEG asymmetry: Temporal stability and internal consistency //Psychophysiology. – 1992. – T. 29. – №. 5. – C. 576-592).



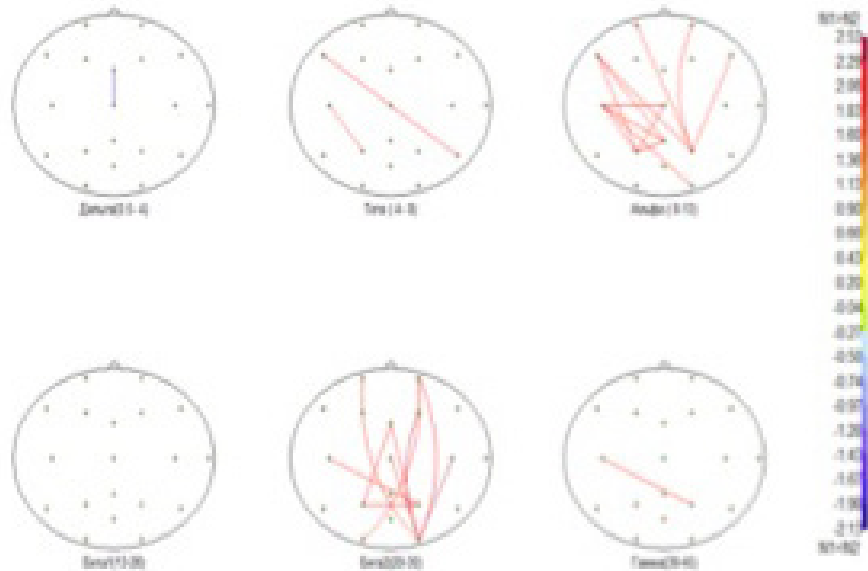
**RED COLOUR INDICATES
STATISTICALLY SIGNIFICANT ($P < 0.05$)
DECLINE OF SLOW ALPHA RHYTHM
POWER COMPARED TO THE
BACKGROUND LEVEL.**

FRAGRANCE PERCEPTION

	FRONTAL ASYMMETRY INDICATOR LN (POWER(RIGHT)/ POWER(LEFT))
CONTROL FRAGRANCE (FEMALE)	0,00284805
TEST FRAGRANCE (FEMALE)	0,20167796
TEST FRAGRANCE (MALE)	0,001345

Comparing control female fragrance to test female fragrance we have received measures that differ from the background levels, indicating more positive perception of the tested fragrance. Therefore frontal asymmetry indicator can be used as a choice predictor, which is confirmed both with published data and sociological data collected during the current study.

FRAGRANCE PERCEPTION

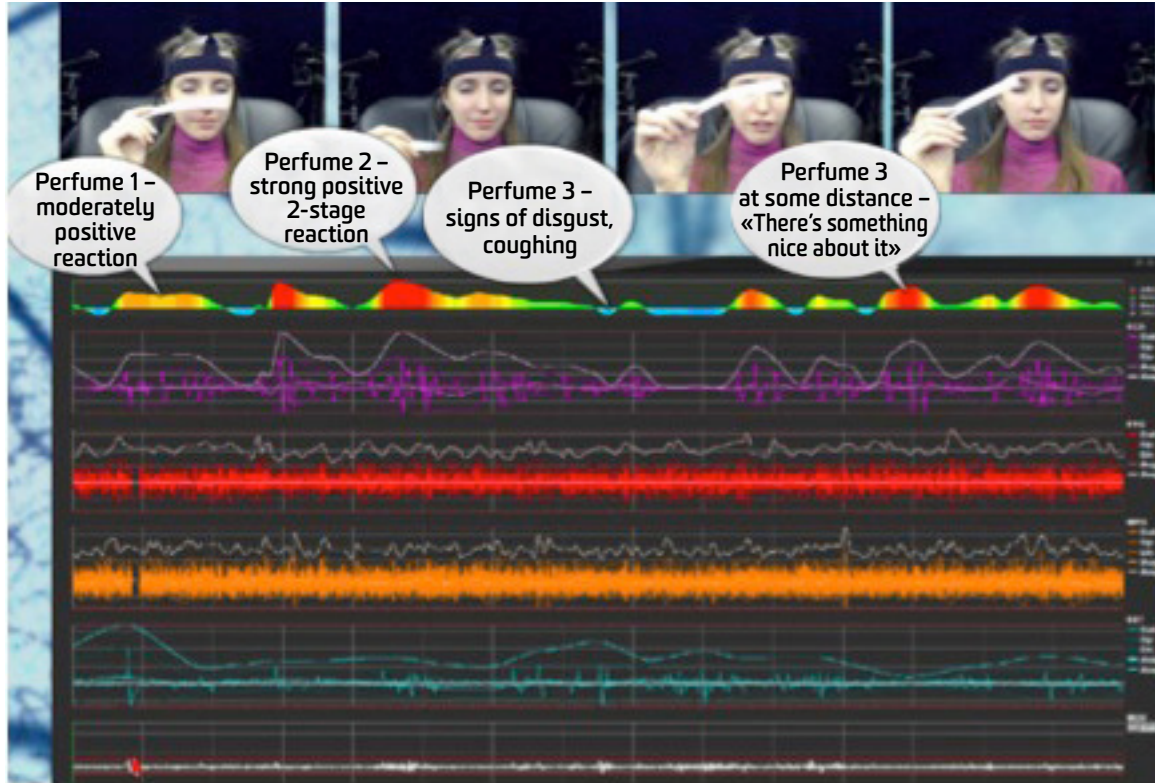


The fragrance of choice leads to drop in both intra-hemispheric and inter-hemispheric coherency, predominantly in the ranges of alpha-rhythm and beta2-rhythm.

We've conducted spectral and coherent EEG analysis during the fragrance tasting and calculated the power ratios between «slow» (8-9 Hz) and «fast» (11-12 Hz) alpha-rhythms. EEG measures taken during each fragrance tasting have been compared to the data received during the previous quiet wake period with closed eyes.

IN RESPONSE TO THE PLEASANT FRAGRANCE COHERENCE LEVELS DROP IN ALPHA AND BETA2 RANGES.

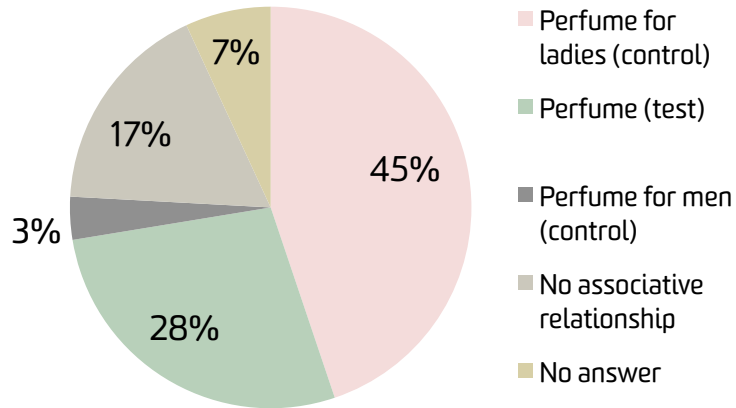
FRAGRANCE PERCEPTION DURING TASTING



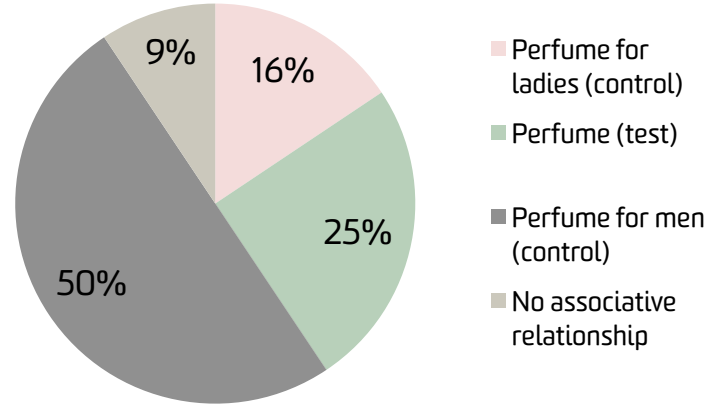
Specific patterns demonstrating changes in vegetative reactions to every fragrance have been tracked during the polygraph chart analysis. It has been confirmed that emotional response to every fragrance consists of several components, including a few waves of emotional involvement increase. The highest emotional involvement increase and high positive values of emotional valence have been registered for women during inhalation of the tested fragrance.

SUBJECTIVE PERCEPTION (SOCIOLOGY)

Associative relationship between the test commercial and fragrances



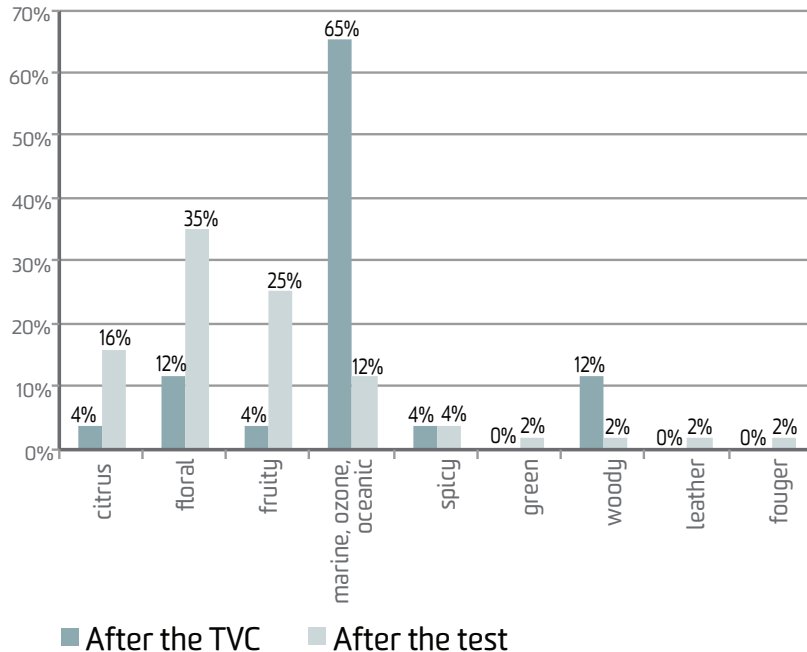
The least associative relationship between the test commercial and fragrances



The test fragrance was confused with another by a half of the respondents in the sample (45%) (in case of assessment based on the perception of the commercial). Moreover, the test fragrance was recognized in the connection with the test commercial in less than a third of the cases (28%), while a quarter of the respondents stated that the test commercial was the least associated with the test fragrance.

SUBJECTIVE PERCEPTION (SOCIOLOGY)

Test perfume perception



- After the demonstration of the TVC test fragrance is perceived as «marine» by 65% of the sample, whereas after the «blind» tasting only 12% of the respondents perceive it as such. Tasting leads to the fragrance to be perceived as floral (35%) or fruity (25%).
- The test commercial formed the perfume image that is not correspondent to the real fragrance. This pattern leads to a distorted representation of the brand: expectations of the respondents based on test commercial do not correspond to the impressions received during tasting.

CONCLUSIONS

- Despite positive test TVC and perfume perception, «blind» tasting shows that most of the respondents do not associate advertising with the fragrance. Difficulties in defining the correspondence between the TVCs and the perfume aroma may indicate incorrect choice of the olfactory stimulus visual image.
- We have registered EEG measures that are typical for a pleasant fragrance inhalation. No significant differences in EEG measures have been registered for an unpleasant smell.
- Test TVC analysis based on psychophysiological measures suggests positive perception of the commercial. It is possible to offer recommendations for the finalization of the commercial in order to increase the effectiveness of the TVC impact on the consumer, based on the data collected in the research.



THANK YOU! QUESTIONS?

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