trols, while both groups showed larger positivity (a correlate of inhibition?) during learning of A-C compared to D-E-pairs. During recall, presentation of the cue-words (A, D) induced a fronto-central negative Slow Wave in controls, which was absent in patients; in contrast patients developed a marked posterior positivity, which was larger than the one in controls. These results suggest that schizophrenics do not show reduced ERPs under all circumstances. The unexpectedly larger than normal posterior positivity in patients might indicate either increased processing effort due to deficient memory search processes that are often related to the anterior nSW. It might also indicate more pronounced inhibitory effort to suppress alternative associations during cued recall due to deficient encoding processes.

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The effect of induced olfactory sensitivity to androstenone on the perception of body odors: a study with CSERPs.

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It is suggested that 5alpha-androst-16-en-3-one might act as a human pheromone and cause behavioral effects. This derivative of testosterone can be found, e. g., in body odor. But it is still unclear whether behavioral effects in response to body odors are mediated by this single component within the complex "sweat." Furthermore, sensibility to androstenone is lacking in about 30% of the population. However, it has been shown that about half of these subjects with specific anosmia can achieve sensitivity.

The following study was designed to answer the main question whether (induced) sensitivity to androstenone influences the perception, discrimination and emotional value of body odors. The results could have important implications for understanding the behavioral effects of body odors.

Subjects were women aged 19 to 46 years. Five of them were identified as osmics (control group) and 5 as anosmics to androstenone (experimental group), all of them were normosmics. Every subject attended two EEG-sessions during their menstrual phase, separated by one cycle length. Women in the experimental group were asked to smell androstenone daily between the two sessions. Every session started with a measurement of olfactory sensitivity to androstenone. Anosmic subjects who did not profit from the training were excluded. In each session the subjects were confronted with their own body odor (axillary hair) and the body odor of an unrelated male via a constant flow olfactometer. The interstimulus interval varied between 18 and 22 s. Both stimuli were presented with a duration of 0.6 s. Within an oddball-paradigm one of them appeared infrequently at a rate of 25 percent. The subjects were instructed to respond by lifting the right index finger to the infrequent "target" stimulus. Over the course of the session each odor was presented once as the target stimulus.

EEG data (amplitudes and latencies of CSERPs: chemosensory event-related potentials), behavioral data (discrimination or failure rates) and subjective data (emotional value) in response to body odor were collected. EEG was recorded from Fz, Cz, and Pz in reference to the linked mastoids and corrected for eye movement artefacts. A time constant of 10 s and a low-pass filter of 30 Hz were used. The percentage of correct motor reactions to the odors was defined as the discrimination rate. To assess the emotional value of the odors subjects were asked to rate their pleasantness on a seven-point scale ranging from –3 ("very unpleasant") to +3 ("very pleasant").

Preliminary results show that the discrimination rates of the two groups are quite similar but that some of the subjects seem to profit from their first experience with this experimental set; e. g., the number of correct reactions to the odors is increased in the second session.

Possible differences between objective EEG-data, behavioral data and subjective emotional values will be discussed.

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Applied psychophysiology in military settings

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A review on the use of applied psychophysiological interventions in Military, Naval and Air Force settings. This present three areas where applied psychophysiological methods are relevant: (1) Personnel selection – where psychophysiological measures can be used to select personnel best suited for a particular task in terms of ability as well as their capacity to resist the stressors of that task. (2) Primary prevention – where psychophysiologigcal training is used to optimize military personnel performance in their ability to cope with stress. (3) Biofeedback methods of therapy for military personnel diagnosed with anxiety disorders and stress related illness. Future directions for interventions and research, based on experience in Israel and United States are suggested.