

and GABA). Possible connections between craving types and transmitter systems will be discussed, stressing that different compounds should be used according to the different biological causes of craving and relapse.

Following these subgroups of alcohol dependent patients (Lesch typology) we could show that different pharmaceutical compounds influence craving and relapse rates. To assess craving the craving risk relapse questionnaire (Veltrup 1994) is recommended. Neurophysiological assessment could be done by the dynamic pupillometry.

The difference in typology rates between women and men explains different craving mechanism in male and female alcohol dependent patients.

### S16.04 CRAVING FOR STIMULANTS

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The phenomenology of craving in stimulant abuse appears to be quite different from that of other addiction-producing drugs. For instance the relationship between craving and physical withdrawal is lacking in stimulant abusers, in spite of the high intensity and frequency of the wish, which may occur even after months following the last dose of cocaine or amphetamine, in the so-called "extinction" phase. Also the analysis of the temporal patterns of use accounts for a direct correlation between craving and loss of control in the stimulant bingeing, as well as sensitization to rewarding effects of stimulants has been observed and described in preclinical studies. Similarly, Halikas and Kuhn (1990) suggested that cocaine craving in humans was a behavioral manifestation of "kindling", the neuronal supersensitivity induced by the drug in animal studies, and that also other symptoms seen in chronic cocaine users could be the result of the same phenomenon.

Measurement of stimulant craving imply the assessment of intensity, frequency and duration as separate characteristics.

Our clinical evidence on cocaine craving in both withdrawal and post-withdrawal (by conditioned cues) phases points towards a relative independence of craving and withdrawal, as the former seems to be more related to the individual abuse history than to the actual and current substance use.

A variety of medications has been tried in order to reduce cocaine craving and cocaine relapse. Most recent trials include new anticonvulsants as mood stabilizers and atypical neuroleptics. Patterns of dependence, periods of administration and comorbid psychopathology appear to be first-rank variables able to influence the study outcome.

The most promising psychotherapeutic approach to treatment of stimulant abuse is one that recognizes the high risk of relapse and applies a range of cognitive and behavioral strategies.

### S16.05 METHODOLOGICAL AND CLINICAL ISSUES IN CRAVING MEASUREMENT

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In ICD-10 the term craving is entirely subjective: 'a strong desire or sense of compulsion to take the substance'. Some authors include the experience 'recurrent and persistent thinking about the substance', akin to obsessional thinking. Others restrict the term to its use in ordinary language: a strong desire or urge. This excludes compulsive and obsessional experience, which have to do with *resisting the urge* – if the user perceives no disadvantage to using, he does not try to resist and thus experiences no conflict.

Restricting the concept to subjective experience excludes behaviors (i.e. using the substance, or losing control over use), and physiological correlates of subjective experience. There are other mental processes, separate from craving: Intention (formulating a plan) and Motivation (the balance of pay-offs in the user's mind, at a given point in time, of abstaining or using).

*Measurement:* (1) Questionnaires sometimes mix items from conceptually separate domains and summary scores are hard to interpret. 2-dimensional analogue scales (e.g. 'Rate on a scale of zero to 10 how strongly you desire an alcoholic drink') by definition measure a single domain. (2) A fruitful distinction is between reward-craving (desire to use for elation, energy etc) and relief-craving (desire to use to relieve anxiety/physical discomfort): algorithms can be constructed for allocation to specific treatments. E.g. treatments which reduce the positive effects of use might lead to extinction of reward-craving in patients with high 'anticipation of positive outcome of use' as might treatments which offer other sources of reward. (3) It is tautological to measure *Use* to test the validity of a craving measure which itself measures use.

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## SES04. AEP Section "Psychopathology": Hallucinatory states: origin, conceptualisation, localisation and outcome

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### SES04.01 THE CONCEPT OF HALLUCINATIONS

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The conceptualization of hallucinations was initiated by Esquirol. He defined hallucinations as perceptions without an external object and conceived them as cerebral or psychological phenomena occurring independently from the senses. In this perspective he separated hallucinations from illusions and attributed the former to a complex central process involving memory, imagination and personal habits. Subsequently many modifications of Esquirol's concept have been suggested: several authors tried to improve the definition of hallucinations and he distinguish them not only from illusions but also from other closely related phenomena such as "eidetic images", "pareidolia" and "pseudohallucinations". The fact that the manifestation of hallucinations is not obligatorily restricted to morbid conditions led to the distinction between pathological and normal hallucinations; In contradiction to Esquirol assumption it has been proved that organic hallucinations are not limited to brain dysfunctions but may also occur in disorders of peripheral sense organs. This observation has, however not devaluated the hypothesis that imagination, remembrances and habits are an integral part of the emergence of hallucinations. From this angle hallucinations are supposed to occur when emotionally invested mental representations are set in action and cannot be deactivated.

### SES04.02 HALLUCINATIONS AS DISORDERS OF INTERSUBJECTIVITY

G. Stanghellini

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