

We present preliminary data on the IRR based on 10 sessions, see table.

The findings seem promising with respect to the achievement of an even better IRR which will result from increasing raters experience.

#### CATEGORICAL AND DIMENSIONAL ASSESSMENT OF PERSONALITY DISORDERS: AN INTEGRATIVE APPROACH

H. Sass, S. Herpertz, I. Houben, E.M. Steinmeyer. *Dept. of Psychiatry, Technical University Aachen, Pauwelsstr. 30, D-52057 Aachen*

Categorical and dimensional models of personality, personality disorders (PD) and their interrelation will be discussed under the hypothetical perspectives, that higher order personality factors structure the personality of normal persons as well as of the mentally ill, and that no fundamental, but only a gradual difference exists between normal personalities and PDs. The relationship between this categorical conceptualization of the PDs and the dimensional factor model of personality was examined by using the Aachen Inventory for the Assessment of Personality Disorders (AIPD) that provides a typological assessment of 11 abnormal personalities covering all criteria of DSM-III-R and ICD-10, and the self report scale "Sechs Faktoren Test" (SFT) to measure higher order factors of personality as neuroticism, aggressiveness, conscientiousness, openness to experience, extraversion and religious attitude. The following relations were expected: 1) Personality disorders can be suitably assigned to superordinated clusters of personality factors. 2) Personality disorders can be appropriately explained in terms of the "big five" personality disorders. 3) "Neuroticism" will be a common factor closely related to all personality disorders.

Data have been collected from a sample of 168 psychiatric inpatients consecutively admitted to hospital care and included irrespective of their clinical diagnosis, and a general population sample (N = 100). Cluster Analysis was used as a categorical approach and Similarity Structure Analysis (SSA) as a dimensional method. Using SSA, an empirical structure of the interrelations among the different personality disorders and the personality factors can be presented allowing interpretations based on Guttman's Facet Theory. The question of continuity is also analyzed at the opposite pole, i.e. the relationship between axis I mental disorders and axis II personality disorders.

#### IMPULSIVE BEHAVIOUR AND GENES IMPLICATED IN SEROTONIN NEUROTRANSMISSION: AN ASSOCIATION STUDY

L. Staner, M.C. Pull, I.M. Cloos, G. Stefanos, C.B. Pull. *Department of Psychiatry, Centre Hospitalier, 4 rue Barblé, L-1210, Luxembourg, Luxembourg*

A preliminary but growing body of evidence supports the existence of genetic and biological substrates of impulsive behaviour. In particular, there is an extensive literature suggesting that impulsive behaviour in animals as well as in humans may be influenced by a dysfunction of the central serotonergic system. Genes coding for enzymes, transporters or receptors playing a key role in serotonin neurotransmission are likely to be involved in impulse control regulation. We hypothesize that genotypes of these key proteins could be different in individuals exhibiting impulsive behaviours. We report preliminary results of an ongoing association study on genotypes of tryptophan hydroxylase, monoamine oxidase A, monoamine oxidase B, serotonin receptor 1a and serotonin receptor 2c. In this study, inpatients are screened for the presence of impulsive behavioural

tendencies using a questionnaire adapted from Silverman et al. (1991). Subjects with such tendencies are then assessed with the IPDE and 100 subjects meeting at least one criterion for impulsive personality disorder according to ICD-10 are compared to 100 non impulsive, control subjects. In addition, all subjects will be assessed with the CIDI and those meeting criteria for organic mental disorder, psychotic disorder, a current episode of mood disorder, or mental retardation are excluded. Controls are subjects without any impulsive behavioural tendencies nor personal history of psychiatric illness, including personality disorder.

### S83. 20 years of functional neuroimaging: cerebral blood flow/metabolism

*Chairmen: L Pilowsky, A Lishman*

#### STUDYING THE EFFECTS OF DOPAMINE NEUROTRANSMISSION WITH FUNCTIONAL IMAGING

R.J. Dolan. *Wellcome Department of Cognitive Neurology, Institute of Neurology, Queen Square, London WC1 3BG*

An abnormality in dopaminergic neurotransmission has been the cornerstone of theories as to the causation of schizophrenia. How do the findings of regional dysfunction and disturbances in cortical integration relate to proposed dopamine disturbances? One mechanism is via the modulatory effects of dopamine on regional, and inter regional, brain function. Novel applications of functional imaging techniques can be used to provide links between modulatory neurotransmitters and psychological function using combined pharmacological and neurocognitive challenges. Experiments in which manipulation of dopaminergic neurotransmission and cognitive activation are combined will be described. These show that it is possible to link neurotransmission to neuropsychological functioning and, more importantly, specify the neuroanatomical sites of interaction.

These experiments provide the background to a study of schizophrenic patients in which we examined the effect of a dopaminergic manipulation, with apomorphine, on the neural response to a cognitive task. In the schizophrenic patients, relative to controls, an impaired cognitive activation of the anterior cingulate cortex was significantly modulated by a manipulation of dopaminergic neurotransmission. Following apomorphine the schizophrenic subjects, relative to the controls, displayed a significantly enhanced activation of the anterior cingulate cortex. Furthermore, abnormal patterns of interaction between prefrontal and temporal cortices in the non drug condition were modulated by dopamine perturbation.

[1] Dolan RJ, Fletcher P, Frith CD, Friston KJ, Frackowiak RSJ and Grasby PM (1995) Dopaminergic modulation of impaired cognitive activation in the anterior cingulate cortex in schizophrenia. *Nature*, 378, 180-182.

#### THE FUTURE OF FUNCTIONAL IMAGING IN PSYCHIATRY

P.M. Grasby. *MRC Cyclotron Unit, Hammersmith Hospital, DuCane Road, London, W12 0HS*

Until recently most functional imaging in psychiatry centered around positron emission tomography (PET) and single photon emission tomography (SPET); deriving measures of either cerebral blood flow (as an index of neural activation) or central receptor populations (as in dopamine D<sub>2</sub> receptor number). The development of non-invasive