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MEASURING IMPULSIVE BEHAVIOR IN INNER-CITY SUBSTANCE ABUSERS USING TRANSLATIONAL PROCEDURES BASED ON PRECLINICAL RESEARCH

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Introduction
- Impulsive behavior can result in pain with mental and neurological disorders. Impulsiveness is not only a component of the diagnosis of disorders such as drug addiction, attention deficit hyperactivity disorder and personality disorders. Most methods today measure the personality trait of impulsiveness and are not sensitive to short-term changes in impulsivity, e.g. those that occur in the course of a treatment.
- Psychopharmacologically, impulsive abnormal behaviors are poor predictors of treatment outcomes, and no clear intervention strategies exist for modifying impulsivity.

Translational Methods
- All the objective tests described in this paper were developed from procedures first used in preclinical studies using rats as subjects.
- Translational methods provide a link between basic biology and clinical application.
- Implications for test design
  - Measure overt behavior, rather than verbal reports
  - Each task focused on one psychological concept
  - Simple task design with clear outcome from each action
  - Complexity and difficulty developed by building on simple components
  - No verbal test material

Methods

- Subjects
  - 31 subjects (19 M, 12 F)
- Test Battery
  - Various diagnoses
  - Average IQ 86.9
- Test Materials - Scales
  - Visual Analog Scales
  - Swedish University Scales of Personality
  - Barrett Impulsiveness Scale

Data Analysis
- Variables included in analysis (49 in total)
  -IQ
  -Self-rated Impulsivity
  -Rating of Test Difficulty
  -10 VAS Scales
  -VAS Scale Reliability
- Statistical Analysis
  -Reliability (not shown in this paper)
  -Primary I - correlations
  -Primary II - effects of diagnosis
  -Secondary
    -correlation with different impulsivity ratings
    -relationships amongst objective tests

Procedures
- Visual Analogue Scales
  -N-back working memory
- Study Design
  -Subjects continued with normal treatment and medication during the study
  -Subjects maintained by study by testing physician & pre-screened with a different following behavioral and mood assessments

Personality Descriptors
- Personality tests
  -Impulsivity and Affect
  -Reactivity in context of negative affect.

Personality Descriptors
- Environmental factors
  -Personality and Performance
    -There was little or no interaction between personality or global self ratings of impulsivity and performance of the objective tests
  -This is a fairly common finding

Personality and Performance
- Personality scales are picking up an effective component which the objective tests are not
-Relationship is real
  -Impulsivity and negative affect potentially mediated by common biological factors such as ADHD or FRD dysfunction.
  -But there is a question of whether mediator variables are present in the drug addiction and impulsivity in drug addicts with personality traits, and may under or over-estimate them, or weight them differently depending on cultural expectations.

Impulsivity and Affect
- Personality and Performance
  -Relationship is real
    -Individuals make bad decisions which have negative consequences which they retroactively label as impulsivity and apply the label to their acts.
    -Negative is the label one assigns to positive or neutral actions.
    -Individuals with emotional dysregulation are labelled as impulsive by people around them, and come to use this term as part of their self-image.
- General Conclusions
  -Computerized administration of questionnaires and objective tests functioned very well with this population, despite their low average IQ and lack of familiarity with computers.
  -As expected, the questionnaires did pick up differences amongst the patients, but these seemed to be more related to the participants' general social situation (as exemplified by their history of legal problems) than with specific psychiatric diagnoses in this patient group. Impulsiveness appears to be one component of personality associated with a general pattern of negative affect.
  -Objective tests, which measure state impulsivity, and in which the affective component has been eliminated, do not correlate with trait impulsiveness.
  -Our hypothesis is that performance of objective tests of impulsivity is related to aspects of cognition covered by term “executive function.”