

Reward sensitivity relates to increased response in reward brain areas during the processing of reward cues. However, it is unknown how this trait modulates brain connectivity. We analyzed the relationship between effective connectivity and personality in response to anticipatory reward cues from the midbrain and nucleus accumbens to the orbitofrontal cortex and the amygdala, respectively. Forty-four males performed an adaptation of the Monetary Incentive Delay Task and completed the Sensitivity to Reward scale. Sensitivity to reward scores related to stronger activation in the nucleus accumbens and midbrain during the processing of reward cues. Psychophysiological interaction analyses revealed that midbrain-medial orbitofrontal cortex connectivity was negatively correlated with sensitivity to reward scores for high compared with low incentive cues. Also, nucleus accumbens-amygdala connectivity correlated negatively with sensitivity to reward scores during reward anticipation. Our results suggest that high reward sensitivity modulates brain connectivity.

<http://dx.doi.org/10.1016/j.paid.2013.07.302>

Reward sensitivity modulation of brain activity during response inhibition

P. Fuentes, A. Barrós-Loscertales, A. Rodríguez-Pujadas, N. Ventura-Campos, J.C. Bustamante, V. Costumero, P. Rosell-Negre, C. Ávila
Universitat Jaume I, Spain

This work investigated the relationship between individual differences in reward sensitivity and the activity of brain regions involved in response inhibition. Participants ($n = 51$, 20 females) performed a stop-signal task while undergoing fMRI scanning. Inhibition of dominant responses during the task was associated to activation of bilateral anterior insula. Parameter estimates from these activation clusters were extracted to run an ROI analysis. Reward sensitivity, as measured by the Sensitivity to Reward (SR) scale from the SPSRQ (Torrubia et al., 2001), was negatively correlated with activity in right anterior insula. A whole-brain correlation analysis was also conducted, in which SR scores were negatively correlated with activity in the anterior cingulate cortex and the left supramarginal gyrus. These results suggest that individual differences in reward sensitivity may involve differences in cognitive processing that are manifested as distinct patterns of brain activation, even in the absence of explicit reward contingencies.

<http://dx.doi.org/10.1016/j.paid.2013.07.303>

Self-regulation of learning activity and its relationship with individual differences of high school students

V. Morosanova, I. Tsyganov, A. Vanin, E. Philippova
Psychological Institute of Russian Academy of Education, Russia

This study investigates the relationship between self-regulation of learning activity as the ability to set learning goals consciously and to regulate the process of achieving them, curiosity and emotional state. Individual differences of self-regulation of learning activity manifest themselves the way people set goals, model the significant conditions, program actions and evaluate results (Morosanova, 1998). Sample: 249 high school students aged 14–18. Methods: Self-Regulatory Profile of Learning Activity-SPLAQ (Morosanova, 2011) and State-Trait Personality Inventory-STPI (Spielberger, 1979, Russian version Andreeva, Prikhodan, 2006). Results showed significant positive correlation between self-regulation and curiosity and significant negative correlation between self-regulation, anxiety and anger. On the basis of three factors (Self-Regulation, Motivation and Adaptation) which explained 67% of dispersion a K-means cluster analysis revealed 4 groups of participants. The comparison of academic results of groups showed that participants with higher level of three factors were able to get higher scores on the final exams.

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<http://dx.doi.org/10.1016/j.paid.2013.07.304>

Sensation seeking and personality dimensions

M. Egorova, O. Parshikova, S. Pyankova
Lomonosov Moscow State University, Russia

The purpose of the study was to examine the association of sensation seeking with personality traits, including broad personality traits, self-regulation, self-esteem, emotional status and some others. Participants (432 students, males, ages 16–26), were administered 15 personality questionnaires, and Russian version of Sensation Seeking Scale, which contained TAS for extreme activities, TAS for everyday activities, ES and BS. General sensation seeking and sensation seeking sub-traits were positively related to extraversion and psychoticism and negatively to neuroticism. Sensation seeking preference associated with masculinity, internal locus of control, low self-efficacy in the past (according to retrospect self-assessment) and relatively high self-efficacy in present time. Preference to high-sensation activities (TAS for extreme activities) was negatively related to anxiety and frustration and positively to self-regulation and emotional intelligence. The study was supported by RFBR (project 11-06-00271).

<http://dx.doi.org/10.1016/j.paid.2013.07.305>

Sensation seeking and sensitivity to reward among addicted physicians

A. Díaz, M. Gomà-i-Freixanet, D. Braquehais, E. Bruguera
Universitat Autònoma de Barcelona, Spain

Sensation seeking and Sensitivity to Reward are personality traits related to impulsivity. These two traits have also been demonstrated to be related to addictive behaviors, such as Substance Use Disorders (SUD). There are no studies analyzing these traits in physicians with SUD and/or Mental Disorders (MD) diagnoses. The objective of this study is to analyze the relationship between these personality traits and SUDs in a sample of physicians attended with these diagnoses. The sample was constituted by 70 participants admitted to the Inpatient Unit of the Barcelona Integral Care Program for Impaired Physicians (ICPIP). The sample was divided into 3 groups according to the existence of either SUD, MD, or both disorders at a time. The Sensation Seeking Scale (SSS-V) and the Sensitivity to Punishment and Sensitivity to Reward Questionnaire (SPSRQ) were administered. Results evidence differences between the three groups and emphasize their importance when elaborating individualized therapeutic strategies.

<http://dx.doi.org/10.1016/j.paid.2013.07.306>

Sensation seeking, salivary cortisol, smoking and alcohol habits

D. Kornienko
Perm State Pedagogical University, Russia

Previous studies have highlighted the fact that the associations of cortisol with SS are still controversial (ex.: Croissant et al., 2008; Rosenblitt et al., 2001; Zuckerman, 1994). The relationship between cortisol level, sensation seeking and alcohol and smoking habits is the task of this study. Saliva samples were taken from 159 students to measure salivary cortisol concentrations. Zucker-