

SUPPLEMENTARY MATERIAL

Attachment 1. Validation History of the STQ

The initial version of STQ (Rusalov, 1989) had 8 scales and 105 items (the scales related to Intellectual Activity factor were not included), and the 12-scale Extended STQ version had 150 items. During the experimental validation of the STQ in the 1980-90s, the performance of subjects on the following measures were compared with STQ scales in a series of studies: speed of writing, reading and generation of words, maximal and optimal tempo of performance in sensory-motor tasks and intellectual (including unsolvable) tasks, performance on non-verbal tasks with which subjects were unfamiliar, rigidity of perception in tactile and visual modalities, duration of the switch from one way of solving the task to another, mobility in attention, variability in line drawing (Rusalov, 1979, 1989, Rusalov & Trofimova, 2007). In the studies of the concurrent validity of the initial STQ it was compared to Eysenck's EPQ (Brebner & Stough, 1993; Rusalov, 1989; Zinko, 2006), NEO-FFI (Bodunov *et al.*, 1996, Dumenci, 1995), Strelau's PTS (Bodunov *et al.*, 1996; Ruch *et al.*, 1991; Strelau, 1999, Trofimova, 2009c), meaning attribution to neutral objects (Trofimova, 1999), the Motivation for Achievement scale (Vorobieva, 2004), adaptivity strategies in the Dembo-Hoppe Level of Aspiration experiment (Zin'ko, 2006), 25 measures of Mobility (Rathee & Singh, 2001), Dissociative Experiences Scale (Beere & Pica, 1995). References to STQ validation with the Rogers Adaptivity scale, the Torrance's Nonverbal Tests of Creative Thinking, Rotter's Locus of Control scale, a choice of profession, with other 8 measures of plasticity, STAI, MAS, Wechsler, Shepard and Gotshied Figure tests, Rosenzweig test, Cattell's 16-PF inventory, and with the school grades of high-school students, can be found in the work of Rusalov and Trofimova (2007). The administration of the English version of the STQ (STQ-E) to American, Australian and Canadian samples demonstrated that it has a factor structure similar to that of the Russian language version, and that it has good reliability and internal consistency (Bishop *et al.*, 1993; Bishop, Hertenstein, 2004; Dumenci, 1995, 1996; Rusalov, 1997, 2004; Stough, *et al.*, 1991; Rusalov & Trofimova, 2007). Chinese (STQ-C), Urdu (STQ-U) and Polish (STQ-P) Extended versions of the STQ, administered among corresponding populations, showed reliability coefficients in the range 0.70-0.86, item-total correlations in the range 0.42-0.63, and all versions demonstrated robust factor structures similar to those of the original version (Trofimova, 2010a).

The Confirmatory Factor Analysis of the Compact STQ (STQ-77) using data from a Canadian sample shows that a satisfactory fit of the traditional 4-factor STQ *activity-specific* model, grouping the scales to the factors of Motor, Social, Intellectual activity and Emotionality and having 2 residuals, correlate (from the new scale of Sensitivity to Sensations to Impulsivity and Neuroticism scales) with the CFI > .90, RMSEA < .07 and RMSR < .06 (Trofimova, 2009a).

The studies of reliability and content, concurrent and discriminant validity of STQ-77 scales showed that the reliability of these scales is in the range of .70-.86. The time required to complete the 2 questionnaires correlated statistically significantly with the Social Tempo scale ($r = -.31$) (Trofimova & Sulis, 2009a), and the time of performance on a task involving the classification of 25 common words also had the most significant negative correlations with Social Tempo, as well as with Self-Confidence scale of STQ-77 ($-.36$ and $-.29$, respectively). High school grades show activity-specific correlations with the STQ-77 scales (Trofimova & Sulis, 2009a): the grades in athletics correlate with the STQ-77 scales of Motor Ergonicity and Tempo ($r = .53$ and $.45$), the grades in verbal assignments have $r = .28$ with Social Ergonicity, and $r = .27$ with Social Tempo scale, and the grades in math and science correlate only with the scales of Intellectual Ergonicity and Plasticity ($r = .26$ and $.22$, respectively) (Trofimova & Sulis, 2009a). Significant positive correlations are found between the new STQ-77 scales of Impulsivity, Sensitivity to Sensations, Empathy and the corresponding scales of Impulsiveness ($r = .51$), Venturesomeness ($.64$) and Empathy ($.73$) of Eysenck's I-7 questionnaire (Trofimova & Sulis, 2009a). STQ-77 Sensitivity to Sensation scale shows good agreement with Impulsivity scale ($r = .68$) and Zuckerman Sensation Seeking Scale ($r = .37$) (Trofimova, 2009a).

Extraversion, as measured by the Big Five (NEO-FFI), correlates with Social Ergonicity and Impulsivity with $r = .46$ and $.52$, respectively, and Neuroticism scales of NEO-FFI and STQ-77 correlate with $r = .38$, and all these values show large effect sizes. Openness to Experience of Big Five correlate most significantly with the STQ-77 scales of Intellectual Ergonicity ($r = .31$), Sensitivity to Probabilities ($r = .40$), Impulsivity ($r = .25$) and Empathy ($r = .52$); the scale of Agreeableness of Big Five correlate most significantly with the Empathy scale of the STQ-77 ($r = .46$), and the scale of Conscientiousness of Big Five has the most significant correlation with the STQ-77 scales of Motor Ergonicity ($r = .35$) and Intellectual Ergonicity ($r = .34$). Higher scores on the Impulsivity scale and lower scores on the Plasticity and Tempo scales of the STQ-77 were associated with clinical symptoms of depression and anxiety, especially in comorbid patients (Trofimova & Sulis, 2009b).

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