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Visuomotor reaction time can predict IQ in children

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Introduction: It is well established that reaction time and IQ test scores are correlated, although the strength of this relationship is a matter of debate (Neisser et al., 1996). It was proposed that processing speed is a component of intelligence (Deary, Penke, & Johnson, 2010; Hunt, 2011). In our previous research we have not revealed the relationship between IQ and reaction time in children (Kiselev et al., 2000). However, it is possible that reaction time can predict intelligence test scores in the developmental perspective.

Objectives: This study investigated whether visuomotor reaction time in 5 year-old children predicts intelligence test scores in 8 year-old children using the longitudinal approach.

Methods: The participants were 35 children (17 males and 18 females) at the age of 5 years (5.34 ± 0.45). We used computerized sensorimotor technique (Kiselev et al., 2009) to investigate visuomotor reaction time in children. Children completed simple, discrimination and choice reaction time tasks. The IQ of 8-year children was assessed by the WISC.

Results: The regression analysis has revealed the significant ($p \leq 0.05$) relationships between discrimination and choice reaction time tasks in 5 years-old children and non-verbal IQ performance in these children at 8 years of age. However, we did not find this relationship for simple reaction time task.

Conclusions: In view of obtained results it can be assumed that visuomotor reaction time in preschool children can predict non-verbal intelligence test scores in the developmental perspective. The received data can give new perspective in the understanding the interrelation between reaction time and IQ in children.

Keywords: processing speed; intelligence; visuomotor reaction time

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On psychiatry and psychology

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Introduction: Psychiatry is fundamental interdisciplinary medical science with essential importance for enormous health-problems of humanity. Creation of integrative-psychiatry in context of multidimensional&holistic medicine, founded by HIPPOCRATES-GALENUS-HUA T'UA-AVICENA-PARACELSUS is necessary to counteract disastrous human health-situation. Psychiatry needs new integrative therapy-models considering application of

psychopharmacotherapy as well as practices of psycho-somatic (Th. v.UEXKÜLL) and somato-psychic theories (Y.IKEMI). Emperor AKIHITO during Opening-Ceremony of ICPM-2005-Kobe appointed to consider "total symptoms of mind-body, seeking ways of holistic care".

Objectives: REFERENCES. PSYCHIATRY: EPA-2020-virtual/Madrid, Eur.Psychiatry 63S, EPP0834/5+EPV0581/1470; EPA-2019-Warsaw, Eur. Psychiatry 56S,S689; EPA-2018-Nice, Eur.Psychiatry 48/S1, S623&567&662. WPA-2019-Lisbon, E-Poster WCP19-2137, -1822, -1839; 2018-Mexico-City, Abs.-Book WCP18-0584/-0625/-0643/-0654. 2011-Buenos-Aires,AB:PO1.200. PSYCHOLOGY: EFPA-2019-Moscow, Abs.-Book 1529,1530,1549. IUPsyS-2012-Cape-Town, IntJPsychol 47:407; -2008-Berlin, 43/3-4:154, 248,615,799; -2004-Beijing, AB:49,587. PSYCHOSOMATICS: ICPM-2017-Beijing, AB:ID: 648493,648895,648749,648878; -2005-Kobe, J.Psychosom.Res. 58:85-86.

Methods: Evaluation of psychic-"polar-attitude-list"/physiological-parameters: heart-rate, blood-pressure,etc. from patients/probands after training by occidental/oriental practices (Music-/Yogatherapy/others) (ref.).

Results: Observations demonstrate strong positive influence after music[1], respiratory[2], hatha-yoga[3] therapies. Items of psycho-physiological (relaxed), emotional (tranquil/happy), cognitive (few/-ordered thoughts), voluntary (active/spontaneous), social (open/assertive), consciousness (clear/sleepy) categories are significantly positive changed 25-50%. The 3-therapies have specific psychic-effects,e.g. items "relaxed/tranquil" after respiratory- (+45/50%) and music- (+20/50%), also item "open" after music-therapy (+25%) are positive, but negative after respiratory-therapy (-20%). Psychic-effects are correlated with positive physiological-ones,e.g. heart/respiratory-frequency decreased 25-30%, voluntary-apnoea prolonged 55%. Mountain-altitude (>2000-3000m), hypothermia (<20 to 0°C) influenced positively psychic/physiological-parameters,e.g. heart-rate/blood-pressure decrease ($n=125, P<0.05-0.01$).

Conclusions: Different methods of integrative psychiatric therapy are with preference,e.g. for depression is suitable respiratory/physical-training, also hypothermia&high-mountain therapy (activation-euphoria), for mania:music-therapy (inhibitory-effect). Systematically research about single/combined therapies is necessary,e.g. for epilepsy: Respiratory-therapy/hypothermia,etc. could help patients (hypo-/hypercapnia: inhibitory/excitatory effects on CNS-structures).

Keywords: cyclophrenia; integrative psychiatry; psychophysiology; Epilepsy

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Working memory after and during 6 Hz transcranial alternating current stimulation

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Introduction: Transcranial alternating current stimulation (tACS) is a non-invasive brain stimulation technique allowing to induce changes in oscillatory activity. Theta activity has been reported to play a major role in maintenance of information in working memory (WM).