

Exclusion criteria: patients in the acute psychotic phase, left-handers.

Results: NI grouped with the following rates: subgroup 1- Co_G 70,4, CI_G 58,5, subgroup 2 - Co_G 65,2, CI_G 56,1

There was no statistically significant difference between CI_g Co_g in NI ($P=0,000$ and $p=0,002$ respectively).

TD grouped with the following rates: subgroup 1- Co_G 2,42, CI_G 22,63, subgroup 2 - Co_G 4,48, CI_G 3,14

There was statistically significant difference between CI_g Co_g in TD ($P=0,432$ and $p=0,25$ respectively).

Conclusions: Temporal indicators of cognitive activity differ in the clinical and control groups, which testifies to the significance of this indicator in the context of WFAT.

There is no difference in terms of semantics. However, we expect to see it, because such difference has previously been shown in a group of adult patients with a severe type of schizophrenia.

In the future, we would like to expand the group and select additional methods that evaluate the semantic component.

Categories: Schizophrenia/Psychosis

Keyword 1: speech

Keyword 2: schizophrenia

Keyword 3: adolescence

Correspondence: Evgeny Shvedovskiy, Moscow State University of Psychology and Education, Mental Health Research Center, evgeny.shvedovskiy@gmail.com My INS member number is 644821429.

52 Differences in Neuropsychological Test Performance and Symptom Data in Schizophrenia with Co-Occurring Cannabis Use

Jessica J Woodyatt, Grace J Goodwin, Bern G. Lee, Yuan Rairata, Gia Calip, Daniel N Allen
University of Nevada, Las Vegas, Las Vegas, Nevada, USA

Objective: Long-term exposure to the psychoactive ingredient in cannabis, delta-9-tetrahydrocannabinol (THC), has been consistently raised as a notable risk factor for schizophrenia. Additionally, cannabis is

frequently used as a coping mechanism for individuals diagnosed with schizophrenia. Cannabis use in schizophrenia has been associated with greater severity of psychotic symptoms, non-compliance with medication, and increased relapse rates. Neuropsychological changes have also been implicated in long-term cannabis use and the course of illness of schizophrenia. However, the impact of co-occurring cannabis use in individuals with schizophrenia on cognitive functioning is less thoroughly explored. The purpose of this meta-analysis was to examine whether neuropsychological test performance and symptoms in schizophrenia differ as a function of THC use status. A second aim of this study was to examine whether symptom severity moderates the relationship between THC use and cognitive test performance among people with schizophrenia.

Participants and Methods: Peer-reviewed articles comparing schizophrenia with and without cannabis use disorder (SZ SUD+; SZ SUD-) were selected from three scholarly databases; Ovid, Google Scholar, and PubMed. The following search terms were applied to yield studies for inclusion: neuropsychology, cognition, cognitive, THC, cannabis, marijuana, and schizophrenia. 11 articles containing data on psychotic symptoms and neurocognition, with SZ SUD+ and SZ SUD- groups, were included in the final analyses. Six domains of neurocognition were identified across included articles (Processing Speed, Attention, Working Memory, Verbal Learning Memory, and Reasoning and Problem Solving). Positive and negative symptom data was derived from eligible studies consisting of the Positive and Negative Syndrome Scale (PANSS), the Scale for the Assessment of Positive Symptoms (SAPS), the Scale for the Assessment of Negative Symptoms (SANS), Self-Evaluation of Negative Symptoms (SNS), Brief Psychiatric Rating Scale (BPRS), and Structured Clinical Interview for DSM Disorders (SCID) scores. Meta analysis and meta-regression was conducted using R.

Results: No statistically significant differences were observed between SZ SUD+ and SZ SUD- across the cognitive domains of Processing Speed, Attention, Working Memory, Verbal Learning Memory, and Reasoning and Problem Solving. Positive symptom severity was found to moderate the relationship between THC use and processing speed, but not negative symptoms. Positive and negative symptom severity did not

significantly moderate the relationship between THC use and the other cognitive domains.

Conclusions: Positive symptoms moderated the relationship between cannabis use and processing speed among people with schizophrenia. The reasons for this are unclear, and require further exploration. Additional investigation is warranted to better understand the impact of THC use on other tests of neuropsychological performance and symptoms in schizophrenia.

Categories: Schizophrenia/Psychosis

Keyword 1: schizophrenia

Keyword 2: cannabis

Keyword 3: neurocognition

Correspondence: Jessica J. Woodyatt, University of Nevada, Las Vegas, woodyatt@unlv.nevada.edu

53 Working Memory Network Load Engagement in Schizophrenia

John R. Duffy, Michael L. Thomas
Colorado State University, Fort Collins, CO, USA

Objective: Cognitive deficits in patients diagnosed with schizophrenia are a core feature of the disorder. There are currently no treatments for these cognitive deficits. Our aim was to examine and compare patterns of increased versus decreased activity in the central executive network (CEN), salience network (SN), and default mode network (DMN) between healthy controls (HCs) and patients diagnosed with schizophrenia (SZs) as well as to explore the influence of task load on these networks between HCs and SZs.

Participants and Methods: Analyses focused on a secondary dataset comprising Blood Oxygen-Level Dependent (BOLD) data collected from 25 HCs and 27 SZs who completed a working memory (WM) task (N-back) with 5 load conditions while undergoing functional magnetic resonance imaging (fMRI). Region of interest (ROI) data were analyzed using linear mixed-effects models.

Results: Group activation differences were found in the posterior salience network (pSN), default mode network (DMN), dorsal default mode network (dDMN), and ventral default mode network (vDMN) showing greater activity

for SZs. Specifically, pSN, DMN, dDMN, and vDMN all showed increased activity in SZs compared to HCs. The curve of brain activity was consistent between HCs and SZs with the exception of the vDMN, where HCs show greater activation at modest mental workload (quadratic curve) and SZs showed greater brain activation at lower mental workload (linear). In the CEN, there were no group differences, and the response curve was the same for both groups.

Conclusions: These group differences demonstrate network difference between HCs and SZs and could show value in treatments targeting cognitive deficits in SZs from a large-scale brain network connectivity perspective. Future studies are needed to confirm these results with larger sample size in order to examine potential subtleties of interactions between these networks.

Categories: Schizophrenia/Psychosis

Keyword 1: working memory

Keyword 2: brain function

Keyword 3: schizophrenia

Correspondence: John R. Duffy Colorado State University john.duffy@colostate.edu

54 The Influence of Sex on Cognitive Control Performance and Frontoparietal Network Integrity in First-Episode Psychosis

Kaitlyn Greer¹, Sierra Jarvis², Ben Graul², Colt Halter², Aaron Clouse², Madeleine Reading², Braydon Lee², Karteek Popuri³, Mirza Faisal Beg⁴, Derin Cobia²

¹University of Michigan, Ann Arbor, MI, USA.

²Brigham Young University, Provo, UT, USA.

³Memorial University Newfoundland, St. John's,

Newfoundland, Canada. ⁴Simon Fraser University, Burnaby, British Columbia, Canada

Objective: Cognitive deficits in first-episode psychosis (FEP) are well documented, particularly aspects of cognitive control, which is one of the primary hypothesized functions of the frontoparietal network (FPN). The clinical features of psychotic disorders are known to differ between men and women, but little work has systematically studied neurobiological differences between the sexes, particularly in