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Grapheme-Color Synesthesia and enhanced Working Memory for the materials that induce synesthetic experiences

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Introduction: This study investigated the influence of synesthetic experiences on working memory and hypothesized that Grapheme-Colour Synaesthesia causes enhanced working memory for the materials in the congruent condition.

Objectives: The current study uses the existing experiments conducted within the field of Synaesthesia as a basis in order to find out whether synaesthesia influences working memory for the letters, words, and days of the week that elicit synesthetic experiences

Methods: Experimental research design was used to identify the extent of the causal relationship between Synaesthetic and non-Synesthetic experiences and enhanced working memory in both Synesthetes and non-Synesthetes. A short screening questionnaire, Stroop task, and N-back task was used to measure the relationship between the two variables for quantitative measurement. (Radvansky, 2011), This study uses materials such as Stroop task and n-back task from Robinson's (2015) work, Radvansky's (2011), and Terhune et al. (2013) work. However, certain changes in the methodology of the current study makes it easier and efficient to conduct this study with a different population.

Results: Grapheme-Color synesthetes (Mean= 1276.682 milliseconds) appear to take less amount of time in responding correctly to the incongruent stimulus in the Stroop Task than non-Synesthetes (Mean= 1487.89 milliseconds). Secondly, Grapheme-Color Synesthetes (Mean=1170.929 milliseconds) have a significant difference in accuracy of responding in the congruent condition of the Stroop Task with the non-Synesthetes (Mean= 1491.159 milliseconds). Further evidence from the N-back Task also demonstrated a significant relationship between the variables in both incongruent and congruent conditions; Grapheme-Color Synesthetes (Mean= 2621.390 milliseconds) showed a significant difference in correctly responding to the nonmatching stimulus in N-back Task with Non-Synesthetes (Mean= 2854.351 milliseconds). Similarly, Grapheme-Color Synesthetes (Mean=1330.130 milliseconds) showed a large difference in responding correctly to the matching stimulus in the N-back Task with Non-Synesthetes (Mean= 2301.071 milliseconds). Grapheme-Color Synesthetes were faster in responding correctly than non-Synesthetes in all conditions.

Conclusions: Regardless of what have been concluded as a result of the current study, it is difficult to reach at any conclusions taking into account the oppositions about working memory of Grapheme-Color Synesthetes in different studies. Therefore, the data suggest that future studies should further test the capacity of working memory in Grapheme-Color Synesthetes.

Disclosure of Interest: None Declared

EPV0621

Psychiatric Symptoms & Misdiagnosis Of Frontotemporal Dementia: A Case Report

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Introduction: Frontotemporal dementia (FTD) is the second most common type of dementia seen between 45-65 years of age and affects the frontal and/or temporal lobes. FTD is clinically characterized by progressively the change in behavior, personality, and language dysfunctions.

Clinical features of FTD include restlessness, disinhibition, apathy, blunted affect, avolition, social withdrawal, impulsiveness, and loss of executive function. Most patients with FTD act as socially inappropriate behaviors, not talking much, compulsive-like acts, poor insight, and psychiatric features including hallucinations and paranoid delusions. According to symptoms, the diagnosis of FTD may be confused with depression, mania, or schizophrenia.

Objectives: In this case report, we wanted to draw attention that FTD should be considered in the differential diagnosis of late-onset psychosis.

Methods: A 53-year-old female, married, uneducated, and not having children patient has applied to our clinic with complaints, that started a year ago, about social withdrawal, activity, decreased sense of purpose, neglecting personal hygiene, not eating well, and acting inappropriately and impulsively.

The patient reported that she was walking out of the house for hours, having profanity speeches, and forgetfulness.

She was admitted to the psychiatry hospital a year ago and discharged with a diagnosis of bipolar disorder.

Brain MRI showed atrophy of frontal and anterior temporal structures bilaterally. PET scan demonstrated left frontal, parietal, and temporal hypo perfusion of the brain.

In our clinical observation, she had apathy, inappropriate jokes, lack of eye contact, flat affect, lack of gesturing when communicating, unable to respond to questions, and visual hallucinations.

Results: Due to the similarity of the clinical resemblance of BPAD and FTD, the diagnosis of FTD can be confusing. In this case, amnesia and sudden onset of the symptoms with rapid destruction may help the diagnosis of FTD.

Psychosis symptoms in our clinical observation also suggested the diagnosis of psychosis. However, its atypical course and early-onset psychosis symptoms brought us closer to organic pathology. Investigations of structural and functional brain imaging may help support the diagnosis.