

Spatial Navigation and Schizophrenia

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Abstract

There have multiple studies on spatial navigation skills regarding schizophrenia. Our research deals with analyzing current data to see if there is a trend in schizophrenia's effect on spatial navigation skills. Spatial navigation skills are affected by many neurological disorders. Our research team has analyzed the effect on other neurological disorders such as Alzheimer's. If a relationship is found, our research could be critical in treatment and diagnosis. Our project is using Covidence for screening and data extraction. When I started on the project, our team was at the stage of finding and scanning through multiple literature reviews. We are past the literature review stage and are now in the extraction phase. Currently, I am going through the literature reviews our team is using and coding for demographics. We are predicting our results will show a correlation between schizophrenic patients and impaired spatial navigation skills. So far, the literature I have read through and coded for has shown deficits in the spatial navigation skills tested for. We will know more once we are done with the extraction phase of our project. This research is important because it will provide a better understanding of the cognitive deficits associated with this disorder. Additionally, it could lead to better treatments and interventions. This research could also help in diagnosing schizophrenic patients.

Introduction

Schizophrenia is a complex neuropsychiatric disorder characterized by a range of cognitive, perceptual, and behavioral symptoms, including impairments in spatial awareness. Spatial awareness, the ability to perceive and interact with one's environment effectively, is crucial for daily functioning. Yet, individuals with schizophrenia often exhibit deficits in spatial cognition, navigation, and body representation. These impairments may contribute to difficulties in social interactions, mobility, and overall quality of life. Current literature believes there is a link between schizophrenia and a decrease in spatial awareness. However, studies do not fully agree and have not fully confirmed the extent of this correlation. Our research seeks to utilize data from multiple studies to provide a clearer correlation. Understanding how spatial navigation is affected by schizophrenia is important for diagnosis and treatment. This project on schizophrenia and spatial awareness aims to analyze past studies and find connections between them through meta-analysis. These results will provide a better understanding of schizophrenia.

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Methodology

Our research was conducted using a meta-analysis. A meta-analysis is an examination of data from several independent studies of the same subject, to determine overall trends. Our team pulled specific data from several studies dealing with spatial navigation regarding different types and forms of schizophrenia. At the start of our research, our research team surveyed literature regarding schizophrenia and spatial navigation, determining whether we would include the study in our meta-analysis. Then, we began extracting data from the literature we decided to keep. This is where we are currently at in our research process. In the future, we will calculate an overall trend in the studies via coding.

Predicted Results

- Some deficits in spatial navigation
- Not all areas of spatial navigation affected
- Mainly skills and cognitive mapping side effects
- Possible differences between the different types of Schizophrenia
 - Schizoaffective Disorder (SAD), Schizophrenia, Schizotypal Personality Disorder, Schizoid Personality Disorder, etc.

Potential Implications

- Improved treatments and interventions
- Aid in the diagnosis of schizophrenic patients

Resources

"Research Guides: Study Design 101: Meta-Analysis." Meta-Analysis - Study Design 101 - Research Guides at George Washington University, guides.himmelfarb.gwu.edu/studydesign101/metaanalysis.

