Spatial Navigation Skills in Parkinson's Disease – A Meta-Analysis

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Abstract

Background: Parkinson's disease is a neurodegenerative condition that causes tremors, stiffness, and difficulty moving. Studies show Parkinson's affects "an estimated one million Americans and 10 million worldwide…and is the 14th-leading cause of death in the U.S."(*Study Reveals Roots of Parkinson's in the Brain*, 2019). Studies reveal that frequently Parkinson's disease patients have compromised spatial skills because of abnormalities in the brain areas in charge of motor control and spatial cognition. In addition, "around a third of people with Parkinson's eventually develop dementia."(*Parkinson's Disease Dementia*, n.d.). The quality of life for those who have the illness can be greatly impacted by these impairments, which can make it difficult for them to drive, walk, or navigate new places. Spatial navigation is crucial to retaining independence.

Methods: This project looks at how older adults with Parkinson's Disease and cognitively healthy older adults perform differently on spatial navigation tests. We are examining attributes like the year of publication, the nation of research, the age, gender, and level of education of the participants

Results: We are in the process of collecting and extracting the data.

Conclusion: Given the large effect size revealed by the current data, investigating potential moderators is worthwhile. Seeing how this effect size manifests for Parkinson's disease patients is the essence of the project.

Methods

Literature Search and Information Sources:

Using the search terms "spatial navigation" OR "spatial orientation" a literature search was carried out on the PsycInfo, Pubmed, Ageline, Web of Science, and ERIC databases. The phrases "spatial orientation," "spatial navigation," were included in the literature search to ensure a thorough examination of the body of previous work. Relevant reviews and meta-analyses were manually carried out, along with searches of the included studies. We are looking at characteristics such as the publication year, the country of the study, the participants' age, gender, and educational attainment.

Data Collection:

Three steps of screening were applied to the studies: full text screening, extraction and organization using Covidence software, and title and abstract screening. Two reviewers had to agree on each screening step before the study could move on to the next. If there were any disagreements during these initial two phases, a third reviewer was brought in to settle the disputes. At least two coding-trained and experienced reviewers finished the data extraction process.

Population Data:

For both the Parkinson's and healthy control groups, a number of participant factors, including age, education, and gender composition were categorized as possible moderators. The data included age and education mean and standard deviation.

Results

We are in the process of collecting and extracting the data.

References

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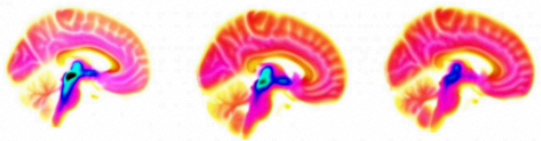
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