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The Effects of Late-Life Depression on Memory

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Abstract

Depression is a common mental health issue. It can result in a number of difficulties with cognitive functions such as memory. This is particularly pertinent for those experiencing late-life depression (those aged 65 years and older), as it can lead to a reduced quality of life. The relationship between depression, short-term memory, working memory, and prospective memory in the literature was explored, with a special emphasis on memory and late-life depression. In general, past research is somewhat mixed although tends towards depression having a negative impact on all the above types of memory.

The impact of depression on short-term, working, and prospective memories was investigated in a group of younger adults aged 20-29 years ($n = 50$) and older adults aged 70-79 years ($n = 50$). A between groups design was used, with each participant completing measures of depression, short-term memory (recall list), working memory (letter-number sequencing and reading span tasks), and prospective memory (with both time-based and event-based tasks). As moderating factors of memory, processing speed and an estimate of IQ were measured. Anxiety and perceived stress were measured as moderating factors for depression.

The results of the present study were mixed. There were small effects for Depression and Depression \times Age interactions across some of the working memory and time-based prospective memory analyses. Interesting results were obtained when the moderators were investigated. Visual processing speed and IQ had some small to medium effects for Depression and Depression \times Age interactions for recall, reading span, and time-based prospective memory, although these effects were not always in the anticipated direction. Similar variable patterns appeared when the impact of anxiety and stress on memory were analysed.

The implications of these mixed results are that a review of the way the constructs of depression, anxiety and stress are defined and measured is necessary for ongoing research in this area. Tests of depression are variable and have correlations with each other that are only marginally higher than their correlations with anxiety and stress measures. Difficulties with construct measurement extend to tests of working memory, with low correlations between working memory tests. This indicates that these tests may not be measuring the same things, yet current research on depression and memory often compares findings across multiple depression scales and tests of memory. This may have led to the inconsistent findings in the literature and may continue to do so until the issues of construct definition and measurement are addressed.

Preface

The decision to explore another aspect of memory and ageing came easily to me, building on my Master of Arts thesis which investigated the effects of differing berry juices on cognitive functioning in older adults. It was through my Master's degree that I learnt of prospective memory and became greatly interested in this topic. I knew that I wanted to do research with prospective memory, and became fascinated by the relative lack of existing research when compared with retrospective types of memory. I was especially puzzled about this research gap when I thought of the everyday implications of prospective memory failures. From there, I became interested in ecological validity and the types of memory relied on for a high quality of life. Through reading the literature, I became interested in the impact of depression on memory, and how depression-related memory impairment could affect a person's daily functioning. While my interest in the everyday aspects of memory remained, I became aware that the state of the research on depression-related memory impairment was not yet ready for a focus on ecological validity. There is still much research to be done on better defining the concepts and theories of why such impairments may occur, and why the study of the effects of depression on memory has yielded such inconsistent results.

With this understanding that further research into the relationship between depression and memory was needed in order to clarify inconsistencies in current research, I decided to adopt a more traditional quasi-experimental design which was matched to the literature I was reviewing. This led to my choice to focus on three types of memory; short-term, working, and prospective memory. These types of memory were chosen for two reasons. Firstly, they were chosen in acknowledgement of my original wish to have an aspect of my study with everyday relevance, and are the types of memory that we use to carry out our activities of daily living (further evidence of these origins can be seen in the free recall task used in this study, which is a shopping list task). Secondly, my primary interest was prospective memory, and this has both

short-term and working memory components. This thesis reviews the construct of, and models of, depression. It explores models of memory, and how age and depression impact memory functioning. Frameworks that have been proposed to account for depression-related changes in memory seen in some studies are discussed, leading to the rationale and hypotheses for the present study.

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