Reviewer's report

Title: Cognitive intervention through a training program for picture-book reading in community-dwelling older adults: a randomized controlled trial

Version: 3 Date: 18 August 2014

Reviewer: Shameka Cody-Humphrey

Reviewer's report:

This is an interesting topic in that research focusing on ways to help older adults preserve cognitive function is needed to improve quality of life. Although this study was presented well, the manuscript lacked existing literature to support the intervention. There are several studies that show how similar cognitive remediation therapies have improved specific cognitive domains and everyday functioning in older adults.

Major Compulsory Revisions:

Background, Pg. 3, line 23 & 24: “The increase in people....” This sentence states that cognitive decline in older adults is a public concern. You should expand on how cognitive decline affects economic costs. This section should sell your intervention, so use the literature to support why this is a problem.

Background, Pg. 4, line 3-10: This section focuses on the benefits of physical exercise on cognitive functioning in older adults; however, there needs to be details of supporting literature that shows this. It is not enough to state facts. Also, it seems as if you are assuming all older adults have difficulty with physical exercise, when in fact there are some older adults who exercise for their hobby (also consider group exercise which is common among older adults).

Background, Pg. 4, line 17: you mentioned lack of hippocampal activation but more information about this is needed for lay readers who may not understand what that means.

Pg. 5, line 13 & 14: Social Engagement Theory is an important concept here. Draw on existing literature to further explain how this relates to your intervention.

Measurements: Please state what the scores mean (e.g., fewer seconds on Trails B indicate better executive function). Also it would help to include test-retest reliability for each measure.

Pg. 9, line 12: This sentence needs revision because it seems as if the alternating pattern of numbers and letters measured time. It should be clear that this is a timed-task.

Results, Pg. 11 line 5: the first part of the comma series “age, gender, education level” are characteristics of the two groups being compared, whereas the second part of the comma series list cognitive measures. Are you stating there were no differences in these scores? Please clarify.
Analysis, Pg. 11, line 18: “rate of retention” Please indicate if you are referring to the actual retention rate of the participants or memory recall.

Pg. 12, line 3 & 4: This is only one sentence, but it starts a new paragraph. Where are the remaining sentences to complete the paragraph?

Pg. 12, line 20-25: Trails A results were significant; therefore, there were cognitive improvements not only in the executive function domain but also attention.

Discussion, Pg. 13, line 17: “naturally developed memorization strategies” How so? If it was a natural response, there would be no need for this intervention.

Pg. 14, line 11-13: Know that there are some situations in which cognitive function cannot be modified. It depends on neuroplasticity and cognitive reserve which can change across the lifespan. The key to preventing cognitive decline is to encourage older adults to engage in cognitively stimulating activities (e.g., learn a new skill). In line 13, “of” should be “in”

Pg. 15, line 13: Since the study was not conducted over an extended period of time, it is not safe to conclude the intervention contributed to the prevention of cognitive decline. This conclusion cannot be made without observing long-term effects of the intervention.

Minor Essential Revisions:

Abstract, Pg. 2, line 11 & pg. 9, line 9: spell out the number if it starts a sentence

Pg. 5, line 3: Insert “a” after “In” post-baseline sounds awkward. Consider using posttest instead of post-baseline.

Pg. 5, line 9 & 11: You use the terms “cognitive training” then “brain training.” Consider using one of these terms throughout the manuscript for consistency. Some areas you hyphenate picture-book and other areas you do not use the hyphen. So far, you have referred to your population of interest as elderly people, persons, older adults, and older people. There should be some consistency in this as well.

Pg 5, line 25: How does the intervention influence instrumental activities of daily living? Expand on this.

Methods, Pg. 6, 10-12: Avoid using 1st or 2nd person

Methods, Pg. 6, line 15: “applied” sounds like there was an application process

Methods, Pg. 6, line 13: Exclusion criteria – What about other neurological impairments (e.g., mental retardation)?

Procedure, Pg. 7, line 5: It should read 12-week

Discussion, Pg. 13, line 13: Avoid using adjectives such as good to describe cognitive influence. Also, “to” should be “on”

Pg. 14, line 3: “obtained” should be “observed”

Pg. 14, line 20: If the diagnosis of dementia was self-reported, that is another limitation to consider.
Here are a few relevant articles


**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests' below.