

Abstract  
Poster Session C

Friday, November 15, 2019 8:00 am – 9:30 am

AGING AND DEMENTIA: ALZHEIMER

C-08

**Hippocampal Volume in a Cognitively Healthy Population Scoring Within Normal Limits on Cognitive Tasks**

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**Objective:** Our aim was to investigate hippocampal volume in a cognitively healthy aging population that scored within normal limits on neuropsychological testing. Decreased hippocampal volume was expected to predict decreased memory performance, and not expected to predict executive function. **Method:** A cross-sectional design was conducted from archival data at Huntington Medical Research Institutes. The sample consisted of 35 older adults (63-89 years) with college degrees or higher. Hippocampal volume and intracranial volume were obtained via MRI, and neuropsychological assessment measures included Wechsler Memory Scale, 3rd edition (WMS-III), California Verbal Learning Test, 2nd edition (CVLT-II), and the Stroop Color and Word Test. **Results:** Total hippocampal volume was a good predictor of Logical Memory delayed (LM-II) scores (Figure 1), such that a larger hippocampus was associated with poorer LM-II performance ( $p < .01$ ). Consistent with the above, both left hemisphere (LH) ( $p = .03$ ), and right hemisphere (RH) hippocampal volume ( $p < .01$ ), were found to be good predictors of LM-II scores, and a larger RH or LH hippocampus was associated with poorer performance. Neither CVLT-II nor Stroop C Interference scores were significantly related to total hippocampal volume. **Conclusion(s):** Unexpectedly, participants with a larger hippocampus performed more poorly on the LM-II task. These results might be explained by the effects of neuroinflammation in early Alzheimer’s disease pathology. However, given that the MRI volumes did not account for atrophy or damaged cortical tissue, inference is limited. Future research investigating the early pathology of brain aging in the hippocampus in cognitively healthy individuals is recommended.

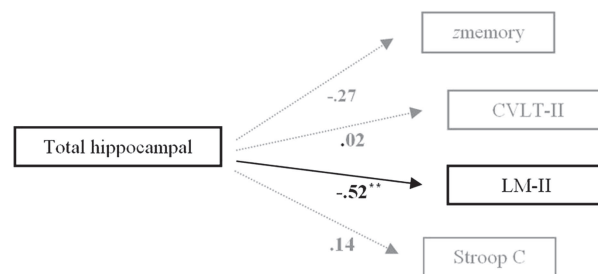


Figure 1. Standardized regression coefficients of total hippocampal volume predicting cognitive functioning variables. Black arrows indicate a significant relationship between variables and grey dashed arrows indicate a nonsignificant finding. zmemory = total verbal memory.  
\* $p \leq .05$ . \*\* $p \leq .01$ . \*\*\* $p \leq .001$