

# The Protective Benefits of Higher Education

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WV AGE-ADAR SCHOLARS PROGRAM

## Introduction

Higher education seems to decrease the risk to develop dementia and helps to sustain a good level of cognitive functioning for a longer lifetime period (Then et al., 2016). Previous works have concluded that active, engaged lifestyle, emphasizing mental activity and educational pursuits in early life, can have a positive impact on cognitive functioning in late life (Fritsch et al., 2007).

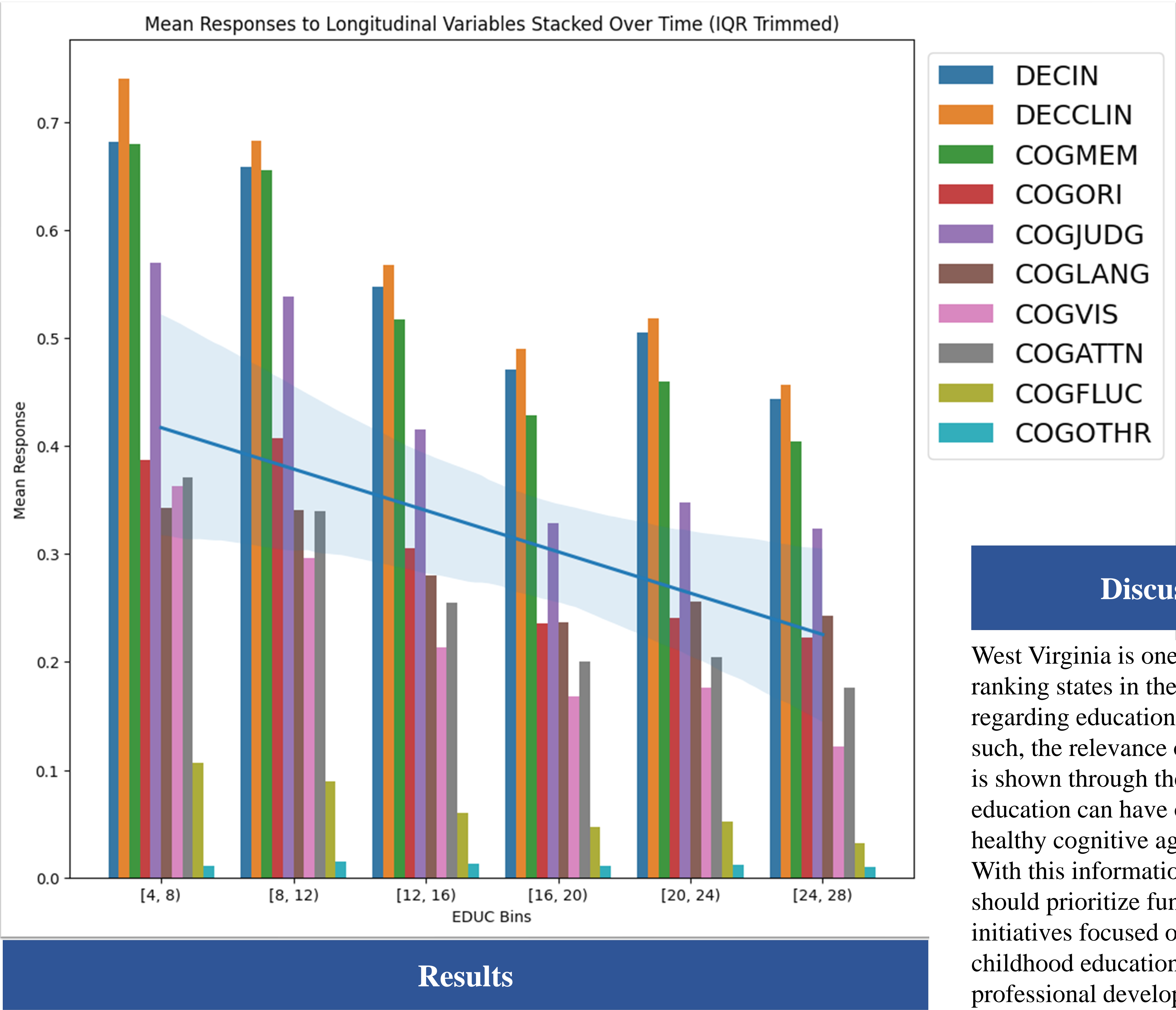
West Virginia has the lowest percentage of adults with a bachelor's degree or higher, at 24.1% (U.S. Census Bureau). This means that older adults in this state are at a potentially greater risk than other places in the nation.

## Purpose

We seek to investigate if the overall trend of educational achievement protecting cognitive function holds true. Additionally, we seek to understand which indicators of healthy cognitive functioning are most effected by years of education achieved.

## Methods

- Data Source:** National Alzheimer's Coordinating Center (NACC)  
**Sample Size:** 186,000 participants ages 65+
- A linear regression analysis was performed to examine the relationship between length of education and a variety of cognitive variables
  - Average response between yes and no for each variable was analyzed
  - Trimmed to the Interquartile Range (IQR)



## Results

A line of regression was calculated and applied to the response over time. This was also supplemented with a 95% confidence interval that can be seen shaded in light blue on the poster. The regression showed a nearly linear decline.

Two of the most drastic improvements were DECCLIN and COGMEM scores with a 28.2% and 27.5% total decrease from their modes. All variables showed an overall decrease, although a few were quite negligible. COGOTHR varied by only a tenth of a percent.



References

## Discussion

West Virginia is one of the lowest ranking states in the nation regarding educational quality. As such, the relevance of this research is shown through the impact an education can have on the quality of healthy cognitive aging in the state. With this information policymakers should prioritize funding for initiatives focused on early childhood education, teacher professional development, or curriculum enhancement.

Samplings of longitudinal variables like these can help to make stronger correlations about behaviors which lead to healthier aging. Statistical connections like ours can be used as starting points for modeling the onset of cognitive diseases such as Alzheimer's and help contribute to earlier diagnoses as well as a higher quality of prevention and treatment.