

have evidenced an unusually high number of failures in a dementia population when utilizing typical clinical cut-offs (Zenisek et al., 2016). The objective of this study is to explore performance on embedded PVTs among older adults who have a major neurocognitive disorder (MND), specifically among Alzheimer disease (AD) and non-AD patients.

Participants and Methods: Archival data from outpatient neuropsychological evaluations were analyzed. All participants were at least 65 years of age, diagnosed with a MND, and completed Digit Span from the WAIS-IV, Brief Visuospatial Memory Test- Revised (BVMT-R), and Hopkins Verbal Learning Test-Revised (HVLT-R). In total, 84 participants, aged 67-96 ($M=78.44$, $SD=6.11$) with 6-20 years of education ($M=13.47$, $SD=3.30$), were included. The sample predominantly identified as female ($n=60$) and White ($n=61$). More individuals were diagnosed with AD ($n=50$) than non-AD dementia ($n=34$). Common non-AD diagnoses included Vascular ($n=44$), Lewy bodies ($n=8$), and Parkinson's ($n=2$) dementias. Fisher's Exact Test of Independence was used to account for the smaller sample to determine if there was a nonrandom association between diagnosis (AD vs non-AD) and embedded PVT performance: $RDS \leq 7$, BVMT-R Hits < 4 , BVMT-R Recognition Discrimination (RD) ≤ 4 , and HVLT-R RD ≤ 5 (Bailey et al., 2018).

Results: The Fisher's Exact Test of Independence revealed a statistically significant association between neurocognitive diagnosis and RDS ($p = .008$), BVMT-R RD ($p < .001$), and HVLT-R RD ($p < .001$). BVMT-R Hits were not significantly associated with diagnosis ($p = 0.10$). These measures evidenced opposite patterns with RDS demonstrating a higher percentage of fails for the non-AD (63%) versus AD (20%) group. The AD group had a higher percentage of fails for BVMT-R RD (58% for AD and 13% for non-AD groups) and HVLT-R RD (66% for AD and 29% for non-AD group).

Conclusions: The current study suggests performance on embedded PVTs vary across MND diagnoses. Individuals with a non-AD diagnosis were more likely to fail RDS than those with AD. This is likely secondary to attention and working memory demands that are mediated by the frontal-subcortical networks, which are less impacted by AD pathology (Bonelli & Cummings, 2022; Loring et al., 2016). In contrast, AD patients were more likely to fail embedded PVTs within memory measures, which are largely mediated by the mesial

temporal cortex associated with AD (Pluta, 2022). These results suggest embedded measures operate differently based on diagnosis and neuroanatomical systems affected. The clinical relevance of these findings includes potentially using alternative PVTs or different cut-offs based on diagnosis. Future research should attempt to better delineate more appropriate, as well as time efficient, PVTs among the dementia population.

Categories: Dementia (Non-AD)

Keyword 1: performance validity

Keyword 2: dementia - Alzheimer's disease

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61 The Impact of Cognitive Reserve on Executive Function in Dementia

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Objective: Cognitive reserve (CR) refers to how flexibly and efficiently the individual makes use of available brain resources. Early-life education, midlife social and occupational activities, and later-life cognitive and social interactions are associated with greater CR. Years of education, premorbid intellectual (IQ) functioning, linguistic ability, and occupational complexity are often used as proxies of CR. CR theory seeks to explain discrepancies between the extent of disease pathology and clinical presentation amongst individuals with dementia. In the presence of Alzheimer's Disease (AD) pathology, higher CR is associated with slower declines in executive functioning (EF). The current study examined the correlation between CR and EF performance across various stages of dementia severity as measured by the total score on the Clinical Dementia Rating Scale (CDRS).

Participants and Methods: The study cohort consisted of 269 individuals who had completed measures of EF and the CDRS from phase 1 of the Alzheimer's Disease Neuroimaging Initiative

(ADNI). Individuals who scored less than 2 on the CDRS were included in the MCI group ($n=197$), while individuals that scored 2 or higher on the CDRS were included in the dementia group ($n=73$). A simple linear regression was utilized to compare the MCI group to dementia group across CR and EF performance.

Results: There was significant correlation between CR and EF performance in the MCI group as quantified on total CDRS score ($F(200) = .353, p = .0, p < .05$). CR was not observed to be predictive of EF in the dementia group ($F(200) = .031, p = .666, p > .05$).

Conclusions: Findings are consistent with prior research suggesting CR is protective during early stages of dementia, but not in the later disease stages. As prior research has shown the expression of dementia is based on a complex interaction between genetic and lifestyle factors that are unique to each person, future research exploring the potentially protective role of CR amongst pre-symptomatic adults with a genetic predisposition for developing dementia may expand our understanding of the potential role of CR on dementia prevention and progression.

Categories: Dementia (Non-AD)

Keyword 1: cognitive reserve

Keyword 2: executive functions

Keyword 3: mild cognitive impairment

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62 Moral Reasoning Through the Eyes of Behavioral Variant Frontotemporal Dementia

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Objective: Persons with behavioral variant frontotemporal dementia (bvFTD) have been shown to exhibit altered morality, manifested as atypical utilitarian tendencies towards sacrificial moral dilemmas. This takes the form of

endorsing harmful actions towards single individuals, including vulnerable or relationally close individuals (e.g. children, loved ones), in order to promote the greater good for the community or society as a whole. The dual process model of moral cognition interprets such tendencies as deriving from a lack of emotional engagement, whereas moral emotion theory views them as selective impairment in prosocial sentiments. We hypothesized that both the widespread neuropsychological practice of using sacrificial moral dilemmas to evaluate moral reasoning, and these tests' overreliance on quantitative results, inadequately represent how persons with bvFTD reason and feel while responding to moral dilemmas. To evaluate this hypothesis, we applied a mixed-methods approach to identify the reasoning, motivations, and emotional experiences of bvFTD persons during their deliberation about moral scenarios.

Participants and Methods: We conducted semi-structured interviews with 14 participants: 7 persons with bvFTD & 7 older healthy controls. Transcripts were coded in Atlas 5.0 to characterize the underlying reasoning, emotions, response processes, and values that emerged when responding to a structured set of moral dilemmas. Our dilemmas measured utilitarian reasoning holistically by incorporating both sacrificial and impartial/altruistic components, as suggested by the 2-dimensional model of utilitarianism.

Results: Unexpectedly, bvFTD persons articulated a prosocial compass when asked about their values, stating they were organizing their choices predominantly around kindness and altruism, even when they were making choices to harm loved ones or vulnerable individuals to promote the greater good. During moral deliberation, persons with bvFTD showed significantly less metacognition (bvFTD = 10%, HC = 90%) but reported more positive emotions (joy; bvFTD = 83%, HC = 17%) than negative (frustration; bvFTD = 30%, HC = 70%) compared to controls. Qualitatively, this observed emotional outlook was typically coupled with a more rigid, simplistic viewpoint (e.g., "I felt great, it was a no brainer"), suggesting a moral understanding lacking emotional nuance and complexity.

Conclusions: Our data showed that bvFTD persons' utilitarian responses to moral dilemmas did not arise from an emotionally flat or antisocial cognitive perspective, but instead were guided by positive emotionality, simplistic reasoning, and prosocial values. These findings