P2-201 INFLUENCE OF THE AFFECTIVE VALENCE OF VISUAL MATERIALS IN RECOGNITION AMONG HEALTHY INDIVIDUALS AND PATIENTS WITH ALZHEIMER'S DISEASE DEMENTIA

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Background: Patients with Alzheimer's disease (AD) present with impairments both at the structures associated with emotions, and in episodic memory. The involvement of the amygdala in patients with AD might imply emotional deficit in information processing. It has been reported that the impairment of patients with AD to perceive emotions might be lower than their deficit at the level of other cognitive functions, with a higher recalling of materials when the materials have emotional content. **Objective:** To research into the influence of the affective valence of picture in visual recognition tests among healthy individuals and patients with mild Alzheimer's Disease Dementia (ADD). **Methods:** Fifteen healthy individuals (age (mean±Standard Deviation) 73±8.48 years, education 13.2±3.9 years, Mini Mental State Examination (MMSE) 29.4±1.55), and 15 patients with ADD (age 75.47±7.61 years, education 10.8±4 years, MMSE 24.6±2.85), paired by age and education were included. Ten pictures with neutral valence and 10 pictures with negative valence were selected from the International Affective Picture System, paired by arousal level. Successful recognition of pictures and reaction time by picture valence were assessed by ANOVA test. **Results:** A better performance was recorded both in terms of the number of successful recognition instances ($F=1570;p=0.01$) and of reaction time ($F=285.40;p=0.01$) in the control group compared to patients with ADD. Both groups evidenced a better recognition accuracy with negative-valence pictures than with neutral-valence pictures ($F=4.66;p=0.04$). **Conclusions:** A better performance of the control group was noted both in terms of processing rate and of recognition accuracy. In both groups, the recognition accuracy was higher with negative-valence prompts. These findings suggest that the emotional content of the information facilitates recognition.

P2-202 LARGE INDIVIDUAL DIFFERENCES IN FREE RECALL WILL IMPACT ALZHEIMER'S DISEASE COGNITIVE TESTING

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Background: Free recall is commonly used in tests for detecting the presence of AD. **Methods:** Using published data by Murdock (1962) I show there are large individual variations in free recall scores. **Results:** Using single factor ANOVA I show that there are large individual differences in free recall (η^2 ranges from 0.09-0.26) including the total recall, the balance between recency and primacy, and the initial recall (subsequent recalls show smaller individual differences). All three memory properties are relatively uncorrelated. The variance in the initial position may be a measure of executive control and is correlated with total recall (the smaller the variation, the larger the recall). **Conclusions:** Free recall tests have large individual variations. When used for detecting the presence of AD, it would be preferrable to have access to a pre-disease free recall score.

P2-203 LONGITUDINAL CHANGES IN SELF-ADMINISTERED GEROCOGNITIVE EXAMINATION (SAGE) AND MINI-MENTAL STATE EXAM (MMSE) SCORES FOR SUBJECTIVE COGNITIVE IMPAIRMENT (SCI), MILD COGNITIVE IMPAIRMENT (MCI), DEMENTIA CONVERTERS, AND ALZHEIMER'S DISEASE (AD) PATIENTS

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Background: SAGE is a valid self-administered cognitive assessment tool for detecting cognitive impairment, MCI and mild dementia. We wish to determine changes in SAGE and MMSE scores over time in individuals with various clinical diagnoses. **Methods:** Retrospective chart review from 10/2005 through 8/2014 was performed on consecutive subjects seen at Ohio State University who had at least 2 SAGE and MMSE tests done at least 6 months apart. The CERAD neuropsychological battery performed by all subjects was the sole basis of determination of normal or impaired cognition. Individuals with normal cognition and no deficits in ADL were classified as Subjective Cognitive Impairment (SCI). Individuals with mildly impaired cognition on CERAD and no or minimal decline in ADL were classified as MCI. Converters were those classified as MCI who later in time met standard criteria for dementia. One way and repeated measures ANOVAs were performed. **Results:** 440 individuals (46 SCI, 98 MCI non-converters, 70 Converters, 226 AD) met the inclusion criteria. Baseline mean SAGE scores for SCI (19.7±2.0) were significantly different than MCI non-converters (17.1±3.3), Converters (16.5±3.1), and AD (10.7±4.7) groups. 70 subjects converted from MCI to dementia with various underlying etiologies including 49 AD, 3 vascular dementia, 5 Lewy body dementia, 1 frontotemporal dementia, 2 normal pressure hydrocephalus, and 10 miscellaneous causes. It was noted that significant changes in SAGE scores for the converter group occurred 6 months earlier than significant changes in MMSE scores. SAGE scores declined significantly over time ($p<0.0001$) for Converters (-1.91 points/year for AD conversion, -2.33 points/year for other dementia types conversion) and AD (-1.94 points/year for baseline SAGE≥10, N=139; -1.53 points/year for baseline 10>SAGE≥5, N=64), but not for SCI (0.10 points/year), MCI non-converters (0.03 point/year) or, due to floor effects, for AD with baseline SAGE<5 (0.05 points/year, N=24) ($p>0.05$). **Conclusions:** SAGE is more effective than MMSE in detecting MCI and MCI conversion to dementia. SAGE scores were stable over time in SCI and MCI who did not convert to dementia. The ease of repetitively administering this self-administered tool and the identification of score stability versus decline over time may provide clinicians significant diagnostic assistance.

P2-204 MODEL-BASED ANALYSIS OF CONTINUOUS PERFORMANCE MEMORY ASSESSMENT DEMONSTRATES MECHANISMS UNDERLYING DEFICITS IN MILD COGNITIVE IMPAIRMENT

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Background: Early detection of prodromal memory changes at or preceding diagnosis of amnestic mild cognitive impairment