compared to SMC (p = 0.018) and HC (p = 0.024). Regression analysis revealed statistically significant findings for the dominant hand (R2 = 0.327, F (4, 34) = 4.130, p = 0.008) and for the non-dominant hand (R2 = 0.330, F (4, 34) = 4.180, p = 0.007). For both the dominant and non-dominant hands, number of invalid taps significantly predicted range score (β = 0.453, p = 0.044, and β = 0.498, p = 0.012, respectively). Sex, age, and education years did not predict range scores.
Conclusions: Variability of finger tapping in patients evaluated for neurodegenerative memory disorders and aged matched controls is predicted by the number of invalid tapping responses (comprising over 30% of the variance), but not by demographic variables in this clinical sample. Neurodegenerative disorders may eliminate a sex effect.

Categories: Neurodegenerative Disorders
Keyword 1: dementia - Alzheimer's disease
Keyword 2: motor function
Keyword 3: mild cognitive impairment
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57 Traumatic Brain Injury and Concussion in Patients with Frontotemporal Dementia Spectrum Diagnoses

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Objective: Traumatic brain injury (TBI) and concussion are associated with increased dementia risk. Accurate TBI/concussion exposure estimates are relatively unknown for less common neurodegenerative conditions like frontotemporal dementia (FTD). We evaluated lifetime TBI and concussion frequency in patients diagnosed with a range of FTD spectrum conditions and related prior head trauma to cavum septum pellucidum (CSP) characteristics observable on MRI.
Participants and Methods: We administered the Ohio State University TBI Identification and Boston University Head Impact Exposure Assessment to 108 patients (age 69.5 ± 8.0, 35% female, 93% white or unknown race) diagnosed at the UCSF Memory and Aging Center with one of the following FTD or related conditions: behavioral variant frontotemporal dementia (N=39), semantic variant primary progressive aphasia (N=16), nonfluent variant PPA (N=23), corticobasal syndrome (N=14), or progressive supranuclear palsy (N=16). Data were also obtained from 217 controls ("HC"; age 76.8 ± 8.0, 53% female, 91% white or unknown race). CSP characteristics were defined based on width or "grade" (0-1 vs. 2+) and length of anterior-posterior separation (millimeters). We first describe frequency of any and multiple (2+) prior TBI based on different but commonly used definitions: TBI with loss of consciousness (LOC), TBI with LOC or posttraumatic amnesia (LOC/PTA), TBI with LOC/PTA or other symptoms like dizziness, nausea, "seeing stars," etc. ("concussion"). TBI/concussion frequency was then compared between FTD and HC using chi-square. Associations between TBI/concussion and CSP characteristics were analyzed with chi-square (CSP grade) and Mann-Whitney U tests (CSP length). We explored sex differences due to typically higher rates of TBI among males.
Results: History of any TBI with LOC (FTD=20.0%, HC=19.2%), TBI with LOC/PTA (FTD:32.2%, HC=31.5%), and concussion (FTD: 50.0%, HC=44.3%) was common but not different between study groups (p's>.4). In both FTD and HC, prior TBI/concussion was nominally more frequent in males but not significantly greater than females. Frequency of repeat TBI/concussion (2+) also did not differ significantly between FTD and HC (repeat TBI with LOC: 6.7% vs. 3.3%, TBI with LOC/PTA: 12.2% vs. 10.3%, concussion: 30.2% vs. 28.7%; p's>.2). Prior TBI/concussion was not significantly related to CSP grade or length in the total sample or within the FTD or HC groups.
Conclusions: TBI/concussion rates depend heavily on the symptom definition used for classifying prior injury. Lifetime symptomatic TBI/concussion is common but has an unclear impact on risk for FTD-related diagnoses. Larger samples are needed to appropriately evaluate sex differences, to evaluate whether TBI/concussion rates differ between specific

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FTD phenotypes, and to understand the rates and effects of more extensive repetitive head trauma (symptomatic and asymptomatic) in patients with FTD.

Categories: Neurodegenerative Disorders
Keyword 1: traumatic brain injury
Keyword 2: dementia - other cortical
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58 Highly Educated Professionals with Dementia: More than just Physicians

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Objective: Findings from cognitive screenings have resulted in lower-than-expected scores amongst late-career physicians (Moutier et al., 2013). Similar to healthy aging samples and those with mild cognitive impairment, inconsistencies in self-report and objective neuropsychological functioning have been noted in physicians (Nasreddine et al., 2005). Little research has focused on neuropsychological functioning of other highly educated groups, including PhD and JD degrees. We addressed a lack of normative cognitive performance data for populations with advanced degrees by exploring cognitive test scores in a mixed clinical sample of adults.
Participants and Methods: Archival data are from 208 neuropsychology clinic outpatients with 20 years of education (Mage=67.7, SDage=12.3; 25% female; 95% White). Academic degrees were PhD (35.6%), JD (28.4%), MD/DO (21.6%), and 6% other. Referrals sources were physicians (93.8%), licensing boards/employers (3.8%), self-referrals (1.4%), and attorneys (1.0%). Employment status was 55.3% employed and 44.7% not employed. Final DSM-5 neurocognitive diagnosis (NCD) status was: no NCD (45.2%), mild NCD (35.6%), and major NCD (19.2%). Etiologies were: possible Alzheimer's disease (41.2%), unspecified (13.2%), and possible vascular (12.3%). Chi-square tests denoted diagnostic status differences between degree type and employment status. ANOVAs denoted differences in global cognitive and intellectual functioning (on the Repeatable Battery for Neuropsychological Status [RBANS] Total Index, Weschler Adult Intelligence Scale-IV (WAIS-IV), Weschler Abbreviated Scale of Intelligence-II [WASI-II] FSIQ-4 and FSIQ-2) between degree types. Cumulative frequency rates for low scores in the entire sample on normally distributed tests of general intellectual and cognitive functioning were computed for -1.0, -1.5, -2.0, and -2.5 standard deviations (SDs) at or below the population mean.
Results: NCD diagnosis did not differ by degree ($\chi2[14]=8.73$, $p=.848$) but did differ by employment status ($\chi2[2]=40.98$, $p<.001$, $\varphi=0.44$). Employment rate was highest for the no NCD group (66.0%), followed by mild NCD (37.8%), and major NCD (7.5%). For cases below retirement age (<65 years), employment status did not significantly differ between NCD diagnostic groups ($\chi2[2]=5.97$, $p=.050$). Low scores on an FSIQ measure were: -1 SD (7.0%), -1.5 SD (2.6%), -2.0 SD (0.9%), and -2.5 SD (0.0%) compared to general cognitive test scores which demonstrated 42.5% at -1 SD, 30.5% at -1.5 SD, 19.0% at -2.0 SD, and 9.2% at -2.5 SD below the population mean.
Conclusions: The high-education literature is limited to medical degree samples. This sample included multiple degree types. Unsurprisingly, employment rates were higher for healthy versus impaired samples; however, employment rates were similar across these groups for people below retirement age. Our findings suggest that cognitively impaired people with 20 years of education often perform at or near the general population average on tests of general intellectual functioning but below the general population average on tests of general cognitive functioning. Future work should include base rates of low scores on a broader array of cognitive tests across diagnostic groups.

Categories: Neurodegenerative Disorders
Keyword 1: cognitive functioning
Keyword 2: memory disorders
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59 Effects of Cognitive Impairment, Geriatric Depression, and Anxiety on the Texas Functional Living Scale (TFLS) in a Memory Disorder Clinic

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