orientation, language, attention/executive function, and memory. ANOVA/ANCOVA and ROC curve analyses were used to examine between-group differences on the MoCA-T and its psychometric properties in discriminating patients with MCI or dementia, respectively. **Results:** Participants had a mean age of 74.3 ± 8.7 and education of 16 ± 2.9 years. Patients with dementia were significantly older than those with MCI and no diagnosis, but there were no other significant between-group differences in clinical characteristics. MoCA-T total [$F(2,86)=28.5$, $p<0.001$] and all subscale scores ($p<0.01$) differed significantly between groups and in the expected direction (dementia<MCI<no diagnosis) even after controlling for age. The only exception was language for which there was initially a statistical trend ($p=0.06$) that reached significance ($p<0.05$) after controlling for age. In terms of individual items, abstraction, fluency, orientation to place/city, and category cued recall were the only items that did not differ significantly between groups. ROC curve analyses revealed -5 points to be the optimum cut-off for distinguishing between cognitively normal individuals from patients with MCI (Sensitivity=0.67; Specificity=0.77; AUC=0.78), and a cut-off of -8 points optimally distinguished between patients with MCI and dementia (Sensitivity=0.77; Specificity=0.74; AUC=0.81). **Conclusions:** The current study provides further evidence for the clinical utility of the MoCA-T as a screening instrument for neurocognitive disorders in older adults and extends prior work to include administration via videoconferencing technology. While previous studies have focused on the use of MoCA-T in specific patient populations, here, we demonstrate the validity of this screening tool in a mixed-clinical sample, which suggests its broader use in clinical settings for distinguishing between neurocognitive disorders, regardless of the underlying etiology.

**Categories:**
Assessment/Psychometrics/Methods (Adult)
**Keyword 1:** cognitive screening
**Keyword 2:** teleneuropsychology
**Keyword 3:** neuropsychological assessment
**Correspondence:** Amtul-noor Rana, Department of Neurology, Dell Medical School, University of Texas at Austin, amtulnoor.rana@austin.utexas.edu

## 4 Assessing Visuospatial Skills in Parkinson's Disease Using the Identi-Fi

AnneMarie Teti, Ryan C. Thompson, Grant G. Moncrief, Robert M. Roth
Dartmouth-Hitchcock Medical Center, Lebanon, NH, USA

**Objective:** Patients with Parkinson's disease (PD) commonly show deficits on tests of visuospatial functioning. The Identi-Fi is a new measure of visual organization and recognition composed of two components. The Visual Recognition (VR) subtest asks persons to identify an object that has been broken its pieces and rearranged, akin to the Hooper Visual Organization Test, but using updated and colorful pictures. The Visual Matching (VM) subtest involves showing the same stimuli, but the examinee must select the correct response from among five choices (1 correct and 4 foils), placing greater demand on visuospatial discrimination. Together, the two subtests comprise the Visual Organization Index (VOI), reflecting overall visual processing and organization ability. The present study examined performance on the Identi-Fi in patients with PD and its association with other aspects of cognition.
**Participants and Methods:** Participants were 23 patients with PD (95% male; mean age = 69.7 years [SD = 7.8], range = 47–79) and 12 patients with cognitive concerns (CC) who were intact on neuropsychological testing (excluding consideration of Identi-Fi scores; 50% male, mean age = 71.08 [SD = 6.27], range = 60–78) seen for a neuropsychological evaluation at a large Northeastern medical center. As part of a larger battery, patients completed the Identi-Fi, Trail Making Test (TMT), Category Fluency, Test of Premorbid Functioning (TOPF), and Brief Visuospatial Memory Test, Revised (BVMT-R).
**Results:** The PD group performed significantly worse than the CC group on VR and VM, as well as VOI, of the Identi-Fi ($p < .001$). Within the PD group, poorer VR, VM, and VOI performance was associated with lower scores on the TOPF ($p < .05$), BVMT-R learning ($p < .05$) and delayed recall ($p < .05$), as well as TMT Parts A and B ($p < .05$). VR was significantly correlated with Category Fluency ($p < .05$), while a trend was seen for the association between VOI and Category Fluency ($p = .094$).
**Conclusions:** Identi-Fi performance was worse in the PD group than the CC group, which is

https://doi.org/10.1017/S1355617723008639 Published online by Cambridge University Press

consistent with prior research indicating that visuospatial processing is often abnormal in patients with PD. Furthermore, findings indicate that poorer performance on the Identi-Fi in the PD group is associated with poorer cognitive functioning in other domains (i.e., visuospatial learning and memory, processing speed, cognitive flexibility, and semantic fluency), as well as lower premorbid intellectual functioning. While these findings suggest that the Identi-Fi is useful in identifying visuospatial dysfunction in PD, findings should be interpreted with caution given the small sample sizes and uneven gender distribution

**Categories:**
Assessment/Psychometrics/Methods (Adult)
**Keyword 1:** Parkinson's disease
**Keyword 2:** visuospatial functions
**Keyword 3:** assessment
**Correspondence:** AnneMarie Teti, PsyD., Dartmouth-Hitchcock Medical Center, AnneMarie.Teti@hitchcock.org

## 6 Back-To-Drive Project. Assessment of Fitness-To-Drive in Older and Cognitively Impaired Adult Drivers: Adaptation of the on-Road Driving Observation Schedule to Simulation-Based Environments

Carolina Diaz-Piedra[1,2], Alban Kuqi[3], Rocio Fernandez-Mendez[4], Maria Jesus Caurcel[1], Riccardo Rossi[3], Leandro L Di Stasi[1]
[1]Mind, Brain, and Behavior Research Center-CIMCYC; University of Granada, Granada, Spain. [2]College of Nursing and Health Innovation; Arizona State University, Phoenix, AZ, USA. [3]Department of Civil, Environmental and Architectural Engineering; Universityof Padua, Padua, Italy. [4]Department of Clinical Neurosciences; University of Cambridge, Cambridge, United Kingdom

**Objective:** Cognitive, motor and sensory deficits associated with aging, and with some neurological conditions such as acquired brain injury, may lead to severe driving performance impairment. While rehabilitation and driver assistance technologies may improve driving performance, the assessment of the actual fitness-to-drive of these people is challenging. Office-based neuropsychological/physical tests are considered insufficient to understand one's ability to drive. The gold standard is the on-road assessment with dual control cars, superior in ecological validity, but expensive, stressful, and potentially unsafe. Valid, more cost-effective solutions for a safer, more accurate, standardized assessment of fitness-to-drive are currently needed. Modern and sensorized driving simulators offer key advantages, such as the possibility of exposing drivers to several relevant driving scenarios, including hazard situations, and of assessing their driving performance without being physically at risk. However, the extraction and direct interpretation of existing simulator-produced data may require specialized data processing skills or simulation expertise. To overcome this, we have developed an easy-to-use, pencil-and-paper observational instrument. The Sim-DOS is an adaptation of the widely used instrument to assess "natural driving", the Driving Observation Schedule (DOS; Vlahodimitrakou et al., 2013).
**Participants and Methods:** Via expert consensus, DOS targeted behaviors were adapted to a simulated-based environment (signaling, observation of environment, speed regulation, slow or unsafe reaction, distance interpretation, vehicle/lane positioning), and the Sim-DOS scores calculation (based on errors while doing such behaviors) was adapted from DOS to include hazard situations (HS, 0-100) and free driving (FD, 0-∞) scores. The instrument was then piloted with a sample of 35 older adults, along with the collection of simulator-produced data on number of harsh events and driving speed. Participants drove two consecutive 20-minutes long scenarios, with low and high traffic density (LTD, HTD). In each scenario, there were periods with and without potentially hazard situations.
**Results:** Assessments were performed by two independent trained observers, producing substantial inter-rater reliability (intra-class correlation coefficients above 0.94). Participants (70.7±4.1 years old, 60% male, 46.1±6.7 years of driving experience) were mostly regular drivers (74%). However, psychomotor skills of the majority were compromised, with only one participant being above the 80th percentile in the reaction times test of the national mandatory driving assessment. When exposed to hazard situations, most of the participants (94.1%) did not perform well, independently of traffic density, with average Sim-DOS-HS scores of 87.1±9.7 (out of 100, t-values>7.3, p-values<.05).

https://doi.org/10.1017/S1355617723008639 Published online by Cambridge University Press