Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
Amick, Grace, & Ott (2007)	To identify visual and neuropsychological predictors of driving safety in people with PD	*N* = 25 with PD with 2 of 3 physical issues No cognitive impairments Neuropsychological and vision tests compared with BTW assessment	*Cognition:* ROCF, BQSS, TMT–A & B, UFOV *Vision:* Contrast sensitivity *Outcome Measure* BTW	Safe and marginal groups performed differently on contrast sensitivity, TMT–B (time), ROCF presence and accuracy, UFOV Subtest 3.	Small sample size Only collected data on participants with PD
Baldock, Mathias, McLean, & Berndt (2007)	To determine whether self-regulation is related to driving ability	Cross-sectional *N* = 104 (*M* age = 74.2; range = 60–92) *n* = 90 BTW Compared self-regulation with BTW	*Other or self-regulation:* Confidence, avoidance, self-efficacy, barriers to self-restriction *Outcome Measure* BTW	Self-regulation not strongly correlated to driving avoidance; only in specific situations (e.g., avoiding rain, night driving).	Self-report, volunteers BTW did not use difficult situations, whereas survey did.
Bédard, Parkkari, Weaver, Riendeau, & Dahlquist (2010)	To examine the validity and reproducibility of simulator-based driving evaluations	Cross-sectional *N* = 38 (age range = 18–83; 8 participants > age 65) Driving simulator performance compared: TMT, UFOV, and BTW	*Performance based:* Driving simulator (recorded errors) *Outcome Measure* BTW	Correlation between BTW demerit points and simulator suggests that driving simulators could be used to facilitate BTW assessments.	Convenience sample Evaluators had limited training. More structured training and testing procedures needed.
Bédard, Weaver, Darzins, & Porter (2008)	To determine the predictive value of approaches for which a statistical association with driving has been documented	Cross-sectional Group 1: *n* = 144 (age ≥ 55) Group 2: *n* = 57 (age ≥ 55) Group 3: *n* not reported (age ≥ 65) Assessments compared with BTW, past MVCs, and Fatality Analysis Reporting System	*Cognition:* MMSE, TMT–A, UFOV *Performance:* Previous driving incidents *Outcome Measure* Crash	Individually, MMSE, TMT–A time, UFOV, and previous driving incidents were significantly associated with BTW performance. UFOV had highest specificity ratings but still had limited predictive value.	Convenience sample
Carr, Barco, Wallendorf, Snellgrove, & Ott (2011)	To develop a cognitive and functional screening battery for older adults with dementia	Prospective observational *N* = 99 referred to driving clinic (*M* age = 74; 63% male) Compared screening battery with BTW performance	*Interview:* Differentiate aging and dementia *Vision:* Far and near acuity, contrast sensitivity *Cognitive:* Short Blessed Memory Test, clock drawing test, TMT, Digit Span, UFOV, Driver Health Inventory Test 2, MVPT (Visual Closure subtest), maze test	Visual and motor functioning not associated with outcomes. Best model for failure: Interview, clock drawing, TMT–A, or Snellgrove Maze Test. No noncognitive tests added to the model. Developed a probability calculator for road test prediction of failure.	Road tests not validated with crash studies Unfamiliar route for many drivers May not have been driving right before test because of a physician's recommendation not to drive

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
			Motor: ROM, upper extremity, lower extremity, and grip strength; Rapid Pace Walk; Nine-Hole Peg Test, brake reaction *Outcome Measure* BTW		
Classen et al. (2008)	To determine the relationship between clinical variables and failing a BTW assessment in older adults	Cross-sectional $N = 127$ (M age $= 75$) Self-report of medications, comorbidities, completion of TMT–B	*Cognitive:* TMT–B *Outcome Measure* BTW	Best predictor of BTW failure was advanced age, neurological diagnosis, and TMT–B time.	Small sample BTW not completed in participant's own car
Classen et al. (2009)	To establish the sensitivity and specificity of the UFOV in predicting failing or passing a BTW assessment for people with PD	Intervention group, $n = 19$ with PD (M age $= 75$) Control group, $n = 104$ Assessments compared with BTW, GRS, and sum of maneuvers score	*Vision:* Color discrimination, contrast sensitivity *Cognition:* UFOV, TMT–B, MMSE, depth perception *Outcome Measure* BTW	UFOV showed strongest correlations with outcome (BTW). Those with PD who failed BTW did worse on TMT–B and UFOV.	Small convenience sample The DRS conducted the clinical and BTW testing.
Classen et al. (2011)	To determine the predictability of a battery of clinical tools for PD	Prospective cohort Intervention group, $n = 41$ with PD Control group, $n = 41$ matched on demographics Age range $= 65–85$ Standard clinical battery and BTW assessment	*Cognitive:* MMSE, UFOV *Vision:* Acuity, peripheral field, contrast sensitivity *Motor:* Rapid Pace Walk *Outcome Measure* BTW	Participants with PD did more poorly than control group on all tests; had higher fail rate and more BTW errors. Among participants with PD, UFOV Subtest 2 and Rapid Pace Walk correctly classified 81% of those failed or passed BTW assessment.	Convenience White and educated Participants with PD from a single disorder center
Clay et al. (2005)	To determine the relationship between UFOV and driving behaviors	Meta-analysis with 8 studies meeting criteria: Association between UFOV and outcome, retrospective or concurrent, objective driving measure $N = 712$ (age 55 and older)	*UFOV and state crashes:* Only UFOV and mental status had direct effects on crashes. *UFOV and BTW:* 4 studies showed UFOV correlated with performance BTW. *UFOV and simulator:* Correlated *Outcome Measure* BTW, crashes, simulator	Studies separated for those with and without financial interest in UFOV. Suggested stability across studies by different teams and times. Poor UFOV test performance associated with poor driving performance in older adults.	See individual studies for limitations.

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
Cordell, Lee, Granger, Vieira, & Lee (2008)	To determine whether clinical measures for PD and information provided by caregivers can predict impaired driving performance	Intervention group, $n = 53$ Control group, $n = 129$ Geriatrician opinion, measurements of PD, carer questionnaire compared with BTW assessment	*Cognitive:* PD measurements, UPDRS, MMSE *Physical:* Timed Get Up & Go; reaction time *Other:* Carer questionnaire, self-report on driving ability *Outcome Measure* BTW	Control group performed better in all driving tasks. Caregivers' input significantly related to driving performance of participants with PD; clinical assessments less related.	Caregiver assessment may have introduced possible bias.
De Raedt & Ponjaert-Kristoffersen (2001)	To determine whether crash analysis can enhance the predictive power of a BTW assessment and neuropsychological tests	Cross-sectional $N = 84$ (age range = 65–96) Drivers with and without at-fault crashes. Tests compared with BTW and prior crash; self-report of at-fault crash over previous 12 mo	*Cognitive:* Paper-folding task, UFOV, dot-counting task, tracking task *Physical:* Van Zomeren's reaction time device *Outcome Measure* Crash	Paper-folding task discriminated between drivers with and without crash. The paper-folding task, BTW performance, UFOV, and the tracking test discriminate for some types of crash.	Convenience sample Self-report of crash involvement
Dickerson, Reistetter, Schold Davis, & Monahan (2011)	To explore the ability of performance on the AMPS to predict driving performance	Cross-sectional convenience $N = 55$ (*M* age = 70) Comparison of performance of IADLs and BTW	*Cognition, physical, vision*: AMPS *Outcome Measure* BTW	AMPS scores (motor and process separately) differentiated among those who failed, passed, and had restrictions.	Small sample Different BTW assessment routes and evaluators
Edwards, Bart, O'Connor, & Cissell (2010)	To examine predictors of driving cessation in older adults over a 10-yr period	Longitudinal, retrospective $N = 1{,}248$ (*M* age = 69.56 yr, $SD = 7.85$) Participants completed Gross Impairments Screening Battery at baseline and 5 yr	*Physical:* Rapid Walk Test, head–neck rotation, self-rating *Cognitive:* MVPT Visual Closure subtest, delayed recall, TMT–A & B, UFOV *Outcome Measure* Driving cessation	*Regression models:* Age at baseline, days driven per week, and slower processing speed (UFOV Subtest 2) were significant indicators of risk for driving cessation.	Lack of variability among some of the measures Lack of recorded health indicators
Edwards et al. (2008)	To determine the risk factors for driving cessation	Prospective study of ACTIVE study $N = 1{,}565$ (age > 65) Evaluated at baseline and 5 yr 201 of sample had ceased driving by 5 yr	*Cognitive:* Auditory Verbal Learning Test, HVLT, Rivermead Behavioural Memory Test, UFOV, DSST, letter–word series *Vision:* Acuity, conditions *Physical:* Self-rated health; SF–36, 360 Degree Turn Test *Outcome Measure* Driving cessation	When controlled for baseline driving and cognitive intervention, older age, poor health and physical functioning, and low processing speed were risk factors for driving cessation.	Sample not population based, but healthy at start Health conditions relied on self-report. Some other tests (TMT–B) not used

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
Grace et al. (2005)	To compare motor and cognitive function with BTW performance in people with PD or AD	Cross-sectional $N = 63$ PD group, $n = 21$ (M age = 68; M duration = 7.10 yr) AD group, $n = 21$ (M age = 70; M duration = 2.69 yr) Control group, $n = 21$ (M age = 69) Assessments compared with BTW PD and AD marginal drivers were grouped into the unsafe drivers.	*Cognition:* ROCF scored with BQSS, TMT–A & B; computerized mazes *Physical:* Finger tapping test *Other:* Neuropsychological Assessment Battery *Outcome Measure* BTW	*BTW:* Drivers with AD had more errors than drivers in control and PD groups. PD group had more errors than control group. Unsafe drivers regardless of disease performed poorly on ROCF. TMT–B sensitive to driving status in both AD and PD groups. TMT–A sensitive to status only in the AD group. Computerized maze showed impairment in AD, but not related to driving status in AD or PD groups.	Small sample size; restricted range of PD diagnosis
Kantor, Mauger, Richardson, & Unroe (2004)	To identify elements of an older driver evaluation program that predict driving performance	Cross-sectional retrospective $N = 664$ (age ≥70) Assessments compared with BTW; MMSE < 23 coded as a failing score	*Cognition and vision:* MMSE, reading assessment, TMT–A & B, traffic sign test, far and near acuity, color discrimination test, depth perception, MVPT, visual neglect test and visual field functional status test, reaction time *Outcome Measure* BTW	MMSE, cues needed with TMT–B, grip strength, and interaction effect between the MMSE and reaction time were the best model for predicting BTW.	Self-selection of participants Coded TMT–A and B cues rather than processing speed
Keay et al. (2009)	To determine the cognitive, visual, and other factors that predict self-restriction and cessation in driving among older adults	SEEDS; longitudinal design Initially, $N = 1{,}425$ active drivers; after 1 yr, $N = 1{,}237$ (age range = 67–87) Baseline assessment and 1 yr later, grouped as (1) ceased driving, (2) restricted driving, (3) drive beyond their neighborhood	*Cognition:* MMSE, BTA, TMT–A & B, Beery VMI, HVLT *Vision:* Visual acuity, contrast sensitivity, visual fields *Outcome Measure* Self-restriction or cessation	*Predicted stop or reduce driving:* Depressive symptoms, slow TMT–A, poor Beery VMI, reduced contrast sensitivity, prefer not to drive, female gender, visual field loss, and attention not associated with reduction or cessation.	Based on self-restriction or cessation Volunteer population Restricted driving was defined as not driving out of the neighborhood, which is a narrow definition for driving restrictions.
Korner-Bitensky et al. (2000)	To determine whether the MVPT predicts BTW outcome in people with stroke	Retrospective (medical charts) $N = 269$ with stroke Used results of MVPT compared with BTW.	*Cognitive:* MVPT cutoff of 30 (i.e., good visual perception; <30 = poor). *Physical:* Lesion area *Outcome Measure* BTW	Older age, low scores, and right-side lesion predicted those who failed BTW. MVPT cannot be used solely; offers some information.	BTW may not have been coded the same at sites. Delay between MVPT and BTW

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
Lafont et al. (2010)	To identify cognitive tools associated with unsafe driving among older drivers of varying cognitive levels	Cross-sectional $n = 20$ with early-stage dementia (M age $= 73.3$) $n = 56$ without dementia (M age $= 69.9$)	*Cognition:* Choice reaction time, MMSE, go–no go, DSST *Physical:* Simple reaction time, stop signal time, Stroop interference time, finger tapping *Vision:* Benton Visual Retention Test *Outcome Measure* BTW	*Unsafe driving indicators:* Go–no go time, finger-tapping, rotation in double task, MMSE, Stroop accuracy, DSST (most accurate)	Volunteer participants High proportion of men
Lee, Cameron, & Lee (2003)	To validate a laboratory-based driving simulator in measuring BTW performance	Cross-sectional $N = 129$ (M age $= 72.9$) Drivers completed a series of scenarios on a simulator with assessment criteria.	*Performance based:* Simulator index *Outcome Measure* BTW	Positive association between the simulator index and the BTW index; simulator performance explains two-thirds variability of BTW after adjustment for age, gender, and simulator.	Convenience sampling High proportion of men 9% dropout because of simulator sickness
Lee, Lee, Cameron, & Li-Tsang (2003)	To determine the key factors of older drivers' performance on a driving simulator associated with motor vehicle crash	Cross-sectional retrospective $N = 129$ (age ≥ 60) Driving simulator performance compared with assessments and self-report crashes	*Performance based:* PC-based STISIM driving simulator *Outcome Measure* Crash	Negative correlation between age and simulator performance Significant association between MVC and simulator performance *Regression:* Working memory, decision and judgment, and speed compliance associated with crashes	Limitations of driving simulators Convenience sample Self-report crashes
Lincoln, Radford, Lee, & Reay (2006)	To determine the ability of cognitive tests to predict fitness to drive in patients with dementia	Cross-sectional two-group comparison Dementia group, $n = 42$ (M age $= 68$) Control group $n = 33$ (median age $= 67$)	*Cognition:* MMSE, Salford Objective Recognition Test, Stroop test, Test of Everyday Attention, Adult Memory and Information Processing Battery, SDSA, Visual Object and Space Perception Battery *Outcome Measure* BTW	Discriminant function analysis identified that a combination of 6 cognitive tests correctly classified 92% of drivers with dementia as safe or unsafe.	Small sample size
Marshall et al. (2007)	To identify the most consistent predictors of driving ability after stroke	Systematic review $N = 17$ studies Studies were reviewed for measures of cognitive, visual–perceptual, physical, behavioral, or experiential elements for driving.	*Sensory:* Visual field, depth perception, auditory comprehension *Cognitive:* Attention and memory, perceptual tests, executive function, verbal function *Demographic:* Age, race, gender, marital status, side of lesion	Studies with BTW outcome stronger than cessation. Consistent results were found with TMT–A & B and ROCF. MVPT not predictive UFOV for visual perception	Outcome of BTW is limited because crashes with stroke have not been studied. Not all levels of stroke can be assessed; may be why some were not predictors.

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
			Driving-related function: Knowledge, experience *Motor function:* ADLs, reaction time, coordination, and balance *Outcome Measures* BTW, cessation		
Mathias & Lucas (2009)	To compare cognitive performance of drivers who either passed or failed a driving assessment	Level I, meta-analysis 21 studies met criteria including effect size $N = 5{,}797$ (M age = 74.9) MMSE scores, $M = 28.5$ M driving experience = 49.8 yr Used weighted effect sizes for cognitive predictors of the three outcome measures	Attention; most assessed cognitive function, then perception and memory *BTW:* 7 studies used 25 different tests. *Simulator*: 3 studies used 8 tests with 11 scores. *Driver problems*: 12 studies; only a few tools met criteria. *Outcome Measures* BTW, crashes, or driving simulation	If failed BTW, did poorly on cognitive tests. *BTW:* Ergovision; movement perception, complex reaction time, paper-folding task, dot counting, Wechsler Memory Scale visual reproduction, computerized visual acuity task *Simulated driving:* Benton line orientation task, clock drawing test, driver scan task, UFOV, Wechsler Adult Intelligence Scale–Revised (WAIS–R), picture arrangement, MMSE *Driving problems:* TMT–A & B, Stroop Color Word Test; UFOV, WAIS–R Block Design, Automated Psychological Test–computer administered	Wide variety of tests; few using the same kind Some had small sample sizes. Studies differed in methodology, including methods used to assess driving competence. Cannot determine overlap between those identified as potentially unsafe drivers and those who need more testing with the different cognitive tests No data on sensitivity and specificity
McCarthy & Mann (2006)	To determine the predictive validity of the ADReS as a screening tool	Cross-sectional $N = 50$ (M age = 74.3, range = 65–90) Half reported medical condition Compared ADReS and BTW assessment	*Battery*: ADReS *Outcome Measure* BTW	ROM, Rapid Pace Walk, and clock drawing were related to fail–pass. ADReS may identify too-high of numbers (low specificity).	Small sample size with volunteers who were mostly White and educated DRS not blind to ADReS results
Munro et al. (2010)	To determine factors that predict errors in executing proper lane changes among older drivers	Cross-sectional $N = 1{,}080$ (age range = 67–87) participants enrolled in the SEEDS $n = 980$ with lane change data	*Vision:* Acuity, contrast sensitivity, visual fields *Cognition:* MMSE, BTA, TMT–A & B, Beery VMI, HVLT *Outcome Measure* Lane change errors	*Predictors of lane change errors (univariate):* BTA, HVLT, TMT–B, VMI, and visual attention. *Multiple regression:* BTA and VMI scores.	Healthy participants scored well on cognitive and visual assessments. Did not include people with Department of Motor Vehicle restrictions Participants knew their driving was being monitored by the DMS.

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
		Psychometrics and BTW; Driving Monitoring Systems (DMS) for lane-change errors		Residing in rural vs. urban predicted lane change error.	Faulty DMS decreased numbers analyzed.
Oswanski et al. (2007)	To determine the ability of the MVPT and clock drawing task to predict BTW driving performance	Retrospective study *N* = 232 (age > 55) Participants categorized into 2 groups: capable and incapable	*Perception and cognition:* MVPT *Cognition:* Clock task, processing time *Outcome Measure* BTW	Mean score for 3 measurements significantly different between 2 groups.	Retrospective analysis BTW evaluator not blind to scores
Ott et al. (2008)	To compare computerized maze test performance to BTW performance of cognitively impaired and unimpaired older drivers	Cross-sectional *N* = 133 older drivers *n* = 65, probable AD *n* = 23, possible AD *n* = 45, control 5 computerized maze tests compared with standard BTW	*Cognitive:* Computerized maze tasks, MMSE, HVLT, ROCF, TMT–A & B *Physical:* Finger tapping test *Outcome Measure* BTW	*Controls:* Total time to complete and plan correlated with BTW. *Highest correlations to BTW:* TMT–A & B, HVLT, and hand tapping Maze tests not adequate as single measure.	Older adults may be unfamiliar with technology (computerized maze tests).
Radford, Lincoln, & Lennox (2004)	To develop a short cognitive assessment to identify people with PD at risk of unsafe driving	*N* = 49 with PD (*M* age = 64.4, range = 44–85) Assessments done in participant's home	*Physical:* Webster's rating scale (physical abilities), UPDRS, tapping task *Cognitive:* Stroop Color–Word Test, SDSA, dot cancellation, square matrices, road sign recognition, Adult Memory and Information Processing Battery; Paced Auditory Serial Addition Test *Outcome Measure* BTW	Unsafe drivers were significantly more physically disabled. *Regression:* SDSA, dot cancellation errors, story recall, tapping with faster hand, and information processing accounted for 44% of variance.	Selection bias Convenience sampling No screening measure to differentiate drivers with PD who are at risk of being unsafe on the road from those who are safe BTW assessment sometimes in participant's own car and sometimes in dual-controlled car
Rubin et al. (2007)	To determine the role of vision and visual attention factors in automobile crash involvement	Cross-sectional; SEEDS *N* = 1,801 (age range = 65–84) drawn from Medicare eligibility lists Assessment results compared with crash data	*Vision:* Contrast sensitivity, glare sensitivity, Randot circles test, visual fields, UFOV *Outcome Measure* Crash	Glare sensitivity, visual fields, and UFOV were significant predictors of crash involvement. Contrast sensitivity was not a significant predictor of crash risk.	Few crashes in the surveillance period No knowledge of at fault Possible change in vision between the test date and crash

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
Staplin, Gish, & Wagner (2003)	To analyze relationships between functional capacity measures and at-fault crash with 1 yr of driving	Prospective $N = 1{,}876$ (M age $= 68$) Assessments compared prospectively and retrospectively with crash records	*Cognition:* MVPT (visual closure subtest), TMT–B, delayed recall *Vision:* UFOV (Subtest 2) *Physical:* Rapid Pace Walk, head–neck rotation *Outcome Measure* Crash	Predictive value of functional tests appears to decrease over time, especially perceptual–cognitive measures; delayed recall and Rapid Pace Walk did not.	Study involved diverse Department of Motor Vehicle settings. Crashes are rare events and may have been underreported. Continuous variables were segmented, potentially compromising the validity of the analysis.
Stav, Justiss, McCarthy, Mann, & Lanford (2008)	To determine which assessments predict performance on a BTW assessment	Cross-sectional $N = 123$ (M age $= 75.3$; ages >65)	*Vision:* Visual fields, acuity, contrast sensitivity *Cognition:* TMT–B, letter cancellation, Digit-Span Task, MVPT (spatial orientation and visual closure), UFOV, Digit Symbol Modalities Test, driving knowledge, MMSE *Physical:* Gross manual muscle tests, rapid pace walk, ROM *Outcome Measure* BTW	*Regression model:* Four tests—contrast sensitivity slide B, Rapid Pace Walk, UFOV rating, and MMSE—accounted for 44% of the variability in GRS. All assessments significantly correlated with the GRS individually.	Convenience sample Highly educated, White BTW evaluator not blinded
Uc et al. (2009)	To assess road safety and its predictors in drivers with PD	Intervention group, $n = 84$ (M age $= 67.3$, $SD = 7.8$) Control group, $n = 182$ (M age $= 67.6$, $SD = 7.5$) Cognitive and visual tests compared with the number of safety errors made on BTW assessment	*Vision:* UFOV attention, far visual acuity, contrast sensitivity *Cognition:* MMSE, Cogstate, spatial perception, judgment of line orientation, ROCF, motion perception, structure from motion *Outcome Measure* BTW	Participants with PD had more safety and serious errors; differed from controls on all assessments. Within PD group, older age and worse performance predicted error counts; lane position errors were the most frequent and associated with BTW failure.	Participants with PD drove when they felt "on." Included only 15 women Road test did not include any sudden hazards when speed of behavior is critical. Rater judging video of driving, not DRS
Weaver, Bédard, McAuliffe, & Parkkari (2009)	To explore the measures derived from the Attention Network Test (ANT) to predict driving outcomes	Cross-sectional $N = 95$ (M age $= 45.3$) Comparison of assessments with UFOV, simulator drive scores, and BTW	*Cognition:* ANT *Outcome Measure* BTW	ANT is a predictor of UFOV scores. Neither the ANT nor the UFOV were strongly associated with the BTW outcome.	Only 15 participants had a BTW assessment.
Whelihan, DiCarlo, & Paul (2005)	To determine the ability of visual attention and executive measures to predict driving performance	$N = 46$ Clinical Dementia Rating of 0.5 ($n = 23$) and control ($n = 23$)	*Vision and perception:* Letter cancellation, visual form discrimination test, Brief Visual Memory Test–Revised	*Patient group:* TMT–B, maze navigation time, UFOV, and letter cancellation related to BTW.	UFOV is too challenging for those with even early dementia.

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Supplemental Table 1. Selected Evidence for Clinical and Performance-Based Assessments (*cont.*)

Author/Year	Study Objectives	Design/Participants/Method	Type/Name of Assessment or Measure/Comparison	Results (Predictive/Concurrent Validity)	Study Limitations
		Battery of screening measures compared with BTW	*Cognitive:* MMSE, Clinical Dementia Rating, Brief Symptom Inventory, UFOV, WCST, TMT–A & B, Maze Navigation Test *Outcome Measure* BTW	*Control group:* Only age *Regression:* Maze navigation, TMT–B time, and UFOV Subtest 1 accounted for 46% of variance. Maze navigation may be good screening tool.	
Wood, Anstey, Kerr, Lacherez, & Lord (2008)	To identify a battery of tests that predicts safe and unsafe performance on a BTW assessment	Cross-sectional $N = 270$ ($n = 92$ who did not take BTW; age > 70) Assessments compared with BTW using receiver operating characteristic curves with groups of assessments	*Vision:* Static acuity, contrast sensitivity, visual fields, UFOV, dot motion *Cognition:* DSST, TMT–A & B, proprioception *Physical:* Neck ROM, quadriceps strength, postural sway *Performance based:* Complex reaction time *Outcome Measure* BTW	*Correlated with BTW:* UFOV Subtest 2, dot motion sensitivity, knee extension strength, postural sway, TMT–B, and color choice reaction time	Convenience sample
Zook, Bennett, & Lane (2009)	To examine the ability of the Cognitive Behavioral Driver's Inventory (CBDI) and UFOV tests to predict driving competence	$N = 39$ (M age = 74; range = 62–92) Participant selection involved a screen using the MMSE and the Mood Assessment Scale.	*Perception and cognition:* Wechsler Adult Intelligence Scale–III (WAIS–III), TMT–A & B, Stroop Neuropsychological Screening Test, WCST, clock drawing task, MVPT–III, Hooper Visual Organization Test, HVLT, Integrated Visual and Auditory Continuous Performance Test, Ruff 2 & 7 Selective Attention Task, CBDI, UFOV *Outcome Measure* BTW	*Correlated with BTW:* WAIS–III Digit Symbol, TMT–A & B, HVLT total recall, WCST, Stroop, Ruff 2 & 7 speed and accuracy scores; Integrated Visual and Auditory Continuous Performance Task (Response and Attention), UFOV (2, 3, & overall), and CBDI.	DRS administered both the CBDI and BTW. Inconsistent classification by the BTW, CBDI, and UFOV

Note. AD = Alzheimer's disease; ADLs = activities of daily living; ADReS = Assessment of Driving Related Skills; AMPS = Assessment of Motor and Process Skills; Beery VMI = Beery–Buktenica Developmental Test of Visual–Motor Integration; BTA = Brief Test of Attention; BQSS = Boston Qualitative Scoring System; BTW = behind the wheel; DRS = driver rehabilitation specialist; DSST = Digit Symbol Substitution Test; GRS = global rating scale; HVLT = Hopkins Verbal Learning Test; IADLs = instrumental activities of daily living; M = mean; MMSE = Mini-Mental State Examination; MVC = motor vehicle crash; MVPT = Motor-Free Visual Perception Test; PD = Parkinson's disease; ROCF = Rey-Osterreith Complex Figure Test; ROM = range of motion; SD = standard deviation; SDSA = Stroke Drivers Screening Assessment; SEEDS = Salisbury Eye Evaluation Driving Study; TMT–A & B = Trail Making Tests A and B; UFOV = useful field of view; UPDRS = Unified Parkinson's Disease Rating Scale; WCST = Wisconsin Card Sorting Test.

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