

# Supplemental Material

## Screening for post-stroke neurocognitive disorders in diverse populations: A systematic review

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### Supplemental Table 1

*Search string used in PubMed, Web of Science, Embase and CINAHL*

Topic of Interest		Keywords used
#1 Stroke		(stroke OR cva OR poststroke OR post-stroke) OR ((brain OR cerebell* OR intracran* OR intracerebral OR vertebrobasilar) AND (haemorrhag* OR hemorrhag* OR ischemi* OR ischaemi* OR infarct* OR haematoma* OR hematoma* OR bleed*))
#2 Cognitive disorder assessment	AND	(cogniti*) AND (impairment OR deficit OR decline OR disorder) AND (test OR assess* OR tool OR measure OR screen OR examination OR diagnosis)
#3 Test of interests	AND	"Montreal Cognitive Assessment" OR "Mini-Mental State Examination" OR "Mini mental state examination" OR "Oxford Cognitive Screen"
#4 Psychometric properties	AND	psychometr* OR valid* OR reliab* OR accuracy OR specificity OR sensitivity OR "Receiver operating characteristic curve" OR ROC OR "positive predictive value" OR "negative predictive value" OR norm* OR utility OR applicab* OR appropriate* OR adapt* OR translat* OR cultur*

The reference list for all included studies is at the end of this document (in Supplemental Table 7)

**Table 2**

*versions and cut-offs for the Mini-mental state examination and Montreal cognitive assessment for diagnosing minor or major depression post-stroke*

WEIRD score	Mini-mental state examination					Montreal cognitive assessment				
	Studies	Versions	Cut-offs			Studies	Versions	Cut-offs		
			NCD	Minor NCD	Major NCD			NCD	Minor NCD	Major NCD
0.82	2	English English standardized	<27 <sup>b</sup>	≤23	≤23	1	English	<24 <sup>b</sup>		
0.88	2	English	≤23			2	Unclear			≤23, ≤26
0.87 <sup>a</sup>	1	English standardized	<29			1	Unclear	<26 <27		
0.85	3	Unclear Dutch	<28 <27 <sup>b</sup> , <28 <sup>b</sup>		<24 <sup>b</sup>					
0.82 <sup>a</sup>						1	Slovenian	<25 <sup>b</sup>		
0.81	4	English	<24 <sup>b</sup> , <27, <28 <sup>b</sup> , <29 <sup>b</sup>			7	English	<25 <sup>b</sup> , <26 <sup>b</sup>		
0.80						2	Unclear Basic	<21 <sup>b</sup> <21, <22, <23		
0.80	1	Unclear	≤24 <sup>bc</sup>			1	Unclear	≤19 <sup>b</sup> , ≤22 <sup>bc</sup>		
0.70						1	Bulgarian	<25 <sup>b</sup>		

			<26 <sup>bc</sup>						
		Singaporean	<26 <sup>bc</sup> ,			Singaporean	<22 <sup>b</sup> ,	<23 <sup>bc</sup> ,	
		English,	<27 <sup>bc</sup>			English,		<24 <sup>bc</sup>	
		Chinese or				Chinese or			
		Malay				Malay			
						Singaporean,	<20 <sup>bc</sup> ,		
						language	<21 <sup>bc</sup>		
						unclear			
0.29,	8	Unclear	<26 <sup>b</sup> ,	14		Unclear	≤26	<23,	
0.32			<27 <sup>b</sup> ,					<24 <sup>b</sup>	
			≤29						
		Chinese,	≤26.5,	<26 <sup>b</sup> ,	≤26	Chinese	<18 <sup>b</sup> ,	<25 <sup>bc</sup> ,	<19 <sup>c</sup> ,
		dialect	≤27 <sup>b</sup> ,	≤26.5		Beijing	<19 <sup>b</sup> ,		<21
		unclear		<28 <sup>b</sup> ,			≤22 <sup>b</sup> ,		
				<29 <sup>bc</sup>			≤24		
		Chinese	<27			Chinese	≤21 <sup>bc</sup>		<16.5 <sup>bc</sup>
		simplified				Changsha	<22 <sup>bc</sup> ,		
							<23.5 <sup>bc</sup> ,		
							<26.5 <sup>bc</sup>		
		Cantonese		<25 <sup>b</sup> ,		Chinese			<20 <sup>b</sup>
				<26 <sup>b</sup>		Hong Kong			
						Chinese	<22 <sup>b</sup>		
						Mandarin			
						Chinese	≤21.5	≤26,	≤18.5,
						Basic			≤19.5

Neurocognitive disorder

calculated WEIRD score using Klein et al. (2018) method

en Index ≥ .50

s adjusted for gender, age and/or education, not the original +1 adjustment for ≤12 years education.

en Index ≥ .50 for left-stroke only

Study Number	Continent	Country	Reference standard or criteria	MMSE version + score adjustment	Optimal cut-off	t
12	Asia	China	NTB, $\geq 1$ SD, $>1$ test	Unclear	$<27$	0
12	Asia	China	NTB, $\geq 1$ SD, 1 test	Unclear	$<27$	0
12	Asia	China	NTB, $\geq 1.5$ SD, $>1$ test	Unclear	$<27$	0
12	Asia	China	NTB, $\geq 1.5$ SD, 1 test	Unclear	$<27$	0
12	Asia	China	NTB, $\geq 2$ SD, $>1$ test	Unclear	$<26$	0
12	Asia	China	NTB, $\geq 2$ SD, 1 test	Unclear	$<27$	0
38	Asia	China	NAB, unclear, intact ADL	Chinese	$<28$	0
46	Asia	China	Lawton Instrumental ADL $\geq 15$	Cantonese / Chinese	$\geq 26$	0
46	Asia	China	Modified Rankin Scale 0-2	Cantonese / Chinese	$\geq 25$	0
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, intact ADL	Chinese	$<29$	0
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, intact ADL	Chinese + AGE adj.	$<29$	0
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, VaD criteria from Erkinjuntti et al. (2000) (VaMCI vs VaD)	Chinese	$<27$	0
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, VaD criteria from Erkinjuntti et al. (2000) (VaMCI vs VaD)	Chinese + AGE adj.	$<26$	0
49	Asia	China	NTB, unclear, $\geq 1$ domain, intact ADL	Chinese	$\leq 26.5$	0
49	Asia	China	NTB, unclear, $\geq 2$ domain, impaired ADL (PSD vs Normal)	Chinese	$\leq 26$	0
49	Asia	China	PSCI (PSCIND and PSD) versus Normal	Chinese	$\leq 26.5$	0
49	Asia	China	PSD versus PSCI (Normal and PSCIND)	Chinese	$\leq 23.64$	0
49	Asia	China	PSD versus PSCIND	Chinese	$\leq 21$	1
51	Asia	China	MoCA Beijing version $< 26$	simplified Chinese	$<27$	0
52	Asia	China	Unclear	Unclear	$\leq 29$	0
52	Asia	China	Unclear	Unclear	$\leq 24$	0
53	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ domain	Chinese	$\leq 27$	0
53	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ domain	Chinese + E adj.		0
19	Asia	Singapore	NTB, $>2$ domains, moderate-severe PSCI (and dementia)	Unclear	$<25$	0
20	Asia	Singapore	NTB, $>1.5$ SD, half of the tests in $\geq 3$ domains, moderate VCI and dementia	Unclear	$<26$	0
20	Asia	Singapore	NTB, $>1.5$ SD, half of the tests in $\geq 3$ domains, moderate VCI and dementia	Unclear + AE adj.		0
21	Asia	Singapore	NTB, $>1.5$ SD, half of the tests in $\geq 1$ domains, intact ADL	Singaporean	$<26$	0
21	Asia	Singapore	NTB, $>1.5$ SD, half of the tests in $\geq 1$ domains, intact ADL	Singaporean	$<27$	0
21	Asia	Singapore	NTB, $>1.5$ SD, half of the tests in $\geq 1$ domains, intact ADL	Singaporean + AE adj.		0
15	Australia	Australia	NTB, $>1$ SD, $\geq 2$ domains	English	$<27$	0
15	Australia	Australia	NTB, $>1.5$ SD, $\geq 2$ domains	English	$<27$	0
15	Australia	Australia	NTB, $>2$ SD, $\geq 2$ domains	English	$<27$	0
40	Australia	Australia	NTB, $>1$ SD, $\geq 2$ tests, $\geq 1$ domains, intact ADL	English standardized	$\leq 23$	0

3	Europe	Sweden	STB, criteria unclear	English	≤23	0
14	Europe	Sweden	Clinical evaluation: any ≥2 domains, impaired ADL	English	NA	0
4	Europe	United Kingdom	NTB, criteria unclear, impairment in ≥1 domain	English	<24	0
7	Europe	United Kingdom	BMET, >1.5 SD, ≥4 tests	English	<27	0
7	Europe	United Kingdom	BMET, >1.5 SD, ≥4 tests	English	<28	0
34	Europe	United Kingdom	NTB, ≥1.5 SD, >1 domains	English	<28	0
34	Europe	United Kingdom	NTB, ≥1.5 SD, ≥1 domains	English	<29	0
35	Europe	United Kingdom	NTB, ≥1, 1.5, 2 SD, ≥1 test, ≥2 domain, md-MCI	English	<30-27	0
35	Europe	United Kingdom	NTB, ≥1, 1.5, 2 SD, ≥1 test, ≥1 domain, MCI	English	<30-28	0
35	Europe	United Kingdom	NTB, ≥1, 1.5, 2 SD, ≥1 test, ≥1 domain, sd-MCI	English	<30-28	0
26	North- America	United States of America	NTB, ≥2 SD, ≥2 domains	English	<24 (LS)	0
26	North- America	United States of America	NTB, ≥2 SD, ≥2 domains	English	<28 (RS)	0
26	North- America	United States of America	NTB, ≥2 SD, ≥2 domains	English	<24	0
26	North- America	United States of America	NTB, ≥2 SD, ≥2 domains	English	<27	0
15	South America	Peru	NTB, >2 SD below, normal and impaired ADL	Peruvian Spanish	≤24	0
15	South America	Peru	NTB, >2 SD, impaired ADL	Peruvian Spanish	≤22	1
16	South America	Peru	NTB, >2 SD, normal ADL	Peruvian Spanish	≤24	0

*Note.* NAB = Neuropsychological assessment battery; NTB = Neuropsychological test battery; STB = Short test battery; SD = standard deviation; pc = percentile; ADL = Activities of Daily Living; MCI = mild cognitive impairment; md-MCI = multiple domain MCI; sd-MCI = single domain MCI; PSCI = post-stroke cognitive impairment; PSCIND = PSCI n...  
AGE adj. = with adjustment for Age, Gender and Education; LS = Left stroke; RS = Right stroke.

12	Asia	China	NTB, $\geq 1$ SD, 1 test	Chinese Beijing	<19
12	Asia	China	NTB, $\geq 1.5$ SD, 1 test	Chinese Beijing	<19
12	Asia	China	NTB, $\geq 2$ SD, 1 test	Chinese Beijing	<18
12	Asia	China	NTB, $\geq 1$ SD, >1 test	Chinese Beijing	<19
12	Asia	China	NTB, $\geq 1.5$ SD, >1 test	Chinese Beijing	<19
12	Asia	China	NTB, $\geq 2$ SD, >1 test	Chinese Beijing	<18
23	Asia	China	Neurobehavioral Cognitive Status Examination <65	Chinese (Mandarin) + 6 yrs E adj.	<22
23	Asia	China	Neurobehavioral Cognitive Status Examination <65	Chinese (Mandarin) NINDS-CSN 5-minute protocol	<8/12
23	Asia	China	Neurobehavioral Cognitive Status Examination <65	Chinese (Mandarin) 5-minute protocol Wong	<21.5/30
30	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ test	Chinese Beijing	$\leq 24$
38	Asia	China	NAB, unclear, intact ADL	Chinese	<24
42	Asia	China	MMSE $\geq 29$ and MoCA $\geq 28$ , or NTB, >1 SD, $\geq 1$ test	Chinese Changsha + 6yrs E adj.	<23.5
42	Asia	China	MMSE $\geq 29$ and MoCA $\geq 28$ , or NTB, >1 SD, $\geq 1$ test	Chinese Changsha + 6yrs E adj.	<26.5
45	Asia	China	MoCA Beijing < 26	Chinese Beijing NINDS-CSN 5-minute protocol	$\leq 10/12$
45	Asia	China	MoCA Beijing < 26	Chinese Beijing Short Bocti	$\leq 7/10$
46	Asia	China	Modified Rankin Scale 0-2	Chinese Hong Kong	$\geq 20$
46	Asia	China	Lawton Instrumental ADL $\geq 15$	Chinese Hong Kong	$\geq 20$
47	Asia	China	Unclear, VCIND	Unclear	<23
47	Asia	China	Unclear, VCIND	Unclear	<23 (primary education)
47	Asia	China	Unclear, VCIND	Unclear	<23 (secondary education)
47	Asia	China	Unclear, VCIND	Unclear	<23 (tertiary education)
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, normal ADL (VaMCI vs Normal)	Chinese Beijing	<25
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, normal ADL (VaMCI vs Normal)	Chinese Beijing + AGE adj.	<25
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, VaD criteria from Erkinjuntti et al. (2000) (VaMCI vs VaD)	Chinese Beijing	<21
48	Asia	China	NTB, $\geq 1.5$ SD, $\geq 1$ tests, VaD criteria from Erkinjuntti et al. (2000) (VaMCI vs VaD)	Chinese Beijing + AGE adj.	<19
49	Asia	China	NTB, unclear, decline $\geq 1$ domain, normal ADL (PSCIND vs Normal)	Chinese Basic (in citation)	$\leq 26$

20	Asia	Singapore	NTB, >1.5 SD, half of the tests in $\geq 3$ domains, moderate-severe PSCI	Singaporean?	<22
20	Asia	Singapore	NTB, >1.5 SD, half of the tests in $\geq 3$ domains, moderate-severe PSCI	Singaporean? + AE adj.	
21	Asia	Singapore	NTB, >1.5 SD, half of the tests in $\geq 1$ domains, intact ADL, PSCI	Singaporean	<23
21	Asia	Singapore	NTB, >1.5 SD, half of the tests in $\geq 1$ domains, intact ADL, PSCI	Singaporean	<24
21	Asia	Singapore	NTB, >1.5 SD, half of the tests in $\geq 1$ domains, intact ADL, PSCI	Singaporean + AE adj.	
22	Asia	Singapore	NTB, >1.5 SD, half of tests on $\geq 3$ domains, moderate-severe PSCI	Singaporean	<20
22	Asia	Singapore	NTB, >1.5 SD, half of tests on $\geq 3$ domains, moderate-severe PSCI	Singaporean	<21
22	Asia	Singapore	NTB, >1.5 SD, half of tests on $\geq 3$ domains, moderate-severe PSCI	Singaporean NINDS-CSN 5-minute protocol	<8/12
22	Asia	Singapore	NTB, >1.5 SD, half of tests on $\geq 3$ domains, moderate-severe PSCI	Singaporean NINDS-CSN 5-minute protocol	<8/12
15	Australia	Australia	NTB, >1 SD, $\geq 2$ domains	English	<24
15	Australia	Australia	NTB, >1 SD, $\geq 2$ domains	English	(RS)
15	Australia	Australia	NTB, >1 SD, $\geq 2$ domains	English	(LS)
15	Australia	Australia	NTB, >1.5 SD, $\geq 2$ domains	English	<24
15	Australia	Australia	NTB, >2 SD, $\geq 2$ domains	English	
44	Europe	Bulgaria	MMSE < 24	Bulgarian	<25
25	Europe	France	MMSE < 23 or NTB, <5th percentile on $\geq 2$ domains	French?	$\leq 19$
25	Europe	France	MMSE < 23 or NTB, <5th percentile on $\geq 2$ domains	French? + AE adj.	$\leq 22$
13	Europe	Italy	Neurologist evaluation	MoCA Basic (MoCA B)	<22
13	Europe	Italy	Neurologist evaluation	MoCA Basic (MoCA B)	<23
37	Europe	Italy	NTB, <5th pc on $\geq 1$ test and 95% CI of 5th pc on $\geq 1$ test	Italian?	<21
32	Europe	Norway	NTB, $\geq 1.5$ SD, $\geq 1$ domains	English?	<26
32	Europe	Norway	NTB, $\geq 1.5$ SD, $\geq 1$ domains	English?	<27
36	Europe	Slovenia	NINDS-AIREN VCI criteria	Slovenian	<25
1	Europe	Sweden	Barthel Index < 95	Unclear	$\leq 26$
1	Europe	Sweden	Barthel Index < 95	Unclear + NIHSS language impairment adj.	
2	Europe	Sweden	modified Rankin Scale $\geq 3$	Unclear	$\leq 23$
7	Europe	United Kingdom	BMET, >1.5 SD, $\geq 4$ tests	English	24
7	Europe	United Kingdom	BMET, >1.5 SD, $\geq 4$ tests	English	<25
7	Europe	United Kingdom	BMET, >1.5 SD, $\geq 4$ tests	English	<26
8	Europe	United Kingdom	MoCA < 26	English Bocti short	$\leq 6/10$
8	Europe	United Kingdom	Cognistat < 65	English Bocti short	$\leq 6/10$
8	Europe	United Kingdom	Cognistat < 65	English	
9	Europe	United Kingdom	NTB, $\leq 5$ pc, $\geq 1$ test	English	<25

35	Europe	United Kingdom	NTB, $\geq 1$ , 1.5, 2 SD, $\geq 1$ test, $\geq 2$ domain, md-MCI	English	<27-23
5	North America	Canada	MoCA < 26; +1 point for $\leq 12$ y education	English Bocti short	$\leq 6/10$
5	North America	Canada	MoCA < 26; +1 point for $\leq 12$ y education	English NINDS-CSN 5-minute protocol	$\leq 9/12$
41	North America	Canada	NTB, $\geq 2$ SD, $\geq 2$ tests, moderate-severe CI	English	$\leq 22$
50	North America	Canada	NTB, >1.5 SD, $\geq 2$ tests, $\geq 1$ domain	English	<26
50	North America	Canada	NTB, >1.5 SD, $\geq 2$ tests, $\geq 1$ domain	English	<27
29	North America	United States of America	NTB, $\geq 1.5$ SD, $\geq 1$ test	English	<25
29	North America	United States of America	NTB, $\geq 1.5$ SD, $\geq 2$ test	English	<25
29	North America	United States of America	NTB, $\geq 1.5$ SD, $\geq 3$ test	English	<24
29	North America	United States of America	NTB, $\geq 2$ SD, $\geq 1$ test	English	<25
29	North America	United States of America	NTB, $\geq 2$ SD, $\geq 2$ test	English	<23
29	North America	USA	NTB, $\geq 2$ SD, $\geq 3$ test	English	<24

*Note.* NAB = Neuropsychological assessment battery; NTB = Neuropsychological test battery; STB = Short test battery; SD = standard deviation; pc = percentile; ADL = Activities of Daily Living; Dementia; MCI = mild cognitive impairment; md-MCI = multiple domain MCI; sd-MCI = single domain MCI; PSCI = post-stroke cognitive impairment; PSCIND = PSCI n; AGE adj. = with adjustment for Age, Gender and Education; LS = Left stroke; RS = Right stroke.

27	Asia	China	MoCA Chinese Beijing version	Chinese Putonghua	Picture naming		≤3
27	Asia			Chinese Putonghua	Numerical cognition		≤6
27	Asia		Goldenberg's test	Chinese Putonghua	Praxis		≤10
27	Asia			Chinese Putonghua	Delayed Recall and Recognition		≤7
38	Asia	Russia	MoCA picture naming	Russian	Picture Naming		3
40	Asia		MoCA picture naming	Russian	Picture Pointing		3
38	Asia		MoCA orientation	Russian	Orientation		4
38	Asia		Star Cancellation Asymmetry	Russian	Visual Field		
38	Asia		MoCA sentence repetition	Russian	Sentence Reading		15
38	Asia		MoCA Clock total	Russian	Number writing		3
38	Asia		MoCA serial subtraction	Russian	Calculation		3
38	Asia		Star Cancellation Total	Russian	Broken hearts		40
38	Asia		Star Cancellation Asymmetry	Russian	Broken hearts Space Asymmetry		<-3 or >3
38	Asia		Dynamic Kinesthetic Praxis	Russian	Gesture imitation		8
38	Asia		MoCA delayed recall	Russian	Verbal recall		0
38	Asia		MoCA delayed recall	Russian	Verbal recognition		3
38	Asia		MoCA delayed recall	Russian	Episodic recognition		3
38	Asia		MoCA trails	Russian	Mixed executive task		4
38	Asia		MoCA trails	Russian	Executive score		<-2 or >6
18	Europe	United Kingdom	MoCA picture naming	English	Picture naming	5 <sup>th</sup> percentile control sample cut-offs for OCS	<3
18	Europe		Palpa 47-spoken word picture matching	English	Semantics		<3
18	Europe		MoCA orientation	English	Orientation free		<4
18	Europe		MoCA orientation (impaired is <5/6)	English	Orientation multiple choice question		
18	Europe		BDAE reading (impaired is <4/5)	English	Sentence Reading		<14
18	Europe		MoCA clock total (impaired is <3/3)	English	Number writing		<3
18	Europe		CAT-calculations page (impaired is <4/6)	English	Calculation		<3
18	Europe		BIT star cancellation overall accuracy	English	Hearts cancellation overall		<42

28	Europe			Dutch	Picture naming	Age adjusted cut-offs	<2-3
28	Europe			Dutch	Semantics		<3
28	Europe			Dutch	Sentence Reading	Age adjusted cut-offs	<14-15
28	Europe			Dutch	Orientation		<4
28	Europe			Dutch	Verbal memory recognition	Age adjusted cut-offs	<2-3
28	Europe			Dutch	Episodic memory recognition	Age adjusted cut-offs	<3-4
28	Europe			Dutch	Hearts cancellation overall	Age adjusted cut-offs	<37-45
28	Europe			Dutch	Space Asymmetry	Age adjusted cut-offs	<-3--2 or >2-3
28	Europe			Dutch	Object Asymmetry	Age adjusted cut-offs	<-1-0 or >0-1
28	Europe			Dutch	Number writing	Age adjusted cut-offs	<2-3
28	Europe			Dutch	Calculation	Age adjusted cut-offs	<3-4
28	Europe			Dutch	Executive score	Age adjusted cut-offs	<-2 to -1
28	Europe			Dutch	Gestural imitation	Age adjusted cut-offs	<7-11
30	Europe	Italy	Italian MMSE < 22	Italian	Impairment in at least one domain of OCS		
30	Europe			Italian	Picture naming	Age and education adjusted cut-offs	<2.9-3.7
30	Europe			Italian	Semantics		<3
30	Europe			Italian	Orientation	Age adjusted cut-offs	<3.9-4.0
30	Europe			Italian	Visual Field		<4
30	Europe			Italian	Sentence Reading	Gender and age adjusted cut-offs	<14.1-15
30	Europe			Italian	Number writing	Education adjusted cut-off	<2.8-3.0
30	Europe			Italian	Calculation	Age and education adjusted cut-offs	<3.3-3.8
30	Europe			Italian	Hearts cancellation overall	Age and education adjusted cut-offs	<43.4-47.4
30	Europe			Italian	Asymmetry OBJECT		<-3 or >3
30	Europe			Italian	Asymmetry SPACE		<-2 or >2
30	Europe			Italian	Praxis		<9
30	Europe			Italian	Recall and Recognition	Age and education adjusted cut-offs	<2.4-3.4
30	Europe			Italian	Episodic recognition	Age adjusted cut-offs	<3.4-3.8
30	Europe			Italian	Mixed executive task	Age and education adjusted cut-offs	<10.5-11
30	Europe			Italian	Executive score		>3
42	Europe	Spain		Spanish	Picture naming	Comparison with healthy controls	2
42	Europe			Spanish	Semantics		2

42	Europe	Spanish	Space asymmetry Right neglect	-4
42	Europe	Spanish	Space asymmetry Left neglect	2
42	Europe	Spanish	Object asymmetry Right neglect	-1
42	Europe	Spanish	Object asymmetry Left neglect	1
42	Europe	Spanish	Executive task	0
42	Europe	Spanish	Number Writing	2
42	Europe	Spanish	Calculation	3
42	Europe	Spanish	Gestural imitation right	9
42	Europe	Spanish	Gestural imitation left	8

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Note. MoCA = Montreal Cognitive Assessment; MMSE = Mini-Mental State Examination; OCS = Oxford Cognitive Screen

				criteria	criteria		standard deviation years)	years or education group %)	str
1	Yes	Cross-sectional with stroke cohort	All except subarachnoid hemorrhage	Amaurosis fugax			69 ± 15		36
2	Yes	Cross-sectional with stroke cohort	All except subarachnoid hemorrhage				68.8 ± 14.5		36
3	Yes	Cross-sectional with stroke cohort	Stroke rehabilitation	Pre-stroke neurocognitive disorders	Visual, auditory, speech, or motor problems hindering testing		Elderly patients; Male: 76 ± 7; Female: 77 ± 6	Primary: 73.3%; Secondary: 26.7%	2-8
4	Yes	Cross-sectional with stroke cohort	Stroke rehabilitation		Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing		70.8 ± 12.2		4 v
5	Yes	Cross-sectional with stroke cohort	Mild ischemic stroke	Pre-stroke neurocognitive disorders			69.6 ± 14	Education >11 years (42.1%)	3 m
6	Yes	Cross-sectional with stroke cohort	First-ever supratentorial stroke	Pre-stroke neurocognitive disorders, other neurologic disorders and psychiatric disorders	Speech problems hindering testing and MMSE ≤ 15	Native language different than or non-fluent in test language, <40 years	68.3 ± 12.5; <40 years excluded	Low education (56.2%)	1 m
7	Yes	Cross-sectional with stroke cohort	Lacunar stroke			Native language different than or non-fluent in test language	63.5 ± 9.9	13.7 ± 3.8	>3
8	Yes	Cross-sectional with stroke cohort	Stroke rehabilitation		Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language	68.1 ± 15	11.2 ± 2	No
9	Yes	Cross-sectional with stroke cohort	All except bilateral stroke	Psychiatric disorders, Alcohol, drugs or substance abuse			64.3 ± 14.3		11. da
10	Yes	Cross-sectional with stroke cohort	All except bilateral stroke	Psychiatric disorders			67.6 ± 14.5		13

				other neurologic disorders, using drugs that improve cognition	problems hindering testing				
13	Yes	Cross-sectional with stroke cohort	All types				74.1 ± 12.0	9.1 ± 4.1	4.4
14	Yes	Cross-sectional and comparative	All types				Median: 80.3		18
15	Yes	Cross-sectional and comparative	All types		Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language	72.1 ± 13.9	10.5 ± 3.9	3 m
16	No	Cross-sectional and comparative	All types	Other neurologic disorders and psychiatric disorders	Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language, <55 years, <4 years education	non-VCI: 69.0 ± 4.53; VCI-ND: 68.2 ± 4.56; VD: 73.3 ± 4.46; <55 years excluded	non-VCI: 11.9 ± 3.5; VCI-ND: 11.1 ± 3.2; VD: 10.8 ± 3.1; <4 years education excluded	1-3
17	Yes	Cross-sectional and comparative	All types	Psychiatric disorders	Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language, <55 years	69.2 ± 8.1; <55 years excluded	8.7 ± 3.1	3-9
18	Yes	Cross-sectional	All types		Limited		71.1 ± 14.5	11.5 ± 2.7	6

20	No	Cross-sectional and comparative	All types	Pre-stroke neurocognitive disorders and psychiatric disorders	Visual, auditory, speech, or motor problems hindering testing		60.2 ± 11.8	7.5 ± 4.1	2 v
21	No	Cross-sectional and comparative	Mild ischemic stroke	Pre-stroke neurocognitive disorders and psychiatric disorders	Visual, auditory, speech, or motor problems hindering testing		59.8 ± 11.6	7.7 ± 4.3	Ad
22	No	Cross-sectional with stroke cohort	Ischemic stroke				59.8 ± 11.6	7.7 ± 4.3	2 v 6 m
23	No	Cross-sectional and comparative	All types	Other neurologic disorders and psychiatric disorders	Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language		10.2 ± 4.6	3 m
24	Yes	Cross-sectional with stroke cohort	Lacunar stroke				65.5 ± 9.3		Dis
25	Yes	Cross-sectional with stroke cohort	All types	Other neurologic disorders and psychiatric disorders		Illiteracy and Native language different than or non-fluent in test language	68.2 ± 13.7	Primary: 57.9%; Secondary: 25.3%; High school: 16.8%; Illiteracy excluded	6.6
26	Yes	Cross-sectional with stroke cohort	Stroke rehabilitation				74.5 ± 7.7	10.4 ± 2.6	1 v rehab
27	No	Cross-sectional with stroke cohort	First-ever stroke	Psychiatric disorders, neglect	Inability to follow verbal instructions	Native language different than or non-fluent in test language	59.3 ± 8.8	8.9 ± 3.4	38 day
28	Yes	Cross-sectional and comparative	All types	None	Limited consciousness or concentration	Native language different than or non-fluent in test language	65 ± 14	12 ± 3.6	21
29	Yes	Cross-sectional	Stroke		Visual, auditory,		67.6 ± 15.2	Less than High School	8

Study ID	Response	Study Design	Stroke Type	Exclusion Criteria	Assessment Limitations	Language Factors	Mean Score (SD)	Age-Related Data	Other Data
31	Yes	Cross-sectional with stroke cohort	First-ever stroke	Other neurologic disorders and psychiatric disorders	Limited consciousness or concentration		69.5 ± 12.5	9.1 ± 4.5	33 days
32	Yes	Cross-sectional with stroke cohort	All types		Unable to complete cognitive testing		71.5 ± 12.0	12.4 ± 3.8	3 months
33	Yes	Cross-sectional with stroke cohort	All types		Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language	64.7 ± 11.5	Median: 4; Range: 1-7	6.5 years
34	Yes	Cross-sectional and comparative	All types	Acute illness	Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language, and nursing home resident	73.4 ± 11.6	<12 years: 63%	1 year
35	Yes	Cross-sectional and comparative	All types	Acute illness	Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language	69.7 ± NA	<12 years: 63%	3.1 years
36	Yes	Case-control with vascular NCD versus control sample	First-ever ischemic stroke		Visual, auditory, speech, or motor problems	Native language different than or non-fluent in test language	70.4 ± 10.9	10.3 ± 0.3	3 months

		and comparative	stroke	disorders and other medical disorder	consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing				
39	No	Cross-sectional with stroke cohort	All types	Other neurologic disorders, other medical disorders and psychiatric disorders	Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing, left-hand dominance		62 ± 15.8	15 ± 1.5	8.4 mo
40	Yes	Cross-sectional with stroke cohort	First-ever stroke		Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language	69 ± 14.4		3 a mo
41	Yes	Cross-sectional with stroke cohort	All types		Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language	62.4 ± 15.4	15.7 ± 7.9	No
42	No	Case-control with vascular NCD versus control sample	Ischemic stroke	Other neurological disorders, other medical disorders and psychiatric disorders	Visual, auditory, speech, or motor problems hindering testing	Native language different than or non-fluent in test language, <40 years	CN: 66.63 ± 12.20; VCI-ND: 69.41 ± 11.22; VD: 73.15 ± 8.12	CN: 11.5 ± 3.7; VCI-ND: 8.1 ± 4.2; VD: 6.3 ± 4.4	No
43	Yes	Cross-sectional	All types	Other neurologic	Limited	Native language	median: 74:	Uneducated or	

45	No	Cross-sectional and comparative	All types	disorders and psychiatric disorders Pre-stroke neurocognitive disorders, other neurologic disorders and psychiatric disorders, Absence of cognitive complaints, Alcohol, drugs or substance abuse			63 ± 10.3	<6y: 24%, 6-12y: 27.6%, ≥12y: 48.4%	2 v mo
46	No	Cross-sectional with stroke cohort	Aneurysmal subarachnoid hemorrhage				54 ± 11		3 m
47	No	Cross-sectional with stroke cohort	Ischemic stroke	Other neurologic disorders and psychiatric disorders, Alcohol, drugs or substance abuse	Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing		NCI: 68.1 ± 10.6 VCIND: 69.2 ± 11.5	Primary (≤6y): 18%, Secondary(6-12y): 40%, Tertiary or above (>12y): 26%, Illiterate: 16%	No
48	No	Cross-sectional and comparative	lacunar infarct; subcortical ischemic vascular dementia	Pre-stroke neurocognitive disorders, other neurologic disorders, other medical disorders and psychiatric disorders, Alcohol, drugs or substance abuse		<50 and >85 years, <6 years education	68.2 ± 8.4; <50 and >85 years excluded	10 ± 3; <6 years excluded	>3
49	No	Cross-sectional and comparative	Stroke rehabilitation	Pre-stroke neurocognitive	Limited consciousness	Illiteracy and Native language	63 ± 13	13 ± 4; Illiteracy excluded	2 v y

50	Yes	Cross-sectional with stroke cohort	Ischemic stroke	Pre-stroke neurocognitive disorders	Visual, auditory, speech, or motor problems hindering testing, and MoCA<18	Native language different than or non-fluent in test language, and <8 years education	69.2 ± 7.4	14.6 ± 2.9	2 m ye
51	No	Cross-sectional with stroke cohort	First-ever stroke	Other neurologic disorders and psychiatric disorders, Alcohol, drugs or substance abuse	Limited consciousness or concentration, Visual, auditory, speech, or motor problems hindering testing	Illiteracy	53.9 ± 13.2	Median: 9 years; IQR:9-16; Education ≤12 years: 63%; Illiteracy excluded	No
52	No	Cross-sectional with stroke cohort	Silent ischemic stroke				43 to 70		No
53	No	Cross-sectional and comparative	First-ever ischemic stroke	Pre-stroke neurocognitive disorders, other neurologic disorders and psychiatric disorders	Visual, auditory, speech, or motor problems hindering testing		64.0 ± 9.8	non-PSCI: 11; PSCI: 6	Ad
54	No	Cross-sectional with stroke cohort	Mild ischemic stroke		Visual, auditory, speech, or motor problems hindering testing	Illiteracy	54 ± 11.4	Primary and below: 12%, Middle and high school: 73%, Bachelor and above: 16%	2 v

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