

Comparison of Free-Cog with the Mini-Mental State Examination and Lawton-Brody Functional Scales

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BACKGROUND

The Free-cog is a new screening tool that integrates tests of cognition and function.

The Mini-mental State Examination (MMSE) and the Lawton-Brody Physical Self-maintenance (PSMS) and Instrumental Activities of Daily Living (IADL) are currently used in our memory clinics.

AIMS

To test the construct validity of the Free-Cog using the MMSE and Lawton-Brody and compare their ability to discriminate between those with and without dementia.

METHODS

The Free-Cog, MMSE, PSMS and IADL were administered to patients from three memory clinics in Nova Scotia, Canada (N= 318).

Pearson correlation was used to examine the relationship between the four tests.

Logistic regression corrected for age, sex, and education was used to examine the tests' relationship with dementia status.

Area under the receiver operating characteristic curve (AUROC) was used to examine ability to discriminate based on dementia status.

Table 1 Participant characteristics

Characteristic	N (%)	Mean±SD [Range]
Sex (Female)	146 (46)	-
Age	318 (100)	75.6±9.9 [44-97]
Education (y)	269 (85)	14.8±4.2 [6-27]
Diagnosis		
n=298	Dementia	189 (59)
	MCI	70 (22)
	CU	39 (12)
Free-Cog	In-person	288 (91)
	Telephone	17 (5)
	Virtual	12 (4)
MMSE	In-person	271 (85)
	Telephone	29 (9)
Lawton-Brody	PSMS	281 (88)
	IADL	281 (88)
		4.5±1.9 [0-6]
		4.8±2.5 [0-8]

RESULTS

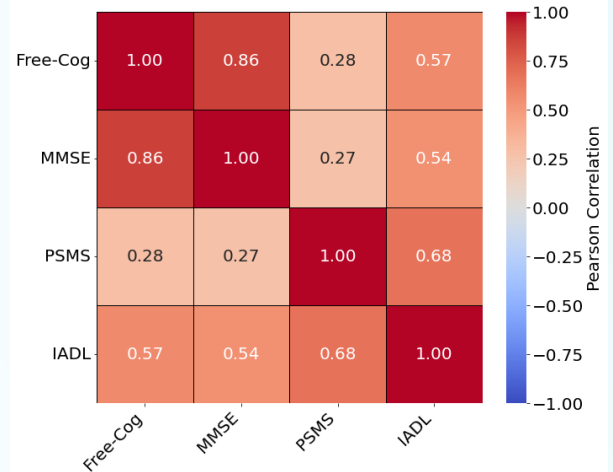


Figure 1 Pearson correlation matrix of test results. All correlations were significant ($p<0.05$).

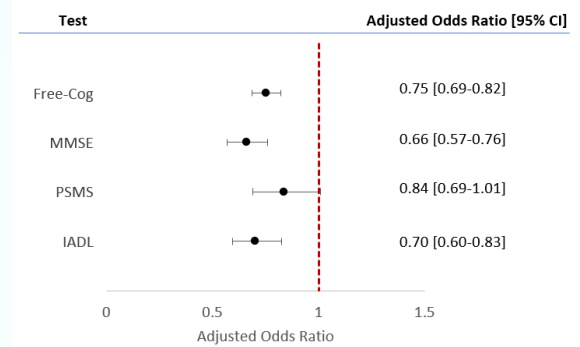


Figure 2 Forest plot of sex, age and education adjusted odds ratios of dementia diagnosis per 1-pt difference in test score.

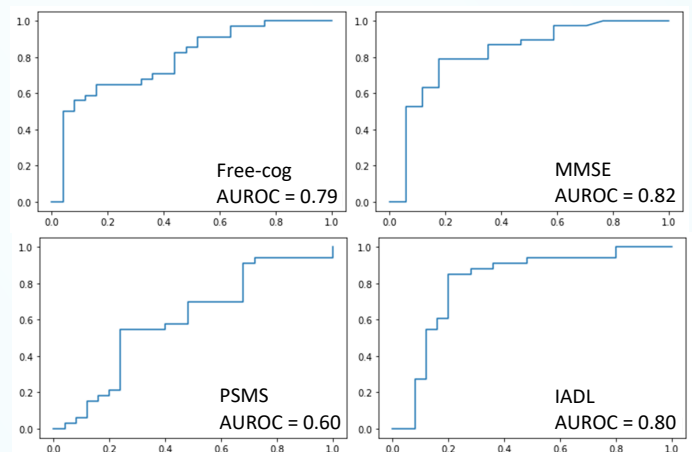


Figure 3 Receiver operating curves of test ability to discriminate based on dementia status.

CONCLUSIONS & FUTURE WORK

The Free-Cog appears to be a valid alternative to the MMSE and supplements the IADL.

Enrollment is ongoing, and we aim to examine MCI as an outcome and sex differences in test scores.