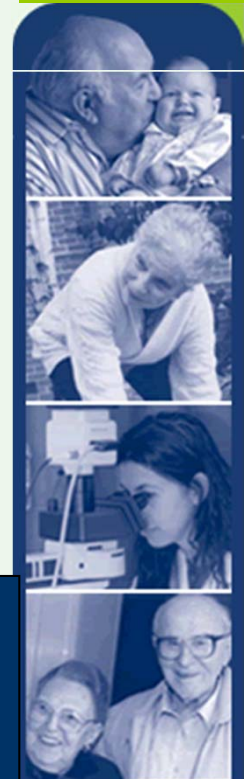


A review of available translated cognitive assessment tools to assess older people from culturally and linguistically diverse (CALD) backgrounds

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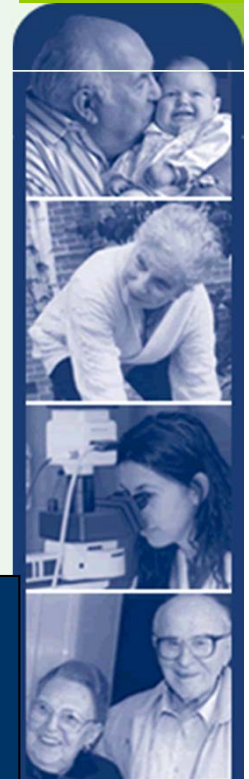
Funded by



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Translating Dementia Research Into Practice

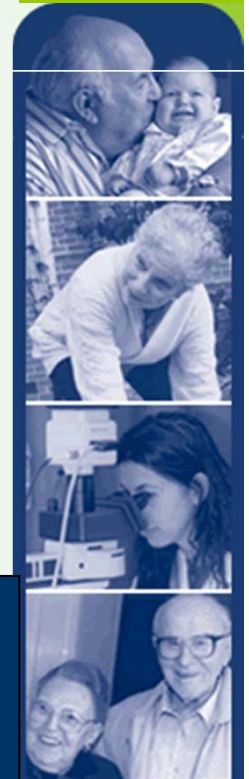


Background information

In Australia there is a growing number of:–

- older people (ageing population)
- older people who will develop dementia
- older people who are from a CALD background

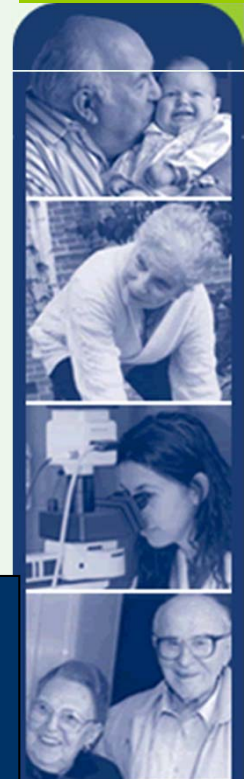
This is a global trend



Cognitive assessments

- developed in a particular culture at a particular time
- many commonly used tools have been developed in Western countries
- these tools are influenced by the language and culture in which they are designed

This can lead to a misdiagnosis of people from a CALD background



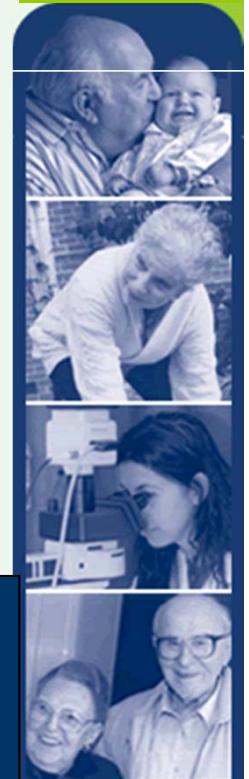
Cultural adaptation

Includes:

- translation by a bilingual professional
- back translation
- expert review
- field testing to check comprehension

When translating and reviewing each item - need to pay attention to the (Chiu & Lam, 2007):

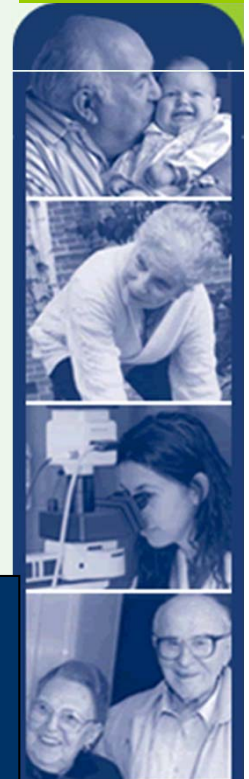
- linguistic aspects
- conceptual validity
- cultural relevance



Examples

- **“No ifs, ands or buts”** (MMSE) - not easily translated into other languages; in translation it may lose its “articulatory complexity”, and the term may be unfamiliar to many CALD groups;
- **Orientation to time and place** - requires familiarity with Western calendars and address styles;
- **Spelling WORLD backwards and counting back by 7s** (MMSE) - may be less relevant to some cultural groups;
- Some **literal translations** may have **different meanings** (eg in Italian ‘memorise’ is often translated to mean ‘learn’);
- There are **differences in the number of syllables in words**, eg in Spanish counting (backwards) mostly involves double syllables, whereas in Vietnamese they are single syllables;
- **“Close your eyes”** (MMSE) can imply death in the Chinese culture.

(Sanson et al, 2007; Rowland et al, 2007; Steis & Schrauf, 2009)

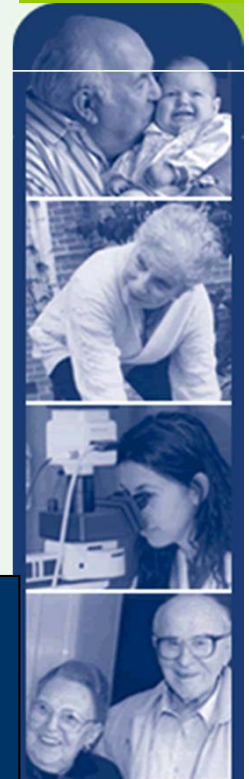


Cultural adaption

For performance results to be meaningfully interpreted you require:

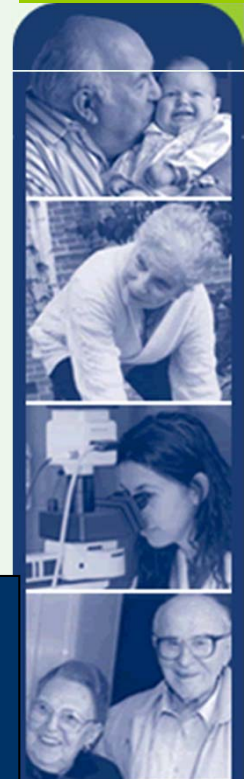
- normative data
- validity data – discriminating characteristics of the tool are recalibrated in local populations based on population studies

Tests need to be “harmonised” to the local context and local norms (Chui & Lam, 2007).



Project aim

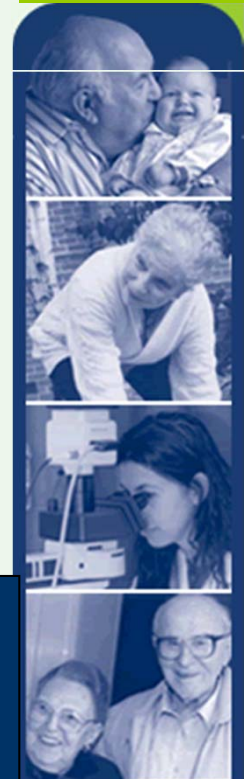
- Identify studies that used cognitive assessment tools translated into languages relevant to major CALD groups in Australia, Canada, the UK and the USA.
- Report on their transcultural and psychometric properties
- Highlight gaps in the research
- Website???



Method

A literature review of studies:

- Translated dementia assessment tools
- Assessment of older people from CALD backgrounds living in English speaking countries, including studies using multicultural samples and interpreters
- Studies in non-Western Countries (country of origin)
- Databases: MEDLINE, CINAL PLUS (EBSCO), PubMed, Web of Life, Scopus and PsychInfo.



Tools

- MMSE** - Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975)
- ADAS-Cog** - Alzheimer's Disease Assessment Scale – Cognitive (Rosen, Mohs, & Davis, 1984)
- 3MS**- Modified Mini Mental Status Exam (Teng & Chui, 1987)
- CASI** -Cognitive Abilities Screening Instrument (Teng et al., 1994)
- SPMSQ** - Short Portable Mental Status Questionnaire (Pfeiffer, 1975)
- CDT** - Clock Drawing Test (Sunderland et al., 1989)
- CCSE** - Cognitive Capacity Screening Examination (Jacobs, Bernhard, Delgado, & Strain, 1977)
- GPCOG** - General Practitioner Assessment of Cognition (Brodaty et al., 2002)
- RUDAS** - Rowland Universal Dementia Assessment Scale (Storey, Rowland, Conforti, & Dickson, 2004)
- MIS** - Memory Impairment Screen (Buschke et al., 1999)
- Mini-Cog** – Mini Cog (Borson, Scanlan, Brush, Vitaliano, & Dokmak, 2000)
- AMTS** - Abbreviated Mental Test Score (Hodkinson, 1972)
- MDS-Cog** - Minimum Data Set-Cognition Scale (Morris et al., 1994)
- BCRS** - Brief Cognitive Rating Scale (Reisberg & Ferris, 1988)
- PAS-Cog** - Psychogeriatric Assessment Scales – Cognition (Jorm et al., 1995)
- MDRS** - Mattis Dementia Rating Scale (Mattis, 1976)
- ACE** - Addenbrooke's Cognitive Examination (Mathuranath, Nestor, Berrios, Rakowicz, & Hodges, 2000)
- MOCA** - Montreal Cognitive Assessment Scale (Nasreddine et al., 2005)
- CAMCOG** - Cambridge Cognitive Examination - original version: (Roth et al., 1986); revised version: (Roth, Huppert, Mountjoy, & Tym, 1999)
- IQ-CODE** - Informant Questionnaire on Cognitive Decline in the Elderly (Jorm & Jacomb, 1989)



Language – Sources

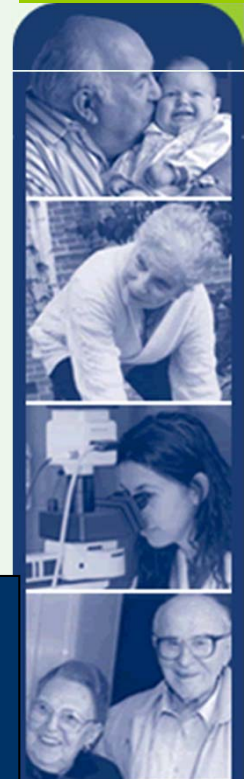
Australia - 2006 Census – Australian Bureau of Statistics using the AusStats online search

<http://www.abs.gov.au/>;

USA - American Community Survey 2008 - compiled by the Migration Information Service;

Canada - 2006 Census searched via the Statistics Canada website www.statcan.gc.ca;

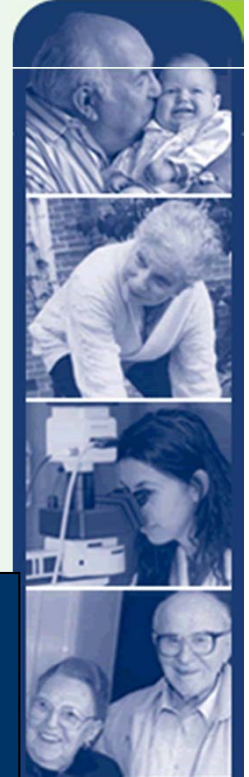
United Kingdom - 2001 Census from the UK Office for National Statistics - compiled by the Census Customer Service.



Top 10 Languages

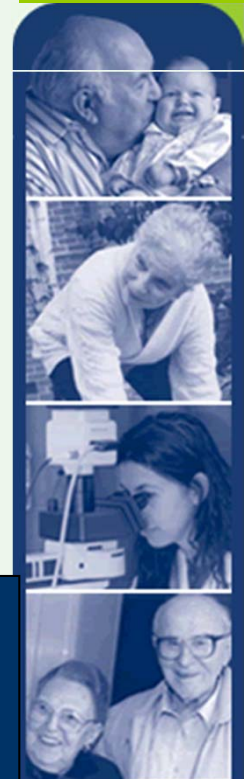
Common across Australia, Canada, UK, US:

1) German	6) Spanish
2) Italian	7) Greek
3) French	8) Dutch
4) Chinese	9) Indian
5) Polish	10) Ukraine



Inclusion criteria

- English abstract written in last 15 years;
- involved a tool translated (in a Western country or country of origin), or
- a multicultural sample in an English speaking country using an interpreter;
- qualitative or quantitative data on the psychometric and/or transcultural properties of the tool was reported; and
- not specific to a clinical group (eg stroke patients).

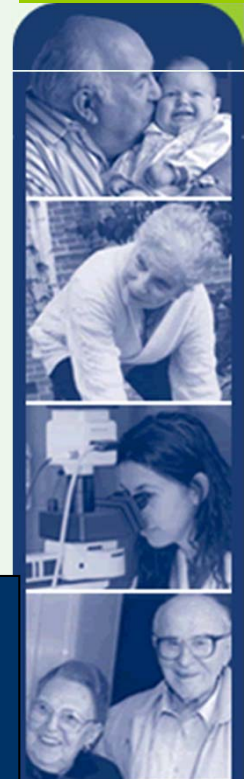


Method

Used an evaluation criteria based on the DOMS Project:

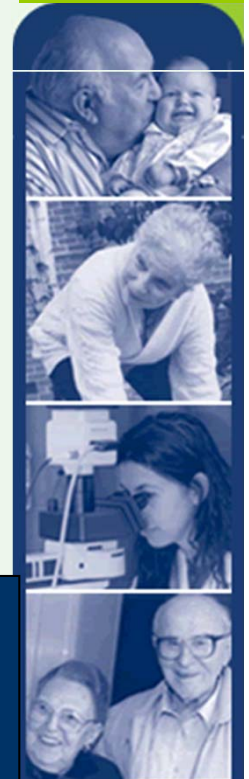
- Translation and cultural adaptation process
- Reliability
- Validity
- Responsiveness
- Other factors impacting on performance
- Normative and clinical reference data

Psychometric properties



Results

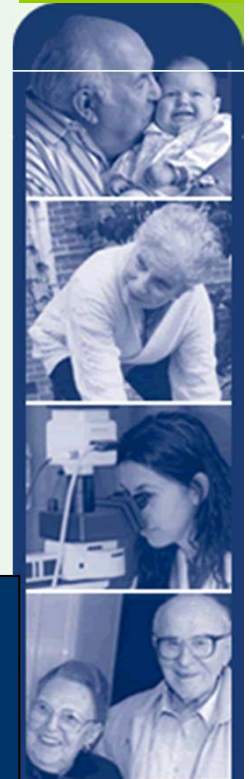
- 167 articles/abstracts were identified
- 25 articles/abstracts were not relevant
- 142 relevant articles included:
 - 34 abstracts
 - 108 full articles
- no articles/abstracts about the CCSE or the BCRS tools



Abstracts

Note: if an article/abstract included more than one language or tool it was included in the tally for all languages and tools.

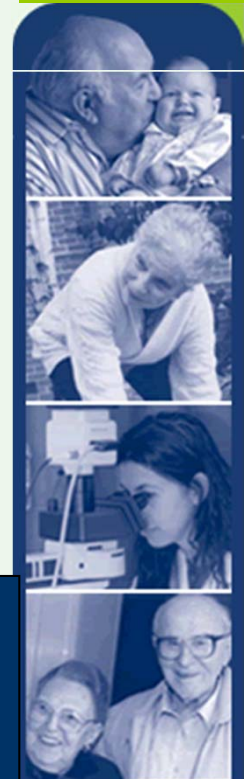
- No abstracts in the Ukraine, Greek or Indian languages
- None involving a multicultural sample in a Western country
- Spanish (n=22) and Chinese (n=8) languages had the most abstracts; all other languages had between 2-4 abstracts



Full English Articles

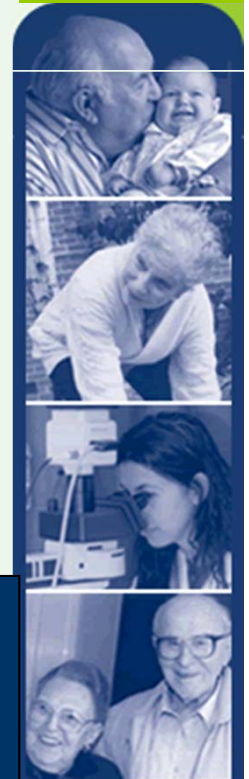
Of the 108 articles:

- 73 looked at one tool of interest
- 35 articles included another tool/s of interest and provided comparative data
- MMSE was the most commonly used comparative tool



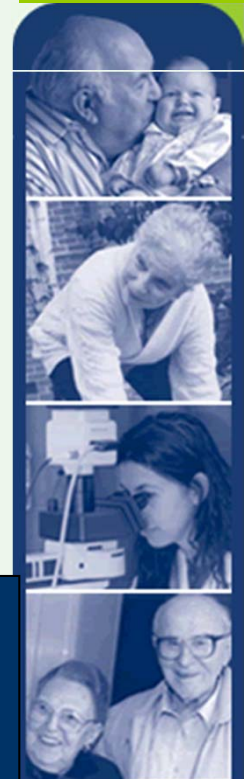
Location

- 38 articles were of studies conducted in a Western country
 - 9 included multicultural samples (5 Australian; 4 US)
 - 23 involved a specific language group (4 UK and the Indian language; 14 US and the Spanish language; 5 Canadian and the French language)
 - 6 provided comparisons between participants in different countries (eg Greeks in Australia and in Greece; participants in 8 different countries)
- 70 were conducted in the country of origin



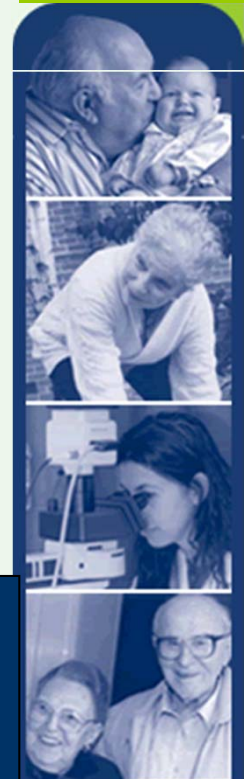
Language and tool - summary

- No full articles in the Ukraine or Polish language
- Chinese (37) and Spanish (30) were the languages with the most number of articles
- MMSE (63) was the tool most commonly investigated (as the main or comparative tool), followed by the CDT, ADAS-Cog and IQCODE (11-15)



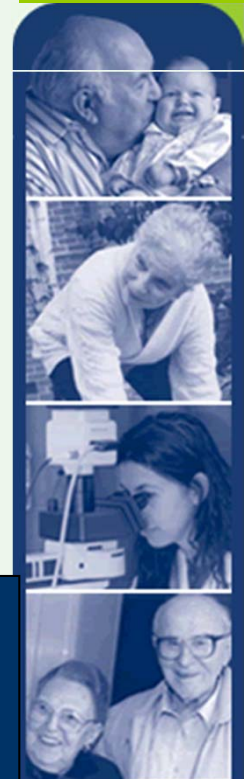
Translation and cultural modification

- 48 articles used an existing translated tool
- 40 referred to translating
- 25 included back translation
- 29 referred to modifications
- 14 referred to pilot testing (very small samples)
- 12 referred to bilingual administration or use of interpreters.



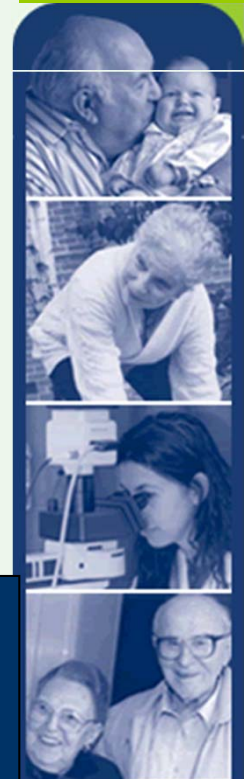
Examples of modifications

- “No ifs, ands or buts” (MMSE) changed to:
 - “neither this nor that” in Hindi
 - “trying to get blood from a stone” in Punjabi
 - “44 stone lions” (“marah, merah, murah”) in Malay
- Naming fingers (ADAS-Cog) changed to:
 - “eyes, nose, ears, mouth and hair” in Indian languages - because there are no names for specific fingers



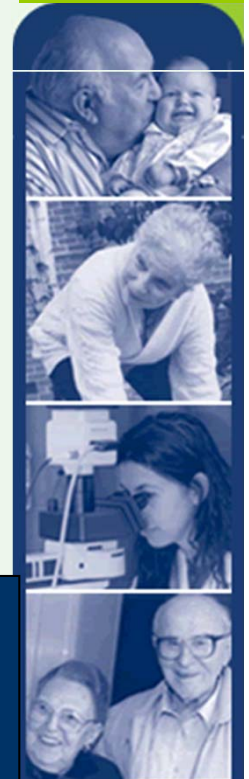
Findings

- 46 provided reliability data
- 77 provided validity data (66 provided some discriminant validity data)
- 70 reported the influence of another factor on test performance (most commonly age and education)
- 17 provided responsiveness data (eg ceiling or floor effects or change over time)
- 11 provided normative data and 30 provided some clinical reference data
- In each language group, very few tools had at least one article in all six criteria domains



Summary and gaps

- No full articles related to the Ukraine or Polish language; no articles/abstracts related to the CCSE or the BCRS.
- Only 38 articles were conducted in a Western country (or included a comparison group in a Western country)
- Are item modifications made equivalent to the original English item or relevant to similar CALD groups residing in Western countries?
- Only 6 were conducted in Australia, mostly related to the RUDAS



Take home message

There is a need for:

- culturally appropriate cognitive assessment tools
- tools to be adequately validated in Australia (cut off scores are calibrated to the Australian setting)
- normative data for the common tools used in Australia
- The RUDAS, is a tool developed in the Australian setting to be “culturally fair”, has no copyright limitations, and warrants further investigation

Future research is needed

