Canadian Study of Health and Aging

The Who, What, Where, & When

http://www.csha.ca/

Canadian Study
of Health and Aging

Where

MAP OF STUDY CENTRES

Canadian Study
of Health and Aging

Sampling frame (65+)

- **Community Sample**
  - Health Insurance Record (except Ontario)
  - Age-stratified random sample
  - Over sampled the oldest group

- **Institutional Sample**
  - Statistics Canada list
  - Random sample within randomly selected institutions
  - Stratified by size

Canadian Study of Health and Aging

Actual Sample

Sample; region	No. (and %) of subjects			
	Eligible	Could not be contacted	Refused to participate*	Participated*
Community				
Atlantic provinces	2 509	307 (12.2)	403 (18.3)	1 799 (81.7)
Quebec	2 957	408 (13.8)	749 (29.4)	1 800 (70.6)
Ontario	2 556	199 (7.8)	557 (23.6)	1 800 (76.4)
Prairies	2 651	192 (7.2)	655 (26.6)	1 804 (73.4)
British Columbia	3 418	495 (14.5)	1 118 (38.2)	1 805 (61.8)
Total	14 091	1 601 (11.4)	3 482 (27.9)	9 008 (72.1)
Institutional				
Atlantic provinces	274	1 (0.4)	23 (8.4)	250 (91.6)
Quebec	307	0	58 (18.9)	249 (81.1)
Ontario	281	0	33 (11.7)	248 (88.3)
Prairies	375	42 (11.2)	77 (23.1)	256 (76.9)
British Columbia	349	7 (2.0)	90 (26.3)	252 (73.7)
Total	1 586	50 (3.2)	281 (18.3)	1 255 (81.7)

Table 2: Geographic distribution of subjects in the community and in institutions who were eligible to participate in the Canadian Study of Health and Aging
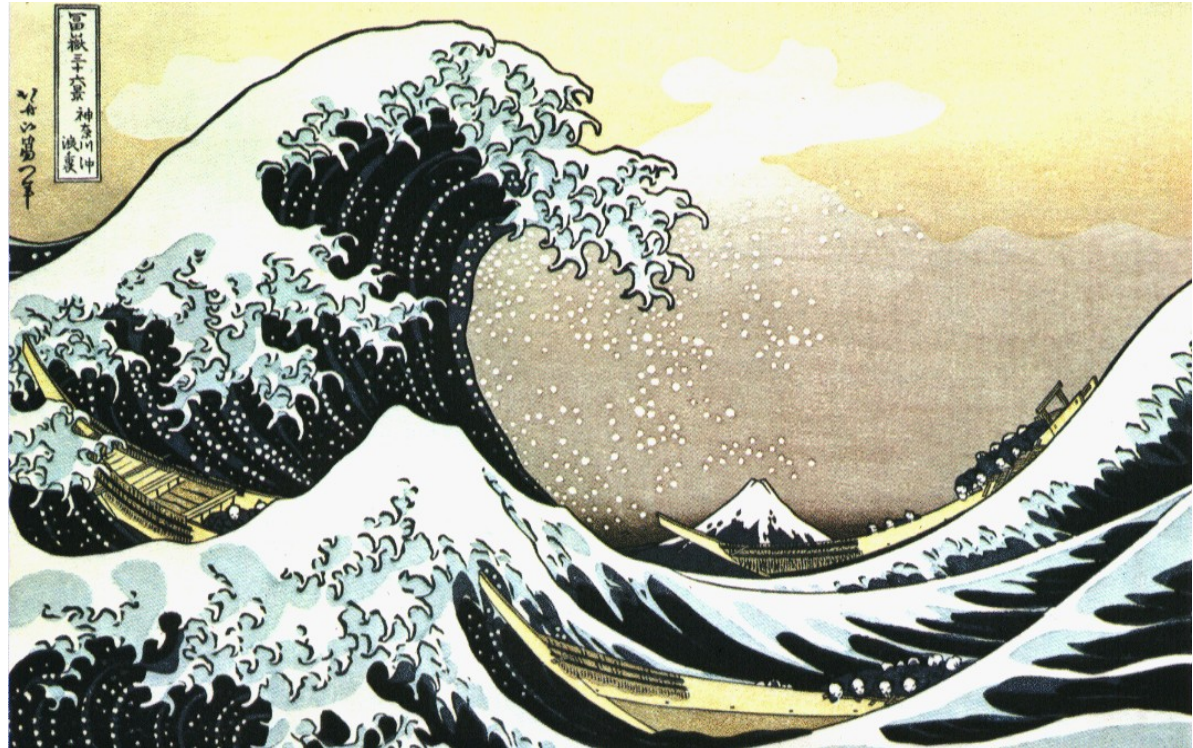
*Percentages reflect the proportion of people who could be contacted.

Canadian Study of Health and Aging

When

- **Wave I - 1991 -1992**

- **Wave II - 1996-1997**

- **Wave III - 2001-2002**

Canadian Study of Health and Aging

Response Rates

	Sampling frame	CSHA-1	CSHA-2	CSHA-3
	% Not contactable[1]	Participation rate %	Participation rate %	Participation rate %
Screening interview	11.4	72.1	87.5	88.6
Clinical Examination:				
Institution	3.2	81.7	90.0	90.6
Community	1.1	73.7	84.5	89.4
Caregiver interview	3.3	90.5	75.4	91.7
Decedent Questionnaire	--	--	87.4	88.9

Canadian Study of Health and Aging

Five Components

1. Community Screen
2. Clinical Interview
3. Caregiver Interview
4. Risk Factor Study
5. Decedent Questionnaire (2 & 3 only)

Canadian Study
of Health and Aging

The Dataset

Canadian Study
of Health and Aging

Sample Weights

- Screening weight (**ESCRWGT**)

- Clinical weight (**ECLIWGT**)

- Caregiver weight (**ECARWGT**)

Canadian Study
of Health and Aging

Community Screen

- Status (**S1STATUS**)
- Demographics
- Social Support
- Self-report Health
- 3MS (**S1_3MS or SCORE3MS**)

Canadian Study
of Health and Aging

Clinical Exam

- Status (**C1STATUS**)
- Nurse evaluation (**N1_3MS**)
- Physical exam
- Laboratory blood test
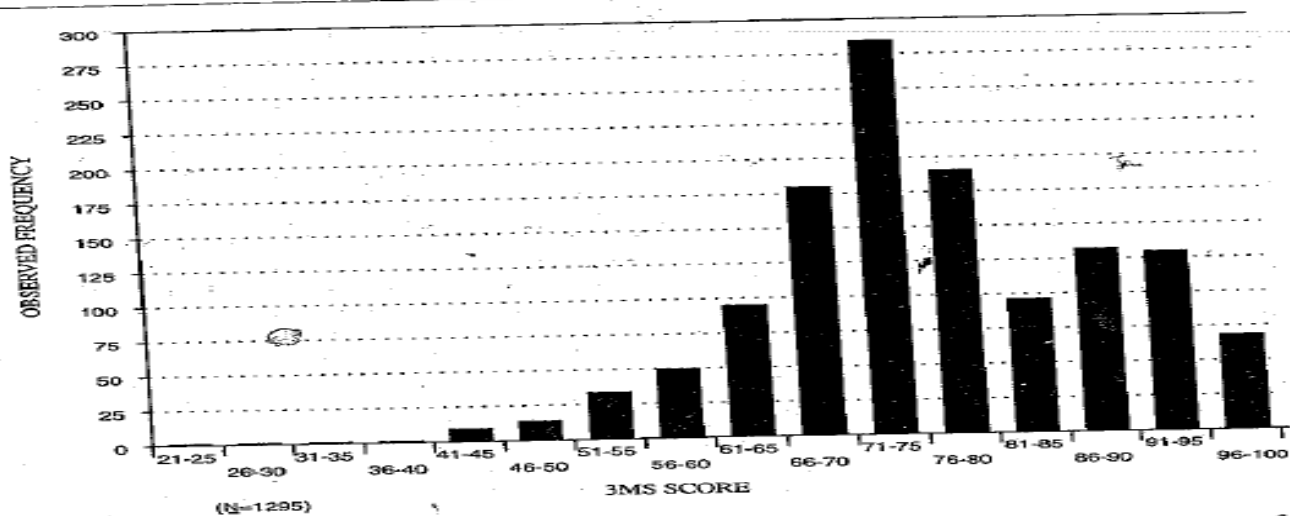- Neuropsychological assessment (**NEURO1**)

- Consensus diagnosis (**SUMM1DX**)

Canadian Study
of Health and Aging

Fig. 3. Frequency distribution of **screening** Modified Mini-Mental State Examination (3MS) scores for CSHA participants who completed the neuropsychological battery.
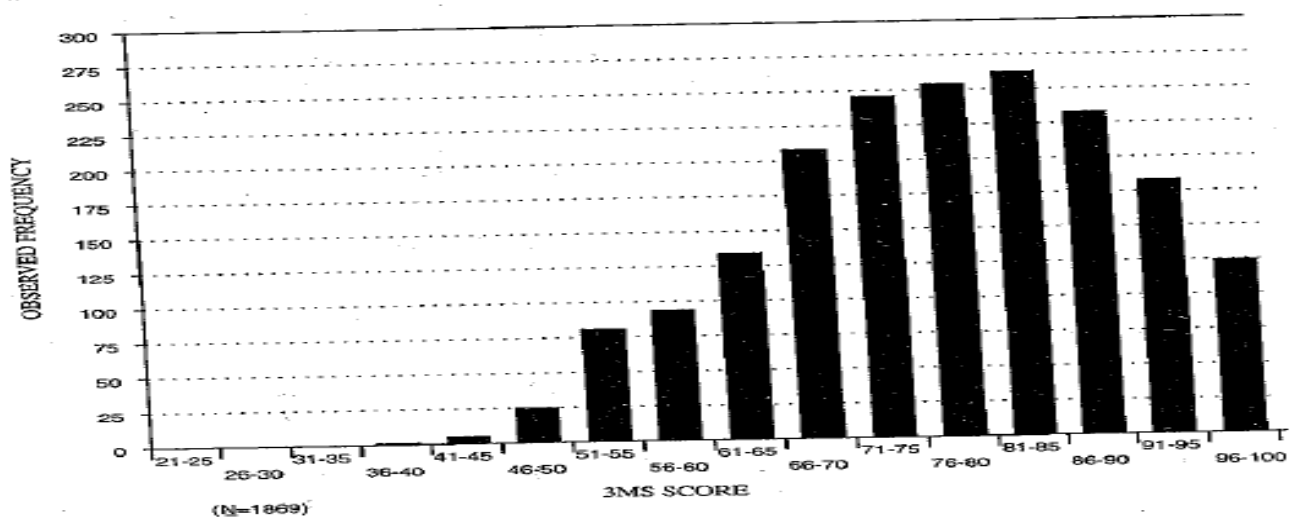

Fig. 4. Frequency distribution of **clinical** Modified Mini-Mental State Examination (3MS) scores for CSHA participants who completed the neuropsychological battery.

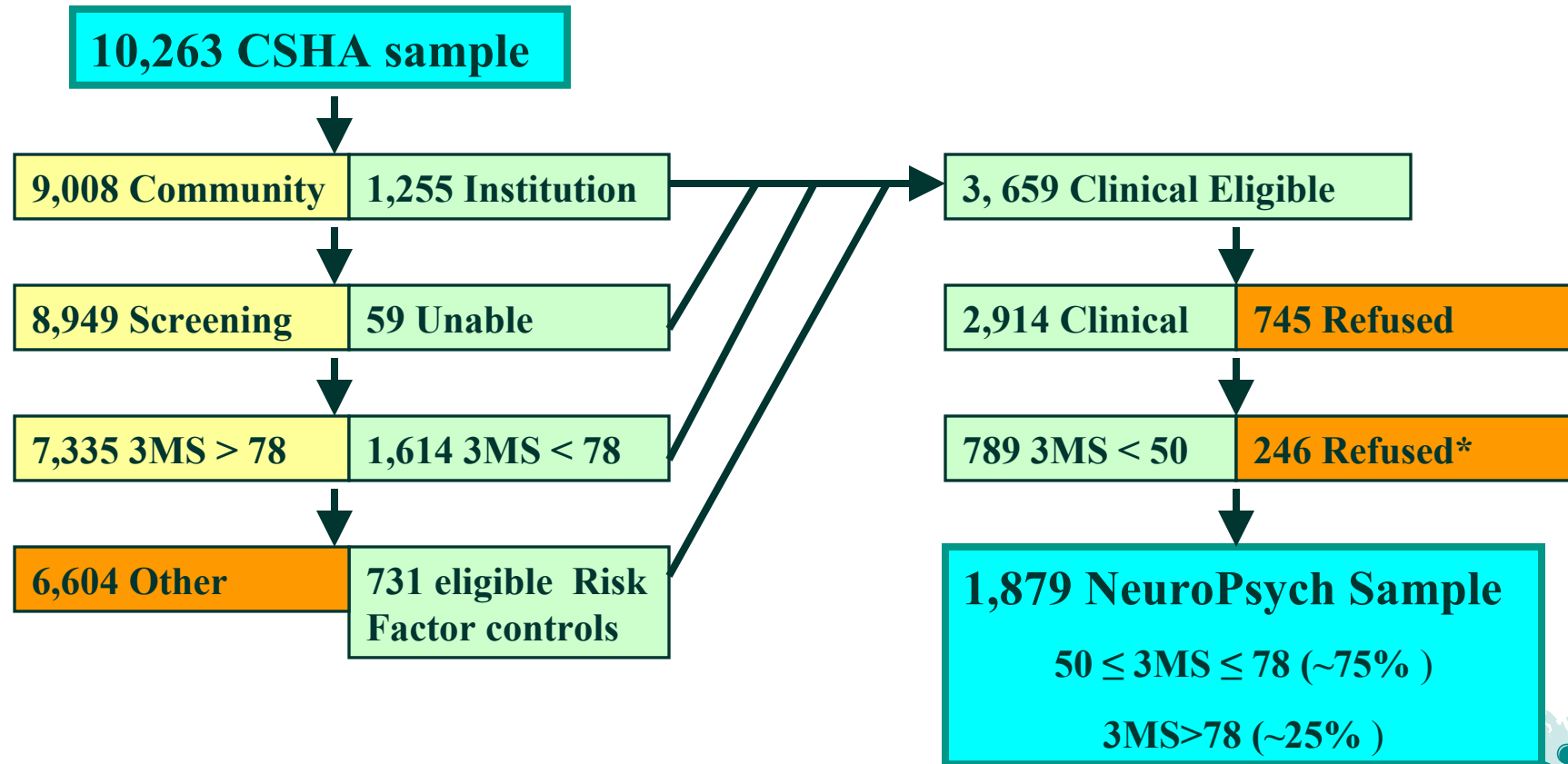**Friday Harbor Psychometrics Workshop Aug 22 – 27, 2007**

Consensus Diagnosis

- Criteria: DSM-III-R, ICD-10, & NINCDS-ADRDA. (`SUMM1DX`)
  - No cognitive loss
  - CIND
  - AD (probable / possible)
  - Vascular Dementia
  - Other Dementia
  - Unclassified Dementia

Canadian Study
of Health and Aging

Clinical Sample Flow Chart

10,263 CSHA sample

9,008 Community | 1,255 Institution

8,949 Screening | 59 Unable

7,335 3MS > 78 | 1,614 3MS < 78

6,604 Other | 731 eligible Risk Factor controls

3, 659 Clinical Eligible

2,914 Clinical | 745 Refused

789 3MS < 50 | 246 Refused*

1,879 NeuroPsych Sample

$50 \leq 3MS \leq 78$ (~75%)

3MS>78 (~25%)

Canadian Study
of Health and Aging

NeuroPsych Sample

Table 2. Breakdown of Participants Undergoing Neuropsychological Evaluation by Residence, Language of Administration, and Region.

Region	Institutional		Community	
	English	French	English	French
Maritimes	112	0	290	18
Quebec	2	129	34	273
Ontario	108	6	225	20
Prairies	101	1	199	0
British Columbia	111	0	250	0
Total	434	136	998	311
Combined Total	570		1318	

Note. Total English = 1432, Total French = 447.

Canadian Study
of Health and Aging

Neuropsych Batteries

Table 1. Neuropsychological Measures Grouped According to DSM-III-R Criteria.

DSM-III-R Criterion		Measure	Sequence in Battery
A.	Memory	Benton Visual Retention Test -Multiple Choice	11
		Buschke's Cued Recall	2
		Digit Span	7
		Rey Auditory Verbal Learning Test	9
		Wechsler Memory Scale- Information Subtest	1
		Working Memory (Optional)	14
B.	1. Abstract Thinking	WAIS-R Similarities (Short Form)	5
	2. Judgment	WAIS-R Comprehension (Short Form)	8
	3. Other disturbance of higher cortical functions	Token Test (11 item)	6
		Controlled Oral Word Association Test	10
		Animal Naming	12
		Visual Identification from Buschke's Cued Recall	4
		WAIS-R Block Design (Short Form)	3
		WAIS-R Digit Symbol	13
		Clock Drawing or Clock Test (Optional)	15
	4. Personality	CAMDEX history	
C.	Interference with work, social activities or personal relationships	CAMDEX history	

Canadian Study
of Health and Aging

Missing Data

- **6666** – Universal Skipped or NA
- **6, 7, 8, 9** – Missing Code
- **6** (Skipped or NA | Physical Disability)
- **7** (Refused | Refused)
- **8** (DK | Couldn't Understand)
- **9** (Missing | Missing)

Canadian Study
of Health and Aging

Measures

Wechsler Memory Scale	(`QWMS1-6, QWMSTOT`)
Buschke Cued Recall	(`QBCRFRx, QBCRCRx QBCRTRx`; where **x** = `1,2,3,D`)
Rey Auditory-Verbal Learning Test	(`QREYA1-6, B1,QREYA1/2-O1/2, QREYPOS/NEG`)
Benton Visual Retention Test-Multiple Choice	(`QBENTOTA,B`)
Digit Span	(`QSPAN2-8, QSPAN`)

Canadian Study
of Health and Aging

Measures

WAIS-R Similarities	(`QWS1-7, QWSTOT`)
WAIS-R Comprehension	(`QWAISC1-8, QWAISCT`)
WAIS-R Block Design	(`QWB1,3,5,7,9, QWBTOT`)
WAIS-R Digit Symbol	(`QWAIDSD`)

Canadian Study
of Health and Aging

Measures

Token Test	(**QTOKTOT, qtoktot2**)
Verbal Fluency	(**QFASxTOT; where x = F,A,S,T**)
Animal Naming	(**QANITOT, QANIERR, QANICOR**)
Object Naming	(**QBCRNAM**)
Visual Identification (Buschke Cued Recall)	(**QBCRIDE**)
Color Naming	(**QTOKR**)

Canadian Study
of Health and Aging

Published Work

Type of Studies	3MS	Neuropsych Battery
Reliability	1,4,5,7,8,10,2,4	1,3,10,12,20
Validity	4,7,10	9,10,14,20
Factor Analysis		20
Prevalence/Incidence		8,11
Classification/Screening	1,6,10,11,14,4	7,8,12,15,18
Normative	9,10	9,16,20
Cutpoint	6,10,11	3,8,14
Cognitive change	5,6,2	3,5
2nd	2,3,12,13	10,13,14,17
Descriptive	3,9,10	5,7,9,16,18,19
bias	1,4,7,8,4	3,16
language	7,8,9,15	18,19
Genetic		6

Canadian Study
of Health and Aging