Cognition in the Canadian Longitudinal Study on Aging

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Cognition

• What is cognition?

• What are the implications of a change in cognitive functioning?
Depth and Breadth of CLSA

PHYSICAL & COGNITIVE MEASUREMENTS
- Height & weight
- Waist and hip measurements
- Blood pressure
- Grip strength, timed up-and-go, chair raise, 4-m walk
- Standing balance
- Vision (retinal imaging, tonometer & visual acuity)
- Hearing (audiometer)
- Spirometry
- Body composition (DEXA)
- Bone density (DEXA)
- Aortic calcification (DEXA)
- ECG
- Carotid intima-media thickness (ultrasound)
- Cognitive assessment (30-minute battery)
- Biospecimen collection (blood and urine)

HEALTH INFORMATION
- Chronic disease symptoms (11 chronic conditions)
- Medication and supplement intake & compliance
- Women’s health
- Self-reported health-care utilization
- Oral health
- Administrative data linkage health services, drugs and other administrative databases

PSYCHOSOCIAL
- Social participation
- Social networks and support
- Caregiving and care receiving
- Mood, psychological distress
- PTSD
- Injuries and consumer products
- Work-to-retirement transitions
- Personality traits
- Retirement planning
- Social inequalities
- Mobility-lifespace
- Built environments and contextual factors
- Income, wealth and assets

LIFESTYLE & SOCIODEMOGRAPHIC
- Smoking
- Alcohol consumption
- Physical activity (PASE)
- Nutrition (nutrition risk and food frequency)
- Ethnicity/race/gender
- Birth location
- Marital status
- Education
CLSA Data Collection
Data Collection Site

Physical Assessments:
- Height, Weight, BMI
- Bone Density, Body Composition, Aortic Calcification
- Blood Pressure
- ECG
- Carotid Intimal-Medial Thickness
- Pulmonary Function
- Vision & Hearing
- Performance testing

Biospecimen Collection:
- Blood
- Urine

Cognitive Assessments:
- Neuropsychological Battery
  - Memory
  - Executive function
  - Reaction time
Our Team

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Funding to examine cognitive data

- Examine how Canadians typically perform on measures of cognitive functioning
- Understand the health and lifestyle factors that affect cognitive functions
- Develop Canadian comparison standards
Funding to examine cognitive data

• Create computer algorithms and other tools for interpretation that can be used by health providers in clinical practice;

• Lay the foundation for refinement of this information when longitudinal data becomes available.
Why are Canadian comparison standards needed?

- Existing normative standards based on non-Canadian samples
- Existing normative standards may be outdated
- Existing normative standards for measures may not cover the full spectrum of ages from mid-life to later life
Why are Canadian comparison standards needed?

- Existing normative standards may not take into consideration important health and lifestyle factors
- Existing normative standards may be available for individual measures only
The plan

- Select a neurologically healthy subsample
- Examine performance on each measure
  - Remove impossible scores
- Describe performance on each measure to identify possible important influences (e.g., age, sex, educational attainment, language, hearing, vision, etc)
- Characterize each measure taking into account important influences
The plan, continued

• Combine the measures to minimize over-identification of poor performances and increase specificity as to typical performances

• Propose user-friendly tools for interpretation that can be used by health providers in clinical practice
The plan, continued

- Consult with health providers in clinical practice and researchers concerning the adequacy of our methods and tools
- Rework tools to address concerns and maximize their utility for easy access by clinicians and researchers
Findings to date

• Comparisons with other studies

• Do medical conditions affect scores on measures of cognition?

• Remembering to remember
Findings to date

• Comparisons with smaller studies

• Do medical conditions affect scores on measures of cognition?

• Remembering to remember
Ongoing Research

• Continue this line of investigation to:

  • Develop Canadian comparison standards;
  • Create computer algorithms and other tools for interpretation that can be used by researchers and health providers in clinical practice;
  • Lay the foundation for refinement of this information when longitudinal data becomes available.
Thank you for supporting our research to benefit all Canadians!