Adjusting for the Cognitive Effects of Normal Aging in the Workplace

Janet Leathem & Bridget Burmester
Demographics

- Population of older individuals (60+) rose from 205 million in 1950 to 606 million in 2000 (UN, 2002). Projected to reach the 2 billion mark by 2050.
Demographics

WHO Trends in Global Ageing

Percent of Population
Aged 65 & Over:
History and UN Projection

Source: UN (2005)
## Demographics

### Population % over 65 years

<table>
<thead>
<tr>
<th>Subject</th>
<th>Unit</th>
<th>New Zealand</th>
<th>Australia</th>
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<th>China, PR</th>
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<tbody>
<tr>
<td>Total population (estimated)</td>
<td>Million</td>
<td>4.43</td>
<td>22.02</td>
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<td>313.85</td>
<td>1,343.24</td>
<td>127.37</td>
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<td>Annual rate of population change</td>
<td>Percent</td>
<td>0.63</td>
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<td>Male life expectancy at birth</td>
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<td>13.8</td>
<td>14.4</td>
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<td>13.5</td>
<td>9.1</td>
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<tr>
<td>% of population aged under 15 years</td>
<td>Percent</td>
<td>20.1</td>
<td>16.2</td>
<td>17.3</td>
<td>20.0</td>
<td>17.4</td>
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<td>CPI change (annual)</td>
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<td>US$</td>
<td>26,100</td>
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<td>48,300</td>
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<td>Unemployment as % of labour force</td>
<td>Percent</td>
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### Demographics

#### Life expectancy

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1. Data for 2011. All other data is from 2012.
2. New Zealand data for year ended March. Other data for year ended June.
Living arrangements of the elderly

Percentage of Single member Households of all households with at least one person aged 65 or more by World Bank category
Demographics: Workforce

Age distribution of labour force
1991–2061

Percent of total labour force
Estimated  Projected  50th percentile

25–44
45–64
65+
15–24

June year
1991  2001  2011  2021  2031  2041  2051  2061

Source: Statistics New Zealand

29 August 2012
ISSN 1178-0606
Demographics: Workforce

![Graph showing Labour force participation rates by age and sex, 2005 and 2061.](image)

Source: Statistics New Zealand
CLOCKING ON
Meet Sally
Life Span
Age Changes in Cognition

• Verbal Abilities
  – rise gradually, peak at 50 & small declines after 55

General Knowledge
Life Span
Age Changes in Cognition

- **Verbal Abilities**
  - rise gradually, peak at 50 & small declines after 55

- **Performance Abilities**
  - slow decline mid 30’s, > after 50-60

- **Working Memory**
Life Span
Age Changes in Cognition

- Verbal Abilities
  - rise gradually, peak at 50 & small declines after 55

- Performance Abilities
  - slow decline mid 30’s, > after 50-60

- Working Memory & Complex Attention
  - slow decline after 45

- Processing Speed
  - decline begins at 20, accelerating after 35
Life Span
Age Changes in Cognition

• Processing Speed
  – decline begins at 20, accelerating after 35
Life Span
Age Changes in Cognition

- Working Memory
- Processing Speed
- Performance Skills
- Verbal Abilities
Life Span
Age Changes in Cognition

Verbal Abilities
Life Span
Age Changes in Cognition

[Diagram showing distribution of cognitive skills and abilities across different descriptive categories, T scores, standard scores, and percentiles.]

Performance Skills
Verbal Abilities
Life Span
Age Changes in Cognition

[Diagram showing a bell curve with labels for Working Memory, Performance Skills, and Verbal Abilities. Descriptive categories are indicated along the x-axis with corresponding T scores and standard scores. Percentiles are marked along the y-axis.]
Life Span
Age Changes in Cognition

Diagram showing age changes in cognitive abilities including:
- Verbal Abilities
- Working Memory
- Performance Skills
- Processing Speed
- Complex Attention
Life Span
Age Changes in Cognition

• Processing Speed
  – decline begins at 20, accelerating after 35
Study Aims

• Comparison between self report and questionnaire endorsement of EMC’s
• Nature and levels of distress associated with self report of EMC’s
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<th><strong>Questionnaire</strong></th>
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<td><strong>SMCs</strong></td>
<td>What (if any) memory difficulties do you experience in everyday life?</td>
<td>24 examples of SMCs, e.g., “Trouble remembering the names of people you have met”</td>
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<td><strong>Associated distress</strong></td>
<td>How much of a problem is _____ for you? (rate on 1-7 Likert scale)</td>
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The Memory Survey
What people forget

- Whether or not they’ve done something
- Where they’ve put things
- What they were doing
- Telephone numbers & facts
- What they’ve been told, seen or read
- How to do/operate things
- Not recognising people
Bottom Line

• Feedback
• Acceptance & Awareness
  – Attend
  – Allow time
  – Organise, plan & simplify to assist learning
  – Compensate
  – Don’t stress
• Stay active mentally and physically
• Eat well
CLOCKING ON
Meet Sally