A presentation indicating the statistical analyses were supported by Bracket.

**BACKGROUND**

- Many large scale, ready tests in normal and pathological aging are being planned or conducted.
- In Alzheimer’s disease, interest is turning to prevention studies which may be conducted in healthy populations identified as at risk of developing Alzheimer’s disease.
- Automated cognitive function testing may be a practical solution for such work, and the present study investigates the ability of administering such testing via the Internet.

**METHOD**

- Four tests from a computer based cognitive methodology, the CDR System, were internet administered: simple reaction time, choice reaction time, digit vigilance and delayed picture recognition.
- 5 language versions were available: English, Greek, Hungarian, Portuguese & Spanish.

**DATA COLLECTED**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number</th>
<th>Log on and drop demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>97</td>
<td></td>
</tr>
</tbody>
</table>

**PICTURE RECOGNITION ACURACY**

- Likelihood with 95% Confidence Intervals
- Black line represents 1 SD of decline from peak

**PICTURE RECOGNITION SPEED**

- Likelihood with 95% Confidence Intervals
- Black line represents 1 SD of decline from peak

**THE CDR SYSTEM PICTURE RECOGNITION TASK**

- The task measures delayed object recognition memory.
- The volunteer initially sees 20 different pictures of everyday scenes and objects, presented one at a time on a computer screen.
- After the attention tasks are completed, these pictures are presented, intermixed with 20 very similar but different pictures (see examples below).
- For each picture, the volunteer has to decide whether or not the picture was shown originally by pressing either the right or left key for YES or the left key for NO as quickly as possible.

**CDR SYSTEM ATTENTION TESTS**

**CONTINUITY OF ATTENTION**

- Likelihood with 95% Confidence Intervals
- Black line represents 1 SD of decline from peak

**POWERS OF ATTENTION**

- Likelihood with 95% Confidence Intervals
- Black line represents 1 SD of decline from peak

**CONCLUSIONS**

- Cognitive testing performed over the Internet identified a comparable pattern of changes over the lifespan to direct PC administration.
- Rates of change vary between different cognitive domains.
- Children show rapid improvements whereas adults show a slow decline.
- Rates have slightly, but generally consistently faster scores on Power of Attention.
- Internet assessment of cognitive function will prove useful for large scale patient registries, practical dementia trials and long term follow up studies.