The ALOUD study
Adult Learning Open University Determinants study
Association between biological and psychological determinants
and study success of adults participating in distance education

Design presentation
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Problem definition
• Learning is crucial for everybody
• Ageing society ➔ life expectancy keeps rising
  ➔ fastest growing population group in most
countries are the elderly
• People have to work and learn longer and knowledge, skills and
  competencies have to change

Background
• Cognitive functions develop until late adolescence
• Cognitive decline begins in early adulthood
• However, the ability to learn hardly declines until far into old age

Problem definition
• Adults in a learning situation have to deal with many interfering
  factors
• Distance Education (DE) allows liberty of studying at own peace and
  schedule
• ICT makes it possible to do it from your own place
Background

- Previous research focused on:
  - Children, adolescents, and college students
  - Traditional education
  - Single or a few factors
- The ALOUD study will focus on:
  - Adult students
  - Distance education
  - Multiple factors

Research questions

- What characterizes persons participating in formal DE?
- Which factors determine study success in adult DE?
- Which factors are age and sex dependent?
- What are the associations between the respective determinants?
Methods (I)

- Observational study
- All new (!!!) OU students between 1.09.12 and 31.08.13
- Invitation mail 14-21 days after registration
- Reminder after 14 days
- After 7 days last email reminder
- After 7 days more phone call
- Follow-up at 7 months
- Follow-up at 14 months

Methods (II)

- Informed consent
- Questionnaire (with routing)
- Digital neuropsychological testing included
- Time investment ± 1 hour
- According to intention-to-treat principle
- Data stored anonymously
- Key only available to research team
Outcome variables

- Study success
  - Study success
  - Successful vs. non-successful
  - Study pace
  - Grades

- Additional subjective measure
  - Life satisfaction

ALOUD (current status)

- 4945 starting OU students invited
  - First measurement:
    - 2041 students completed the survey (41.19%)
  - Second measurement:
    - 1044 students completed the survey (51.15%)
    - not finished yet

ALOUD preliminary baseline data

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Categories</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational level</td>
<td>High</td>
<td>82.3</td>
</tr>
<tr>
<td>Sex</td>
<td>Female</td>
<td>61.8</td>
</tr>
<tr>
<td>Nationality</td>
<td>Dutch</td>
<td>88.3</td>
</tr>
<tr>
<td>Age (mean ± sd, range)</td>
<td>38.4 ± 11.3, 18-81</td>
<td></td>
</tr>
<tr>
<td>Working situation</td>
<td>Full-time</td>
<td>48.5</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>35.7</td>
</tr>
<tr>
<td></td>
<td>Not</td>
<td>14.8</td>
</tr>
<tr>
<td>Living situation</td>
<td>With parents</td>
<td>10.9</td>
</tr>
<tr>
<td></td>
<td>Alone</td>
<td>20.9</td>
</tr>
<tr>
<td></td>
<td>Alone + kids</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>Partner</td>
<td>29.4</td>
</tr>
<tr>
<td></td>
<td>Partner + kids</td>
<td>35.2</td>
</tr>
</tbody>
</table>

ALOUD preliminary results study success (12 months)

<table>
<thead>
<tr>
<th>Determinant</th>
<th>No study success Mean ± SE</th>
<th>Any study success Mean ± SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>38.0 ± 0.32</td>
<td>36.9 ± 0.35</td>
</tr>
<tr>
<td>Sex (%female)</td>
<td>61.7 ± 0.32</td>
<td>61.9 ± 0.32</td>
</tr>
<tr>
<td>Nationality NL (%)</td>
<td>87.7 ± 0.32</td>
<td>89.2 ± 0.32</td>
</tr>
<tr>
<td>Working hours</td>
<td>27.5 ± 0.47</td>
<td>26.0 ± 0.53</td>
</tr>
<tr>
<td>Educational level (%high)</td>
<td>78.8 ± 0.47</td>
<td>86.6 ± 0.53</td>
</tr>
<tr>
<td>Study motive prof (%)</td>
<td>41.2 ± 0.47</td>
<td>43.0 ± 0.53</td>
</tr>
<tr>
<td>Study progress (%modules)</td>
<td>0 100%</td>
<td>1 22%</td>
</tr>
<tr>
<td></td>
<td>2 37.4%</td>
<td>3 14.4%</td>
</tr>
<tr>
<td></td>
<td>&gt;3 28%</td>
<td></td>
</tr>
<tr>
<td>Expected hour investment</td>
<td>11.4 ± 0.21</td>
<td>13.4 ± 0.26</td>
</tr>
</tbody>
</table>

Added value

- First study to identify determinants of successful and unsuccessful formal adult learning in distance education
- New insights in the biological and psychological determinants for learning in lifelong perspective and change within the individual
- Identification of risk and safety factors for learning potential of older adults
- Enable society to create conditions in which adults can develop in an optimal way
- Basis for effective learning strategies to optimize current learning programs -> tailor-made
Future studies

- Start a new ALOUD II cohort to evaluate the new educational model introduced since September 2014
- More long-term follow-up of the current cohort
- Comparison with other open universities?
- Comparison with commercially available distance education providers

Ultimate goal

- Creating a knowledge base for the development of an intervention which leads to better study success and overall long-term efficacy

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Thanks for your attention