Sedentary Behaviour and Obesity in Young Adult Australians: A Social Cognitive Approach

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Physical inactivity contributes to 6,400 deaths per annum from coronary heart disease, non-insulin dependent diabetes mellitus and colon cancer, and 2,200 more deaths due to other conditions, including breast cancer and stroke (ABS 2006b).

2004/5, 29% of all Australians 18-24 either overweight or obese, an increase of 7%+ on the 1995 figure of 21.8% (ABS 2006a).

2004/5, 57.2% of males and 71.3% of females 18-24 below recommended physical activity guidelines of 30 mins of moderate intensity exercise on most days of the week, an increase of 3.4% and 2.6% respectively from 1995 (ABS 2006a).

In other words; too heavy and not active enough.

Intervention strategies needed: increase physical activity, reduce physical inactivity
Sedentary Behaviour ...


- Also travelling in motorised transport, occupational inactivity, reading, homework, sitting and talking to friends, using the telephone, cognitive hobbies and listening to music (Murdie et al. 2004; Marshall et al. 2002; Hardy et al. 2006; IPAQ 2005).

- SB displaces physical activity and can lead to obesity (Dietz and Gortmaker 1985; Salmon, Campbell and Crawford 2006; Lowry et al. 2002; Caroli et al. 2004; Olds, Ridley and Dollman 2006).
Aim and Role of Theory

- Aim: to explore the links between sedentary behaviour and obesity using Social Cognitive Theory (SCT) as a framework.
- SCT considers interaction of personal factors, behaviour, and the environment.
- SCT focuses on promotion of effective self-management of health habits that keep people healthy through their lifespan (Bandura 2004, 2005).
- People need self-management skills and self-beliefs to take charge of their health habits.
- Rather than health communications with the emphasis on scaring people into good health.
- Provides guidance for effective interventions.
Research Question and Hypotheses

What are the factors that influence sedentary behaviours in young adult Australians?

H1: Lifestyle characteristics (physical activity) significantly positively influence perceptions of self-regulation, outcome expectancies, self-efficacy and knowledge.

H2: Personal characteristics (age, gender and BMI) significantly negatively influence perceptions of self-regulation, outcome expectations, self-efficacy and knowledge.
Study Method

• Literature review
• Questionnaire developed: expert panel reviews and pre-testing.
• Self-administered, various locations: campus of an Australian regional university, + number of locations in the community.
• Total of 310 questionnaires were obtained for data analysis.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Subgroup</th>
<th>Level of Participation in Sedentary Activities</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low (&lt;4hrs) n &amp;%</td>
<td>Moderate (4-10hrs) n &amp;%</td>
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<tr>
<td>Age</td>
<td>18</td>
<td>10 12.5</td>
<td>47 58.8</td>
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<tr>
<td></td>
<td>19</td>
<td>8 14.5</td>
<td>28 50.9</td>
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<tr>
<td></td>
<td>20</td>
<td>9 16.4</td>
<td>37 67.3</td>
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<tr>
<td></td>
<td>21</td>
<td>13 16.4</td>
<td>29 59.2</td>
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<td></td>
<td>22</td>
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<td></td>
<td>24</td>
<td>4 16.7</td>
<td>14 58.3</td>
</tr>
<tr>
<td>Gender</td>
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<td>64 58.7</td>
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<tr>
<td></td>
<td>Female</td>
<td>39 19.4</td>
<td>114 56.7</td>
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<tr>
<td>BMI</td>
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<td>2 14.3</td>
<td>8 57.1</td>
</tr>
<tr>
<td></td>
<td>Normal Weight</td>
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<td>122 58.9</td>
</tr>
<tr>
<td></td>
<td>Overweight</td>
<td>9 17.3</td>
<td>29 55.8</td>
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<tr>
<td></td>
<td>Obese</td>
<td>3 14.3</td>
<td>10 47.6</td>
</tr>
<tr>
<td></td>
<td>Not Reported</td>
<td>4 25</td>
<td>9 56.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>56 18.1</td>
<td>178 57.4</td>
</tr>
</tbody>
</table>
Findings

- **Physical Activity and Screen Time**: 85%+ respondents met minimum levels of physical activity per week, 34.5% exceeded.
- 80% respondents above Australian guideline of no more than two hours per day of electronic media use for entertainment purposes (ABS 2006a).
- **Television Viewing**: respondents participated in 2 hours and 10 minutes per day of television viewing (SD = 1.68), the level increased with total level of sedentary behaviour participation.
- **Video Games**: respondents played video games for 17 minutes per day (SD = 0.83), the level increased with total level of sedentary behaviour participation.
- **Computer Use**: respondents used the computer for leisure for 2 hours per day (SD = 1.99), the level increased with total level of sedentary behaviour participation.
- **Other Sedentary Activities**: OSA included using a mobile phone, personal digital media organisers, going to the cinema, or reading. respondents participated in 3 hours and 20 minutes per day on these activities (SD = 2.21). The level increased with total level of sedentary behaviour participation.
Findings

H1: lifestyle characteristics (physical activity) significantly positively influence perceptions of self regulation, outcome expectancies, self-efficacy and knowledge.

Participatory levels of physical activity were positively associated with higher mean scores of TV and video self efficacy and lower mean scores of other sedentary activity goal commitment. **Hypothesis one partially supported**.

H2: personal characteristics (age, gender and BMI) significantly negatively influence perceptions of self regulation, outcome expectations, self-efficacy and knowledge.

Personal characteristics: no significant difference of mean scores on SCT constructs. Age associated with higher mean scores of TV goal commitment, but no significant differences found amongst groups. **Hypothesis two not supported**.

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Conclusions

SCT suggests 3 levels of influence based on an individual’s self-management capabilities and motivational preparedness for behavioural change:

1. Knowledgeable, high sense of efficacy and positive outcome expectation for behaviour change: can evoke personal change with minimal guidance.

2. Knowledgeable, but self doubts about efficacy and the likely benefits of efforts, therefore make sub-standard efforts to change and are quick to give up when faced with impediments.

3. Believe that health habits are beyond personal control. Need significant amount of personal guidance in structured mastery program such as those provided by self-management programs that use progressive successes to build self-efficacy and self-control (Bandura 2004, 2005).

- People with higher levels of sedentary behaviour have lower self efficacy, knowledge, belief that the various outcomes for behavioural change will occur, place less importance on achieving those outcomes, and have limited self regulation, fall under the second level.
QUESTIONS?