Theory of Planned Behaviour Incorporating Expectations and Anticipated Emotions in Prediction of Student Exercise Intentions.

Dr Garry Prentice, DBS Research Day
Objectives

Experimentally examine the impact of anticipated regret & exercise outcome expectancies on exercise intentions

Identify gender differences, if any

Examine the explanatory power of the Theory of Planned Behaviour

Use a hypothetical case study
**Background**

**Anticipated Regret**

Important in intention formation? (Abraham & Sheeran, 2004)

**Exercise expectations**

Physical, Social & Self-evaluation; older population

**The experiment**

Saliency intervention

**Gender**

An important role in exercise intentions/behavior?
Method

Participants
Females (N=60), Males (N=21)
Experimental (N=44), Control (N=37)

Design
Online questionnaire, cross-sectional...

Measures
Theory of Planned Behaviour Questions (Ajzen)
Multidimensional Outcome Expectations for Exercise Scale (Wojcicki, White & McAuley, 2009)
Godin Leisure-Time Exercise Questionnaire (Godin, 2011)
## Jennifer’s anticipated regret

### 7 out of 10 (F=6.7, M=6.9)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I did not exercise at least a few times in the next week, I would feel regret.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>If I did not exercise at least a few times in the next week, I would feel upset.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Possible range (2-10) Midpoint = 6
Jennifer’s physical outcome expectation

25 out of 30 (F=27.1, M=27.1)

<table>
<thead>
<tr>
<th>Exercise will improve my ability to perform daily activities</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

| Exercise will improve my overall body functioning           | 1                 | 2       | 3      | 4     | 5              |

| Exercise will strengthen my bones                           | 1                 | 2       | 3      | 4     | 5              |

| Exercise will increase my muscle strength                   | 1                 | 2       | 3      | 4     | 5              |

| Exercise will aid in weight control                        | 1                 | 2       | 3      | 4     | 5              |

| Exercise will improve the functioning of my cardiovascular system | 1                 | 2       | 3      | 4     | 5              |

Possible range (6-30) Midpoint = 18
Jennifer’s social outcome expectation
10 out of 20 (F=12.0, M=12.5)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

| Exercise will improve my social standing | 1 | 2 | 3 | 4 | 5 |
| Exercise will make me more at ease with people | 1 | 2 | 3 | 4 | 5 |
| Exercise will provide companionship | 1 | 2 | 3 | 4 | 5 |
| Exercise will increase my acceptance by others | 1 | 2 | 3 | 4 | 5 |

Possible range (4-20) Midpoint = 12
Jennifer’s self-evaluation outcome expectation

21 out of 25 (F=22.3, M=22.0)

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise will help manage stress</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Exercise will improve my mood</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Exercise will improve my psychological state</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Exercise will increase my mental alertness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Exercise will give me a sense of personal accomplishment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Possible range (5-25) Midpoint = 15
Jennifer’s
29 out of 35
(F=26.9, M=28.4)

24. For me to exercise for a few times a week, would be:

<table>
<thead>
<tr>
<th></th>
<th>bad</th>
<th>good</th>
<th>boring</th>
<th>exciting</th>
<th>unenjoyable</th>
<th>enjoyable</th>
<th>unpleasant</th>
<th>pleasant</th>
<th>inconvenient</th>
<th>convenient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible range</td>
<td>(5-35) Midpoint = 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Jennifer’s

11 out of 21
(F=10.1, M=10.1)

Most people who are important to me think that

<table>
<thead>
<tr>
<th>I should</th>
<th>not</th>
<th>I should</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

exercise a few times a week, during my leisure time.

It is expected of me that I should exercise a few times a week, during my leisure time.

Strongly disagree: 1 2 3 4 5 6 7: Strongly agree

I feel under social pressure to exercise a few times a week, during my leisure time.

Possible range (3-21) Midpoint = 12

Strongly disagree: 1 2 3 4 5 6 7: Strongly agree
Jennifer’s

20 out of 28
(F=20.5, M=22.3)*

I am confident that I could exercise for a few times a week, during my leisure time.

Strongly disagree: ___ ___ ___ ___ ___ ___ ___: Strongly agree

For me to exercise for a few times a week, during my leisure time, is

Difficult: ___ ___ ___ ___ ___ ___ ___: Easy

Whether or not I exercise a few times a week, during my leisure time, is entirely up to me.

Strongly disagree: ___ ___ ___ ___ ___ ___ ___: Strongly agree

I have very little power over my ability to exercise for a few times a week, during my leisure time.

Strongly agree: ___ ___ ___ ___ ___ ___ ___: Strongly disagree

Possible range (4-28) Midpoint = 16
I expect to exercise for a few times a week, during my leisure time.

Strongly disagree: _1 : _2 : _3 : _4 : _5 : _6 : _7 : Strongly agree

I want to exercise for a few times a week, during my leisure time.

Strongly disagree: _1 : _2 : _3 : _4 : _5 : _6 : _7 : Strongly agree

I intend to exercise for a few times a week, during my leisure time.

Strongly disagree: _1 : _2 : _3 : _4 : _5 : _6 : _7 : Strongly agree

Possible range (3-21) Midpoint = 12
Jennifer’s Strenuous(x9)=36, Moderate(x5)=10, Mild(x3)=6, Total Units=52
(Females: S=17.7, Mod=13.9, Mild=10.2, Total=41.8)
(Males: S=18.4, Mod=17.1, Mild=10.3, Total =45.9)

Possible ranges: Strenuous (0-63), Moderate (0-35), Mild (0-21), Total (0-119)

During a typical 7-day period (a week), how many times on the average do you do the following kinds of exercise for more than 15 minutes during your free time (write on each line the appropriate number).

<table>
<thead>
<tr>
<th>Possible ranges: Strenuous (0-63), Moderate (0-35), Mild (0-21), Total (0-119)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>32.</strong> STRENUOUS EXERCISE (HEART BEATS RAPIDLY) (e.g., running, jogging, hockey, rugby, football, soccer, squash, basketball, judo, roller skating, vigorous swimming, vigorous long-distance bicycling)</td>
</tr>
<tr>
<td><strong>33.</strong> MODERATE EXERCISE (NOT EXHAUSTING) (e.g., fast walking, baseball, tennis, easy bicycling, volleyball, badminton, easy swimming, dancing)</td>
</tr>
<tr>
<td><strong>34.</strong> MILD/LIGHT EXERCISE (MINIMAL EFFORT) (e.g., yoga, archery, fishing from river bank, bowling, golf, easy walking)</td>
</tr>
</tbody>
</table>
Exercise Intentions

- Attitude: 0.19
- Subjective Norm: -0.02
- Control: 0.14
- Anticipated Regret: 0.34**
- Physical expectation: 0.04
- Social expectation: -0.07
- Gender: -0.17
- Experimental vs control: 0.02
- Self-evaluation expectation: 0.30*

R² = 0.43
Control

Exercise Intentions

Anticipated Regret

Total Exercise Units

Physical expectation

Social expectation

Self-evaluation expectation

R² = .24

.19

.27*

.38**

-.06

-.26*

-.12

.06

.12

Experimental vs control

Gender
Conclusions & Future Directions

Gender: Males significantly higher in relation to control

TPB: Intentions & behaviour link

The experiment: Saliency might result in exaggeration

Anticipated regret: Positively influences intentions & behaviour

Expectations: Self-evaluation & social outcome expectations have roles

The future: Larger scale study, health promotion appeals, case study