Psychological theories underpinning clinical interventions to change behaviour

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Financial Interest Disclosure
(over the past 24 months)

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I have no conflict of interest
Goals for today

• Provide an introduction to theories of behaviour change
  - Social cognitive theory (self-efficacy)
  - Self-determination theory (intrinsic/extrinsic motivation)

• Introduce psychological/motivational mediators of intervention to behaviours
  - Self-efficacy
  - Forms of regulation (motivation)

• Understand mediation by motivation
  - Intervention → motivation → behaviour

• Translating intentions into sustained long-term behaviour
Changing behaviour in patients:

- Exercise
- Pharmacological management
  - Inhaler use & technique
  - Action plans
- Smoking cessation
- Exacerbation cue avoidance
- Dyspnea management
- Oxygen use
- Theory can apply to all of these conditions
“An aspirin a day will help prevent a heart attack if you have it for lunch instead of a cheeseburger.”
Our target behaviour: Exercise adherence

Steven Blair has written ‘we know what it takes to make people fit’

…. We also know ..... People won’t do that

• less than 5% of Canadian adults engage in enough physical activity to reduce disease risk (Colley et al, 2011).
• Tom Baranowski has attested that interventions have been notoriously ineffective in producing long-term behavioural change (Baranowski, 2006)
• This failure of interventions has largely been attributed to poor or no use of theories
• 6 months after rehab, most patients have regressed to their baseline activity and fitness levels
“The handle on your recliner does not count as an exercise machine.”
Theoretical perspective one

Social Cognitive Theory (Bandura, 1986; 1997)

Comprises

• Self-efficacy

• Outcome expectations
Conceptual model: (what people have in their head before they undertake a behaviour)

Person → Behaviour → Outcome

Efficacy beliefs → Outcome Expectancies

- Physical
- Social
- Self-evaluative
Self-efficacy is a robust predictor of behaviour

- Self-efficacy is a robust predictor of behaviour in a variety of contexts

- Bandura (1997) says “perceived self-efficacy is a judgment of one’s ability to organize and execute given types of performances, whereas an outcome expectation is a judgment of the likely consequences such performances will produce”.

- Self-efficacy – situation specific behavioural self-confidence

- Many studies have shown that higher SE is associated with higher exercise intentions and behaviour
How specific should SE be?

Confidence for performing the required behaviours

**TASK** – doing the exercises themselves
- This is easiest

**SCHEDULING** – arranging our schedules to exercise regularly
- This is more difficult
- This requires planning

**COPING** – managing barriers to exercise
- This is most difficult
- This requires anticipating the barriers
- This requires dealing with the most frequent barriers

Rodgers & Sullivan, 2001; Rodgers et al, 2008
Some other types proposed:

“scheduling” (Woodgate & Brawley, 2008)

“maintenance SE” and “recovery SE” (Luszczynska & Sutton, 2006)

“task SE” (Millen & Bray, 2008; Scholtz, Sniehotta, & Schwarzer, 2005)

“barrier” (Blanchard, Rodgers, Courneya, Daub & Knapik, 2002)

There is widespread agreement that something in addition to ‘confidence for performing the elemental task’ is important
I think I can!

What does ‘exercising regularly’ mean?

• **Focus has been on ‘doing’ the exercise**
  • A task focus
  • Performing the required movements

• **Generally – a failure to focus on what else is required**
  • Managing our schedule
  • Coping with barriers

• **There is a need to be context specific**
  • For example ….
Table 3 MALES

Correlations for LTEQ, 6MWT, and Self-Efficacy Sub-types as a Function of Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>COPD patients</th>
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<td>.63*</td>
<td>.43*</td>
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<td>2. Coping SE</td>
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<td>.09</td>
<td>.26</td>
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<td>5. 6MWT</td>
<td>.26</td>
<td>.14</td>
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Note. Bivariate correlations for male COPD participants (n = 31/36) are presented in bold above the diagonal, and bivariate correlations for male/female cardiac participants (n = 31/36) are presented below the diagonal. LTEQ = Leisure time exercise questionnaire, 6MWT = 6-minute walk test, SE = self-efficacy. * = p < .05, + = p < .01.
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When the going gets tough ....

....The tough fall off the rails
The little engine who could, but decided not to.

Ah, to heck with it!
An example from cardiac rehabilitation:

Beginning → End of CR → 1 month

Of CR (8 weeks) post-CR

Summary of Correlations and Regression Analyses for Self-Efficacy Variables Predicting Subsequent Exercise Behavior (N=65)

<table>
<thead>
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<th>End of CR SE predicting exercise 1-month post-CR</th>
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Note. * \( p < .05 \). ** \( p < .01 \). *** \( p < .001 \).

Rodgers, Murray, Selzler, & Norman, 2013
In the rehabilitation setting:

- Support from staff
- Support and connection to other participants
- Safe, well maintained environment
- Scheduled sessions
Post-rehabilitation

• No staff
• Where to exercise?
• When to exercise?
• What to do when the exercise is uncomfortable?
• How to overcome barriers
  • Illness
  • Weather
  • Lack of facilities
  • Lack of motivation
The little engine that obviously couldn't.
Practical implication

• Confidence that we “can do the task” seems to develop an intention

• Day to day activities such as schedule conflicts and overcoming adverse circumstances are most related to whether the intention ever translates to behavior

• Consistent with original propositions of Bandura that it’s not so much the skills we have but what we think we can do with them that will predict behavior
What do we mean by mediation?

Intervention → motivation → behaviour

Rehab → task self-efficacy → exercise during rehab

Rehab → coping self-efficacy → exercise

We need to know the effects of our intervention to understand its’ influence on behaviour.

The intervention has to address confidence and motivation for the behaviour we want – which is sustained independent exercise after rehab is over.
Theoretical approach 2: Self-determination theory

Concerns 2 main determinants of motivation:
• Satisfaction of psychological needs
  - Competence
  - Autonomy
  - Relatedness
• Motivational regulations
  - Amotivation
  - Extrinsic
  - Introjected
  - Identified
  - Integrated
  - Intrinsic
These can be simplified

Why am I here?

Do I feel…

• Competent….. Connected ….. Like I chose to be here?

Do I feel

• the activities are relevant, important, and rewarding?

notice the absence of ‘fun’ here ….
Motivation: Starting up . . .

Why?
My doctor told me to
It’s good for me . . .
My wife/husband/children told me to . . .
It’s fun

• Unlikely ...
These are all motives
When motivation is external and controlled
Doing things because we think we ‘should’
Doing things because others want us to
Doing things because we will feel guilty if we don’t

Behavioural attempts will be weak and short-lived

Outcomes of the behaviour will be less favourable
Low feelings of satisfaction
Lack of positive affect (positive feeling states)
SCHOOLIES

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THIS WILL NEVER WORK. NONE OF US EVEN LIKE CARROTS.
Quality of motivation

When motivation is internal and non-controlled

- Doing things because you want to
- Doing things because you chose to
- Do things because you believe they are important
- Doing things because you feel good about yourself when you do

Behavioural attempts will be stronger – and more likely to endure

- Outcomes of the behaviour are more likely to be positive
  - Personal satisfaction
  - Feelings of positive affect
  - Persistence
In a recent study:

• Among 51 adults (mean age 43) who completed a 6 month exercise program
  
  • For the first 3 months:
    – Strong intentions to exercise regularly
    – Relatively even influence of type of motivation
  
  • For the second 3 months:
    – Behavioural intentions weaken
    – Strong influences of:
      • REDUCED guilt related motives (introjection)
      • INCREASED valuing of the activity (identification)
      • INCREASED association of exercise with the self (integration)
  
• Relatively little influence of intrinsic
  – Exercise is unlikely to be ‘fun’ and inherently satisfying
  – Focus on the value of exercise and developing an identity that includes ‘exercising’
What can we do about that?

• Find value in what they are doing
  – Do they value the health outcomes of exercise?
  – Do they even believe in the health outcomes?
• Find a link to identity
  – An ‘exerciser’?
  – A healthy person?
• External or extrinsic motives can be good to get us started
  – Looking better
  – Feeling better
  – Pleasing others
• ...but behaviour won’t last if we don’t find internal reasons to persist
When behaviour change – especially exercise - is demanding:
Initiates lose confidence in their ability to ‘organize and execute the required behaviours’

- Elemental aspects (task)
- Engaging in regular exercise (scheduling)
- Overcoming barriers (coping)
- They begin to think other kinds of activities will be easier than what they were assigned

When the motivation is controlled

- Participants/patients see little connection of the behaviour to what they want/value
- They experience no positive affect (e.g., satisfaction, pride, enjoyment) from the behaviours
- Controlled motivation will not sustain behaviour for the long term
Low task self-efficacy
Reciprocal determinism

- **Personal Determinants**
  - Behavioural Determinants
  - Environmental Determinants

“uplifting the whole people”