Overcoming the barriers to behaviour change in complex environments

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Plan

- Overview of behaviour change theories
- Behavioural factors in diabetes
- Current evidence base in indigenous Australians
- Where to from here?
In a complex environment, dealing with a multifaceted problem with individual, social, historical and cultural influences on behaviour and health, it is best to go back to basics.
+ Theory.......
Behaviour Change Theories

- **Learning Theories**
  - Emphasize that learning new complex pattern of behaviour (e.g., changing from a sedentary to active lifestyle) requires modifying multiple smaller behaviours that compose overall complex behaviour.

- **Using principles of behavior modification**
  - Identify desired & undesired behaviours.
  - Break down complex desired behaviour (e.g., exercising for 30 minutes daily = walk for 10 minutes for 3 days in a row, walk for 30 minutes in one day, jog for 30 minutes, etc.)
  - "Shape" the complex desired behaviour pattern (e.g., add 5 minutes to the daily walking each week).
  - Model the desired behaviour.
  - Reinforce desired behaviours through rewards:
    - Anticipated rewards = future rewards or consequences (e.g., looking & feeling better).
    - Extrinsic rewards (e.g., receiving praise and encouragement from others, receiving a T-shirt).
    - Intrinsic rewards (e.g., experiencing a feeling of accomplishment).
  - Desired behaviours must replace former undesirable patterns which can be used as cues:
    - Inactive behaviours that are often satisfying (e.g., watching television can cue walking).
    - Habitual behaviours (e.g., parking further rather than closer to work).
    - Behaviours cued by the environment can be reshaped (e.g., the presence of an elevator can cue walking up stairs; peer group pressure to drink alcohol can cue non-alcoholic drink; culture-bound feasting can cue controlled eating).
Behaviour Change Theories

Caveats of behavior modification principles

- rewards are culturally-determined
- praise from models, mentors, elders, etc. may be culturally more rewarding
- modeling by respected figures, mentors, elders, etc. is more effective
- principle of state-dependent learning means that we need to teach desired self-regulation skills in vivo (i.e. outreach programs)
  - go to places where people live & frequent to teach desired skills
    - train self monitoring in real situations (not in pristine clinical contexts)
  - teach/train group not just individual
  - deal with need for self-monitoring in context of negative affective & other states (anger, intoxication, shame, etc.)

- need to deal with gender-related issues
  - e.g., males vs females may require different strategies & present with different risk situations

- with complex & numerous undesirable behaviours, clinical decision-making is difficult (Where do you start?)
Health Belief Model

- stipulates that a person's health-related behaviour depends on their perception of four critical areas:
  - the severity of a potential illness,
  - the person's susceptibility to that illness,
  - the benefits of taking a preventive action, and
  - the barriers to taking that action

- The model also incorporates cues to action (e.g., leaving a written reminder to oneself to walk) as important elements in eliciting or maintaining patterns of behavior.

- The construct of self-efficacy, or a person's confidence in his or her ability to successfully perform an action has also been added to the model

- Notions of self-efficacy are culture bound
Behaviour Change Theories

Trans-theoretical Model

- Conceptualizes behaviour change as a 5-stage process or continuum related to a person's readiness to change
  - Precontemplation
  - Contemplation
  - Preparation
  - Action
  - Maintenance

- People progress through these stages at varying rates, moving back & forth along the continuum before attaining desired goal

- These stages of change are best characterised as spiraling or cyclical rather than linear

- People use different processes of change as they move from one stage of change to another

- Efficient self-change depends on attempting change at the right time

- Tailoring interventions to match a person's readiness or stage of change is essential. E.g., for people who are not yet contemplating becoming more active, encouraging a step-by-step movement along the continuum of change may be more effective than encouraging them to move directly into action.

- Stages & process of change may be culture-bound
Behaviour Change Theories

Relapse Prevention Model

Some researchers use concepts of relapse prevention to help those who have acquired a new complex behaviour (e.g., exercise) anticipate problems with longer-term adherence.

Factors that contribute to relapse include:
- negative emotional or physiologic states
- limited coping skills
- social pressure
- interpersonal conflict
- limited social support
- low motivation
- high-risk situation
- stress

Principles of relapse prevention include:
- identifying high-risk situations for relapse (e.g., change in season)
- developing appropriate solutions (e.g., finding a place to walk inside during the winter)
- helping people distinguish between a lapse (e.g., a few days of not participating in their planned activity) and a relapse (e.g., an extended period of not participating) also improve adherence.

Triggers of relapse are determined socioculturally & idiosyncratically.
Behaviour Change Theories

- **Theory of Reasoned Action and Theory of Planned Behaviour**
  - Individual performance of a given behaviour is primarily determined by a person's intention to perform that behaviour.
  - This intention is determined by two major factors:
    - The person's attitude toward the behaviour (i.e., beliefs about the outcomes of the behaviour and the value of these outcomes) and
    - The influence of the person's social environment or subjective norm (i.e., beliefs about what other people think the person should do, as well as the person's motivation to comply with the opinions of others).
  - The theory of planned behaviour adds to the theory of reasoned action the concept of perceived control over the opportunities, resources, and skills necessary to perform a behaviour.
    - The concept of perceived behavioural control is similar to the concept of self-efficacy -- a person's perception of his or her ability to perform the behaviour.
    - Perceived behavioural control over opportunities, resources, and skills necessary to perform a behaviour is believed to be a critical aspect of behaviour change processes.
  - There is evidence of differences in health behaviour motivations cross-culturally (cf collectivist versus individualist cultures).
+ Only a bit more to go........

This is the interesting bit....I promise!
**Behaviour Change Theories**

**Social Learning/Social Cognitive Theory**

- proposes that *behaviour change is affected by environmental influences, personal factors, and attributes of the behavior itself*. *Each factor may affect or be affected by the others.*

- a person must *value* the outcomes or consequences that he or she believes will occur as a result of performing specific behaviour/action

  - immediate benefits (e.g., feeling energized following physical activity) or long-term benefits (e.g., experiencing improvements in cardiovascular health).

- the *concept of self-efficacy* is central in this theory. i.e., a person must believe in his or her capacity to perform the behaviour and must perceive an incentive to do so

  - the person's *positive expectations* from performing the behaviour must outweigh the negative expectations

  - *self-efficacy can be increased* by providing clear instructions, providing the opportunity for skill development or training, and modeling the desired behavior.

- To be effective, “models” or “mentors” must evoke trust, admiration, respect and a sense of attainability from the observer; i.e., models must appear to represent a level of behavior that the observer is able to visualize attaining.
Social Support Model

Social support is often associated with health behaviors such as physical activity, and is frequently used in behavioural and social research.

There is, however, considerable variation in how social support is conceptualized and used.

Social support can be
- **Instrumental** (e.g., giving a nondriver a ride to an exercise class)
- **Informational** (e.g., telling someone about a diabetes program in the community)
- **Emotional** (e.g., calling to see how someone is faring with their new exercise program)
- **Appraising** (providing feedback and reinforcement as someone makes healthier choices when eating or shopping at the supermarket)

Sources of support (e.g., for physical activity) include family members, friends, neighbors, elders, co-workers, and exercise program leaders and participants.
Behaviour Change Theories

Ecological Approaches

- Most models of behavior change emphasize individual behavior change process with little attention to sociocultural & physical environmental influences on behaviour.

- Ecological approaches place the creation of supportive environments on a par with the development of personal skills & the reorientation of services.
  - E.g., physical activity could be promoted by establishing bike paths, parks; improved nutrition through community gardens; community walking groups, bush tucker hunting, etc.

- A theme of ecological perspectives is that effective interventions occur on multiple levels.
  - E.g., influence of intrapersonal, interpersonal & group, institutional, community, and public policy influences on health behaviors.
  - Possible consideration of three levels (individual, organizational, and governmental) in four settings (schools, worksites, health care institutions, & communities).

- Interventions that simultaneously influence multiple levels and multiple settings can be expected to lead to greater changes and maintenance of existing health-promoting habits.

- This is a promising area for the design of interventions for complex environments.
### Summary

- Some similarities can be noted among the various models used to understand and enhance health behaviors.

- Many of the theoretical approaches highlight the **role of the perceived outcomes of behaviour**, although different terms are used for this construct, including perceived benefits and barriers (health belief model) and outcome expectations (social cognitive theory and theory of planned behavior).

- Several approaches also emphasize the **influence of perceptions of control over behavior**; this influence is given labels such as self-efficacy (health belief model, social cognitive theory) and perceived behavioral control (theory of planned behavior).

- Other theories and models feature the **role of social influences**, as in the concepts of observational learning (social cognitive theory), perceived norm (theory of reasoned action and theory of planned behavior), social support, and interpersonal influences (ecological perspective).

- Most of the theories and models, however, do not address the **influence of the environment** on health behavior.

- Complex theoretical formulations are required to effect behavioural change in complex environments.
A complex model of health behaviour change

Sociocultural, historical & environmental influences

Knowledge & cognitions
- Condition-specific knowledge
- Personal perspectives
  - self-efficacy
  - outcome expectancy
  - need for control
  - goal congruence

Self regulation skill & ability
- Goal setting
- Self-motivating & reflective thinking
- Decision making
- Planning & plan enactment
- Self-evaluation
- Management of emotional response

Social Facilitation
- Influence
- Support
  - Emotional
  - Instrumental
  - Informational
  - Appraisal

Multifaceted Stress

Outcomes

Proximal

Distal

Engagement in self-management behaviour

Health Status

Health Status
The health of indigenous Australians: The story so far.....

- Indigenous Australians experience a disproportionately greater burden of harm from smoking, poor nutrition, alcohol misuse & physical inactivity than the general Australian population.

- For instance, compared with non-Indigenous Australians, Indigenous Australians are between two and seven times more likely to die from a tobacco-related disease (Unwin et al., 1995; Arnold-Reed et al., 1998; Condon et al., 2004), be hospitalized for an alcohol-related condition (Commonwealth Department of Health and Human Services, 1996; Chikritzhs and Brady, 2006) and develop an obesity-related disease (NHMRC, 2002).

- The incidence of diabetes in these Indigenous Australians is nearly four times higher than for the non-Indigenous population and 50% higher than the incidence reported 10 years ago in Australian Aboriginals (McDermott et al., MJA 2010; 192, 562-565).

- The reasons for the increasing impact of non-communicable and chronic disorders and their complications in Australia’s Indigenous population are extremely complex.
The health of indigenous Australians: Why diabetes?

There are prehistorical, historical, cultural, socioeconomic & political dimensions that have influenced the health of Indigenous Australians.

- Traditionally, Indigenous Australians were hunter–gatherers who had adapted physiologically to their environment.
- Following rapid changes in social & physical environments, with little time for adaptation, we now seeing the effects of intergenerational stress.
- Furthermore, the effects of multiple adverse health-related behaviours and social disadvantage are additive with respect to mortality and negative social impacts on individuals, families and communities.
- The limited access to quality health care and disease prevention and health promotion programs exacerbates the effects of chronic degenerative disorders that are insidious in onset.
Behavioural & other risk factors

- Programs to deal with the following issues exist or are possible
  - Poor nutrition/“Westernised” diets and lifestyles/Limited access to affordable and nutritious foods
  - Poor understanding of health and nutrition
  - Decline in physical activity & sedentary lifestyle
  - Excessive alcohol consumption
  - Cigarette smoking
  - Poverty
  - Inferior housing/Severe overcrowding/Poor standards of domestic and community hygiene
  - Educational disadvantage
  - High unemployment rates
  - Lack of employment options
  - Racial discrimination
  - Social alienation/Fewer options for social inclusion
  - Lack of opportunities to develop strong sense of cultural identity
  - Low self-esteem & self-efficacy

- The effectiveness of existing or potential programs is dependent on how appropriately knowledge about indigenous Australians is incorporated
Back to theory……what do we know?……

Knowledge & cognitions
• Condition-specific knowledge
• Personal perspectives
  • self-efficacy
  • outcome expectancy
  • need for control
  • goal congruence

Self regulation skill & ability
• Goal setting
• Self-motivating & reflective thinking
• Decision making
• Planning & plan enactment
• Self-evaluation
• Management of emotional response

Social Facilitation
• Influence
• Support
  • Emotional
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  • Informational
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Multifaceted Stress

Outcomes
Proximal
Distal

Engagement in self-management behaviour

Health Status

Sociocultural, historical & environmental influences
There are large gaps in our knowledge or utility of knowledge with respect to Indigenous Australians

Beliefs/perceptions & knowledge/traditional practices – need for greater knowledge about beliefs/perceptions/traditional practices regarding eating, exercise, health risk, health benefits, disease-specific information & management, signs of health deterioration, etc.

Little knowledge about specific effects of broader beliefs, e.g.,

Identity is often caught up with health-related behaviours/nutrition
In some instances, lack of community awareness about what is possible decreases expectations about possibilities & options
In other instances, overly aggressive programs may lead to unrealistically high expectations with little understanding of appropriate processes.

Need to determine how evidence-based approaches can be “packaged” in a culturally sensitive/appropriate manner

Urgent action to improve nutrition, decrease smoking and increase physical activity is required to improve metabolic fitness in younger indigenous people (McDermott et al., 2007, MJA, 186: 505–508)

Social supports

Given cultural relevance of collectivist notions, need to make greater use of social supports & effective social facilitation processes & resources
Capacity for self-management is often related to effective social support
There is a relative lack of an evidence-base with respect to factors which ought to be considered in developing interventions for indigenous health behaviours.
Going back to the model…..

- **Self management is related to identity, self-efficacy, & self-regulation**
  - **Identity** – sense of what one is, what is possible; need for models; need for integration of traditional and contemporary views of self
  - **Sense of self-efficacy** – need greater knowledge about construct of both general & disease-specific self-efficacy in indigenous groups
  - **Self-regulation strategies – gaps in knowledge**
    - Indigenous groups experience multiple stressors. What & how much effect of general levels of distress, anxiety, stress, etc. on self-regulation & health
    - RCT of a 6-month group-based diabetes prevention program, *The Healthy Living Course* in already at-risk prediabetic sample through primary care. We investigated biochemical, anthropometric and self-report behavioural, cognitive and mood changes. (Moore et al., 2010)
    - Significant improvements in diabetes knowledge, motivation to change, mood, healthy eating and activity levels, and reductions in weight, BMI, waist circumference, diastolic blood pressure and fasting plasma glucose in comparison with controls. The intervention group also changed their diagnostic status from pre-diabetes to non-diabetes at a greater rate than the wait group (43% versus 26%) who received standard care from GPs.
    - However, mood problems as baseline associated with some poorer behavioural & cognitive outcomes (Kyrios et al., 2009)
  - What emotional supports exist or are effective? Especially, with respect to specific disease or treatment processes
  - What existing individual & group characteristics or behavioural patterns & what contexts can be drawn on to facilitate positive outcomes?
  - How best to regulate related health behaviours (alcohol intake, tobacco, etc.)? Abstinence? Controlled behaviours? No data for indigenous groups.
Policy & programs

- Need to consider degree of input from relevant sources into policy development
- Facilitation and ownership of interventions by community members and organisations can be a feasible and effective way to achieve sustainable improvements in health behaviours and health outcomes
- There is a clear need for more indigenous-specific dissemination research targeting the uptake of secondary prevention and to establish reliable and valid tools for indigenous-specific health-care delivery, in order to determine which dissemination strategies are most likely to be effective in indigenous health-care settings and programs (Clifford et al., 2009, Health Promotion International, 24: 404-415)
Indigenous Lifescripts  (Reeve et al., 2008)

- Example of a clinical tool revised for use with people from an indigenous background
  - “Lifescripts” is a set of resources for use in general practice that addresses major risk factors for chronic disease and encourages promotion of lifestyle change in consultations with patients.
    - smoking
    - poor nutrition
    - alcohol misuse
    - physical inactivity
    - unhealthy weight

- After extensive consultation with Aboriginal health services, Lifescripts was revised to incorporate the stages of & readiness for change model.

- Motivational interviewing strategies encourage patients to move towards the next stage by weighing up the personal advantages & disadvantages of their behaviour, and setting personalised goals to enable them to make lasting lifestyle changes.
Alcohol

ASK

Would you like to talk about drinking alcohol?

NO — go to Not Ready below

YES — go to Assess

ALREADY HEALTHY — go to Staying Healthy

ASSESS

Alcohol assessment tool:

1. How often do you have a drink with alcohol in it?

<table>
<thead>
<tr>
<th>Never (0)</th>
<th>Monthly or Less (1)</th>
<th>2 to 4 times a month (2)</th>
<th>2 – 3 times a week (3)</th>
<th>4 or more times a week (4)</th>
</tr>
</thead>
</table>

2. How many standard drinks do you have on a typical day when you are drinking?

*See standard drinks picture

<table>
<thead>
<tr>
<th>1 or 2 (0)</th>
<th>3 or 4 (1)</th>
<th>5 or 6 (2)</th>
<th>7 to 9 (3)</th>
<th>10 or more (4)</th>
</tr>
</thead>
</table>

3. How often do you have 6 or more drinks on one occasion?

<table>
<thead>
<tr>
<th>never (0)</th>
<th>less than monthly (1)</th>
<th>monthly (2)</th>
<th>weekly (3)</th>
<th>daily or almost daily (4)</th>
</tr>
</thead>
</table>

Scoring:

Women

0—3  low-risk drinking
4—5  risk depends on other factors
≥ 6  risky or high-risk drinking

Men

0—3  low-risk drinking
4—6  risk depends on other factors
≥ 7  risky or high-risk drinking

Is the person ready to cut down on their drinking?

Not Ready

Unsure

Ready to Change

Staying Healthy
Alcohol

What is a standard drink?

- a can of light beer (375ml)
- a small glass of mid-strength beer (265ml)
- a small glass of wine (100ml)
- a single measure of spirits (30ml)

- a can of full-strength beer (375ml)
- a slab/carton of full-strength beer

- a 4-litre cask of wine
- a flagon of port
- a bottle of rum (700ml)

Not Ready to Change  Unsure  Sure  Keeping the Change
Indigenous Lifescrripts (Reeve et al., 2008)

- Having health workers from an indigenous background provide health promotion helps break down barriers so that information is provided in culturally appropriate ways.

- Programs involving whole family or community are more effective.

- Use community engagement, mobilisation & capacity building to focus on community’s strengths & assets so that sustainable change becomes possible.

- Consider:
  - Screening, risk assessment & preventative health plans for communities.
  - Register care plans & recall patients through appropriate channels.
  - Standardised management plans.
  - Use indigenous health workers.
Effectiveness of brief health interventions in indigenous populations

- Lifestyle choices are fundamentally influenced by the social & economic environment
- For health promotion to be effective, it MUST be culturally appropriate, culturally controlled, self determining and based on the collective goals of the indigenous communities.
- Need to balance individual behavioural models of health promotion WITH an emphasis on the social determinants of health & barriers to healthy behaviours
- Factors contributing to successful interventions
  - dedicated focus on the Indigenous population
  - widespread community involvement within the Indigenous population, often through the use of Indigenous community health workers
  - involve the whole family or community
  - support, participation, collaboration & control
  - provide information in culturally appropriate ways and, where possible, by Aboriginal health workers
  - community engagement, mobilisation and capacity building by focusing on community’s strengths & assets
  - a focus on high-risk individuals within the population
  - regularly scheduled contact between healthworkers and patients
Need to consider the Big Picture

- Broader determinants of health-related behaviour
  - Social advantage
  - Adequate housing
  - Education
  - Employment
  - Gender
  - Social & family stability
  - Access to relevant services
    - Medical
    - Social
    - Mental health
    - Nutritional
    - Parenting
    - Educational
    - etc.
  - Secure attachments (early developmental context/family/school)
  - Models of healthy living, behaviour & nutrition
  - Sense of identity
    - Early access to & acceptance of traditions, cultural models, etc.
  - Future developments to accommodate innovations
The future of treatment

THE TASK I MUST UNDERTAKE IS TOWERING OVER ME LIKE A GREAT BIG MONOLITH

IT IS TOO BIG TO CONTEMPLATE, I WILL GO AND HAVE A LITTLE LOOK AT THE INTERNET

weblogcartoons.com
+ **An example of the future of treatment:** [www.anxietyonline.org.au](http://www.anxietyonline.org.au)
The future of treatment

The National e-Therapy Centre

- www.anxietyonline.org.au
- Online assessment & triage available
- Two 12-module/week versions available
  - Automated
  - Therapist assist
- Treatments available for panic/agoraphobia, GAD, OCD, PTSD, SAD
- Treatments coming for depression, gambling, eating disorders, sleep problems, alcohol/substance use, BDD, compulsive buying, stress, chronic disease management, benzodiazepine use, etc.
- Provide online training for e-therapists, supervision of e-therapy
- A clinician portal is available to download tools
- Could be used as part of stepped care, integrated into services, adapted for use with specific groups via mobile phones, etc.
Online assessment & triage

ANXIETYONLINE
An initiative of the National eTherapy Centre

Online Psychological Assessment (e-PASS) Final Report

Explanation of Report and Definition of Key Terms

No symptoms were reported from the psychological disorders covered by this assessment program.

e-PASS Test Taker Information

Username: bklein@swin.edu.au
Date of e-PASS test: 2018-04-18 12:29:00
Gender: Unknown
Date of Birth:

Disclaimer: Please note this assessment has not undergone formal validation testing. Therefore this report should not replace a full clinical assessment conducted by a mental health professional and should not be considered a replacement for a formal assessment. These assessment results are only as accurate as the responses you provided and are only valid for this particular testing occasion and may also be influenced by the way the test was completed (e.g., noise, distractions, fatigue).
OCD Treatment

Welcome to OCD Stop!

Getting the most from this program
Wanting to get control over your obsessive compulsive disorder (OCD) is a great goal. You will find a range of strategies in this program that can help you achieve this.

The program has been designed to:
- Help you understand the nature of anxiety and OCD and
- Teach you strategies to help you overcome OCD, based on cognitive behaviour therapy (CBT)

This program has been designed in the following way:
- For you to work through the material at your own time, and at your own pace
- We recommend you set aside a couple of hours each week to work through the module and to practise the skills and strategies we discuss
- Each module contains a section called ‘offline task’ - this gives you some specific practice activities to build on the information in the modules. Practising these skills will enable you to achieve your goal of overcoming OCD

You have 12 weeks to complete the program, which contains 12 modules. It is recommended that you spend 1 week per module going through the online module and completing the offline activities.

Contact your therapist
OCD Treatment

Welcome to OCD Stop! > Introduction

Introduction to OCD Stop

This program uses a range of techniques to:

- Help you change your behaviour and thinking styles,
- Put you on the road to improving the management of your obsessive compulsive disorder (OCD)

In the following video, Professor Michael Kyrios tells you more about this 12 session internet-based treatment program for OCD which was developed by Professor Kyrios and his team at Swinburne University (Swin-PayChe Centre).
OCD Treatment

Kate's experience

Kate is married with two young children. She first started worrying about germs when she got pregnant. She then developed contamination concerns and cleaning compulsions which intensified after the birth of her daughter.

Watch the video to find out more about Kate's story.
Solutions for improving health in indigenous Australians require complex political, economic, & social changes, as well as health-related behavioural changes at the individual level. We all need to work together to effect such broader change.
Finishing up.......