

THE TRANSTHEORETICAL MODEL AND STAGES OF CHANGE

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What is it?

- A model which integrates a 'stages of change' concept with 'principles of change'
- Based on comparative analysis conducted among smokers who were trying to quit
- Prochaska and DiClemente noted that smokers used 10 different processes which could be linked a series of stages through which the behaviour change (quitting smoking) occurred

Core Constructs

- Stages of Change
- Processes of Change
- Decisional Balance
- Self-Efficacy

Stages of Change

Change is seen as a process that progresses through the following stages in a non-linear manner:

- **Precontemplation:** no intent of action in the next 6 months
- **Contemplation:** intent to change in the next 6 months
- **Preparation:** intent to change in the next month
- **Action:** 'overt' modifications in lifestyle made in the last 6 months
- **Maintenance:** working towards preventing relapse (6 months to 5 years)
- **Termination:** "zero temptation and 100% self-efficacy"

Processes of Change

Seen as the basis for intervention programming, processes of change are activities that help people move from one stage to the next:

- **Consciousness Raising:** increasing awareness (e.g. media campaigns, 'confrontations')
- **Dramatic Relief:** intensifying emotional experiences (e.g. role playing, testimonies)
- **Self Reevaluation:** assessing oneself with and without the unhealthy behaviour (e.g. values clarification, imagery)

Processes of Change (cont'd)

- **Environmental Reevaluation:** assessing how behaviour affects social environment (e.g. empathy training, family interventions)
- **Self-liberation:** believing that one can change (self-efficacy?) (e.g. New Year's resolutions, testimonies)
- **Social Liberation:** increased social opportunities for those who are oppressed (e.g. smoke free zones, minority health promotion)
- **Counterconditioning:** learning substitute behaviours (e.g. relaxation, nicotine replacement)

Processes of Change (cont'd)

- **Stimulus Control:** altering cues for a behaviour (e.g. avoidance, self-help groups)
- **Contingency Management:** rewards and punishments (e.g. contingency contract, recognition)
- **Helping Relationships:** support systems (e.g. rapport building, buddy system)

Relationship Between Stages and Processes of Change

Precontemplation	Contemplation	Preparation	Action	Maintenance
<ul style="list-style-type: none"> • Consciousness raising • Dramatic relief • Environmental reevaluation 				
<ul style="list-style-type: none"> • Self reevaluation 				
<ul style="list-style-type: none"> • Self liberation 				
<small>** Social liberation does not yet have a clear relationship with the stages</small>				<ul style="list-style-type: none"> • Counterconditioning • Helping relationships • Reinforcement management • Stimulus control

Decisional Balance

- Weighing the pros and cons of changing
- Usually done at the *contemplation* stage

Self-Efficacy

- Adapted from Bandura
- Confidence that the person will not revert back to the previous behaviour in difficult situations

Temptation: opposite of self-efficacy

- Common factors: emotional distress, positive social situations, and craving

Assumptions (as per author)

- Integrated model is needed to understand behaviour change
- Behaviour change is a series of methodical steps
- Stages can be stable or open to change
- Action-oriented intervention programs will not affect the majority of the population
- Specific processes at specific stages will lead to change

Empirical Support

- Many studies have used the TTM and Stages of Change to describe populations but some have tried to look at it's validity:
- Studies of 12 different behaviours on decisional balance:
- Mathematical relationship is seen between stage progression and pros and cons of changing
 - Pros of changing must increase 2x as much as cons decrease
- Process of Change
- Support found for the 10 processes for some behaviours but no mathematical relationship
 - Some behaviours didn't require all 10 processes

Applied Studies

- Communication interventions have heavily relied on the TTM (as per 2007 meta-analysis)
- Intervention studies: smoking cessation, diet, exercise, alcohol abuse, condom use, domestic violence offenders, organ donation, multiple behaviour changes
- RCT: stress management, medication adherence, bullying prevention
- Settings: primary care, home, churches, campuses, communities, worksites

Effect Size

- The effect size was found to be greater in communication interventions that included all constructs of the TTM
- Most studies, however, just use the stages of change
- Seems that the more constructs that are used – the higher the effect size

Challenging Studies

- Author (Prochaska!) seems to negate the importance of the challenging studies
- For example, smoking cessation has been shown to be better predicted by addiction variables (e.g. previous quits and number of cigarettes smoked) rather than the TTM
- Authors argue that the addiction variables also included elements of the TTM and that the TTM is able to provide intervention options whereas the number of cigarettes smoked is just a number
- Mismatching stages and processes has shown no difference (for smoking cessation)

Challenging Studies (cont'd)

- Reference made to Johnson and colleagues (2000) who show that better predictions are made:
 - At 6 months versus 12 months
 - With all change processes rather than just a few
- Other effects (at 24 months): severity, stage, treatment, and effort (Prochaska, 2008)
- Using stages has been proven to be ineffective by others
- Supportive research did not have intensive intervention in the control group

Case Application: Smoking Cessation

- Systemic approach to recruiting and retaining a high-percentage of the eligible population required to apply theory like TTM to entire at-risk population
- Programme should help participants progress through stages of change by applying corresponding process that tailors interventions to the needs of each individual at each stage



Case Application: Smoking Cessation

- **Recruitment**
 - Requires interventions that reach or recruit high percentages of smokers
 - Reactive versus Proactive Recruitment
 - Population impact = participation rate X rate of efficacy
 - TTM programmes shift outcomes from efficacy alone to impact
 - Resource Intensive. In example, recruitment involved:
 - ✦ Physicians
 - ✦ Nurse
 - ✦ Videotape
 - ✦ Health Educator
 - ✦ Proactive Counsellor

Case Application: Smoking Cessation

- **Retention**
 - Poor retention rates
 - Those in precontemplation are more likely to need drop-out prevention strategies
 - Do we have the tools, resources, care for the creation of such strategies?
 - Best strategy to promote retention is to match interventions to stages of change

Case Application: Smoking Cessation

- **Progress**
 - Direct relationship between amount of progress participants make and their stage at the start of intervention
 - Those in 'preparation' more successful than those in 'contemplation', who were more successful than those in 'precontemplation'
 - Professionals also have strategies that match needs of all patients – not just those ready to take action
 - Can make for a more fruitful, successful programme

Case Application: Smoking Cessation

- **Processes**
 - As we know, different processes of change need to be applied at different stages of change
 - 14 variables have been identified on which to intervene to accelerate progress across the first five stages of change
 - At any particular stage, maximum of six variables should be intervened upon
- **Outcomes**
 - Compared four treatments:
 - Home-based action-oriented cessation programme (standardized)
 - Stage-matched manuals (individualized)
 - Expert system computer reports plus manuals (interactive)
 - Counselors plus computers and manuals (personalized)

Case Application: Smoking Cessation

- **Outcomes with Diverse Groups**
 - Challenged stereotypes that some groups do not have the ability to change
 - Issue may not be ability to change, rather access to quality change programmes!
 - Such requires scientific and professional shift from:
 - An action paradigm to a stage paradigm
 - Reactive to proactive recruitment
 - Expecting participants to match needs of our programmes to having our programmes match their needs
 - Clinic-based to community based health behavioural health programmes that still apply individualized and interactive strategies
 - Assuming some groups do not have the ability to change to making sure that all groups have easy accessibility to evidence-based programmes

Multiple Behaviour Change Programmes

- Greatest challenge for the application of any theory is to keep raising the bar – to increase the impacts the theory has on health
- **Impact = Reach X Efficacy.** If 80% of population recruited, any produced increase in impact from increasing efficacy
 - Unable to increase cessation efficacy by using counselors, increasing, adding a hand-held computer, adding nicotine replacement therapy or telecounseling
- 60% of healthcare costs due to about 15% of population all of whom have multiple behaviour risks.
 - What does this mean for Ontario and our healthcare concerns?

Limitations and Assumptions

- Assumes that people want to change or would want to change if they knew better
- Treats people in each stage as if they are all the same
- Do people have to go through all stages?
- How do we know what stage someone is in?
- Why is there a time frame to each stage?
- Is this theory only applicable to states with a burden of non-communicable diseases? What about the rest of the world?
- Have not produced significant prevention effects
- Difficult to impact change amongst children and adolescents
 - At what age does intentional behaviour change begin?

Discussion Question

- A statement from the textbook (in the context of contingency management):

“Reinforcements are emphasized, since a philosophy of the stage model is to work in harmony with how people change naturally” (pg. 102)

Do you think this model reflects how people change ‘naturally’?