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Using and Making Models and Theories

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Section A

Theory-Based Models

Theory-Based Models

- ✦ Force field analysis
- ✦ Health belief model
- ✦ Social (cognitive) learning theory
- ✦ Theory of reasoned action/planned behavior
- ✦ PRECEDE framework

What Is a Model?

- ✦ A conceptual framework for organizing and integrating information
- ✦ A diagrammatic system of measurement (for example, mathematical or statistical models)
- ✦ A theoretical construct that explains relationships among variables; valued for predictability

What Is a Model?

- ✦ An ideal or exemplary program or method
- ✦ A simulation of reality in other dimensions (time, scale)

What Is a Model?

- ✦ A conceptual structure successfully developed in one field and applied to some other field to guide research and practice (for example, an analogy)
- ✦ When used interchangeably with the term *theory*, the visual representation of the elements of a theory

Characteristics of a Good Theory

- ✦ A theory should logically explain existing empirical generalizations and yield precise and accurate predictions of new generalizations
- ✦ It should explain and predict better than other theories
- ✦ It should explain empirical findings in substantive terms, not as artifacts of the methods employed to obtain them

Characteristics of a Good Theory

- ✦ It should apply to complex real-life settings as well as to highly simplified and tightly controlled research contexts
- ✦ It should be generalizable to well-defined and relevant universes and populations beyond the boundaries of the particular studies in which it was built and tested

Characteristics of a Good Theory

- ✦ It should infer casual relationships between phenomena being investigated
- ✦ It should define those phenomena in validly measurable terms appropriate to the explanations and predictions made

Relationships Among Variables in a Model

- ✦ Independent→Intermediate→Dependent
- ✦ Independent
 - Age, gender, ethnic group, occupation
- ✦ Intermediate
 - Knowledge, attitudes, perceptions
- ✦ Dependent
 - Behavior, health status

Building Blocks of Theories

Variables and Concepts

- ✦ Value expectancies
 - This may also be termed “attitude toward a behavior” or “outcome expectancies” and is a type of cost-benefit analysis
 - People first need to have some concept of the potential or likely consequences of an action

Building Blocks of Theories

Variables and Concepts

- Judgment is made about whether that consequence or outcome is desirable or not
- Weigh the advantages / disadvantages
- Perceived efficacy of the proposed action is another way of looking at this concept
- Will the action produce a specified result, and is that result good?

Attitudes

- ✦ An attitude is a disposition toward an object, person, or situation
- ✦ This disposition may be favorable or unfavorable
- ✦ An attitude may develop from personal experience or through interaction with and learning from other important people in a person's life

Attitudes

- ✦ An attitudinal disposition is stimulated by the presence of or reference to the object, person, or situation of interest
- ✦ Behavior of accepting or avoiding an object is not automatically influenced by an attitude

Attitudes

- ✦ It is often the case that more than one attitude is present in a given circumstance, and, thus, behavior may be influenced by the stronger or more pressing attitude

Norms and Their Perception

- ✦ *Norms* are socially accepted behaviors or social expectations of desirable behavior
- ✦ People belong to reference groups—people to whom they look to get cues of what behaviors are acceptable in a given social situation
- ✦ Reference groups include, but go beyond, peer groups

Norms and Their Perception

- ✦ Perception of norms concerns what people believe their reference group expects them to do
- ✦ People put a value on those expectations and consider whether or not they care what other people think they should do

Norms and Their Perception

- ✦ People belong to more than one reference group and may experience conflicting perceptions of what is “correct” behavior in a situation

Skills Vs. Self-Efficacy

✦ Skills

- The actual ability to perform a task is the basis of skill
- *Skill* is mastery of a task both physically and cognitively

Skills Vs. Self-Efficacy

✦ Self-efficacy

- It is one thing for people to possess the cognitive and motor skills to perform a task, and quite another to have the confidence to carry out the action
- Self-confidence is also termed *self-efficacy*

Skills Vs. Self-Efficacy

✦ Self-efficacy

- People gain self-efficacy by observing others, listening to encouragement from others, and by practicing the behavior themselves

Locus of Control

- ✦ A person's perception that he/she is the entity primarily responsible for life outcomes
- ✦ In the case of illness, the belief that one can personally prevent or make a difference in recovery from sickness
- ✦ These are issues of control

Locus of Control

- ✦ *External control* means that the person believes that chance, fate, or powerful people are responsible for life outcomes
- ✦ While beliefs about *internal control* imply that the person him/herself can make a difference

Perceived Threat

- ✦ Does a person perceive that there are specific circumstances that may arise that could threaten or harm him/her?
- ✦ This may be broken down into two components:
 - Threat of susceptibility—could it happen to me?
 - Threat of severity—if it happens, will the consequences be serious?

Knowledge and Beliefs

✦ Knowledge

- Recollection of factual information
- But knowledge is culture-bound
- It is possible for people to memorize facts given at a clinic-based health talk but not believe them

✦ Beliefs

- Accepted truths or certainties

Enabling Factors

- ✦ The physical and material resources needed to perform a behavior are known as *enabling factors*
- ✦ These may include physical access to a service, possession of the funds needed to purchase a product, availability of transportation, and the time needed to carry out a task
- ✦ The lack of resources is also termed *barriers*

Intention

- ✦ *Intention* is an intermediate variable between such factors as attitude or perceived norms and the actual behavior
- ✦ Intention reflects a decision or willingness to undertake a behavior and is considered a good predictor of future performance of that behavior should the opportunity present itself

Section B

Force Field Theory

A Basic Model Force Field

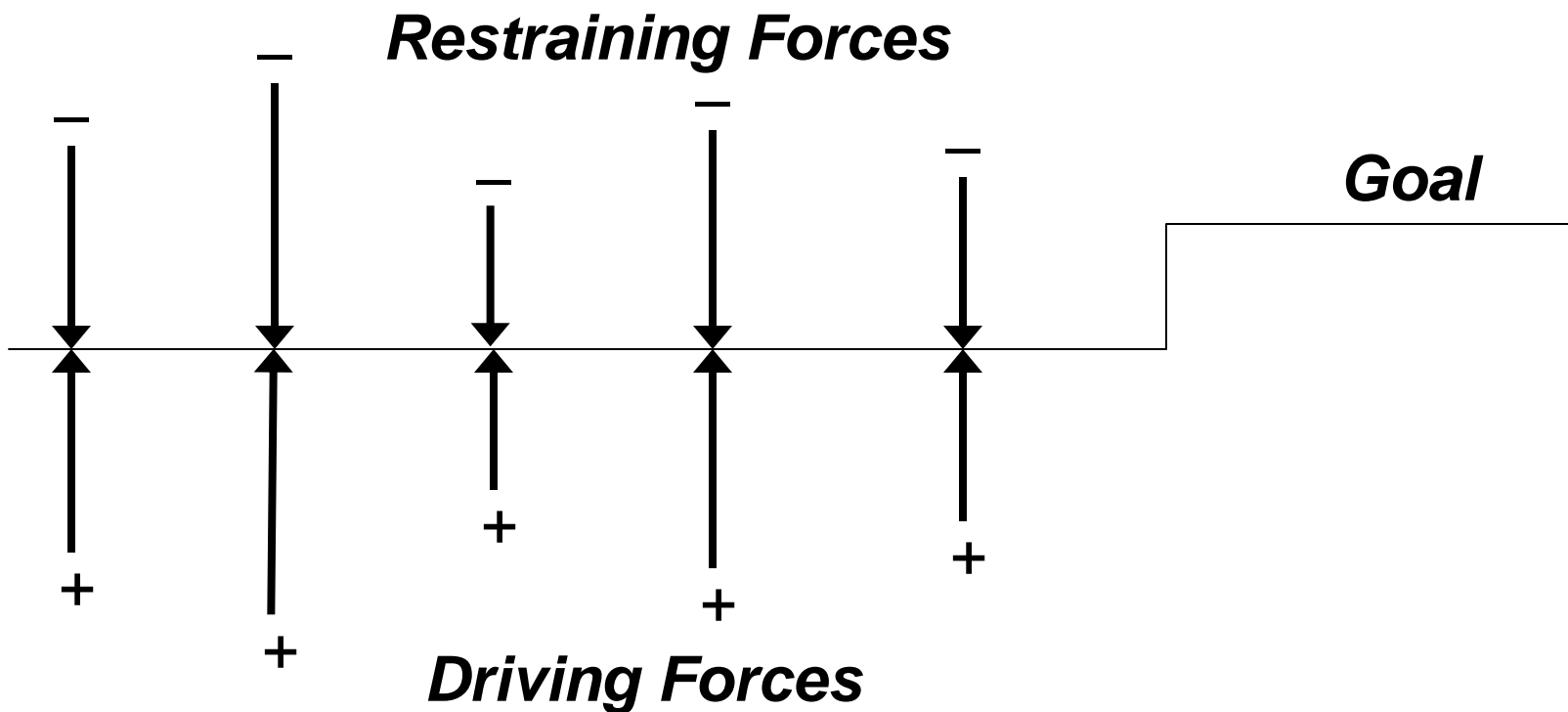
- ✦ Field theory looks at vectors or forces working for or against a goal
- ✦ A straight forward tool for community level planning
- ✦ Places all the cards (variables) on the table

A Basic Model Force Field

- ✦ Does not distinguish 'types' of forces or variables
- ✦ Offers strategy suggestions of increasing positive and decreasing negative forces

Force Field Theory

- ✦ Dynamics of driving and restraining forces toward a goal





Sleeping under a bed net

Bed Net Force Field

GOAL: obtaining insecticide treated bed nets

+ DRIVING FORCES +

- + beautifies home →
- + warmth in rainy season →
- + enhances social status →
- ++ restful/non-insect sleep →
- + some privacy in bed →
- + keeps bed clean →

TOTAL +7

STRATEGIES TO INCREASE:

satisfied users to tell others of their positive experiences

■ RESTRAINING FORCES ■

- ← initial cost high as school fees ■ ■ ■
- ← requires recurrent costs to treat ■ ■ ■
- ← hot to sleep under in dry season ■ ■
- ← won't prevent malaria/sun causes ■
- ← malaria is not a serious illness ■

TOTAL -10

STRATEGIES TO DECREASE:

create revolving fund or credit system to aid purchases

Force Field Strategies

- ✦ Increase the driving forces
- ✦ Decrease the restraining forces
- ✦ Do both
- ✦ Assess the “changeability” of the forces to target for increase/decrease
 - Easy to change
 - Resources available
 - Others will support, etc

Strategies to Promote Bednets

Reinforce driving

- Emphasize beauty, pride of ownership as status symbol
- Satisfied users can promote with neighbors
- Stress benefits of restful sleep—link with beliefs about malaria, tiredness, overwork

Counteract Restraining

- Organize revolving fund and community credit scheme to address cost issues
- Address seriousness issues
 - By contrasting adult and child illness
 - As well as seriousness of adults missing work—losing money

Goal: Attending Antenatal/Prenatal Care (ANC)

Driving forces

- + Enjoy meeting other women there
- + Get some medicines (Folic acid, TT vaccine)
- ++ May protect my baby
- ++ Maternity center located nearby

Total +6



Source: The Basics

Goal: Attending Antenatal/Prenatal Care

Restraining forces

- – Costs money to register
- If you go too early, may expose pregnancy
- – Mother-in-law won't support idea
- – – Takes time away from the work/market
- Injections may cause infertility
- Nurses often yell at people

Goal: Attending Antenatal/Prenatal Care

Restraining forces

- ✦ Total –10
- ✦ Driving – Restraining = – 6

Strategies to Promote ANC

Reinforce driving

- Stress the enjoyment of songs and meetings by having mothers help develop new songs
- Ensure regular and adequate supplies of folic acid, etc.

Decrease Restraining

- Human relations training for staff
- Meet with grandmothers' groups at church, mosque, and market to stress their role in promoting ANC