

**Behavior Change Theories within a
'Menu of Constructs'
Examples from PER and TDF
Epi 246**

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Outline of Today's Class

- I. **Brief presentations of integrating theory constructs across theories**
 - **PER Worksheet**
 - **Theoretical Domains Framework**
- II. **In-Class Group Exercise**

Why a 'Menu of Constructs' Approach?

Use of existing theory provides a foundation - of both empirical work performed in other contexts and methodological innovations for measuring constructs, but...

No one theory is suitable for all situations:

- Theory may guide implementation in many ways
- Considering theory alone, without empirical observation
 - to identify the influence of a specific context, can miss important information relevant to behavior change
- Theories differ in the roles they are intended to serve -
 -

PER Worksheet

The foundation of a logic model or any theory-based planning model or intervention is the identification of the behavioral antecedents and the relationship of them to the target behavior

But it can be challenging to find a way to apply theoretical concepts to specific behaviors and populations

For example, duplication of similar constructs in multiple theories, and the need to combine multiple theories.

PER Worksheet

The PER Worksheet simplifies the process by taking layman-term prompts for identifying health behavior antecedents.

It encompasses five common health behavior theories—health belief model, theory of planned behavior, social cognitive theory, an ecological perspective, and transtheoretical model (stages of change).

The PER Worksheet is organized into three columns: **P**redisposing, **E**nabling, and **R**einforcing factors, terms of the PRECEDE/PROCEED model (which we will discuss later).

Langlois and Hallam, 2010

TABLE 1
Theoretical constructs within the PER Worksheet

<i>PREDISPOSING</i>	<i>ENABLING</i>	<i>REINFORCING</i>
KNOW	BE ABLE TO DO (skills)	REMINDED
Health Belief Model Knowledge	Social Cognitive Theory Behavioral capability Self-regulation	Health Belief Model Cues to act
Social Cognitive Theory Skill-related knowledge	Emotional coping response	Social Cognitive Theory Observational learning
Ecological Perspective Intrapersonal level		Ecological Perspective Interpersonal and community level
BELIEVE / VALUE	ACCESS TO	POSITIVE REINFORCEMENT
Health Belief Model Perceived susceptibility Perceived severity Perceived threat Perceived benefits Perceived barriers	Health Belief Model Actual Benefits	Social Cognitive Theory Reinforcements
Theory of Planned Behavior Attitude toward the behavior Subjective norm Perceived behavioral control	Social Cognitive Theory Environment Observational learning	Ecological Perspective Interpersonal and community level
	Ecological Perspective Community level: institutional factors & public policy	
Social Cognitive Theory Self-efficacy Outcome expectations Outcome expectancies Situation	ACCESS REMOVED	NEGATIVE REINFORCEMENT
	Health Belief Model Actual barriers	Social Cognitive Theory Reinforcements
	Social Cognitive Theory Environment Observational learning	Ecological Perspective Interpersonal and community level
INTENTION	Ecological Perspective Community level: institutional factors & public policy	
Theory of Planned Behavior Behavioral intention		
OTHER		SOCIAL SUPPORT
Health Belief Model Modifying factors of age, sex, ethnicity, socioeconomic status		Social Cognitive Theory Environment
		Ecological Perspective Interpersonal and community level
Stage of: Precontemplation & Contemplation	Stage of: Preparation & Action	Stage of: Maintenance

TABLE 2
PER Worksheet With Daily Physical Activity of Middle School Students as an Example

TARGET BEHAVIOR	60 minutes of daily physical activity (PA)	
TARGET AUDIENCE	Middle school children	
OTHER KEY INDIVIDUALS	Parents, teachers, and peers	
<i>PREDISPOSING</i>	<i>ENABLING</i>	<i>REINFORCING</i>
KNOW	BE ABLE TO DO (skills)	REMINDED
What is PA?	Identify activities of interest	Scheduled times
How much PA a day?	Motor skills	Prompts by media
PA opportunities: school, community, clubs	Sport and recreation skills	Prompts by peers
	Self regulation: goal setting, decision making & tracking	Prompts by family
BELIEVE / VALUE	ACCESS TO	POSITIVE REINFORCEMENT
PA positive outcomes: fun, friends, strength, weight control, exciting	Quality physical education	Fun
Negative outcomes: embarrassment, sweat, boring	Gyms and playing fields	Make friends
PA efficacy: I can do 60 minutes	Sidewalks	Feel good
Skill efficacy: I can ____ (walk on the treadmill, catch a Frisbee, etc.)	Sport equipment: balls, bats, racquets, clubs	Praise from: parents, teachers, peers
Believe others expect you to be active: parents, peers, teachers	Play equipment: bikes, skates, balls, skateboards, Frisbee, kites,	Success
Social norm: see peers, teachers, older students, peers engaging	Scheduled activities	Goal attainment
Positive outcomes from skills	Recreation leagues	Attention from peer groups & older students
	Play partners	New equipment
INTENTION	ACCESS REMOVED	NEGATIVE REINFORCEMENT
To be active daily	Television	Embarrassment
To be active after school	Computer and video games	Discomfort
Try new activities		
Parents intention for activity		
OTHER		SOCIAL SUPPORT
		Teams
		Clubs
		Parents

A systematic approach to developing provider behavior change interventions

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Steps to Designing a Theory-informed Intervention

1. Who needs to do what differently?
2. Which barriers and enablers need to be addressed?
3. Which intervention components could overcome the modifiable barriers and enhance the key enablers?
4. How can behavior change be measured and understood?

Step 1: Identifying the problem

- What is the evidence-practice gap?
- Specify behavior change needed to reduce the gap
 - What is the behavior (or series of linked behaviors) you will try to change?
 - Who performs the behavior(s)
 - When and where do they perform the behavior(s)?

Step 1: Examples

Low TB case detection rates

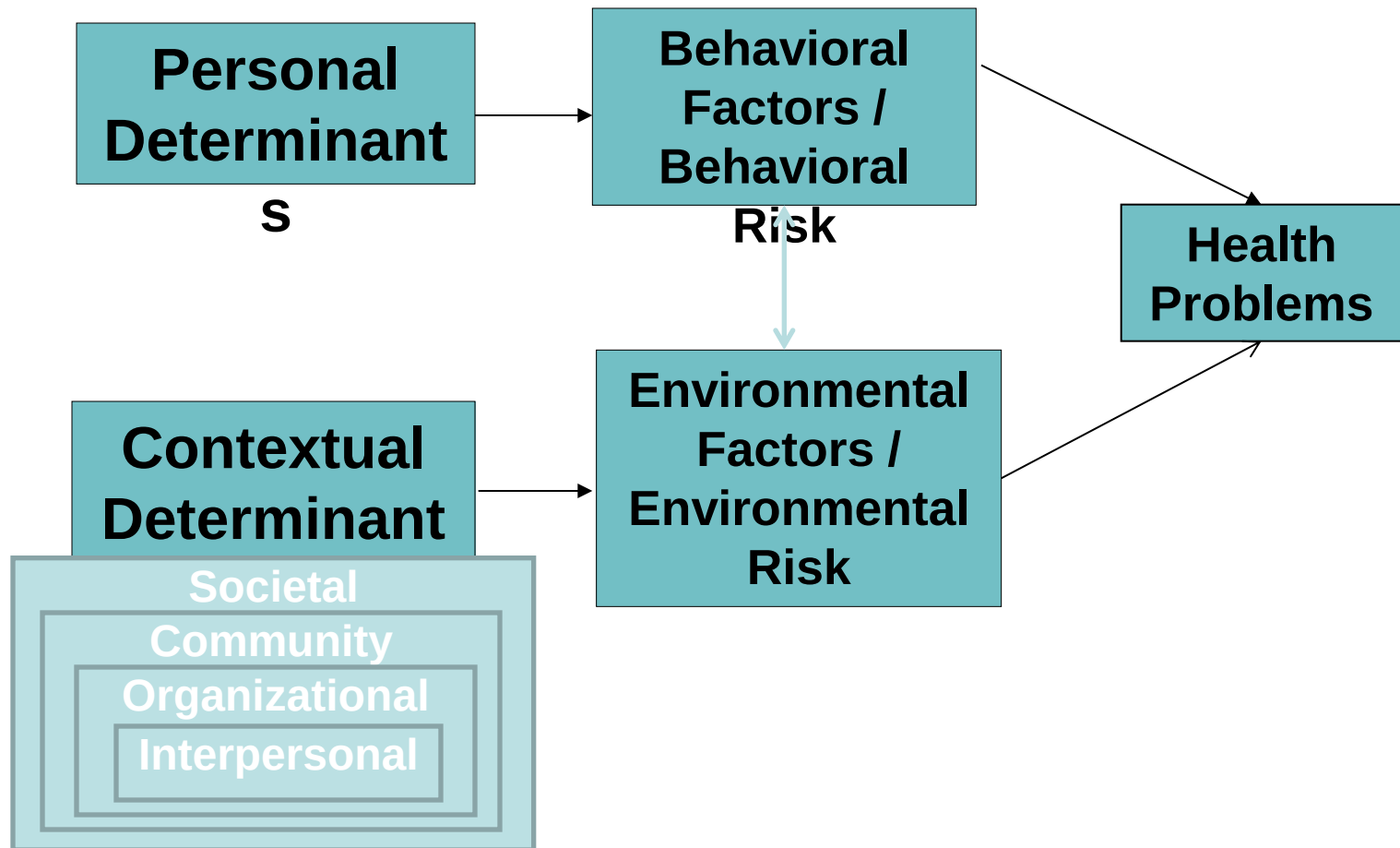
- Screen all patients for prolonged cough
- Refer those with cough for sputum microscopy
- Ensure TB suspects undergo at least 2 sputum exams
- Treat for TB if sputum exam is positive

Poor sepsis outcomes

- Recognize patients with potential sepsis
- Administer antibiotics within one hour
- Administer 2L of fluid
- Check lactate

Step 2: Assessing the problem

Logic Model of the Problem



GET ALL THE
INFORMATION YOU CAN,
WE'LL THINK OF A
USE FOR IT LATER.



**HI! — I'M SELLING
THEORY INSURANCE!**



Theory of Domains Framework

- Developed through an expert consensus process
- Synthesizes 128 constructs from 33 psychological theories relevant to provider behavior change
- Identifies 12 domains that influence provider behavior

Knowledge

Skills

Social/Professional role and identity

Beliefs about capabilities

Beliefs about consequences

Motivation and goals

Memory, attention and decision processes

Environmental context/resources

Social influences

Emotion regulation

Behavioral regulation

Nature of the behaviors

TDF in practice

- Design questionnaire
- Conduct interviews/focus groups
- Analyze qualitative data
 - Which domains are most relevant to behavior(s) of interest?
 - What are the barriers and enablers within these domains?

TDF illustration

- Interview with a midwife about attempts to reduce routine cardiotocograph (ctg) monitoring
- Two relevant explanations of the lack of behavior change
- Beliefs about consequences
 - Substantial risks to mother and baby associated with non-use of ctg monitoring despite evidence indicating otherwise
- Memory, attention and decision processes.
 - ctg monitoring perceived as an automatic routine activity, cued by the presence of the ctg monitor in the delivery suite
- Two pronged approach to successful implementation
 - (1) Intervene to change beliefs about the consequences of not using ctg monitoring
 - (2) Remove the cue to action provided by the presence of the ctg monitor in the delivery suite

Step 3: Develop possible solutions

- Identify possible techniques to overcome barriers and enhance the enablers
 - Establish intervention content (what will be delivered)
 - Identify modes of delivery (how will it be delivered)

	Determinant 1	Determinant 2
Behavior 1	<i>Change Objective</i>	<i>Change Objective</i>
Behavior 2	<i>Change Objective</i>	<i>Change Objective</i>

Change objective = what has to change in determinant x in order for the provider to do behavior x

Step 4: Evaluate selected intervention

- Determine outcome measures for each behavior targeted
- Determine how to measure mediator(s) for each proposed pathway of change

	Determinant 1	Determinant 2
Behavior 1	<i>Change Objective</i>	<i>Change Objective</i>
Behavior 2	<i>Change Objective</i>	<i>Change Objective</i>