In Class Exercise Applying Constructs Across Theories of Behavior/Behavior Change PER Worksheet and Theoretical Domains Framework

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We will be working in two groups. Each group will apply the PER worksheet or the TDF interview guide to provide a concrete strategy for the problem proposed. One group will focus on TB in an outpatient clinic setting and the other on implementing sepsis prevention guidelines in the ER at a San Francisco-based teaching hospital, possibly the VA. You will have 40 minutes to work on the case study as a group separately and then we will come back together and have 20 minutes to discuss at the end.

CASE STUDY 1. You are working in a clinic in South Africa, which has one of the highest rates of tuberculosis (TB) in the world. You are concerned that your clinic is doing a poor job of identifying and evaluating tuberculosis (TB) suspects. International guidelines recommend that: 1) all persons with cough for two or more weeks be considered TB suspects; 2) TB suspects should have at least two sputum smears examined for TB; and 3) any person with a positive sputum smear exam should be started on 4-drug therapy for TB. Through a few discussions with your staff they identify several factors that may affect TB suspect evaluation:

a) Staff report that they have not received any updated CME on which patients should be evaluated for TB. They only send patients to the lab when they feel strongly that someone has TB.

b) Staff complain that they do not know how well or poorly they are doing with respect to following guidelines for evaluating TB suspects. Staff meetings to discuss problems in the clinic have not been happening.

c) Staff think that patients have a hard time coming back to provide multiple sputum specimens for TB evaluation. Many patients also fail to come back to collect their results, and the clinic does not have resources to trace patients in the community.

Case Study 2: You are being asked to help the hospital you work in to create a pilot program for a new campaign, called, " Surviving sepsis", which is for getting new guidelines into the ER. The guideline components are as follows:

1. Recognize patients with potential sepsis (SIRS criteria + suspicion of infection)
2. Administer antibiotics within one hour
3. Administer 2L of fluids
4. Check lactate

PREPARE FOR DISCUSSION

You just found out you can get some pilot funds to do a short descriptive study of providers in one of these settings, under another project's CHR, and now need a plan on what you would present for this pilot project that would direct your larger intervention development. You are thinking about a survey of providers to help figure out how to improve adherence to one of these guidelines. One of your IDS colleagues suggests you provide a theoretical basis for your study and describe general areas for items you would include in a survey for providers.

TB Case Study Group

- *Develop a TDF-based questionnaire (using Table 1 from Michie 2005 paper as a guide) to guide development of an intervention to improve TB evaluation*
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- *Propose an explanatory model for TB guideline adherence. Which domains do you think may be most relevant and how do these relate to elements of the following theories: Health Belief Model, Theory of Planned Behavior or Social Cognitive Theory?*

Sepsis Guideline Adoption Study Group

- *How would you draw from the theories you have explored in class to date to better understand the problems in the ER that may interfere with adoption of these new guidelines? : Health Belief Model, Theory of Planned Behavior or Social Cognitive Theory?*

- *Using the PER Worksheet, and Table 1 in particular, how would you develop an in-depth interview guide of ER staff, using the predisposing, enabling and reinforcing constructs?*

Table 1. Theoretical domains, component constructs, and eliciting questions for investigating the implementation of evidence-based practice. *Adapted from Michie et al, 2005*[1]

Domains*	Constructs	Interview questions
(1) Knowledge	Knowledge	Do they know about the guideline?
	Knowledge about condition/scientific rationale	What do they think the guideline says?
	Schemas+mindsets+illness representations	What do they think the evidence is?
	Procedural knowledge	Do they know they should be doing *x*?
		Do they know why they should be doing *x*?
(2) Skills (Skills)	Skills	Do they know how to do*x*?
	Competence/ability/skill assessment	How easy or difficult do they find performing *x* to the required
	Practice/skills development	standard in the required context?
	Interpersonal skills	
	Coping strategies	
(3) Social/professional role and identity (Self-standards)	Identity	What is the purpose of the guidelines?
	Professional identity/boundaries/role	What do they think about the credibility of the source?
	Group/social identity	Do they think guidelines should determine their behaviour?
	Social/group norms Alienation/organisational commitment	Is doing *x* compatible or in conflict with professional standards/identity? (prompts: moral/ethical issues, limits to autonomy)
		Would this be true for all professional groups involved?
(4) Beliefs about capabilities (Self-efficacy)	Self-efficacy Control—of behaviour and material and	How difficult or easy is it for them to do *x*? (prompt re. internal and external capabilities/constraints)
	social environment	What problems have they encountered?
	Perceived competence	What would help them?
	Self-confidence/professional confidence	How confident are they that they can do *x*despite the difficulties?
	Empowerment	How capable are they of maintaining *x*?
	Self-esteem	How well equipped/comfortable do they feel to do *x*?
	Perceived behavioural control	
	Optimism/pessimism	
(5) Beliefs about consequences (Anticipated outcomes/attitude)	Outcome expectancies Anticipated regret	What do they think will happen if they do *x*? (prompt re themselves, patients, colleagues and the organisation; positive and negative, short term and long term consequences)
	Appraisal/evaluation/review	
	Consequents	What are the costs of *x*and what are the costs of the consequences of*x*?
	Attitudes	What do they think will happen if they do not do*x*? (prompts)
	Contingencies	Do benefits of doing *x*outweigh the costs?
	Reinforcement/punishment/consequences	How will they feel if they do/don't do *x*? (prompts)
	Incentives/rewards	Does the evidence suggest that doing *x* is a good thing?
	Beliefs	
	Unrealistic optimism	
	Salient events/sensitisation/critical incidents	
	Characteristics of outcome expectancies–physical, social, emotional;	
	Sanctions/rewards, proximal/distal, valued/not valued, probable/improbable, salient/not salient, perceived risk/threat	
(6) Motivation and goals (Intention)	Intention; stability of intention/certainty of intention	How much do they want to do *x*?
	Goals (autonomous, controlled)	How much do they feel they need to do *x*?
	Goal target/setting	Are there other things they want to do or achieve that might interfere with *x*?
	Goal priority	Does the guideline conflict with others?
	Intrinsic motivation	Are there incentives to do *x*?
	Commitment	
	Distal and proximal goals	
	Transtheoretical model and stages of change	
(7) Memory, attention and decision processes	Memory	Is *x* something they usually do?
	Attention	Will they think to do *x*?
	Attention control	How much attention will they have to pay to do*x*?
	Decision making	Will they remember to do x? How?
		Might they decide not to do x? Why? (prompt: competing tasks, time constraints)
(8) Environmental context and resources (Environmental constraints)	Resources/material resources (availability and management)	To what extent do physical or resource factors facilitate or hinder *x*?
	Environmental stressors	Are there competing tasks and time constraints?
	Person × environment interaction	Are the necessary resources available to those expected to undertake *x*?
	Knowledge of task environment	

* Corresponding constructs from Fishbein et al.[2] shown in parentheses.

Table 1, continued.

Domains*	Constructs	Interview questions
(9) Social influences (Norms)	Social support	To what extent do social influences facilitate or hinder *x*?
	Social/group norms	(prompts: peers, managers, other professional groups, patients, relatives)
	Organisational development	Will they observe others doing *x* (i.e. have role models)?
	Leadership	
	Team working	
	Group conformity	
	Organisational climate/culture	
	Social pressure	
	Power/hierarchy	
	Professional boundaries/roles	
	Management commitment	
	Supervision	
	Inter-group conflict	
	Champions	
	Social comparisons	
	Identity; group/social identity	
	Organisational commitment/alienation	
	Feedback	
	Conflict—competing demands, conflicting roles	
	Change management	
	Crew resource management	
	Negotiation	
	Social support: personal/professional/organisational, intra/interpersonal, society/community	
	Social/group norms: subjective, descriptive, injunctive norms	
	Learning and modelling	
(10) Emotion (Emotion)	Affect	Does doing *x* evoke an emotional response? If so, what?
	Stress	To what extent do emotional factors facilitate or hinder *x*?
	Anticipated regret	How does emotion affect *x*?
	Fear	
	Burn-out	
	Cognitive overload/tiredness	
	Threat	
	Positive/negative affect	
	Anxiety/depression	
(11) Behavioural regulation	Goal/target setting	What preparatory steps are needed to do *x*? (prompt re individual and organisational)
	Implementation intention	
	Action planning	Are there procedures or ways of working that encourage *x*?
	Self-monitoring	
	Goal priority	
	Generating alternatives	
	Feedback	
	Moderators of intention-behaviour gap	
	Project management	
	Barriers and facilitators	
(12) Nature of the behaviours	Routine/automatic/habit	What is the proposed behaviour (*x*)?
	Breaking habit	Who needs to do what differently when, where, how, how often and with whom?
	Direct experience/past behaviour	How do they know whether the behaviour has happened?
	Representation of tasks	What do they currently do?
	Stages of change model	Is this a new behaviour or an existing behaviour that needs to become a habit?
		Can the context be used to prompt the new behaviour? (prompts: layout, reminders, equipment)
		How long are changes going to take?
		Are there systems for maintaining long term change?

* Corresponding constructs from Fishbein et al.[2] shown in parentheses.

1. Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A. Making psychological theory useful for implementing evidence based practice: a consensus approach. *Quality and Safety in Health Care.* 2005;14:26-33.

2. Fishbein M, Triandis HC, Kanfer FH, *et al.* Factors influencing behaviour and behaviour change. In: Baum A, Revenson TA, Singer JE, eds. Handbook of health psychology. Mahwah, NJ: Lawrence Erlbaum Associates, 2001:3–17.

TABLE 1
Theoretical constructs within the PER Worksheet

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