Epi 246

Introduction to Theories of Health Behavior/ Health Behavior Change Focusing on Individual Behavior within Socio-Ecological Perspective

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Outline of Today's Lecture

1. Course overview and structure

2. Implementation and dissemination science

3. Behavioral theory in implementation science

4. Two theories to start:

   Health Belief Model
   Theory of Planned Behavior

Epi 246 Learning Objectives

1. **Understand: key behavioral theories, behavior change-based conceptual frameworks, intervention, and 'strategies' or 'tools' developed from them in the intervention context.**

2. **Understand linkages between health behavior theory focused on individuals and implementation and dissemination science in 'real world' applications.**

Epi 246 Learning Objectives cont.

3. Use ecological perspectives to describe behavior and develop behavior change interventions using multiple theory components.

4. Understand gaps in different approaches to theory and critiques of theories.

5. Apply behavioral theory to planning, developing, implementing and evaluating health-related behavior and behavior change interventions.

Epi 246- Class Organization

Reto Auer, MD, MAS will be the TA!

6 HW assignments (60%) and a written final exam or in-class presentation (20%), participation (20%).

HW due Thursdays at 5pm the week following the lecture it is based on. HW that is late without advance permission, may not be reviewed.

Please email questions about content or set up time to meet before or after class on Ths

Learning Objectives – Lecture 1

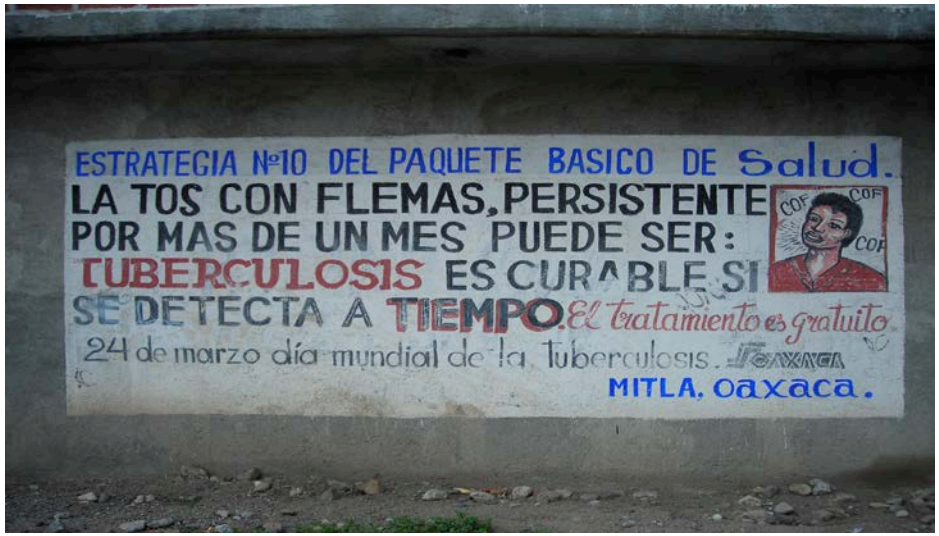
1. Understand why health behavior change theories focused at individuals are helpful for implementation and dissemination science research and real world applications, and the limitations of too restrictive an individualist focus.

2. Understand components of the Health Belief Model and Theory of Planned Behavior as examples of many intrapersonal theories

3. Conceptualize applying components of theories to health-related behaviors – including both understanding behavior and changing behavior with intervention planning/evaluation

New Ways to Talk About Evidence Gaps

"Many evidence-based innovations fail to produce results when transferred to communities in the global south, largely because their implementation is untested, unsuitable or incomplete"



"Scientists have been slow to view implementation as a dynamic, adaptive, multi-scale phenomenon that can be addressed through a research agenda"

T. Madon et al .2007

The Link Between Translational and Implementation and Dissemination Science

"Implementation science is a relatively young branch of health services research that aims to translate biomedical and public health knowledge into changes in the behavior of health care professionals, patients or the general public.

IS is concerned with moving from evidence to (changes in) practice and ultimately health outcomes, and in learning how best to do that through research"

- M Soloman, "The Ethical Urgency of Advancing Implementation Sciences" Am J Bioethics, 2010

Defining Implementation Science in the US

What is implementation science?

Implementation science creates generalizable knowledge that can be applied across settings and contexts to answer central questions. Why do established programs lose effectiveness over days, weeks, or months? Why do tested programs sometimes exhibit unintended effects when transferred to a new setting? How can multiple interventions be effectively packaged to capture cost efficiencies and to reduce the splintering of health systems into disease-specific programs?

As defined by the Annual NIH Conference on Implementation and Dissemination, implementation is the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings. ***Research on implementation addresses the level to which health interventions can fit within real-world public health and clinical service systems***

-NIH- Fogerty Center

Translational Terms used by Health Research Funders

applied health research
capacity building
diffusion
dissemination
getting knowledge into practice
impact
implementation
knowledge communication
knowledge cycle
knowledge exchange
knowledge management
knowledge translation
knowledge mobilization
knowledge transfer
linkage and exchange
popularization of research
research into practice
research mediation
research transfer
research translation
science communication
“third mission”
translational research

Graham et al. (2006). Lost in knowledge translation: time for a map? *Journal of Continuing Education in the Health Professions*

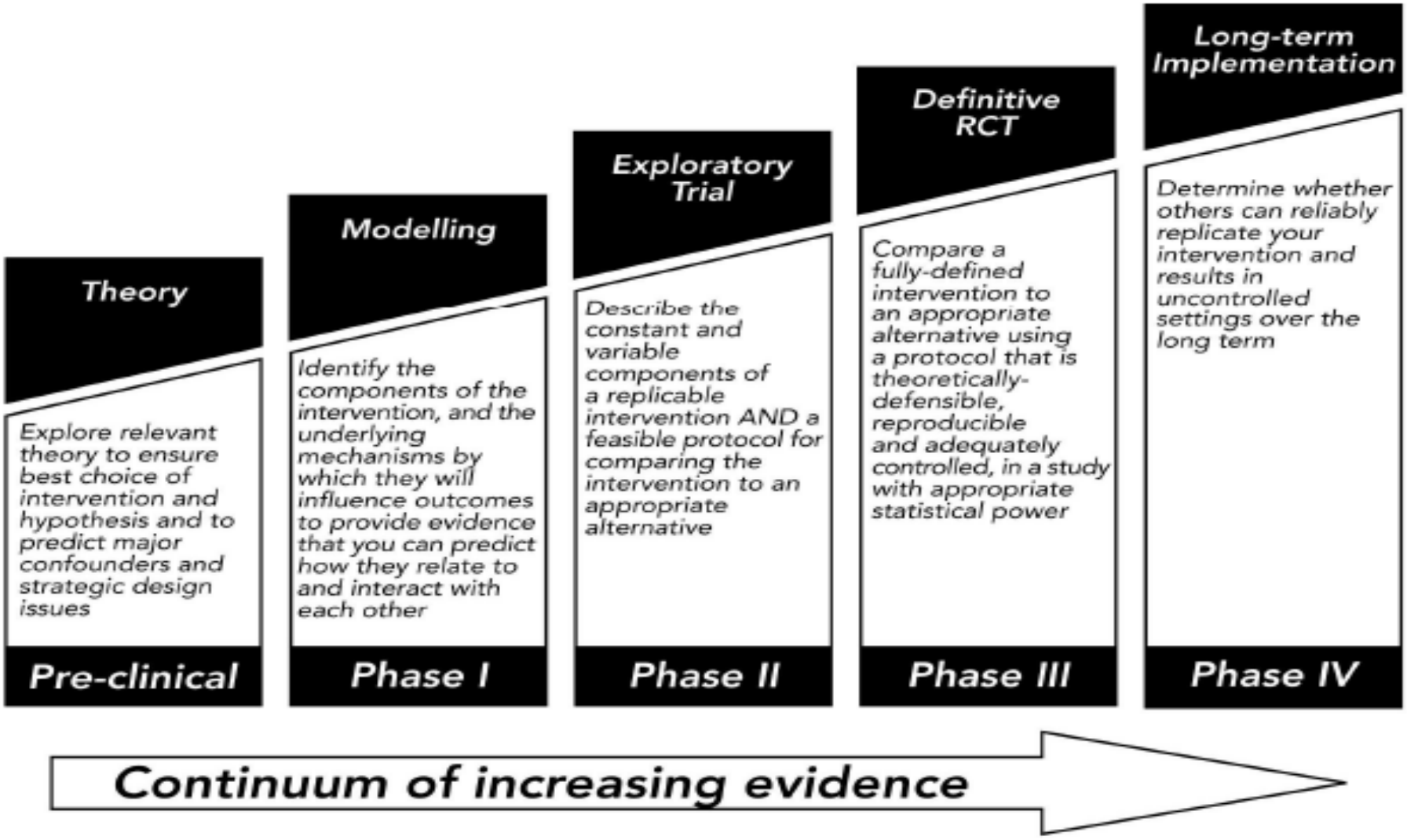
What is the Link between Behavior Theory and Improving Evidence-Based Practice?

"Increasing evidence suggests that public health and health promotion interventions based in social and behavioral sciences are more effective than those lacking a theoretical base" – Glanz and Bishop

"Making research more theory-based will improve evidence-based practice" –Green

Glanz K and Bishop D. Annu Rev Public Health. 31:3990418. 2010
Green, L.W. American Journal of Public Health 96(3): 406-409, Mar. 2006
***Eccles M. et al. Changing the behavior of healthcare professionals (2005)**
***Painter JE et al The use of theory in health behavior research 2000-2005 (2008).**

Evidence Continuum – Begin with Theory



Eccles, M e al, 2005. J Clin Epi 107-112. Medical Research Council, 2000

Which Health Behavior/Change Theories?

1. Psychological theories
2. Inter-personal theories
3. Health communication theories
4. Dissemination of information theories
5. Theories from behavioral economics
6. Participatory, community building, empowerment theories
7. All of the above

How Individual-Based Behavior Theories Are Used

1. Provide a road map for answering difficult questions on which behaviors to target and for whom

e.g. Do you target the providers' behavior re guidelines or focus on structural or policy barriers? Or both?

2. Help understand environmental factors that reinforce or undermine individual behaviors

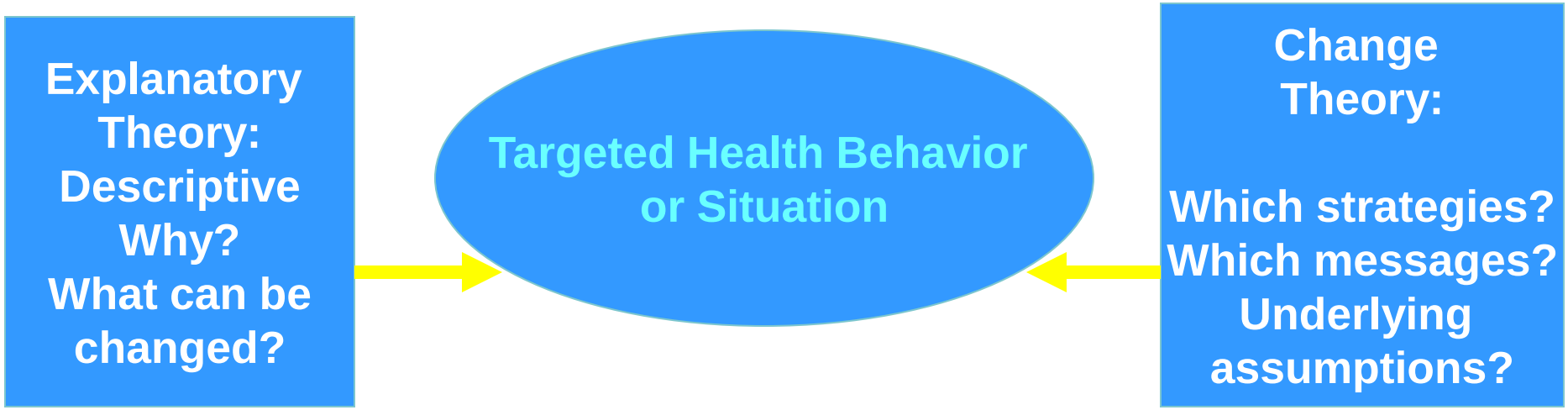
e.g. Neighborhood 'walkability', access to condoms, harm reduction for lead poisoning, ease of appointment scheduling

3. Help understand the mechanisms (ingredients) underlying effective interventions – to tailor/scale up

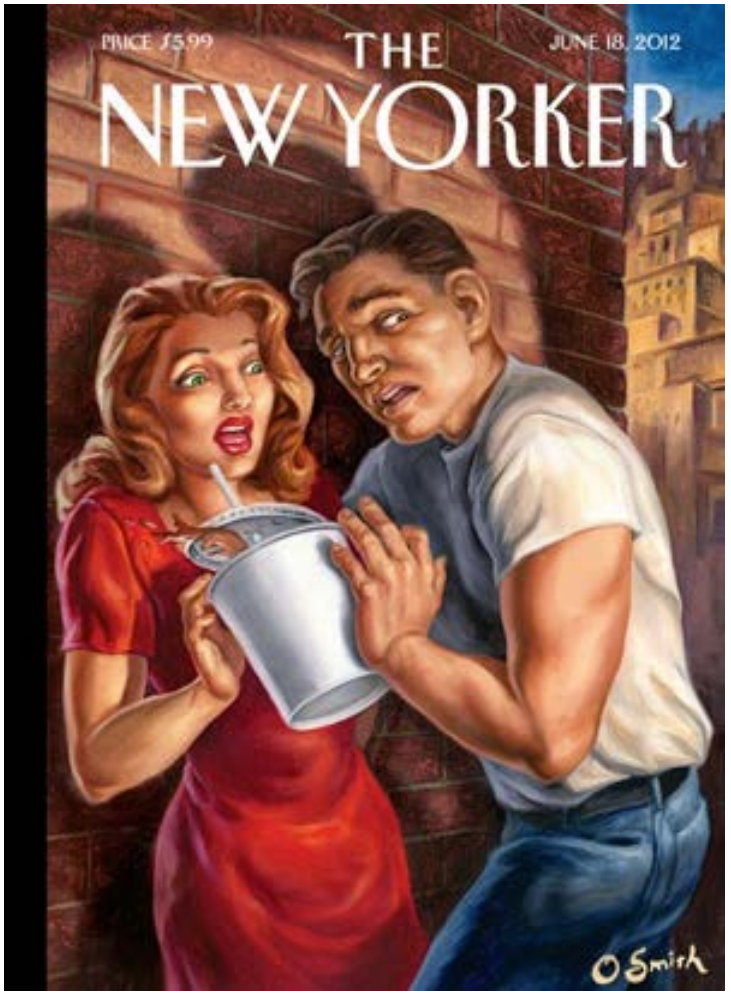
NIH Science of Behavior Change, Meeting Summary, June 15-16, 2009
http://commonfund.nih.gov/pdf/SOBC_Meeting_Summary_2009.pdf

Practical uses of health behavior theories

Practical uses of health behavior theories



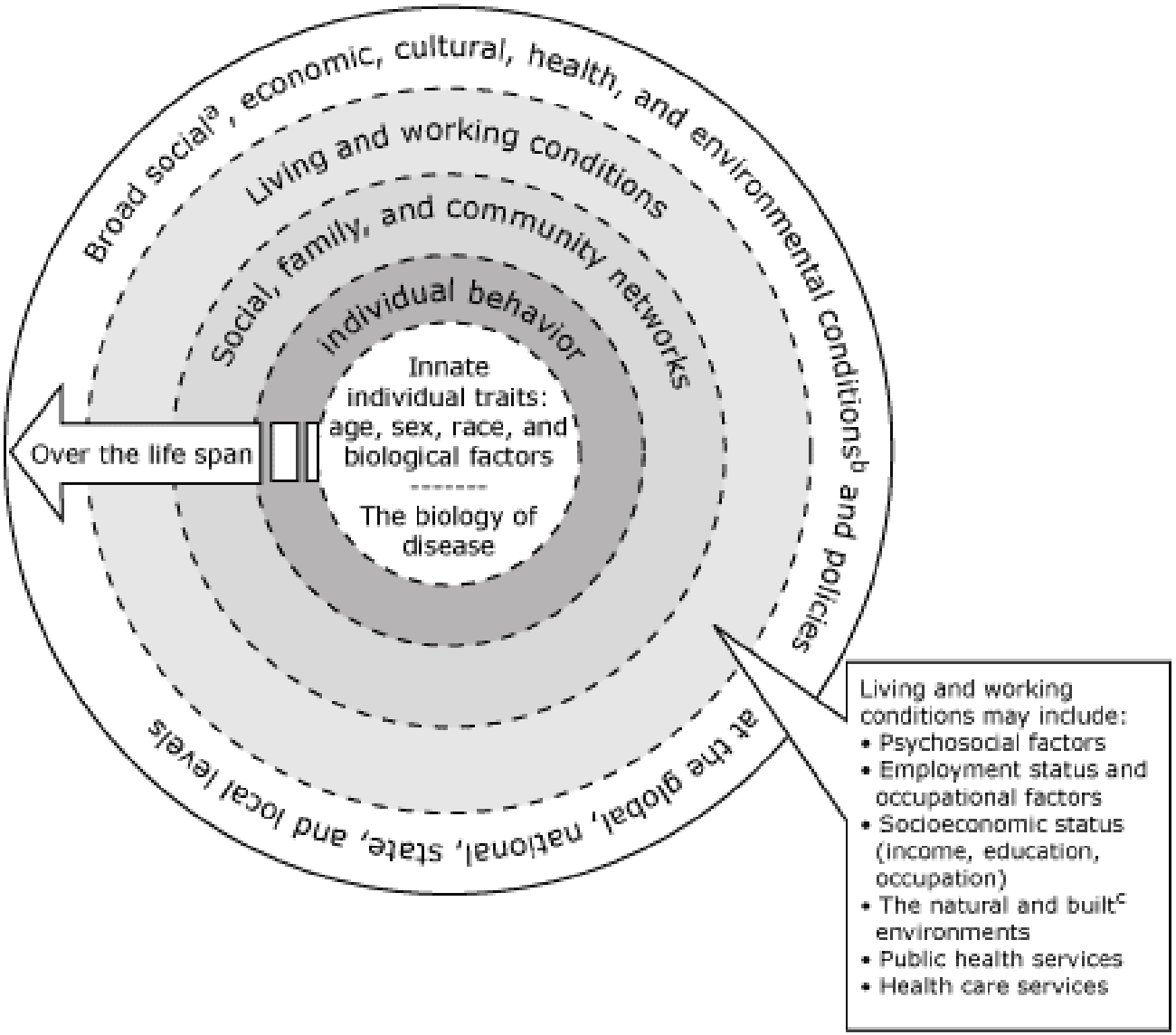
An Individual or a Structural/Ecological Perspective?



Ecological AND Individual Perspectives

"The use of collective action to support personal responsibility is central to public health"

-Brownell et al, Health Affairs 2010



IOM, 2005

A Generalized Ecological Perspective

Table 1. An Ecological Perspective: Levels of Influence

Concept	*Definition*
Intrapersonal Level	Individual characteristics that influence behavior, such as knowledge, attitudes, beliefs, and personality traits
Interpersonal Level	Interpersonal processes and primary groups, including family, friends, and peers that provide social identity, support, and role definition
Community Level	
Institutional Factors	Rules, regulations, policies, and informal structures, which may constrain or promote recommended behaviors
Community Factors	Social networks and norms, or standards, which exist as formal or informal among individuals, groups, and organizations
Public Policy	Local, state, and federal policies and laws that regulate or support healthy actions and practices for disease prevention, early detection, control, and management

K Glanz and B Rimmer. Theory at a Glance. NCI, 2005

How Individual-Based Behavior Theories Are Used

1. Provide a road map for answering difficult questions on which behaviors to target and for whom

   e.g. Who needs to do what differently? How do you assess the problem? What might help or inhibit a strategy? How do you measure change and success?Do you target the providers' behavior re guidelines or focus on structural or policy barriers? Or both?

2. Understand environmental factors that reinforce or stop individual behaviors. Neighborhood 'walkability', access to condoms, appointment scheduling

3. Help understand the mechanisms (ingredients) underlying effective interventions – to tailor/scale up

NIH Science of Behavior Change, Meeting Summary, June 15-16, 2009
French et al, Implementation Science 2012

Behavioral Sciences Theory

Theory – a set of inter-related concepts, definitions, and propositions that explain or predict events or situations

(can also specify relationships among these variables)

Behavioral Sciences Theory

an amalgamation of approaches, methods, and strategies/tools from social and health sciences that is accessible to both researchers and practitioners

"It's just a theory, but perhaps it's their opposable thumbs that makes them crazy."

-- Glanz and Bishop, Ann Rev Public Health 2010

Behavioral Theory Use on a Continuum

1. Informed by theory – Framework or constructs identified, but not specifically applied

2. Applied theory - Framework or constructs identified--at least one construct specifically applied

3. Testing theory - Framework or constructs identified and tested against one another

4. Building/creating theory – Developing new or revised theory using constructs specified, measured, and analyzed

Painter, et al, 2008

"Theoretical Domains" – These occur in some form, with some related terminology, with some degree of emphasis, in just about every change theory dealing with individuals.

1. Risk appraisal
2. Self perception
3. Emotions
4. Relationships & social influences

e.g. PERCEIVED Susceptibility and Perceived CONSEQUENCES

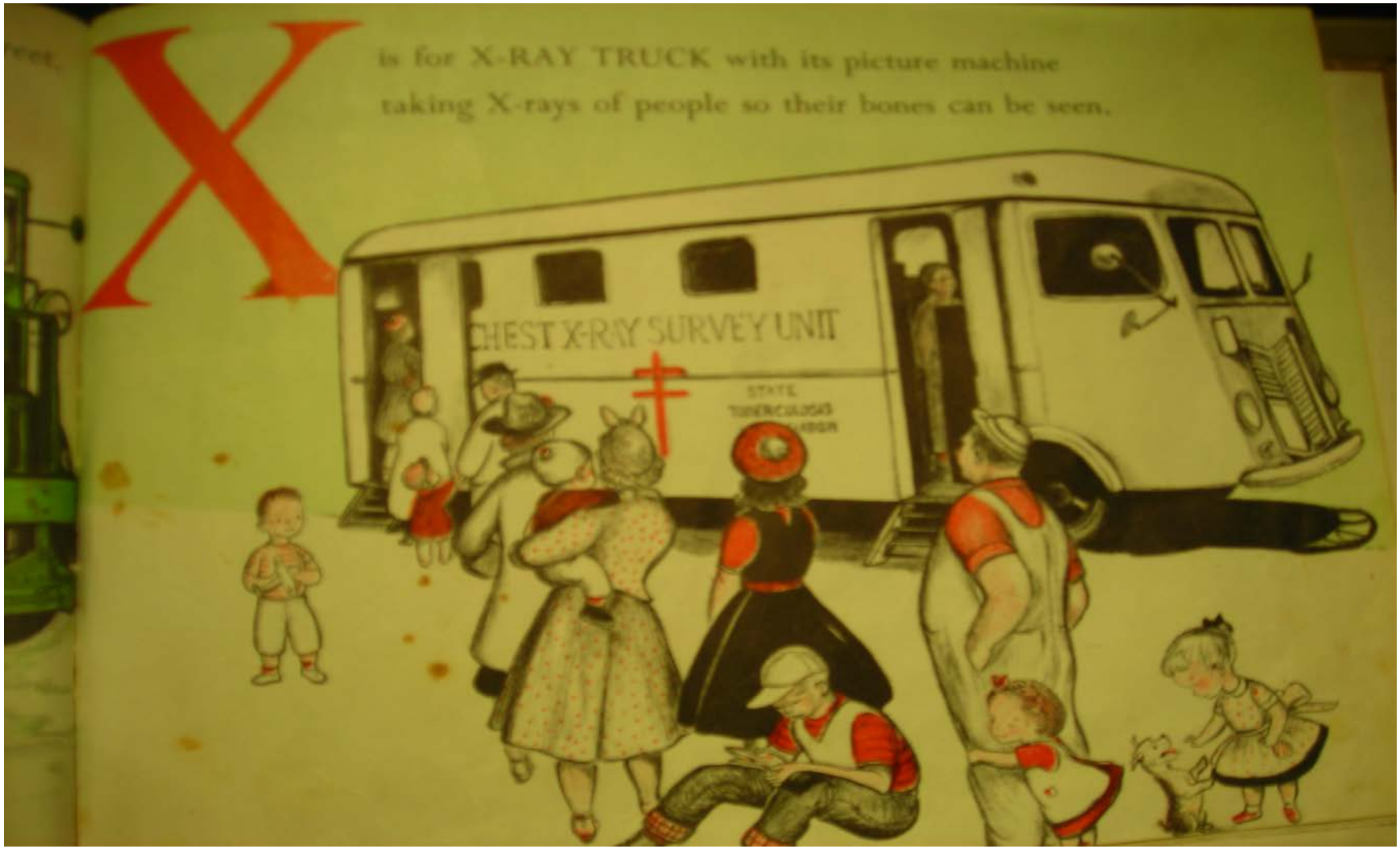
e.g. SELF-EFFICACY

e.g. SOCIAL NORMS PEER LEARNING

1. Environment, community, cultural & structural influences

e.g. FOOD POLICIES, POVERTY, DIRECT APPT. SCHEDULING, TRANSPORTATION

History of Cognitive Theories- Health Belief Model



Health Belief Model

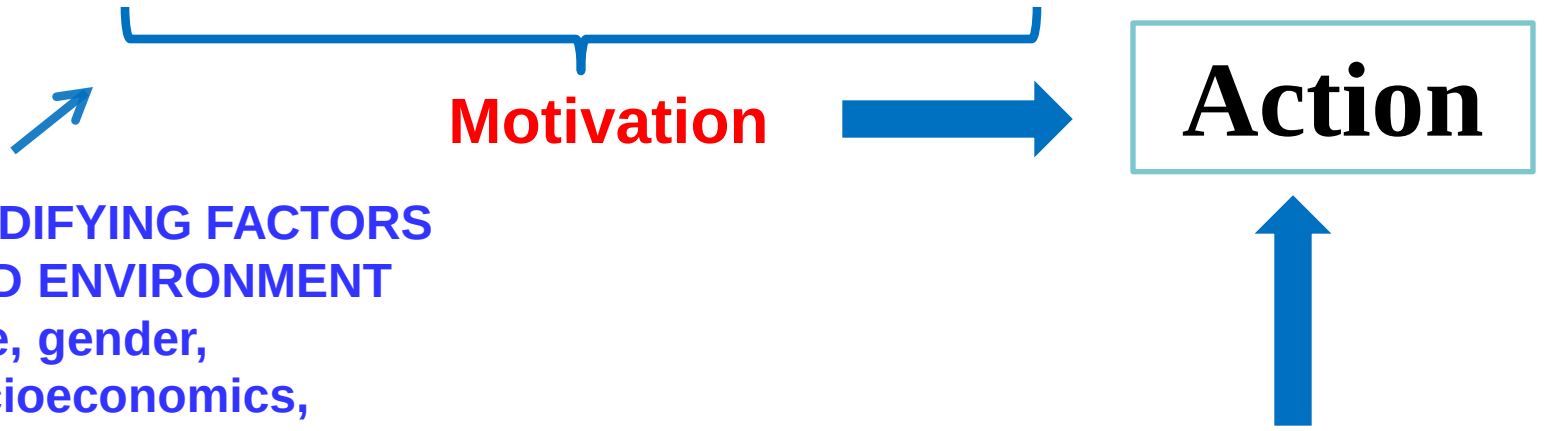
Focus:	Key Concepts
Individuals' perceptions of the threat posed by a health problem, The benefits of avoiding the threat, and factors influencing the decision to act. Usually related to patients and health behavior within community settings	- Perceived susceptibility - Perceived severity - Perceived benefits - Perceived barriers - Cues to action - (Self-efficacy)

Strong Health Beliefs translates into MOTIVATION and ACTION to prevent, get screened for or control illness

Health Belief Model

FOCUS ON INDIVIDUAL BELIEFS THAT AFFECT MOTIVATION

Perceived susceptibility, perceived severity (combined = perceived THREAT)
Perceived benefits
Perceived barriers
Perceived self-efficacy



HBM Example- Understanding/Changing Behavior

Concept	Behavior	Targets in Prevention Education
Perceived Susceptibility	"I never heard of that, so it can't be important"	Educate that everyone could get lead poisoning – **possibly use data or show contamination with 'live' pottery testing**
2. Perceived Severity	"Look at my baby, there is nothing wrong with him-"	Belief that lead poisoning is bad for you, even if you cannot see its effects - **it can be like other poisons such as carbon monoxide. Analogies of slow diseases**
3. Perceived Benefits	"We are so much better off here"	Belief that not getting lead poisoning will improve health, strengthen child's future.
4. Perceived Barriers	"saying our food has lead is a criticism of our food culture"	Belief that there was some truth to the lead problem, and that not just a negative stereotype- -social marketing for getting tested and hard reduction strategies for pregnant women/kids
5. Cues to Action	"we did not get tested at home"	Reminder, cues for action – town-specific information at the clinic to promote testing
6. Self-Efficacy	"I don't want to seem ungrateful"	Confident in limiting high risk foods in social circumstances

Health Belief Model

APPLICATIONS FOR CHANGING INDIVIDUAL BELIEFS

Perceived THREAT: personalize risk, educate on risk

Perceived benefits: operationalize specific actions and benefits

Perceived barriers: reduce perceptions, problem-solve, incentives

Perceived self-efficacy: support and training, goal setting

INCREASE MOTIVATION → **Action**

Cues to action: Increase awareness, media/marketing, prompts, reminders

HBM Case Study: Asking Mom: Formative Research for an HPV Campaign Targeting Mothers of Adolescent Girls Shafer et al 2011

Context: Targeted health communication campaigns that promote HPV vaccination have potential to reduce racial and geographic disparities in cervical cancer incidence in rural S. USA. What should messages include?

Behavior targeted: HPV vaccine Initiation/mother is target

Focus Groups for Pre-production Message Concepts:

1.HBM constructs- eg. Perceived susceptibility/ Severity

2. Prospect theory – decision making and 'gain' frame

3. Emotional truths to influence decision making

Theory of Planned Behavior

Focus:	Key Concepts:
Individual's attitude towards a behavior, perceptions of norms, and beliefs about ease of difficulty of changes Often used in clinician as well as patient and community behavior	Behavioral intention: - Attitude - Subjective norm - Perceived control and Self-efficacy

Strong Planned Behavior translates into INTENTION to ACT to prevent, screen for or control illness

Theory of Planned Behavior

FOCUS ON BELEIFS THAT AFFECT INTENTION

MODIFYING FACTORS AND ENVIRONMENT

Demographic

Attitudes to target Behavior

Personality

Beliefs, Evaluation of Behavioral Outcomes (combined=ATTITUDES),

normative beliefs, Motivation (combined=SUBJECTIVE NORM)

Control beliefs, perceived power (self-efficacy) (combined=PERCEIVED CONTROL)

INTENTION → **Action**

Theory of Planned Behavior

APPLICATIONS TO CHANGE FACTORS THAT AFFECT INTENTION

ATTITUDES: Increase exposure to pro-behavior attitudes

SUBJECTIVE: Social marketing to ‘naturalize’ desired behavior NORM

PERCEIVED CONTROL: Identify behaviors within control, then train and guide, goal setting, reinforce, demonstrate skills

INCREASE INTENTION → **Action**

Behavior Change and Rationality

"How am I supposed to think about consequences before they happen?"

TICR Professional Conduct Statement

Clarifications for this class

- I will maintain the highest standards of academic honesty
- I will neither give nor receive aid in examinations or assignments unless such cooperation is expressly permitted by the instructor
- I will conduct research in an unbiased manner, reports results truthfully, and credit ideas developed and work done by others
- I will not use answer keys from prior years
- I will write answers in my own words, and, when collaboration is permitted, acknowledge collaborators when answers are jointly formulated