

**Understanding and changing public and
patient behavior: Theory, Evidence, Planning
or
What's Behind the Translational Toolbox?**

Epi 245

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Learning Objectives

1. Recognize key components of widely used theories for understanding health behavior and for planning health behavior change interventions
2. Understand how social marketing is an application of presented theories on health behavior/behavior change
3. Understand health behavior-related theoretical influences in presented examples and from the readings

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

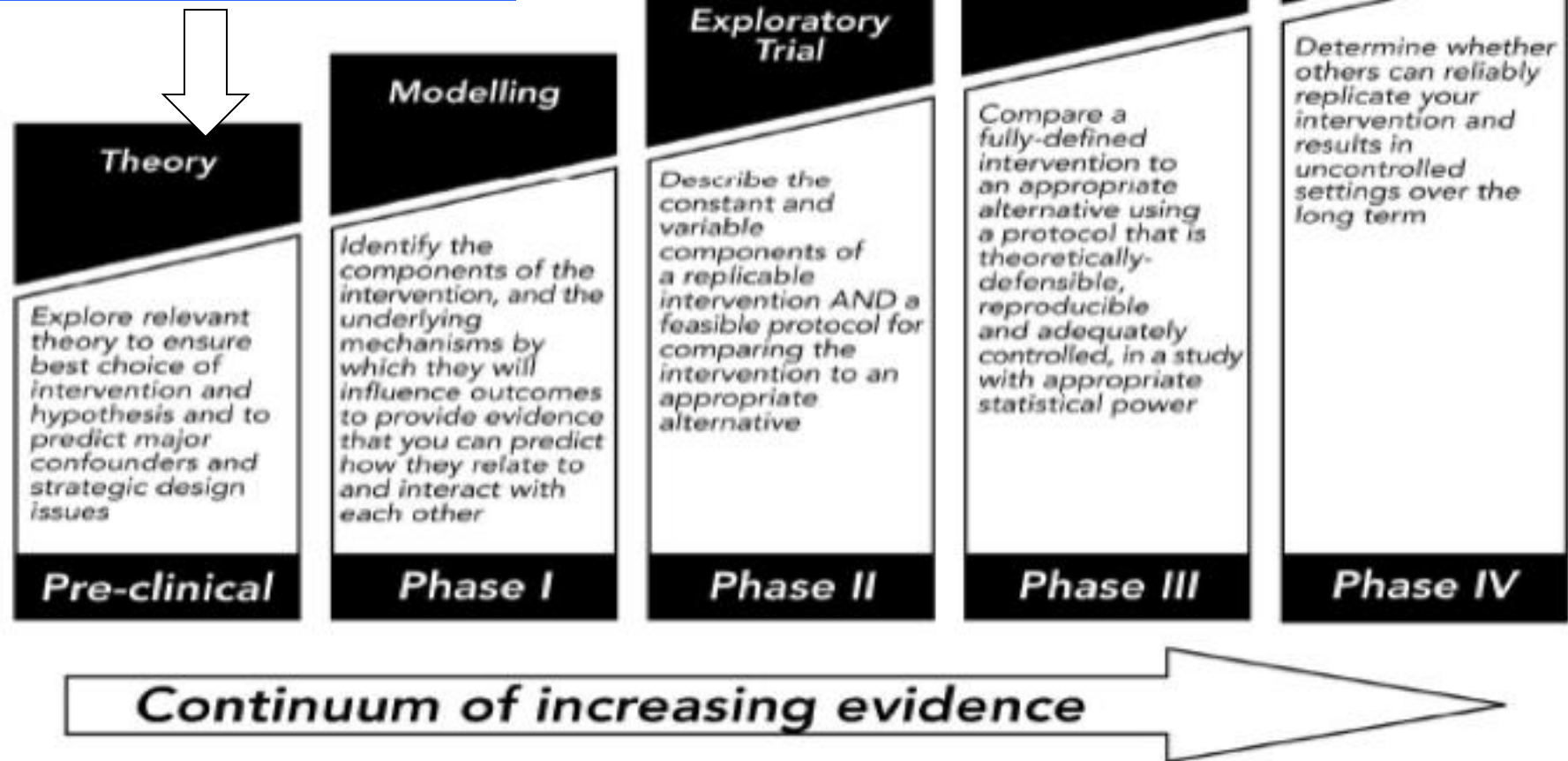
Green, L.W. American Journal of Public Health 96(3): 406-409, Mar. 2006

*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

What theories are linked to the behavior to be targeted?

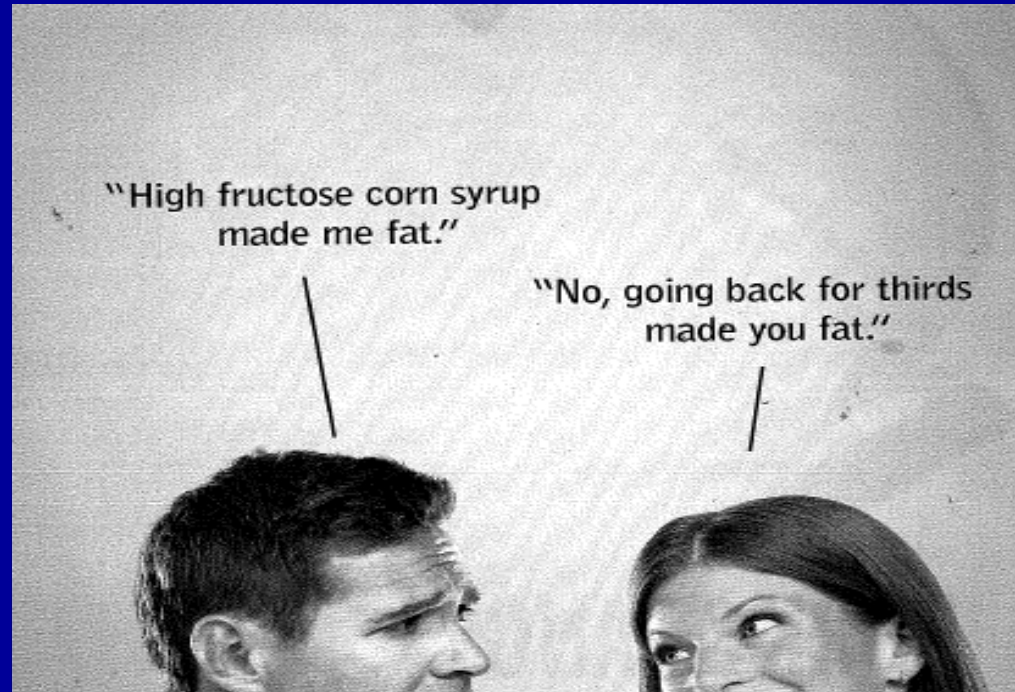


Eccles, M e al, 2005. J Clin Epi 107-112. Medical Research Council, 2000
See also: <http://grants.nih.gov/grants/guide/pa-files/PAR-13-055.html>

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

An Individual or a Structural/Ecological Perspective?



"High fructose corn syrup made me fat."

"No, going back for thirds made you fat."

Wonder what the facts are about high fructose corn syrup? Well, you're in for a sweet surprise. That's because it's natural, nutritionally the same as table sugar and has the same number of calories. And like sugar, should be enjoyed in moderation. To learn the facts, please visit our new SweetSurprise.com website.

www.SweetSurprise.com



Ecological and Individual Perspectives

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

-Brownell et al, Health Affairs 2010



“There is a confluence of structural forces that shape and determine poverty and it is important to probe beneath the superficial determinants of and presumptions about poverty.”

-N Gunewardena Controversies in Education, 2009

An Ecological Perspective of Health Behavior Change



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

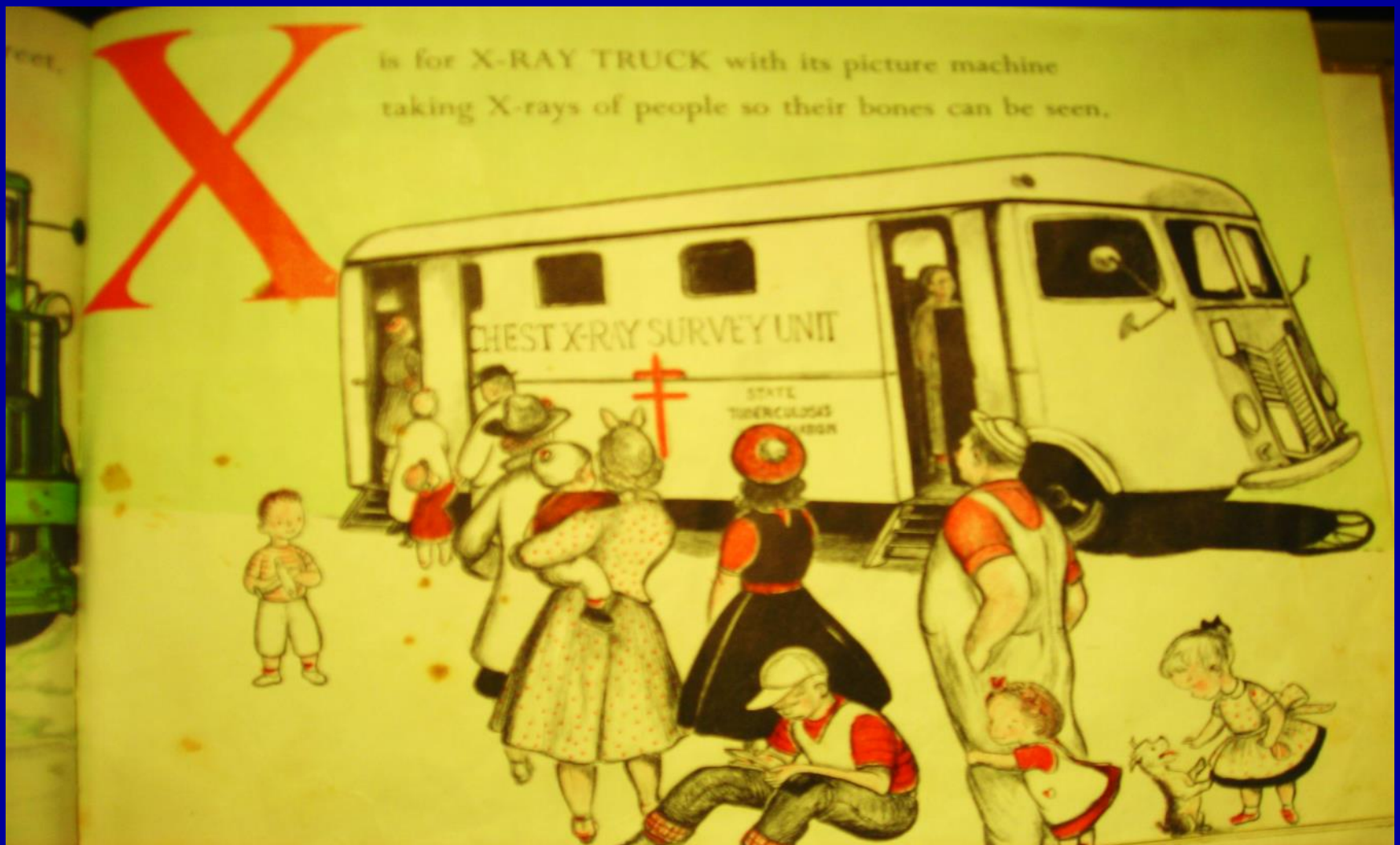
Proctor E, Writing implementation research grant proposals: ten key ingredients.

Implement Sci. 2012 ; Bartholemew and Mullen. 2011

Practical uses of health behavior theories



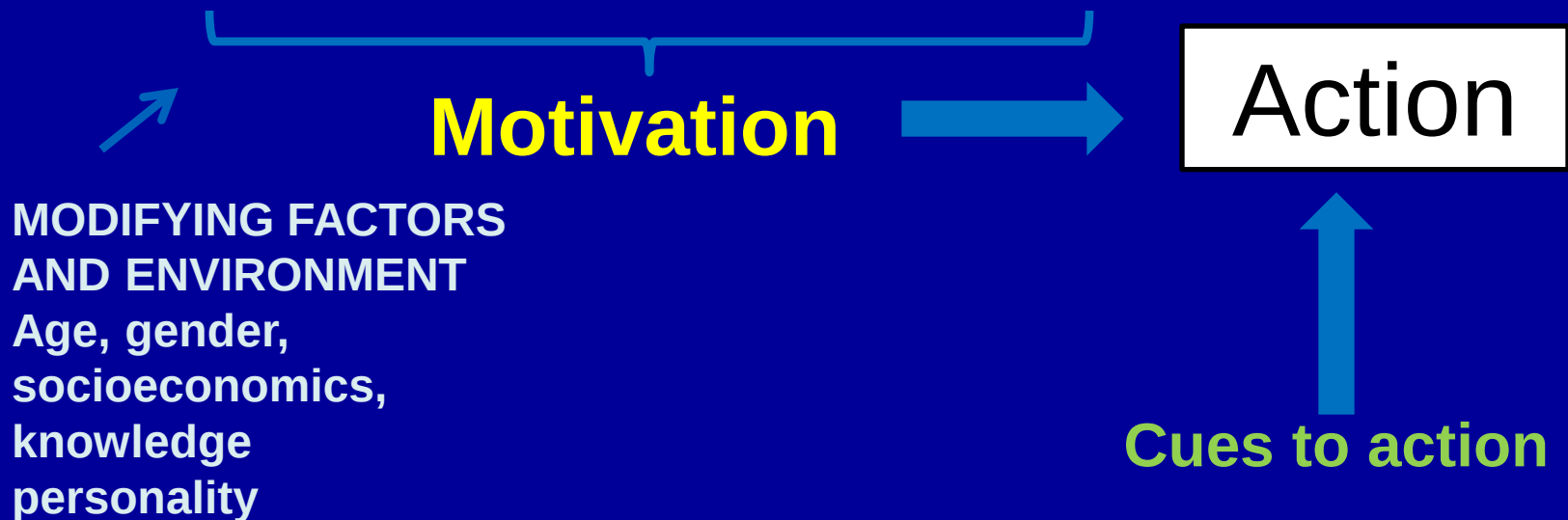
Cognitive Theories- Health Belief Model



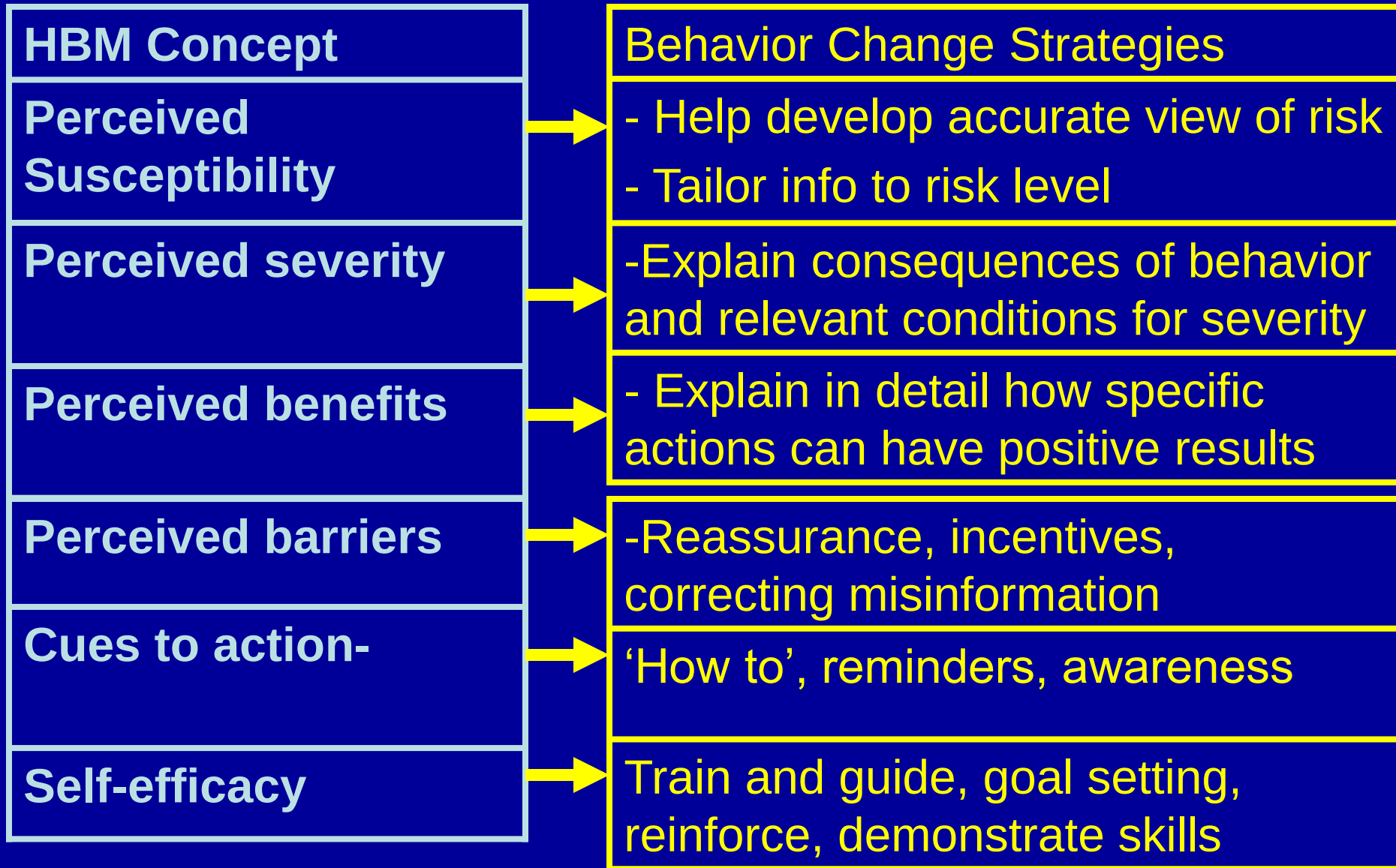
Health Belief Model

FOCUS ON INDIVIDUAL BELIEFS THAT AFFECT **MOTIVATION**

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



HBM - Behavior Change Strategies



Health Belief Model

- Very broad range: began with screening, then applied to 'lifestyle', risk behaviors, and medication adherence.
- Great for planning health communication/education
- Very population-specific for many behaviors, which are often dynamic – this is good and bad.
- Does not address enabling/reinforcing factors.
- Ignores social context and recognition of this has led to HBM's use in combination with other constructs and theories that reflect non-self factors

Health Belief Model

- Questions? Comments?
- How might this be used in your work?

Theory of Planned Behavior

MODIFYING
FACTORS AND
ENVIRONMENT

FOCUS ON BELIEFS THAT AFFECT INTENTION

Demographic

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

Attitudes to
target
Behavior

normative beliefs, Motivation
(combined=SUBJECTIVE NORM)

Personality

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

INTENTION



Action

Target Strategies: TPB

TPB Concept

Attitudes

Subjective norm

Perceived behavioral control and self-efficacy

Strategies for Increasing Behavioral Intention

- Increase exposure to pro-behavior attitudes with education

- Social marketing to 'naturalize' desired behavior

- Identify behaviors within control, then train and guide, goal setting, reinforce, demonstrate skills

Theory of Planned Behavior

- Questions? Comments?
- How might this be used in your work?

Health Belief Model

Example 1: Influenza vaccination behavior variability among racial/ethnic groups

- Vaccination rates in age >65 lower than target
- Large disparities evident by race/ethnicity for African American and Latinos, but no disaggregated data on Asian ethnic sub-groups (e.g. Japanese and Filipino-Americans)

Q: What are beliefs re susceptibility, severity and barriers to vaccination among diverse ethnic groups ages 50-75? Doer and non-doers examined.

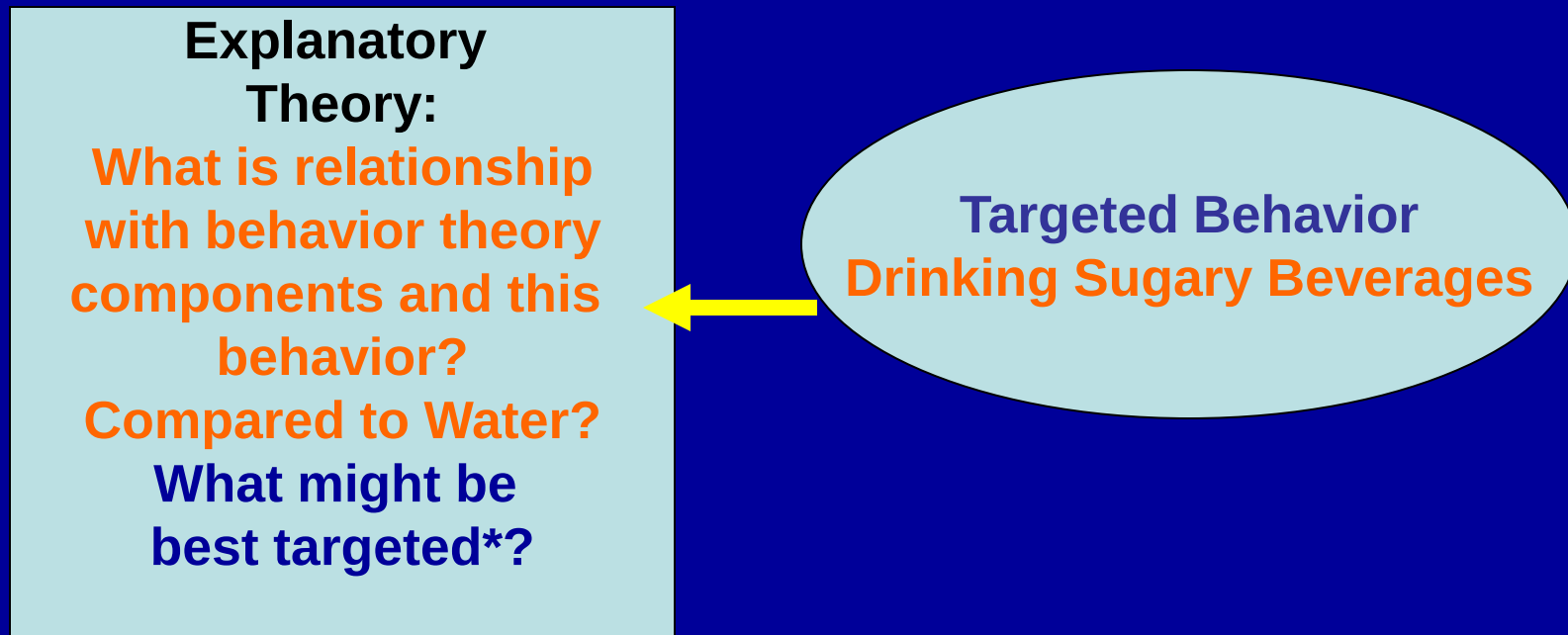
Influenza Vaccination Behavior and Beliefs: HBM

Concept Measure	Specific Item
-Vaccination behavior	Did you get influenza vaccination?
-Perceived susceptibility	How concerned are you about getting flu?
-Perceived severity	How would getting the flu make you feel?
-Perceived barriers	What is main reason you did not get flu vaccination last year?
-Demographics	Ethnicity, age, insurance, age, income, education, nativity, chronic illnesses

Influenza Vaccination Behavior and Beliefs: HBM

Concept Measure	Results
-Vaccination uptake	Varied by ethnicity from 44-73%. Lowest in Af. American and Latinos. Filipinos < likely than whites to be vaccinated.
-Perceived susceptibility to flu	Strongly related to vaccination. Lower in Latinos. Filipino < whites. Many perceived limited susceptibility.
-Perceived flu severity	Bigger predictor in Af Americans but many thought not that bad.
-Perceived barriers to vaccination	Very diverse. Structural barriers, mistrust.

EXAMPLE - Practical uses of TPB



*The long-term goal of this work is to apply findings for the development and implementation of culturally specific behavioral strategies and interventions for reducing SSB intake among Appalachian residents. Qualitative Application of the Theory of Planned Behavior to Understand Beverage Behaviors among Adults- Zoellener et al 2012-

Soda

Attitudes			
Theme	#FG ^a	#MU ^b	Example MU
Positive			
Beverage attributes	8	97	"..because the taste was so good, nice and tart, that was the good thing"
Health outcomes	5	19	"If you're a little sick to your stomach, I find you can drink coke and it will settle it"
Cost	3	6	"Cheap to buy too. Sunny-D's not very expensive."
Negative			
Beverage attributes	8	78	"WAY too much caffeine."
Health outcomes	8	25	"I heard if you drink one soda, one can of soda a day, you'll gain 12 pounds in a year"
Cost	2	3	"I just don't like the price on them [energy drinks]. They're outrageous."
Subjective Norms			
Theme	#FG ^a	#MU ^b	Example MU

Water

Attitudes			
Theme	#FG ^a	#MU ^b	Example MU
Positive			
Health outcomes	8	47	"I know I always feel better if I notice I drink more water during the day. I always feel better you know..."
Beverage attributes	5	14	"I've always like water. I've just liked the taste of water. I always did."
Cost	3	4	"It's cheap, it's not that expensive."
Negative			
Quality issues	7	41	"I guess you never know if you well's clean or not."
Beverage attributes	6	20	"I've lived in both situations. A cup of coffee made with bleach water [in reference to city water] tastes terrible."
Health outcomes	5	20	"But I've actually heard you can drink too much water. I've heard that too. That it causes electrolytes to go crazy."
Subjective Norms			

Behavior Change and Rationality



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

Theory and Development of Interventions

Figure 10. Using Theory to Plan Multilevel Interventions

<i>Change Strategies</i>	<i>Examples of Strategies</i>	<i>Ecological Level</i>	<i>Useful Theories</i>
 Change People's Behavior Change the Environment	• Educational sessions • Interactive kiosks • Print brochures • Social marketing campaigns	Individual	Stages of Change Precaution Adoption Process Health Belief Model Theory of Planned Behavior
	• Mentoring programs • Lay health advising	Interpersonal	Social Cognitive Theory
	• Media advocacy campaigns • Advocating changes to company policy	Community	Communication Theory Diffusion of Innovations Community Organizing

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

Social Marketing for Health



SOCIAL MARKETING IS:

"the systematic application of marketing, alongside other concepts and techniques, to achieve specific behavioural goals, for a social good."

HEALTH-RELATED SOCIAL MARKETING IS:

"the systematic application of marketing, alongside other concepts and techniques, to achieve specific behavioural goals, to improve health and to reduce inequalities."

French, Blair-Stevens 2006

Social Marketing and Health

Goal – Sell ideas for the public good using commercial strategies. For behavior, the product is the behavior you want to see.

Key Principles –

- Action is the objective
- The target audience is the focus
- The exchange is critical (costs and benefits)
- Must segment markets
- Use all four Ps (product, price, placement, promote)
- Analyze and beware of competition
- Monitor and be flexible

Consider individuals' context - community and society

Social marketing draws on methods and theories from:

- Anthropology
- Behavioral economics
- Design
- Persuasive technology research
- Public health
- Social psychology

What are social marketing strategies used for?

- Develop communication campaigns

AND...

- Design educational materials
- Improve services
- Re-design structural/environmental conditions to make it easier for people to adopt specific behavior

Social Marketing and Use of Behavior Theories

HPV Vaccine Social Marketing Campaign- Schafer et al 2011:

Principles of social marketing were:

Product (recommended vaccine against HPV)

Price (cost, perception of safety and efficacy, and access)

Promotion (posters, brochures, website, news releases, doctor's recommendation), and

Place (doctors' offices, retail outlets). Analysis: (1) website traffic, hotline calls, and media placement; (2) cross-sectional surveys of mothers and providers; and (3) HPV immunization rates in intervention versus non-intervention counties. (higher)

Homework and Small Groups

1. Suppose you are conducting an interview survey to help design an intervention to improve a specific patient or clinician behavior. Please complete the table below for (1) a prevention-oriented patient behavior, OR (2) a clinician behavior, such as recommending a new screening test in practice

	Health Belief Model	Theory of Planned Behavior
	*Write a sample question that would gather information on each of the theoretical constructs e.g. for <u>severity</u> , <i>How sick do you think getting exposed to the HPV virus can make you? What might be the symptoms?</i>	*Write a sample question that would gather information on each of the theoretical constructs
Prevention-behavior (patients) eg. getting a HPV vaccine among adolescent girls Your Example:	Severity Susceptibility Barriers Benefits Cues to Action Self-efficacy	Attitude Subjective Norm Perceived Control Self-efficacy

Homework and Small Groups

Screening behavior (clinicians) e.g. Offering HPV-vaccination and counseling during pediatric well child visits Your Example:	Severity Susceptibility Barriers Benefits Cues to Action Self-efficacy	Attitude Subjective Norm Perceived Control Self-efficacy
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2. List two limitations of each of these theories.