

**Advanced Training Institute on Health Behavior Theory
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Expanded Course Syllabus

Note: Details of course exercises and readings follow the expanded course syllabus.

Day 1

Arrival and Introduction to Course Goals

Day 2

Fundamental Issues

I. Exercise: Creating a Public Service Announcement for Health Behavior Change

Instructor: Sue Curry

II. Terminology

Instructor: Neil Weinstein

- What is a theory?
- Theories, models, and frameworks
- Comprehensive versus narrow theories
- Components of a theory description

III. Forming vs. Changing Behavior

Instructor: Barbara Curbow

- We typically view health behaviors as "good" or "bad" overt actions.
- Viewing behavior in this manner is simplistic and misleading -- especially when considering that many of the health behaviors of interest are "nonbehaviors" that may be good (e.g., not smoking) or bad (e.g., not obtaining a mammogram).
- The most widely used health behavior change theories focus primarily on changing bad behaviors or nonbehaviors not on promoting good behaviors.
- There is a need to think about a spectrum of forming vs. changing behaviors and to have theoretical perspectives to match this continuum.
- The public health perspective has often thought of a continuum of primary, secondary, and tertiary prevention.
- Priority areas for theory development can be articulated when viewed from the vantage point of primary, secondary, and tertiary prevention.
- Behaviors must also be viewed as being embedded within individual and social contexts, thus leading to the need for multilevel perspectives.
- The interpretation of behaviors may vary due to actor-observer differences in explanations (attribution theory) or due to the paradigms employed by disciplines or subdisciplines.

IV. Exercise: Levels of Analysis

Instructor: Barbara Curbow

V. Levels of Influence: Interventions

Instructor: Dan Stokols

- The ecology of obesity: Principles of ecological analysis that can be used to frame a multi-level model of health behavior problems including physical inactivity and obesity
- Ways in which social ecological models of health and illness go beyond biomedical and biopsychosocial models—focus on the physical as well as the social environment in relation to health behavior and wellness outcomes
- A cornerstone of ecological analysis: Interdisciplinary—what is a scientific discipline and how do cross-disciplinary analyses integrate biological, psychological, social, and physical environmental “facts”?
- Types of cross-disciplinary research: multi, inter-, and transdisciplinary models
- Examples of transdisciplinary constructs: environmental racism, Hawthorne Effect, defensible space, and technological vs. natural disasters
- Systems theory, another core principle of ecological analysis
- Differences between deviation-countering and deviation amplifying systems

VI. Multilevel Models

Instructor: Dan Stokols

- Contextual analysis is essential to the development of multi-level analyses of health behavior and outcome
- Dimensions of contextual representation: spatial, temporal, and cultural SCOPE; individual or aggregate FOCUS; objectivist vs. subjectivist PERSPECTIVE; and partitive vs. composite STRUCTURE used to represent people-environment relationships
- The “effective context”—those situational factors that are most crucial for understanding the form and occurrence of a particular phenomenon (e.g., obesity, physical activity, smoking)
- Broad scope of ecological analyses leads to tradeoffs between parsimony and analytic scope
- Strategies for enhancing the parsimony and power of ecological research: TARGETING high priority, highly prevalent and severe health problems and identifying HIGH-LEVERAGE VARIABLES or those that exert the greatest influence on well-being across multiple levels of analysis
- Examples of targeting strategies: California’s Proposition 99 tax on cigarette sales; small businesses as an underserved population for health promotion efforts; interventions to reduce handgun violence in US urban areas
- Examples of leveraging strategies: incorporating active as well as passive interventions for health promotion; focusing on other-directed as well as personal health behaviors; identifying high-leverage settings that exert disproportionate influence on individuals’ chronic stress levels; design interventions to maximize “ecological depth” of positive health outcomes; maximize the social as well as the scientific validity of health research and health promotion programs

VII. Generalizability

Instructor: Alex Rothman

- What do we want from a theory of health behavior?
- Grappling with the challenge of developing theories that are responsive to features of a particular health behavior, population, or setting
- Case study: Using the staging algorithm from the Transtheoretical Model

Day 3

Current Theories and Types of Theories

I. Introduction

Instructor: Barbara Curbow

- Key aspects of psychology as a discipline (e.g., early link to philosophy) influence the nature of current behavioral theories.
- Although current theories emerge from the major systems of thought within psychology, it is difficult to identify the "birth" of a theory.
- Many of the ideas that we currently use in our theories and research are in fact quite old -- but their linkages are not identified or considered.
- Paradigms help to establish which theories of behavior are used at any given time.
- Paradigms can have both positive and negative effects on theory and research.
- Current behavioral theories can be discussed through the framework of critical questions.
- Many of these questions are woven into the historical fabric of psychology (e.g., cognition and behavior).

II. Decision-Oriented Theories

Instructor: Neil Weinstein

- Description of some popular theories
- Implications for behavior change interventions
- Underlying assumptions about health behavior
- Critique of assumptions about behavior, information processing, and decision making

III. Theories With Emotion as Central

Instructor: Barbara Curbow

- Affect and emotion have often been used interchangeably in the literature.
- Emotion has been linked to behavior in theories that explore how new behaviors are learned (e.g., positive reinforcement in classical conditioning).
- Emotion has been linked to behavior through the concept of attitudes (affective or evaluative responses to objects) as causal constructs.
- Emotion has been linked to behavior as it either leads to the acceptance or rejection of behavior-related messages. The primary emotion that has been studied is fear.
- The relation of fear to behavior change has been controversial in the literature with theorists such as McGuire hypothesizing a curvilinear relationship and theorists such as Witte hypothesizing a positive linear relationship.

- In a review of the literature on fear messages and behavior change, Witte and Allen find positive results but the size of the effects are quite small.
- Fear, as a motivating emotion, is inherently difficult to study.
- Emotion has been linked to behavior through its ability to impede message processing. For example, using the Elaboration Likelihood Model, anxiety has been found to reduce the ability to learn from a message.
- As an alternative position, Isen has examined how positive affect positively influences behavior (e.g., better problem solving abilities).
- A variety of other positions on emotion and behavior can also be found in the literature.

IV. Social Influence

Instructor: Barbara Curbow

- Allport's definition of social psychology is used to demonstrate the reciprocal influence between individuals and their social context.
- One key method of using social influence is through persuasive communications.
- Persuasion can be differentiated from education, propaganda, and manipulation.
- Persuasive communication can be disseminated across a wide span of avenues from individual-based to mass media.
- There is a relatively small set of key constructs in the most widely used behavioral theories.
- In a meta-analysis on HIV studies, Albarracin et al. found that persuasive messages significantly influenced knowledge, attitudes, and expectancies but did not influence perceived severity, perceived susceptibility, control perceptions, intentions or behaviors.
- In terms of behavior, there were significant influences for attitudes, expectancies and behavioral skills but not for perceived threat, norms, or information.
- One important implication is that the communications did not influence the mediators; thus their efficacy in explaining behavior has not truly been tested.
- Kobus reviews 4 theoretical perspectives on how peer influence affects smoking behavior in adolescents: social learning theory, socialization theory, social identity theory, and social network theory.
- Kobus concludes that the effects of peer influence are subtle and that adolescents are active rather than passive in the process. For example, peers may influence behavior but adolescents actively choose peers.
- Although there is a long and rich tradition of research on compliance and conformity in social psychology, very few of the mini-theories or constructs in this literature have been tapped to explain health behavior.

V. Linking Culture to Individual Behavior

Instructor: Gilbert Gee

- Introduce the idea of Explanatory Frameworks
- Examine the relationship between culture and theory formation
- Review the premise, development, and history of the John Henryism hypothesis
- Discuss stress theory in relation to John Henryism

Day 4

Current Theories and Types of Theories (cont'd)

VI. Stage Models

Instructor: Neil Weinstein

- Conceptualization of behavior change
- Characteristics of stage theories
- Why should there be stages of health behavior change? Some psychologically important distinctions
- Examples of stage categories
- What the theories say produces change between these stages?
- Is health behavior change a stage process? How to test stage theories
- Pros and cons of using stage theories

VII. Exercise: Applying Theories to a Specific Behavior

Instructors: Barbara Curbow, Gilbert Gee

Selected Theory Components

I. SES Across Cultures

Instructor: Gilbert Gee

- Review two sociological perspectives on social class
- Understand how measurement of social class depends on perspective
- Examine the potential non-equivalency of social class between subpopulations
- Review the research between social class and health

II. Sun Protection Behavior

Instructor: Robin Mermelstein

- Importance of sun protection
- Risk for skin cancer – Gene X Environment
- Behavioral recommendations for sun protection
- How to conceptualize sun protection – multicomponent

- How to assess sun protection
- Factors that influence sun protection
- Examples of interventions to increase sun protection
- How intervention results inform theory and constructs

III. Intrinsic-Extrinsic Motivation

Instructor: Sue Curry

- Intrinsic and Extrinsic Motivation Background
 - Focus on “why” of motivation as distinct from “how much” motivation
 - Definitions
 - Intrinsically motivated behaviors are ones for which the rewards are internal to the person
 - Extrinsically motivated behaviors are ones that the actor performs to receive some extrinsic reward
- Steps in defining and testing Intrinsic-Extrinsic Motivation Model with Smoking Cessation
 - Reasons for Quitting Scale Development
 - Factor structure
 - Convergent and divergent validity
 - Internal consistency
 - Predictive validity
- Application of Intrinsic-Extrinsic Model to Smoking Cessation Interventions
- Randomized trial to evaluate intrinsic and extrinsic motivation strategies to increase use of a self-help smoking cessation program

IV. Self-Efficacy

Instructor: Alex Rothman

- Definition and background
- Determinants
- Measurement issues
- Predicting behavior

V. Sensation Seeking

Instructor: Barbara Curbow

- Personality can be defined as "consistent, stable, and distinctive traits and behaviors that characterize individuals."
- The role of personality in explaining health behavior is controversial because it is believed to be an individual-level explanation.
- Personality has been characterized in terms of inter-linked constructs (e.g., Big Five) and in terms of individual constructs (e.g., locus of control).

- Personality has been viewed as having a direct effect on behavior, as having a mediated effect on behavior, and as being a variable on which to tailor health messages.
- Sensation seeking is a widely used personality construct across all 3 pathways.
- The hypothesized causes of sensation seeking levels have evolved over time but it is largely thought to have some physiological component to its etiology.
- Donohew has hypothesized that the level of arousal induced by a message must fit a person's level of need for arousal -- this is affected by sensation seeking.
- Rolinson and Scherman found that the disinhibition component of sensation seeking was associated with predicted risk involvement.
- Results from a meta-analysis on locus of control and "persuadability" provide a good mechanism for thinking through the personality-behavior relationship.

Day 5

Selected Theory Components (cont'd)

VI. Risk Perception

Instructor: Neil Weinstein

- What is risk?
- Dimensions of risks
- Assessing perceived severity and perceived likelihood
- Accuracy of likelihood perceptions
- Studying risk perception-behavior relationships

VII. Assessment and Validity

Instructor: Robin Mermelstein

- Relationship of theory to measurement
- Different variables call for different assessment strategies
- Constructs vs. measures
- Latent variables and true scores
- Reliability – types and assessment
- Validity – types and assessment
- Guidelines and steps in scale development
- Factor analysis
- Measurement in the broader research context – before and after scale development issues and theory

VIII. Exercise: Scale Construction

Instructor: Robin Mermelstein

Day 6

Testing Theories

I. Does the Analysis Test the Theory?

Instructor: Neil Weinstein

- Articulating the specific predictions embedded in theories
- Choosing appropriate designs and contexts
- What if the tests are not significant? Issues of power
- Complications from multiple, low-powered tests
- Significance tests versus effect size measures
- Comparing theories with correlational data

II. Mediators and Moderators

Instructor: Alex Rothman

- Demystifying Mediators and Moderators
- What is a mediator?
- Testing mediation: A brief overview
- Thinking thoughtfully about mediation
- What is a moderator?
- Testing a moderator: A brief overview
- Thinking thoughtfully about moderation
- Linking mediation and moderation
- Why focus on mediators and moderators?

III. Longitudinal analysis: Growth Modeling

Instructor: Don Hedeker

- Advantages of mixed-effects regression models (MRM) over repeated measures MANOVA
- 2-level model for longitudinal data
 - Random intercepts model
 - Random intercepts and trend model
 - Descriptive statistics
 - Within-subjects and between-subjects components
- Empirical Bayes estimates of subject trends
- Examination of dependent variable across all time points by independent variable
- Random Coefficient model of Fishbein & Ajzen's Theory of Reasoned Action
- Practical issues
 - Number of random effects depends on sample sizes

- Estimation problems usually occur for variance-covariance parameters, not fixed effects
- ML or REML estimation
- Model selection
- Statistical tests of fixed effects
- Statistical tests of variance-covariance parameters

Day 7

Testing Theories (cont'd)

IV. Exercise: Longitudinal Data Analysis

Instructors: Don Hedeker, Alex Rothman

V. Research Programs

Instructor: Alex Rothman

- What is a research program?
- What does thinking programmatically afford?
- Why might we need to emphasize research programs?
- The “perspectivist” approach to research programs: A brief overview

Applications

I. Levels and Types of Interventions

Instructor: Sue Curry

- Clinical-public health continuum
 - Clinical interventions more intensive, focused more on selected groups of motivated individuals; Public Health interventions less intensive, focused on general population
 - Two approaches are not mutually exclusive
 - Largest number of health problems occur in non-high risk groups
 - Small changes at the population level can lead to large reductions in premature morbidity and mortality
 - Impact = Reach (proportion of target population exposed to intervention) * Effectiveness (change rate associated with intervention).
- Levels of intervention from social ecological perspective
 - Intrapersonal (motivational and skill training interventions)
 - Interpersonal (social norms, social network interventions)
 - Organizational/environmental (changes in workplace, schools, health care system, etc.)
 - Community (resource allocation, advocacy, structural changes in environment)
 - Policy (legislation, regulation, taxation)

- Role of theory in health behavior interventions
 - Theory guides
 - Choice of target population
 - Design of intervention components
 - Design of intervention studies
 - What variables should change?
 - When should data be collected?
 - How should key variables be operationally defined?

II. Theory-based Framework for Interventions

Instructor: Karen Emmons

- "Traditional" approach to intervention development
- Population-based perspectives
- Consideration of societal-determined mediating/modifying factors (e.g. moving beyond psychological variables)
- A social contextual framework as an example
- Strategies for intervention development

III. Exercise: Creating a Theory-Driven Conceptual Framework for Intervention Development/Intervention Model Development

Instructor: Karen Emmons

Day 8

Applications (cont'd)

IV. Exercise: Creating a Theory-Driven Conceptual Framework for Intervention Development/Mock Focus Group

Instructor: Karen Emmons

V. Research Designs for Evaluating Interventions

Instructor: Sue Curry

- Efficacy versus Effectiveness Studies
 - Vary based on program implementation (program as delivered vs. program as designed); program availability (level implementation, access); and program acceptance (compliance/adherence to treatment by participants)
- Components of Process Evaluation
 - Implementation assessment
 - Examination of relationships among different outcomes
 - Theory testing
- Types of Research Designs
 - Randomized clinical trials and group randomized trials experimental designs

- No-treatment comparison
 - Common factors
 - Dismantling
 - Additive
 - Catalytic
 - Parametric
 - Horse-race
- Non-randomized designs
 - Historical controls
 - Multiple baseline
- Issues in study design
 - Sample representativeness
 - Unit of randomization
 - Sample size
 - Statistical versus clinical significance
 - Length of follow-up
- PHS398 form research design and methods section
 - Goals
 - Operationalize specific aims of study
 - Clarify methodologic decisions/choices
 - Support scientific integrity of research protocol
 - Describe plans for data analysis and hypothesis testing
 - Enumerate strengths of the proposed study
 - Basic ingredients
 - Study design
 - Subjects
 - Experimental protocols
 - Data collection
 - Sample size and power calculations
 - Data analysis
 - Timetable

VI. Exercise: Mock Study Section

Instructor: Sue Curry

Day 9

Departure

Course Exercises

Exercise: Creating a Public Service Announcement For Health Behavior Change

Note for faculty: This exercise gives participants a chance to work together right away. The exercise helps participants appreciate that:

- 1. There are many possible target audiences.*
- 2. Crafting a message requires a clear sense of who the target audience comprises and what the target behavior is.*
- 3. The message components will reflect implicit, if not explicit, assumptions about key determinants of the target behavior in the target population.*
- 4. The process is facilitated by an explicit theoretical framework.*

Participant Instructions

To break the ice and have some fun you are going to work with several of your institute-mates to create a 30-second Public Service Television Ad to encourage increased physical activity.

Each group will spend 30 minutes filling in a 'story-board' for the PSA. We will then get together and share our ideas. Each group should be prepared to perform their PSA and to have a group member walk through the storyboard. Use the flip chart in your breakout room to summarize the storyboard.

The attached page has a guide for the storyboard. The basic ingredients are a description of the scene setting, up to 5 voice-overs, up to 5 scenes, and a final frame that can have voice and text over. Your group can use the template provided, or be creative and make their own storyboard mock-up.

PSA Story Board Elements

Scene Setting

Describe what viewers see when the ad starts (Scene #1)

First Voice Message

Scene #2

Second Voice Message

Scene #3

Third Voice Message

Scene #4

Fourth Voice Message

Scene #5

Final Voice Message

Final Shot (with print info if desired)

Exercise: Levels of Analysis

Note to faculty: This exercise illustrates the different levels of influence on health behavior that can be addressed in theoretical models. The exercise also helps participants understand how constructs from different theoretical models can come together to explain behavior.

Participant Instructions**DO THIS SECTION ON YOUR OWN.**

Consider this scenario: You are taking a walk through a local park and you notice an overweight teenage girl with a box of Krispy Kreme doughnuts. You slow down so that you can see what she is doing. As you watch, she eats a total of 6 doughnuts in quick succession. As a scientist, you wonder, "Why is she doing this?" You spend the rest of your walk thinking about the factors that might lead her to eat so many doughnuts and what types of interventions might change her eating behavior.

1. Use the white index cards and list 5 factors that you think may have influenced the girl's behavior -- one factor per card.
2. Use the blue index cards and list 5 possible interventions that could be undertaken to change the girl's behavior -- one intervention per card.

DO THIS SECTION IN A GROUP WITH THE PEOPLE WHO HAVE THE SAME COLOR PAPER AS YOU.

3. Look through all of the cards with factors that may have influenced the girl's behavior. With your group, develop a categorizing strategy for your cards.
 - 3.1 What is your strategy for categorizing the factors?
 - 3.2 What are your category titles?
4. Look through all of the cards with intervention strategies to change the girl's behavior. With your group, develop a categorizing strategy for your cards.
 - 4.1 What is your strategy for categorizing the interventions?
 - 4.2 What are your category titles?
5. Prepare to discuss your findings with the rest of the class.

Exercise: Applying Theories to a Specific Behavior

Note to faculty: The goal of this exercise is to illustrate how theory shapes research

This exercise has three parts.

Part A (5 minutes): Setup

Introduction.

As a class, vote on a health topic to discuss.

Part B (35 minutes): Generating Questions from Theory

1. Form into groups of five. Each group will focus on a different theoretical level (decision oriented, emotional, social, culture, stage). You should try to enter the group from which the theory is least familiar to you.
2. Spend a few minutes reviewing the perspectives and theories for your theoretical level.
3. By yourself (independently from the group)...write down three research questions, based on your theoretical perspective, on the health issue. The first question should focus on *forming* salutogenic behaviors, the second should examine *maintaining* salutogenic behaviors, and the third should examine changing *detrimental* behaviors. Provide a brief rationale for each question.

Question 1 (Forming):

Rationale for Question 1:

Question 2 (Maintaining):

Rationale for Question 2:

Question 3 (Changing):

Rationale for Question 3:

4. As a group...discuss the following:

a. The questions and their rationale. Did the questions your group members develop really coincide with the theory? Do these theories and questions lend themselves well to the health issue?

b. The process of developing these questions. Were some questions easier to write than others? Why?

Part C (40 minutes): Developing a multi-level model

1. Break into 5 new groups. Each new group will have one representative from the groups in Part B.

2. Develop a theoretical model that incorporates all five perspectives. Each theory does not need to be equally weighted (i.e., you may borrow more heavily from some theories than others), but all need to be represented. Your model may take any format (diagram, table, etc.), but it should be scribed onto poster paper. In your model, be sure to communicate how it is "multi-level."

Part D (25 minutes): Discussion

1. Tack your model up on the walls.

2. Examine all of the models. (10 minutes)

3. As a class...

Which models are the most different? Why? Which models best lend themselves to forming salutogenic behaviors? Maintaining? Changing risky ones?

Exercise: Scale Construction

Note to faculty: Split participants into at least two groups, and have each group work on constructing a scale for one of two constructs.

Instructions:

- I. Define the construct.
 - a. Is it unidimensional or multidimensional?
- II. Generate item pool.
 - a. Generate at least 10 Likert format items on a 6-point scale.
 - b. Consider what would be values endorsed by the "average person."
 - c. Write out instructions for completing the scale (time frame, etc.).
- III. Generate another set of Likert format items (at least 10) to tap a construct other than the identified one. Randomly mix the items together.
 - a. Have another group indicate what they think each of the items is intended to measure (which construct).
 - b. Have them rate the items as far as relevance and clarity.
- IV. Construct a plan for establishing the reliability of your scale.
 - a. How would you recruit a development sample? How many subjects would you recruit?
 - b. How specifically would you determine reliability (which types?)?
- V. Construct a plan for establishing validity.
 - a. Create a multimethod multitrait matrix specifying all variables and relationships.
- VI. How would you use factor analysis in the development of your scale?
- VII. Report back.

Exercise: Longitudinal Data Analysis

Use the syntax file RIESBYT4.SAS (which reads the dataset RIESBYT4.DAT) to replicate the analysis on page 37 of the overheads. Then, address one of the following related questions. For this, posit a reasonable statistical model to address the question, perform the analysis, and interpret the results.

1. Articles in the psychiatric literature have sometimes suggested that anti-depressants are more effective for endogenous depression, rather than reactive or non-endogenous depression. For the Riesby data, is there any evidence that the effect(s) of the drug plasma levels vary by diagnostic group?
2. Research in the psychiatric literature has also suggested that "about 2 to 3 weeks must pass before the therapeutic effects of the drugs are evident" (from *The Pharmacological Basis of Therapeutics, 5th edition*, Goodman & Gilman, 1975). Based on the Riesby data, what is the evidence regarding this statement?

Exercise: Creating a Theory-Driven Conceptual Framework for Intervention Development/Intervention Model Development

Exercise Goal: To draw on multiple theories of health behavior change to construct a conceptual model to guide the development of an intervention to increase fruit and vegetable consumption among elementary school children (grades K-4) in the Happydale Elementary School.

Background: Happydale Elementary School is located in a lower middle class community of 30,000 people. The school has approximately 500 students.

The Problem: Observational research has shown that, on average, only about half of children in the school eat at least one serving of fruit or vegetables at lunch. Fruit and vegetable consumption decreases with age/grade (see table below).

Grade(s)	% eating \geq 1 serving F&V at lunch
Kindergarten	70%
First	60%
Second	50%
Third	40%
Fourth	30%

Model Development (45 minutes):

1. Break into four groups of 6 and one group of 4.
2. Assign a scribe who will record the group's work on the board/flip charts.
3. Identify 3 theoretical frameworks that are relevant to the identified problem (e.g., motivational, cognitive, behavioral, interpersonal).
4. Drawing upon specific constructs from those theoretical frameworks, draw a figure that depicts your conceptual model. Illustrate the model with boxes and arrows for how you think the constructs fit together.
5. Drawing upon the intervention model, fill in the attached table.

Theoretical Frameworks Utilized:

- 1.
- 2.
- 3.

Draw Your Conceptual Model:

Construct	How operationalized/ measured	Level of measurement	Intervention Goal	Intervention Components

Report Back (30 minutes): Be prepared to share your intervention model and table and defend your choices.

Exercise: Creating a Theory-Driven Conceptual Framework for Intervention Development/Mock Focus Group

Exercise Goal: To provide the experience of being a participant and observer in a focus group being conducted for intervention development purposes.

Background: Happydale Elementary School is located in a lower middle class community of 30,000 people. The school has approximately 500 students.

The Problem: Observational research has shown that, on average, only about half of children in the school eat at least one serving of fruit or vegetables at lunch. Fruit and vegetable consumption decreases with age/grade (see table below). You have developed a conceptual model that will drive the intervention development process. You now need to check out the model through formative research to determine if you have included the appropriate components in your conceptual framework.

Grade(s)	% eating \geq 1 serving F&V at lunch
Kindergarten	70%
First	60%
Second	50%
Third	40%
Fourth	30%

Focus Groups:

I. Preparation (30 minutes):

1. Break into the same groups used for the Intervention Model Development Exercise (faculty will join the group of 4 as participants). Decide who the target audience for your intervention is.
2. You will have time to include questions about only 3 or 4 constructs in the focus group. Assign components of your conceptual model to members of your team. Each person/pair responsible for a construct should write 2 or 3 questions that will be used as part of the focus group script (10 minutes).
3. You have been provided with a start of your moderator's guide. Assemble the questions into a focus group script and add to the moderator's guide (5 minutes) and do any editing needed (15 minutes).

II. Focus Group (60 minutes):

1. Logistics: The goal is for each participant to have an opportunity to serve as both a moderator or observer/note-taker and a participant. Start the group with a moderator and observer/note-taker pair for the first question. That pair becomes participants when the question is finished, and the next pair handles the next question, etc.
2. Focus Group Participants: Your objective is to be a full participant in the discussion topic. Approach your participation as a general 'citizen,' rather than as a scientist. Speak openly and honestly about your views and experiences. If you wish, you can 'assume' an identity while you are a participant.

3. Observers/Note-takers: Your objective is to unobtrusively observe the discussion and take notes on hypotheses and themes that emerge from your observation. Together with the other note-takers you will compile notes for the whole focus group. You will take your notes on a computer so that by the end of the group there will be a 'transcript' of sorts, documenting the content of the group.
4. Facilitators: Your objective is to lead the group discussion, sticking to the script as much as possible, but using additional probes and questions when needed to fully explore a topic.

III. Theme Elaboration (60 minutes):

1. Following completion of the focus groups, you will print the observers' notes, and work independently to identify themes that emerged (15 minutes).
2. As a group, discuss the themes that emerged, solve disagreements, and generate consensus about the themes (15 minutes).
3. Modify your conceptual model as needed (15 minutes)
4. In general terms, being to articulate implications of revised conceptual model for intervention design (e.g., how will you change the intervention components that you laid out originally in your conceptual model? What will the key components of the intervention be?) (15 minutes).

IV. Report Back (15 minutes):

1. The entire class:
 - a. What was it like being a focus group participant?
 - b. What was it like being a facilitator?
2. Each group:
 - a. Share the key themes generated by your focus group.
 - b. Share the implications of the focus group for your conceptual model, and how it changed as a result of this qualitative work.

Focus Group Moderator Guide:

A. Introduction (3 minutes):

Good evening, my name is _____, and I'll be your moderator this evening. Welcome to our focus group discussion tonight.

A focus group is a small group discussion that focuses on a particular topic in depth. Tonight we will be talking about various health issues. I'm not an expert in the topics we'll be discussing tonight, and I'm not here to give you information. I'm here to listen to your ideas and thoughts on these issues. It's also important for you to know that I'm an independent consultant and do not work for the sponsors of this discussion.

In a focus group, there are no right or wrong answers, only opinions, and I'd like to hear from all of you about equally. It's important that I hear what each of you thinks, because your thoughts may be similar to those of many other people who aren't here at this table

tonight. Your ideas are extremely important to us, and I'm interested in your comments and opinions. Please feel free to speak up even if you disagree with someone else here. It's OK to disagree, because it's helpful to hear different points of view. I'm also interested in any questions you may have as we go along.

We have a lot of ground to cover in the next two hours, so, for the sake of time, I may jump ahead to the next topic from time to time, but please stop me if you want to add anything.

We're audiotaping and videotaping our discussion. Everything you say is important to us, and we want to make sure we don't miss any comments. Later, we'll go through all of your comments and use them to prepare a report on our discussion. I want to assure you, however, that all of your comments are confidential and will be used only for research purposes. Nothing you say will be connected with your name. Also, if there are any questions you would prefer not to answer, please feel free not to respond to them.

There are also some colleagues of mine behind the one-way mirror who are interested in what you have to say.

B. Warm up (10 minutes):

[While participants are in the waiting room, they will be given magazines and asked to tear out a picture by which to introduce themselves to the group.]

1. I'd like to begin by having each of you tell us your first name and a little about yourself--and show us the picture you chose to introduce yourself to us.
2. What are some of the health problems that you personally worry about (not necessarily health problems you have, but are concerned about getting)?

C. Construct #1

- 1.
- 2.
- 3.

D. Construct #2

- 1.
- 2.
- 3.

E. Construct #3

- 1.
- 2.
- 3.

F. Close (2 minutes):

1. We've come to the end of our discussion. The sponsors of this focus group are some pointy-headed researchers from Ivory Tower University. They are much appreciative of your time.
2. Do you have any additional comments you would like to make on tonight's topic?
3. On behalf of pointy-headed researchers everywhere, I want to thank you for your participation. Your opinions tonight will be very valuable.

Exercise: Mock Study Section¹

Overview

The goal of this exercise is to provide some hands-on experience as a member of a study section. Time constraints preclude a 'soup to nuts' experience, but preparation for and participation in an abbreviated study section will be valuable.

You will receive the text from two grants that have been through the peer review process. They are unedited from their submitted text. Not included are all of the budget sheets, resources and environment sections, biographical sketches, etc. One grant includes the section on protection of human subjects and the complete reference list; the other grant does not.

There will be four study section groups. Your assignment will be posted later in the week. Each group will review and discuss both proposals. Each reviewer will be assigned to prepare a written critique of one of the proposals; you are encouraged to read both proposals so that you can participate fully in the discussions.

You can prepare and work from a written review on your laptop computer. If folks want to share their written reviews before or after the study section meetings, they can provide file copies for printing and distribution.

The attached documents are NIH instructions for reviewers.² They include a review template. You do not have to prepare written comments regarding investigator, environment, protection of human subjects (although your critique can raise issues that you feel are important), inclusion of minorities, women and children, or budget. *Your main assignment is to prepare a written critique for the significance, approach, innovation, and overall evaluation sections of the review.* These sections typically constitute the bulk of written comments.

Reviewer instructions

See the attached document (bottom of page 1, top of page 2). As you will see, the instructions are not detailed. Just to jump start the critique process, you may want to think about comments related to: the importance of proposed research, its likely contribution to the field, the clarity of research questions and hypotheses, how well developed the theoretical model or guiding conceptual framework is and the degree to which it carries through the proposal, the appropriateness of the selected research design, the appropriateness of the target population and clarity of eligibility criteria, feasibility of the approach as demonstrated through preliminary studies, appropriateness, reliability and validity of the proposed assessment methods, sample size and power, appropriateness

¹ Note: Exercise requires the availability of the text portion of an RO1

² These documents can be found at: <http://www.csr.nih.gov/Guidelines/revguide.htm> and <http://www.csr.nih.gov/guidelines/proc.htm>

of the proposed data analysis strategies. As noted in the NIH guide, you will want to note both strengths and weaknesses. Do not reiterate the grant in your critique, and stick to the main issues that would influence your level of enthusiasm for funding the proposal. Your job is to be clear and constructive; your job is not to redesign the study or to overwhelm the investigator with minor comments on all aspects of the study.

You may want to keep in mind that during actual study section meetings, proposals that are discussed (and that is typically only 50% of those assigned to the study section) are allotted about 15 minutes for presentation of 3 reviews and discussion. Reviewers are encouraged to write their comments, but not to read them verbatim to their colleagues!

Course Readings

Day 1**Arrival and Introduction to Course Goals**

No readings.

Day 2**Fundamental Issues****I. Exercise: Creating a Public Service Announcement for Health Behavior Change**

No readings.

II. Terminology.

No readings.

III. Forming vs. Changing Behavior

Williams, P.G., Holmbeck, G.N., & Greenley, R.N. (2002). Adolescent health psychology. *Journal of Consulting and Clinical Psychology, 70*, 828-842.

IV. Exercise: Levels of Analysis

Booth-Butterfield, M. (2003). Embedded health behaviors from adolescence to adulthood: The impact of tobacco. *Health Communication, 15*, 171-184.

V. Levels of Influence: Interventions

Stokols, D. (2000). Social ecology and behavioral medicine: Implications for training, practice, and policy. *Behavioral Medicine, 26*, 129-138.

Stokols, D., Grzywacz, J.G., McMahan, S., & Phillips, K. (2003). Increasing the health promotive capacity of human environments. *American Journal of Health Promotion, 18*, 4-13.

VI. Multilevel Models

Best, A., Stokols, D., Green, L.W., Leischow, S., Holmes, B., & Bucholz, K. (2003). An integrative framework for community partnering to translate theory into effective health promotion strategy. *American Journal of Health Promotion, 18*, 168-176.

King, A. C., Stokols, D., Talen, E., Brassington, G. S., & Killingsworth, R. E. (2002). Theoretical approaches to the promotion of physical activity: Forging a transdisciplinary paradigm. *American Journal of Preventive Medicine*, 23(S2), 15-25.

Stokols, D. (1996). Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10, 282-298.

VII. Generalizability

No readings.

Day 3

Current Theories and Types of Theories

I. Introduction

No readings.

II. Decision-Oriented Theories

Sheeran, P., & Abraham, C. (1995). The health belief model. In M. Conner & P. Norman (Eds.), *Predicting health behavior* (pp. 23-61). Philadelphia: Open University Press.

Steinberg, L. (2003). Is decision making the right framework for research on adolescent risk taking? In D. Romer (Ed.), *Reducing adolescent risk* (pp. 18-24). Thousand Oaks, CA: Sage.

III. Theories With Emotion as Central

Witte, K. & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education & Behavior*, 27, 591-615.

Isen, A.M. (2002). A role for neuropsychology in understanding the facilitating influence of positive affect on social and cognitive processes. In C.R. Snyder & S.J. Lopez (Eds.), *Handbook of positive psychology* (pp. 528-540). London: Oxford University Press.

IV. Social Influence

Albarracin, D., McNatt, P.S., Klein, C.T.F., Ho, R.M., Mitchell, A.L., & Kumkale, G.T. (2003). Persuasive communications to change actions: An analysis of behavioral and cognitive impact in HIV prevention. *Health Psychology*, 22, 166-177.

Cialdini, R.B., & Goldstein, N.J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55, 591-621.

Kobus, K. (2003). Peers and adolescent smoking. *Addiction*, 98 (S1), 37-55.

V. Linking Culture to Individual Behavior

James, S.A. (1994). John Henryism and the health of African-Americans. *Culture, Medicine, & Psychiatry*, 18, 163-182.

James, S.A., Hartnett, S.A., & Kalsbeek, W.D. (1983). John Henryism and blood pressure differences among black men. *Journal of Behavioral Medicine*, 6, 259-278.

Day 4

Current Theories and Types of Theories (cont'd)

VI. Stage Models

Weinstein, N. D., & Sandman, P. M. (2002). The precaution adoption process model. In K. Glanz, B.K. Rimer, & F.M. Lewis (Eds.), *Health behavior and health education: Theory, research, and practice* (3rd ed., pp. 121-143). San Francisco: Jossey-Bass.

Prochaska, J. O., Redding, C. A., & Evers, K. E. (2002). The transtheoretical model and stages of change. In K. Glanz, B.K. Rimer, B. K., & F.M. Lewis (Eds.), *Health behavior and health education: Theory, research, and practice* (3rd ed., pp. 99-120). San Francisco: Jossey-Bass.

Weinstein, N. D., Rothman, A. J., & Sutton, S. R. (1998). Stage theories of health behavior: Conceptual and methodological issues. *Health Psychology*, 17, 290-299.

VII. Exercise: Applying Theories to a Specific Behavior

No readings.

Selected Theory Components

I. SES Across Cultures

No readings.

II. Sun Protection Behavior

No readings.

III. Intrinsic-Extrinsic Motivation

Ryan, R.M., & Deci, E.L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25, 54-67.

Curry, S.J., Wagner, E.W., & Grothaus, L. (1990). Intrinsic and extrinsic motivation for smoking cessation. *Journal of Consulting and Clinical Psychology*, 58, 310-316.

Curry, S.J., Grothaus L.C., & McBride C.M. (1997). Reasons for quitting: Intrinsic and extrinsic motivation for smoking cessation in a population-based sample of smokers. *Addictive Behaviors*, 22, 727-739.

IV. Self-efficacy

Baer, J.S., Holt, C.S., & Lichtenstein, E. (1986). Self-efficacy and smoking reexamined: Construct validity and clinical utility. *Journal of Consulting and Clinical Psychology*, 54, 846-852.

V. Sensation Seeking

Rolison, M.R. & Scherman, A. (2003). College student risk-taking from three perspectives. *Adolescence*, 38, 689-704.

Day 5

Selected Theory Components (cont'd)

VI. Risk Perception

Weinstein, N. D. (1998). The perils of unrealistic optimism. In R.L. Atkinson, R.C. Atkinson, E.E. Smith, D.J. Bem, & S. Nolen-Hoeksema (Eds.), *Hilgard's introduction to psychology* (p. 520). Fort Worth, TX: Harcourt Brace.

Taylor, S. (1998). Unrealistic optimism can be good for your health. In R.L. Atkinson, R.C. Atkinson, E.E. Smith, D.J. Bem, & S. Nolen-Hoeksema (Eds.), *Hilgard's introduction to psychology* (p. 521). Fort Worth, TX: Harcourt Brace.

Fischhoff, B., Bostrom, A., & Quadrel, M. J. (2002). Risk perception and communication. In R. Detels, J. McEwen, R. Beaglehole, & H. Tanaka (Eds.), *Oxford textbook of public health (4th ed., pp. 1105-1123)*. London: Oxford University Press.

VII. Assessment and Validity

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from person's responses and performances as scientific inquiry into score meaning. *American Psychologist*, *50*, 741-749.

VIII. Exercise: Scale Construction

Clark, L.A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment*, *7*, 309-319.

Day 6

Testing Theories

I. Does the analysis test the theory?

Rutledge, T., & Loh, C. (2004). Effect size and statistical testing in the determination of clinical significance in behavioral medicine research. *Annals of Behavioral Medicine*, *27*, 138-145.

Brewer, N.T., Weinstein, N. D., Cuite, C. L., Herrington, Jr., J.E., & Hayes, N. (2004). Risk perceptions and their relation to risk behavior. *Annals of Behavioral Medicine*, *27*, 125-130.

Weinstein, N. D. (1993). Testing four competing theories of health-protective behavior. *Health Psychology*, *12*, 324-333.

II. Mediators and Moderators

Baron, R. M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.

Baranowski, T., Anderson, C., & Carmack, C. (1998). Mediating variable framework in physical activity interventions: How are we doing? How might we do better? *American Journal of Preventive Medicine*, *15*, 266-297.

III. Longitudinal Analysis: Growth Modeling

Hedeker, D. (in press). An introduction to growth modeling. In D. Kaplan & M. Seltzer (Eds.), *Handbook of quantitative methodology for the social sciences*. Thousand Oaks, CA: Sage.

Day 7

Testing Theories (cont'd)

IV. Exercise: Longitudinal Data Analysis

No readings.

V. Research Programs

McGuire, W.J. (1989). A perspectivist approach to the strategic planning of programmatic scientific research. In B. Gholson, W.R. Shadish, Jr., R.A. Neimeyer, & A.C. Houts (Eds.), *Psychology of science: Contributions to metascience* (pp. 214-245). New York: Cambridge University Press.

Applications

I. Levels and Types of Interventions

Emmons, K.M. (2000). Behavioral and social science contributions to the health of adults in the United States. In B.D. Smedley & S.L. Syme (Eds.), *Promoting health: Intervention strategies from social and behavioral research* (pp. 254-298). Washington, DC: National Academy Press.

Lichtenstein, E., & Glasgow R.E. (1992). Smoking cessation: What have we learned over the past decade? *Journal of Consulting and Clinical Psychology, 60*, 518-527.

Curry, S.J., & Emmons, K.M. (1994). Theoretical models for predicting and improving compliance with breast cancer screening. *Annals of Behavioral Medicine, 16*, 302-316.

II. Theory-Based Framework for Interventions

Parcel, G.S., Taylor, W.C., Brink, S.G., Gottlieb, N., Engquist, K., O'Hara, N.M., Eriksen, M.P. (1989). Translating theory into practice: Intervention strategies for the diffusion of a health promotion innovation. *Family & Community Health, 12*, 1-13.

Fishbein, M. (1995). Developing effective behavior change interventions: Some lessons learned from behavioral research. *NIDA Research Monograph, 155*, 246-261.

III. Exercise: Creating a Theory-Driven Conceptual Framework for Intervention Development/Intervention Model Development

Lambert, H., & McKeivitt, C (2002). Anthropology in health research: From qualitative methods to multidisciplinary. *BMJ, 325*, 210-213.

Office of Behavioral and Social Sciences Research, National Institute of Health.
Qualitative Methods in Health Research: Opportunities and Considerations in Application and Review, pp. 1-19.

Day 8

Applications (cont'd)

IV. Exercise: Creating a Theory-Driven Conceptual Framework for Intervention Development/Mock Focus Group

No readings.

V. Research Designs for Evaluating Interventions

Flay, B. (1986). Efficacy and effectiveness trials (and other phases of research) in the development of health promotion programs. *Preventive Medicine*, 15, 451-474.

Biglan, A., Ary, D., Koehn, V., Levings, D., Smith, S., Wright, Z., James, L., & Henderson, J. (1996). Mobilizing positive reinforcement in communities to reduce youth access to tobacco. *American Journal of Community Psychology*, 24, 625-638.

Biglan, A. (1995). Methodological considerations. In A. Biglan (Au.), *Changing cultural practices: A contextualist framework for intervention research* (pp. 405-424). Reno, NV: Context Press.

Behar, E.S., & Borkovec, T.D. (2003). Psychotherapy outcome research. In J.A. Schinka & W.F. Velicer (Eds.), *Handbook of psychology: Research methods in psychology* (Vol. 2, pp. 213-240). New York: John Wiley & Sons.

Moher, D., Schulz, K.F., & Altman, D. (2001). The CONSORT statement: Revised recommendations for improving the quality of reports of parallel group randomized trials. *Journal of the American Medical Association*, 285, 1987-1991.

Curry, S.J., Ludman, E., Grothaus, L., Gilmore, T., & Donovan, D. (2003). A randomized trial of a brief primary care-based intervention for reducing at-risk drinking practices. *Health Psychology*, 22, 156-165.

VI. Exercise: Mock Study Section

<http://grants.nih.gov/grants/funding/phs398/phs398.html>

<http://www.csr.nih.gov/Video/Video.asp>