

2004 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](#)