Ecological Approaches to Health Behavior

Ecological Perspective

- Emphasis on the interactions between, and interdependence of, factors within and across all levels of a health problem

Key Concepts

- Multiple levels of influence
  - Behavior affects and is affected by multiple determinants at all level of human life
- Reciprocal causation
  - Individual behavior shapes and is shaped by the social environment

Levels of Influence

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

• Public Health
  • Host-agent-environment model

• Psychology
  • Skinner’s behaviorism
  • Lewin’s Ecological Psychology
  • Stokols’ Social Ecology

Ecological Psychology

• Kurt Lewin (1936)
  • The outside environment’s effects on the person
  • Mediated primarily by perception

• Roger Barker (1968)
  • Observations of school children
  • Two children in one environment behave more similarly than one child in two environments

Ecological Explanations for Behavior

• Stresses the function (environmental consequences) of behavior over the content of the behavior of individuals
• Physical and social contingencies explain and ultimately control behavior
• Focus on the environmental (non intrapsychic) determinants of human behavior

Social Ecological Models of Health and Behavior

1. Cross-Disciplinary, Multi-Level Analyses of Phenomena
2. Ecological Paradigm and Systems Theory—interdependence of system elements, feedback loops, anticipating unintended side effects of interventions
3. Contextual Influences on the Relationships Between Environment, Health, and Behavior
4. Action Research Perspective—Translation of theory and research findings into community interventions and public policies; social validity and sustainability of interventions
Interdisciplinary Analysis of Environment, Behavior, and Health

Bronfenbrenner's Ecological Contexts of Development

- Microsystem: Individual's body and biological reality
- Mesosystem: The individual's home, work, neighborhood environments
- Exosystem: Larger environment
- Macrosystem: Culture, Law, etc.

Bronfenbrenner's Ecological Contexts of Development

Microsystem and Mesosystem Determinants of Health

- Social Networks and Social Support
- Interpersonal Conflict
- Socioeconomic Status
- Commuting/Job Stress
- Housing Quality
- Stimulation Overload
Macrosystem Determinants of Health

• Poverty/Affluence
• Social Capital
• Racial Discrimination
• Exposure to Violence and Crime
• Environmental Justice
• Health Policies
• Media and Internet

• Natural Environment Resources
• Population Density
• Ambient Noise Levels
• Urban Designs for Active Living
• Contamination of Air, Water, Soil
• Global Climate Change

What Determines Behavior?

• Individual/Intrapersonal Factors
• Interpersonal Dynamics
• Social Norms & Supports
• Institutional or Organizational Factors
• Community Factors
• Public Policy Factors

Factors Influencing Health Behavior

• Socioeconomic status: education, income, occupation: education is the best predictor of health
• Skills: 72.6% of car seats for children aren’t used properly
• Culture: Norms, values, beliefs
• Beliefs: One’s own perceptions of what is true - not always based in culture

Factors Influencing Health Behavior

• Attitude: A series of beliefs linked together to form patterns of behavior
• Values: Not always valid to assume that health is a strong value for everyone
• Religion: social behavior, practices (circumcision), social support
• Gender: Men eat more fat, less fiber, sleep less, and are more often overweight than women
Reciprocal Causation

• People influence the people and situations around them

• People are influenced by the people and situations around them

• Example: 56 year-old man with elevated cholesterol - workplace cafeteria provides only fatty, unhealthy food choices

Health-Promotive Environment

• Construct proposed by Stokols (1996)

• Interventions should be designed to alter the environment

• Environmental effects on health are:
  • Indirect via health behaviors
  • Direct via forces of emotional well-being and social cohesion

Behavior Settings: 3 Components

• Physical Properties
  • The physical surroundings and objects in it

• Human Components
  • The players

• Setting Program
  • The script

Principles

• Multiple types of environmental influences affect behavior

  • Natural environment
  • Built environment

  • Multi-level interventions are usually most effective

  • But most interventions still target the individual
Appleyard’s Livable Streets Research

- Sense of “home” and happiness varies with traffic density
- As traffic increases, perceptions of noise, potential danger, lack of privacy increase

Newman’s Defensible Space Research

- Building height in inner city projects is directly related to rate of robberies
- Defensible Space is a quality that can be deliberately designed and has major effects on health

Ambient Temperature and Violent Crime

- Graph showing the relationship between ambient temperature and violent crime rate.