The Possibilities and Potential of Social Ecological Frameworks for Understanding Health Behavior

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Social Ecological Frameworks for Understanding Health Behavior

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From Bioecology to Social Ecology

- **Bio Ecology**--study of the relations between organisms and their environments; field studies of plant and animal biomes over extended periods

- **Human Ecology**--study of the relations between people and their urban ecosystems with an emphasis on biological and economic processes of adaptation, and the spatial distribution of health and behavioral problems

- **Social Ecology**--study of the relations between people and their environments from a broad, interdisciplinary perspective that gives greater attention to the social, psychological, institutional, and cultural contexts of people-environment relations than did earlier human ecology research
Expansion of social-ecological systems science

2010 APRIL 16

by Garry Peterson
tags: bibliometrics, Carl Folke, Fikret Berkes, ISI, Marty Anderies, Per Olsson, social-ecological systems, Steve Carpenter

The concept of social-ecological systems has been gaining increased interest in science. Below is a graph showing papers whose topic includes social-ecological systems. During the 1990s there were a few publications and then a rapid rise during the 2000s. Two influential books articulated social-ecological ideas:

- **Linking social and ecological systems: Practices and Social Mechanisms for Building Resilience** in 2000 and
- **Navigating social-ecological systems: building resilience for complexity and change** in 2003.

http://rs.resalliance.org/2010/04/16/expansion-of-social-ecological-systems-science/
Paradigms for Understanding Health and Illness

• Biomedical Model
• Biopsychosocial Model
• Social Ecological Model
Germ Theory of Infectious Disease

Pathogen → Host → Illness Symptoms

(1878)
Biopsychosocial Model of Susceptibility to Colds

High Psychological Stress

Cold Virus → Host → Severe Cold Symptoms

Low Psychological Stress

Cold Virus → Host → Mild or No Cold Symptoms

(Cohen, Tyrell, & Smith, 1991)
The Social Contagion of Obesity

(Christakis & Fowler, 2007)
The Ecology of Obesity
Rapid Adoption of Westernized Fast Food in China
Communities Characterized by Urban Sprawl Have Higher Rates of Obesity in the Population

(Frumkin, Frank, & Jackson, 2004)
Physical Environment and Cultural Influences on Health – Bike and Rail Oriented Cities in Europe
Core Principles of Social Ecology

1. **Multidimensional structure of human environments**—physical & social, natural & built features; objective-material as well as perceived-symbolic (or semiotic) qualities

2. **Cross-disciplinary, multi-level, contextual analyses** of people-environment relationships spanning proximal and distal scales (from narrow to broad spatial, sociocultural, and temporal scope)

3. **Systems principles**—especially feedback loops, interdependence of system elements, anticipating unintended side effects of public policies and environmental interventions

4. **Action research perspective**—Translation of theory and research findings into community interventions and public policies
The Ecology of Health and Health Behavior
Understanding Mutual Influences Among Psychological, Organizational, Societal, and Global Environmental Processes
The PMEM Model - Parental and Micro-Environmental Model

(Brown, 2012)
Components 1 & 2 of the PMEM model outlining examples of factors sitting within the micro-environment of the family home (Brown, 2012)
Cross-Disciplinary Research

...a process through which the perspectives of two or more scientific or professional fields are combined to achieve a more complete understanding of a particular phenomenon.
A Continuum of Cross-Disciplinary Integration

Transdisciplinary

Researchers from *different disciplines* *work jointly* to develop and use a shared conceptual framework that synthesizes and extends discipline-specific theories, concepts, and methods, to create new approaches to address a common problem.

Interdisciplinary

Researchers from *different disciplines* *work jointly* to address a common problem. Some integration of perspectives occurs, but contributions remain anchored in their own disciplines.

Multidisciplinary

Researchers from *different disciplines* *work sequentially*, each from their own discipline-specific perspective, with a goal of eventually combining results to address a common problem.

Unidisciplinary

Researchers from a *single discipline* work together to address a common problem.

(Adapted from Rosenfield, 1992)
A sub-type of transdisciplinarity in which at least one academic discipline and one non-academic epistemology are integrated for purposes of creating novel approaches to analyzing and resolving complex community and societal problems; sometimes referred to as ‘transdisciplinary action research’
Academic and Non-Academic Perspectives

Scientists/Academicians— discipline-centric and cross-disciplinary knowledge derived from theoretical analyses and empirical research

Lay Citizens and Community Stakeholder Groups— based on personal lifestyles, shared interests, subjective experiences, families, and other community groups

Business Leaders and Other Professional Groups— rooted in the experiences of businesses and financial institutions, and professional training in practice-oriented fields (e.g., accounting, finance, corporate law)

Government Decision-Makers— rooted in institutional governance, political realities, market dynamics, policy and planning strategies
Cervical Cancer Prevention

The Importance of Integrating Biomedical Research With Behavioral and Social Science

HEALTH
Why Are HPV Vaccine Rates So Low?
It's been hailed as one of the most effective ways to prevent cervical cancer, but millions of young women have yet to get immunized.

By Karen Springen | Newsweek Web Exclusive
Feb 25, 2006 | Updated: 8:02 p.m. ET Feb 25, 2006
Scientific and Social Validity

**Scientific**

Methodological rigor and theoretical adequacy of the research or intervention

**Social**

Societal value and practical significance of the research or intervention

(Geller, 1991)