Published in final edited form as:
Health Educ Behav. 2013 February ; 40(1): 6–10. doi:10.1177/1090198112464494.

Health Behavior in Ecological Context

Bruce Simons-Morton, EdD, MPH[1]

[1]National Institutes of Health, Bethesda, MD, USA

Abstract

Health is best understood within an ecological context. Accordingly, health promotion involves processes that foster supportive environments and healthful behavior. Thus, effective health promotion programs are typically multilevel, focusing not only on the population at risk but also on the environmental conditions that contribute so importantly to health and health behavior. Health behavior is important at each societal level. Arguably, accomplishment of health promotion goals at each societal level requires changes in the behavior of those who control or influence the health outcomes of interest. Recognition of three distinct types of health behavior can guide multilevel health promotion program planning. Personal-health behavior affects the health of the person who engages in that behavior. Health-related behavior includes actions taken by proximal others that directly affect the health of others, although usually not purposefully. Health-protective behavior is undertaken purposefully to foster the health of others. Regardless of the outcome of interest or societal level, similar health promotion processes can be employed to alter health behavior.

Keywords

definitions; health education; health promotion; health-related behavior; multilevel planning; personal health behavior; protective health behavior; social ecology

One characteristic of the maturity of a profession is precise definition of important terms. Definitions convey concepts that foster common understanding among the members of the profession. Despite a number of consensus documents on health education and health promotion terminology (Joint Committee on Health Education and Promotion Terminology, 2002; Taub, Allegrante, Barry, & Sakagami, 2009; World Health Organization [WHO], 2009) and the efforts of textbook authors (Green & Kreuter, 2005; Bartholomew, Parcel, Kok, & Gottlieb, 2011; Simons-Morton, Greene, & Gottlieb, 1995; Simons-Morton, McLeroy, & Wendel, 2011), there remains considerable variability in how some key terms are employed and the meanings they convey. The purpose of this commentary is to suggest

Corresponding Author: Bruce G. Simons-Morton, EdD, MPH, Division of Epidemiology, Statistics, and Prevention Research, National Institute for Child Health and Human Development, 6100 Executive Boulevard, 7B13M, Bethesda, MD 20892-7510, USA, mortonb@mail.nih.gov.

Declaration of Conflicting Interests
The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

definitions for key terms that are used variably in health promotion, with a particular focus on the term *health behavior*.

It is useful first to consider the popular terms *public health* and *population health*, before taking up the terms *health promotion* and *health education*. Finally, I suggest conceptual refinements to the term *health behavior* and propose that precise definition could facilitate conceptual integration with social ecology and provide practical application to multilevel programming.

Public Health and Population Health

Public health provides both the structure within which most health promotion occurs and its primary conceptual framework. Given its focus on the health of the population, public health is frequently contrasted with medicine and its concern for the health of specific individuals. Notably, public health is uniquely concerned with prevention and environmental contributions to health (Scutchfield, Keck, & Mays, 2009). The landmark 1988 Institute of Medicine report characterized the mission of public health as "fulfilling society's interest in assuring conditions in which people can be healthy" (Institute of Medicine, National Academy of Sciences, 1988, p. 2). Accordingly, the term *public health* connotes both a concern for health at a population level and programs that address the health of populations. Of course, many other terms overlap with public health, including to a large extent health promotion. Recently, a rival term, *population health*, has been introduced. Notably, the term *population health* has been defined as "health outcomes and their distribution in a population" (Kindig, 2007, p. 141) and conceptualized to include a concern for the pattern of determinants of health outcomes. The primary distinctions claimed for population health are a focus on (a) the life course or cumulative effects of environment on health outcomes and (b) mechanisms through which determinants of health outcomes can be altered (but somehow distinct from actual public health programs and activities). Hence, the terms *public health* and *population health* hold in common populations as the focus, epidemiology as the basic field of study, and programmatic action to address disparities in the distribution of health outcomes. Mostly, population health emphasizes a concern for the health of populations separate from the structures and services that are an integral part of public health practice.

Health Education and Health Promotion

Health education has been defined variously as a process and a profession. When defined as a process, it overlaps largely with health promotion. For example, the Galway Consensus Conference noted that both health promotion and health education "refer to efforts that enable and support people to exert control over the determinants of health and to create environments that support health" (Allegrante et al., 2009, p. 478). However, the common tendency has been to view health education as focusing mainly on the individual, while health promotion is more concerned with the community and environmental change (Green & Kreuter, 2005). However, as Green and Allegrante (2011) recently noted in this journal's pages, health education has long focused on community and environmental change. Moreover, as I argue anon, health promotion is also largely an educational process, even

when it addresses environmental and policy objectives. Therefore, I prefer to think of health education not as a process distinct from health promotion but as a profession concerned with health promotion processes. Health education meets most of the standards of a profession, including professional organizations, standards for practice, and credentialing (Taub et al., 2009). Although health education is not the only profession that engages in health promotion, it is perhaps the one profession that is devoted exclusively to health promotion.

Health promotion has been defined variously as a process concerned with changing personal behavior, empowering people to change, changing lifestyle, and creating environments that support healthful living (Lalonde, 1974; WHO, 1986, 2005, 2009). Fortunately, there is modern agreement that health promotion is a process and not a particular set of health behaviors, as suggested by the first document to provide health objectives for the nation, *Healthy People* (U.S. Department of Health, Education, and Welfare, 1979). The WHO (2009) defines health promotion as

> the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions. (p. 1)

While there is little disagreement that health promotion is concerned with population health and processes for altering environments as well as personal-health behavior, it is unclear how these processes are distinct from education and related behavior change processes, which collectively can be thought of as actions, activities, and experiences that affect the way people think, feel, and behave. The issue becomes much more clear when health behavior is distinctly defined according to whose behavior is of interest. I argue that some types of health behavior are taken by those whose health and personal health behavior we hope to improve, the at-risk population, whereas other types of health behavior are taken by those who control the environmental factors that are so important to health and health behavior of at risk populations.

Types of Health Behavior

Health education, health promotion, and health behavior are recognized parts of public health training and practice (Riegelman & Albertine, 2008). However, these terms are not always distinct. Accredited schools of public health are required to provide coursework in health behavior and most provide this training through academic units labeled health education, health behavior, and/or health promotion (Association of Schools of Public Health, 2006; www.asph.org). Indeed, it is now popular for academic training programs, professional organizations, and health department programs once labeled health education or health behavior to take the name health promotion or combine health education and health promotion or health education and behavior in the title, just as this journal has done.

Behavioral scientists in public health, whether trained in education, psychology, sociology, medicine, or a related field of study, are concerned with health behavior, just as health promotion, at its base, is concerned with health behavior. As noted, a common distinction between health education and health promotion is that health promotion is concerned with social and environmental changes and not just with changes in personal health behavior. But

in practice there is little if any practical difference in the processes for changing personal health behavior and changing societal outcomes. Some conceptualizations suggest that policy, organizational, environmental, and programmatic objectives can magically be made to occur, as if they could be created, adopted, and implemented without changing anyone's behavior. But, of course, as with personal behavior, changes in broader societal-level objectives require changes in the behavior of those who control or influence those critical conditions (Simons-Morton et al., 2011). The primary difference between individual- and societal-level change is whose behavior is addressed. For example, to alter smoking prevalence one can seek to change the behavior of smokers or would-be smokers, the social influence behaviors of close friends and family members, the marketing behavior of the tobacco industry, and the tobacco-related program and policy behavior of regulators and policy makers. The possible change processes are largely the same, only the specific behavioral objectives (knowledge, attitudes, and skills) and proximal outcomes (support, resources, programs, policies, etc.), and targets of intervention vary (Simons-Morton et al., 2011).

If health promotion seeks to foster changes that improve the health of specific populations, it must identify and target important objectives or conditions, identify who controls them, and the behaviors or actions desired. Since every possible objective is controlled or influenced by behavior, it is useful to distinguish the types of health behavior that might be the targets of health promotion interventions, which are personal-health behavior, health-related behavior, and health protective behavior.

Personal-Health Behavior

Personal-health behavior affects the health of the individual who engages in that behavior. Personal-health behaviors are not always undertaken for health purposes, but their primary effect is on the individual's own health, although they may also influence somewhat the health of others indirectly (e.g., smoking affects the smoker's health and side stream smoke affects the health of the smoker's family and friends). Personal-health behavior that is taken purposefully to prevent illness or harm to self is sometimes referred to as health-directed, preventive-health behavior, or self-protective behavior (Kasl & Cobb, 1996). Personal-health behaviors can include diet, physical activity, substance use, medical advice adherence, safety belt use, STD prevention device use, to mention only a few. Although personal-health behaviors are performed by the individual and include elements of choice, they are not always under individual control because contemporary and lifelong environmental influences are dominant determinants. Seemingly, all behaviors are susceptible to social and physical environmental influences, for better or worse (Glass & McAtee, 2006), including diet (Story, Neumark-Sztainer, & French, 2002), physical activity (Sallis et al., 2009), and substance use (Simons-Morton & Farhat, 2010). Moreover, many health behaviors, such as smoking and eating, are habits that develop over time, are sustained without much conscious effort, and largely are not motivated by a primary concern for health. The point here is that although personal-health behaviors may include aspects of personal choice, they are not always or fully volitional because they are greatly influenced by habit and environmental factors. Although it is theoretically possible for people to behave in any way they wish, in practice there are substantial physical and social influences on any

particular behavior at any particular time, not to mention the effects of genetics and lifelong environmental influences that precede and condition behavior. Moreover, personal-health behavior is often undertaken for reasons other than health. For example, some people exercise not specifically for health but because they enjoy the process, the competition, the outdoors, the social aspects, or because they live or work near a lovely park where it is convenient to walk and spend time. As with all behavior, personal-health behavior is influenced by cognitions and environmental factors and these become the proximal objectives of health promotion interventions. Regardless of why people engage in the behavior, if it affects their health it is personal-health behavior.

Health-Related Behavior

Health-related behavior affects the health and health behavior of other people, generally unintentionally. Typically, health-related behavior applies to proximal others, peers, parents, neighbors, coworkers, whose behavior has a direct impact on personal-health behavior. The teenager who drives in a risky manner engages in behavior that directly endangers vehicle occupants, although health considerations may have had little to do with the way the teen drives. The parent who shops for groceries is engaging in health-related behavior with direct effect on the personal-health behavior of family members, although the primary selection criteria may be taste, cost, and convenience, not health. If health promotion is to be effective, it must target not only those whose health and personal-health behavior is of interest but also the health-related behavior of those whose actions influence the behavior and health of the population of interest. The goal is to change health-related behaviors that discourage positive personal health behavior or encourage negative personal health behavior, even if undertaken for nonhealth reasons. As with personal-health behavior, health-related behavior is influenced by cognitions and environmental factors and these then become the proximal objectives of health promotion programs.

Health-Protective Behavior

Health-protective behavior is undertaken purposefully to improve personal health behavior and/or the environmental conditions (e.g., social, policy, and physical) that contribute so importantly to health (Gerberding, 2005; Northridge, Sclar, & Biswas, 2003). A key to changing environmental conditions is increasing and improving the health-protective behavior of those who control or influence the environment conditions that affect health and behavior, including policies, programs, and resource allocations that affect population health. Generally, the concern in health promotion is increasing the relative amount, quality, and effectiveness of health-protective behavior, recognizing that health is often only one of several considerations. Examples of protective health behavior include community planning that purposefully factors in requirements for neighborhood sidewalks and bike paths that would facilitate physical activity, the adoption of programs designed to increase and improve correct child safety seat use by care givers, and strengthening of child safe seat policies and enforcement practices. As with all behavior, health-protective behavior can be understood in terms of the cognitions and the environmental conditions that affect the actions of the persons who control or influence these outcomes and these become the proximal objectives of health promotion interventions.

Social Ecological and Multilevel Influences

Distinctions between personal-health, health-related, and health-protective behavior are consistent with social ecological thinking and can facilitate multilevel program planning. Social ecology is one of the most important contemporary conceptual foundations of health promotion (Simons-Morton et al., 2011). Accordingly, human development, health behavior, and health are understood to be the product of the proximal and lifetime exposure to the interactive influences on the individual of family, community, and society (Glass & McAtee, 2006; WHO, 2012). Therefore, promoting health can be accomplished by intervening at any of multiple societal levels, addressing both individual and social determinants of health. Contemporary health promotion planning models, for example, MATCH (Simons-Morton et al., 2011), PROCEDE (Green & Kreuter, 2005), and Intervention Mapping (Bartholomew et al., 2011), emphasize multilevel program planning. The definitions of health behavior just discussed are key to multilevel intervention planning. Health promotion intervention at the individual level would target the personal-health behavior of the at-risk population, whose health and behavior are of programmatic concern. However, to alter proximal social determinants, intervention would be directed at the health-related behaviors that provide direct and immediate influence on personal health behavior. Furthermore, to alter distal social determinants, intervention would be directed at the health-protective behavior of those who control policies, resources, and programs. Moreover, as with personal-health behavior, health-related and health-protective behaviors are determined by cognitions that become the proximal objectives of health promotion interventions. Thus, in health promotion we are concerned always with personal-health, health-related, and protective-health behavior.

Acknowledgments

Funding

The author disclosed receipt of the following financial support for the research, authorship, and/or publication of this article:

This work was supported by the Intramural Research Program of the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

References

Allegrante JP, Barry MM, Airhihenbuwa CO, Auld ME, Collins JL, Lararre MC, Mittelmark M. Domains of core competency, standards, and quality assurance for building global capacity in health promotion: The Galway Consensus Conference Statement. Health Education & Behavior. 2009; 36:476–482. [PubMed: 19447943]

Association of Schools of Public Health. MPH core competency model. 2006. Retrieved from http://www.asph.org/document.cfm?page=851

Bartholomew, LK.; Parcel, GS.; Kok, G.; Gottlieb, NH. Planning health promotion programs: An intervention mapping approach. San Francisco, CA: Jossey-Bass; 2011.

Gerberding JL. Protecting health: The new research imperative. Journal of the American Medical Association. 2005; 294:1403–1406. [PubMed: 16174702]

Glass TA, McAtee MJ. Behavioral science at the crossroads in public health: Extending horizons, envisioning the future. Social Science & Medicine. 2006; 62:1650–1671. [PubMed: 16198467]

Green LW, Allegrante JP. Healthy People 1980–2020: Raising the ante decennially or just the name from public health education to health promotion to social determinants? Health Education & Behavior. 2011; 38:558–562. [PubMed: 22102543]

Green, LW.; Kreuter, MW. Health program planning: An educational and ecological approach. 4. New York, NY: McGraw-Hill Higher Education; 2005.

Institute of Medicine, National Academy of Sciences. The future of public health. Washington, DC: National Academies Press; 1988.

Joint Committee on Health Education and Promotion Terminology. Report of the 2000 Joint Committee on Health Education and Promotion Terminology. Journal of School Health. 2002; 72(1):3–7. [PubMed: 11865796]

Kasl SV, Cobb S. Health behavior, illness behavior, and sick-role behavior. Archives of Environmental Health. 1996; 12:246–266. [PubMed: 5322534]

Kindig DA. Understanding population health terminology. Milbank Quarterly. 2007; 85:139–161. [PubMed: 17319809]

Lalonde, M. A new perspective on the health of Canadians. A working document. Ottawa, Ontario, Canada: Government of Canada; 1974.

Northridge ME, Sclar ED, Biswas P. Sorting out the connections between the built environment and health: A conceptual framework for navigating pathways and planning cities. Journal of Urban Health. 2003; 80:556–568. [PubMed: 14709705]

Riegelman, R.; Albertine, S. Recommendations for undergraduate public health education. Washington, DC: Association for Prevention Teaching and Research; 2008. Retrieved from www.TeachPublicHealth.org

Sallis JF, Heather R, Bowles HR, Adrian Bauman A, Barbara E, Ainsworth BE, Bergman P. Neighborhood environments and physical activity among adults in 11 countries. American Journal of Preventive Medicine. 2009; 36:484–490. [PubMed: 19460656]

Scutchfield, FD.; Keck, W.; Mays, GP. Principles of public health practice. Florence, KY: Cengage Learning; 2009.

Simons-Morton BG, Farhat T. Recent findings on peer group influences on adolescent smoking. Journal of Primary Prevention. 2010; 31:191–208. [PubMed: 20614184]

Simons-Morton, BG.; Greene, WA.; Gottlieb, NH. Introduction to health education and health promotion. 2. Prospect Heights, IL: Waveland Press; 1995.

Simons-Morton, BG.; McLeroy, KR.; Wendel, ML. Behavior theory in health promotion practice and research. Boston, MA: Jones & Bartlett Learning; 2011.

Story M, Neumark-Sztainer D, French S. Individual and environmental influences on adolescent eating behaviors. Journal of the American Dietetic Association. 2002; 102(Suppl 3):40–51.

Taub A, Allegrante JP, Barry MM, Sakagami K. Perspectives on terminology and conceptual and professional issues in health education and health promotion credentialing. Health Education & Behavior. 2009; 36:439–450. [PubMed: 19447944]

World Health Organization. The Ottawa Charter for Health Promotion: First International Conference on Health Promotion; Ottawa. 1986 Nov 21. Retrieved www.who.int/health-promotion/conferences/previous/ottawa/

World Health Organization. The Bangkok Charter for health promotion in a globalized world. Geneva, Switzerland: Author; 2005.

World Health Organization. Milestones in health promotion: Statements from global conferences. 2009. Retrieved from www.who.int/healthpromotion/milestones/en/

World Health Organization. Social determinants of health. 2012. Retrieved from www.who.int/social_determinants/en/

U.S. Department of Health, Education, and Welfare. Healthy people: The Surgeon General's report on health promotion and disease prevention. Bethesda, MD: U.S. National Library of Medicine; 1979. (Publication No. 79–55071)