

A Review of Current Health Education Theories

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Abstract

This article presents a review of current theories and models in health education. Articles published in 2003 in the American Journal of Health Education, the American Journal of Health Behavior, Health Education and Behavior, Health Education Research, and the International Electronic Journal of Health Education, were reviewed. Concepts and constructs for each theory and model used are presented. The three predominant theories and models in this literature, The Transtheoretical Model (Stages of Change Theory), the Theory of Reasoned Action/Planned Behavior, and the Social Cognitive Theory are examined in greater detail.

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Keywords: theory, health education, health behavior, theoretical models

At times, beginning and even accomplished practitioners fail to acknowledge that much of what they do in their daily activities is rooted in a tremendous amount of study and research on the part of pioneers who went before them. Often in the search for practical ideas, theory is treated dismissively. It's interesting, but academic. Practitioners frequently succeed at intuiting the concepts, constructs and relationships of behavior, and applying this knowledge without recognizing that what they are doing has a basis in theory. This however, is a much less efficient approach than beginning with a conscious theoretical base from which to draw, and having that base to illuminate our work.

Theory plays an essential role in Health Education as a profession. According to Upton (1970, as cited in Taub, 1998), theory is one of the defining characteristics of a profession. The Coalition of National Health Education Organizations (CNHEO) publication, "The Health Education Profession in the 21st Century: Progress Report 1995-2001," states that "Dynamic and Quality practice and research applies state-of-the-art theory and technology in the design, implementation, and evaluation of health education programs" (2001, p. 44). Theories and models are among health

educators' most useful tools as they tackle the challenges of: a) needs assessment, b) program planning, c) program implementation, d) program evaluation, e) coordination of services, f) acting as a resource of health information, and g) communicating needs, concerns, and resources outlined in the Framework (Alperin & Miner, 1993; National Task Force on the Preparation and Practice of Health Educators, 1985).

According to Babbie (2003), theory is defined as "A systematic explanation for the observations that relate to a particular aspect of life" (p. 12). Models on the other hand are best defined as "... a subclass of theory" (McKenzie & Seltzer, 2001, p. 138). While theories are organized around ideas, concepts, and constructs, models are representations of theory. "Models provide the vehicle for applying the theories" (McKenzie & Seltzer, 2001, p. 139). A theory, capable of full explanation of something as complex as human behavior, would be far too cumbersome to be useful. And thus we come to the criteria for useful theory: internal consistency, parsimony, plausibility, pragmatism and ecological validity (Glanz, Lewis, & Rimer, 1997). The elegant simplicity required of theory necessitates that health education practitioners are conversant with a number of theories,

enabling them to choose the most appropriate for the specific situation (Glanz, Lewis, Rimer, 1997).

The purpose of this article is to provide an overview of the theories and models currently being used in the field of health education. To address the issue of currency, the author reviewed theory-based articles published in 2003 in the following journals: the American Journal of Health Education, American Journal of Health Behavior, Health Education and Behavior, Health Education Research, and the International Electronic Journal of Health Education. Seventeen different theories were used to explain a wide variety of human behaviors, including pedestrian safety, physical activity, obesity, drug use, sexual behaviors, violence, vaccinations, organizational challenges, osteoporosis prevention, condom use, alcohol abuse, racial, ethnic and gender disparities, leisure activities, sunscreen use, use of complimentary and alternative medicine, tobacco use, sugar restriction, nutrition education, smoking, chronic illness management, hormone replacement therapy, soft drink consumption, environmental policy, family planning, and screening for colorectal cancer. These articles have been indexed in Appendix A, according to their theoretical base.

Some of the articles reviewed have their base in more than one theory or model. In 2003, stage theories/models were used most frequently. The Transtheoretical Model/ Stages of Change Theory served as a base for 17 articles, while the Theories of Reasoned/Action and Planned Behavior were the focus of 12 articles. Social Cognitive Theory/Social Learning Theory, which is used for understanding interpersonal health behavior was a base for 11 of the articles. The rest of the theories were cited five times or less. These include the Diffusion of Innovation Theory (five), Social Support/Social Capital (four), Health Belief Model (four), Coping Theory (two), Organizational Theory (two), and the remaining theories with one article each--Cognitive Dissonance Theory, the Elaboration Likelihood Model, Locus of Control, Piaget's

Theory of Child Development, the Precaution Adoption Model, the Precede-Proceed Model, Protection Motivation Theory, Systems Theory, and the Theory of Interpersonal Behavior. Three theories/models, the Transtheoretical Model alternatively known as the Stages of Change Theory, the Theory of Reasoned Action/Planned Behavior, and the Social Cognitive or Social Learning Theory, accounted for over half of the theoretical applications in these selected health education journals. Therefore, within this article, we will focus on these three theories/models. But first, we will examine four distinct categories of health theories and models: individual health behavior, interpersonal health behavior, group intervention, and staged models and theories.

The individual health behavior theories include Godfrey Hochbaum and Irwin Rosenstock's, Health Belief Model (Strecher & Rosenstock, 1997), Leon Festinger's Cognitive Dissonance Theory (1957; Glanz, Lewis, & Rimer, 1997), Icek Ajzen and Martin Fishbein's Theory of Reasoned Action (1969, 1970, 1977, 1980; Ajzen, 1988, 1991) which in 1988 was extended to the Theory of Planned Behavior (Ajzen, 1988, 1991), and R. W. Rogers' Protection Motivation Theory (Maddux & Rogers, 1983, Rogers, 1983, as cited in Brouwers & Sorrentino, 1983). See Table 1.

All of these theories seek to interpret or analyze health behaviors at the individual level, where intention is independent of the overt actions of others. Among this group of theories, Festinger's (1957) Cognitive Dissonance theory is noticeably different. Festinger's work does not focus on outcome expectation or threat, but instead focuses on the consonance between thought and action. Festinger posited that when this equilibrium is disrupted, one acts to restore the balance. Either the behavior or the attitude must change so that they are in concert with one another. The remaining theories make outcome expectations explicit as constructs, by assessing health threats, susceptibility, and the potential for efficacy of action.

Table 1
Individual Health Behavior Theories/Models

Theory	Originator(s)	Field of Study	Key Concepts and Constructs
Health Belief Model Source: Strecher & Rosenstock, 1997	Godfrey Hochbaum Irwin Rosenstock, 1950's	Psychology	Perceived threat Perceived susceptibility Perceived severity Benefits and barriers to taking action Cues to action Self-efficacy
Cognitive Dissonance Sources: Festinger, 1957; Glanz, Lewis, & Rimer, 1997	Leon Festinger 1957	Social Psychology	Cognition Conflict Consonance Dissonance Motivation.
Theory of Reasoned Action/Planned Behavior Sources: Ajzen & Fishbein 1969, 1970, 1977, 1980; Ajzen, 1988, 1991	Icek Ajzen & Martin Fishbein 1969 1988 TPB evolved from TRA	Psychology	Behavioral intention Attitude Outcome expectancy Evaluation of likelihood of outcome expectancy Subjective norm Normative beliefs Motivation to comply Perceived behavioral control Control beliefs Actual behavioral control
Protection Motivation Theory Sources: Rogers, R. W. 1975., Maddux, J. E., & Rogers, R. W. 1983., Rogers, R. W. 1983 as cited in Brouwers, M.C. & Sorrentino, R.M. 1983	R W Rogers 1975	Social Psychology	Threat appraisal Coping appraisal Severity Vulnerability Self-Efficacy Response-Efficacy

Among the interpersonal health behavior models are Alfred Bandura's Social Cognitive Theory (Bandura & Walters, 1963; Bandura, 1969, 1977a, 1977b), H. C. Triandis' Theory of Interpersonal Behavior (1977, 1980, 1994, 1995), the combined works of Gordan Caplan (1974), S. Cobb (1976), J. S. House (1981), R. L. Kahn and T. C. Antonucci (1980) in social support, and coping, the works of Barbara S. Wallston, Kenneth A. Wallston, Gordan D. Kaplan, and S. A. Maides (1976; Wallston Maides, & Wallston (1976).) concerning Locus

of Control, and Richard Petty & John Cacioppo's Elaboration Likelihood Model (Cacioppo, 1979, 1981, 1986, 1986a; Cacioppo & Petty, 1979). See Table 2. These theories move one step beyond the individual health behavior theories to consider the influence of other persons on health behavior. These theories share several concepts not only with the group theories, but also with the individual health theories. See the table in [Appendix B](#).

Table 2
Interpersonal Health Behavior Theories/Models

Theory/Model	Originator(s)	Field of Study	Key Concepts/Constructs
Social Cognitive Theory Sources: Bandura & Walters, 1963; Bandura 1977a, 1977b, 1986, 1994; Pajares 2002	Albert Bandura 1963	Psychology	Personal Factors (Cognitive, affective, and biologic) Behavior Environmental factors Reciprocal determinism Triadic reciprocity between personal factors, behavior, and environment. Modeling Vicarious learning Self-efficacy
Theory of Interpersonal Behavior Sources: Triandis, H. C. (1977, 1980, 1994, 1995)	H. C. Triandis 1970's	Psychology	Cognitive Social Personal factors Habit Intentions Facilitating conditions
Social Support, Control, Stress, and Coping Sources: Caplan, G. (1974), Cobb, S. (1976), House, J. S. (1981), Kahn, R. L. & Antonucci, T. C. (1980).	Caplan 1974 Cobb 1976 House 1981 Kahn & Antonucci 1980	Social Psychology	Supportive behaviors Emotional support Appraisal support Informational support Instrumental support Social capital
Health Locus of Control Sources: Wallston, B. S., Wallston, K. A., Kaplan, G. D., & Maides, S. A. (1976). Wallston, K. A., Maides, S. A., & Wallston, B. S. (1976).	Barbara S. Wallston, Kenneth A. Wallston, Gordan D. Kaplan 1976	Psychology	Expectancy External locus of control Health externals Health internals Internal locus of control Powerful others Reinforcement
Elaboration Likelihood Model Sources: Cacioppo, J. T. & Petty, R. E. (1979), Petty, R. E., & Cacioppo, J. T. (1981), Petty, R. E., & Cacioppo, J. T. (1986a) As cited in McNeil & Stoltenberg, 1989.	Richard Petty & John Cacioppo 1979	Psychology	Persuasive communication Central route to persuasion Peripheral route to persuasion Motivation to process Ability to process Nature of cognitive processing Cognitive structure change Central positive attitude change Central negative attitude change Peripheral attitude shift Peripheral cue present Attitude Boomerang attitude Persistence Resistance Behavioral prediction

Social systems, the third category of theory to be reviewed, included two articles concerned with social systems theory. One article specifically addressed General Systems Theory, which was first conceived by L. Von Bertalanffy (1950), (International Society for the Systems Sciences, n.d.). Dr. Bertalanffy was a biologist and a renowned theorist in the early 20th century. The General Systems Theory addresses the complexities and solutions of virtually every scientific field (International Society for the Systems Sciences, n.d.), but for our purposes in health education, it is applied to the socio-cultural and psychological domains (Von Bertalanffy, 1976), and more specifically, to the field of social marketing (Sirgy, 1984).

The fourth grouping of health behavior theories contains what are referred to as stage theories. Piaget's Child Development Theory (Jean Piaget Society, n.d.) describes children's developmental stages from birth through age fifteen. Green's Precede-Proceed Model (Green & Kreuter, 1991) is a comprehensive staged program planning model, extending from needs assessment through outcome evaluation. Only the final three models, Prochaska and DiClemente's Transtheoretical Model (Glanz, Lewis, & Rimer, 1997; Kreuter & Lezin, 2002; Zimmerman, Olsen, Bosworth, 2000), Rogers' Diffusion of Health Promotion Innovation (1983), and Weinstein's Precaution Adoption Model (1988), are concerned directly with following or predicting the progress of adoption of behavior changes. Within those three, there is an overlap of concepts, which can be readily seen through examination of Table 3.

Having reviewed the different groups of theoretical research currently being used in the specified health education journals this past year, let us turn to the three theories/models most frequently used therein. These include: The Transtheoretical/Stages of Change Model, the Theories of Reasoned/Action and Planned Behavior, and the Social Cognitive Theory/Social Learning Theory.

The Transtheoretical Model was first developed in 1983 by James O. Prochaska and C. C.

DiClemente (Glanz, Lewis, & Rimer, 1997; Kreuter & Lezin, 2002). The model derives from the profession of psychology and addresses five stages of behavior change. Pre-contemplation is denial or not being aware that a behavior puts one at risk. As one develops awareness of the situation, he/she begins Contemplation of taking action, considering all of the factors that go into making the decision to change a behavior. Progressing to the Preparation phase, one might line up social support, make plans of action, and purchase necessary accoutrements. The Action phase is the actual adoption of the new behavior, and the Maintenance phase is where one works to keep their acquired behavior on-track. Maintenance is a lifelong process. There is interplay between the stages, as they are not linear. As with any behavior modification regimen, occasionally one may slip back into the maladaptive behavior. Once the slip occurs, one re-enters the process. This model has the advantage of acknowledging that these slips do occur, and preparing people for these occurrences. Slips are considered mere eventualities, as they are expected, and are not seen as catastrophic events that might lead one to abandon the positive health behaviors one is attempting to acquire. Next we will examine the Theory of Reasoned Action/Planned Behavior.

Ajzen and Fishbein's Theory of Reasoned Action (1969, 1970, 1977, 1980) predates the eventual extension to the Theory of Planned Behavior by at least twenty years. These theorists began with the interesting notion that people behave the way that they do for a reason, and thus behavior is logical. If this holds true, we should be able to explain or predict human behavior. They began by positing that the best way to predict someone's actions, is to ask them what they intend to do within a reasonably proximal time range. Behavioral intentions are thus the best predictors of human behavior. They determined that the best predictors of one's stated behavioral intentions lie in attitude and subjective norm. According to Ajzen and Fishbein, one's attitude is best predicted by examining what he/she expects to be the outcome of a particular action, and his/her evaluation of the likelihood of this outcome.

Table 3. Stage Theories

Theory/Model	Originator(s)	Field of Study	Key Concepts/Constructs
Piaget's Child Development Theory Source: Jean Piaget Society	Jean Piaget 1950's	Biology Philosophy	Stages 1) Sensorimotor stage (Birth to 2 Years) 2) Preoperational stage (Ages 2-7) 3) Concrete operations (7-11) 4) Formal operations (11-15)
Precede-Proceed Source: Green, L. & Kreuter, M. (1991).	Lawrence Green 1968-early 80's	Health Education	Precede: Predisposing, Reinforcing, and Enabling causes in Education, Diagnosis and Evaluation. Proceed: Policy, Regulatory, and Organizational, Constructs in Education and Environmental Development 9 Phases: 1) Social diagnosis 2) Epidemiologic diagnosis 3) Behavior and Environmental diagnosis 4) Education & Organization diagnosis 5) Administrative & Policy diagnosis 6) Implementation 7) Process evaluation 8) Impact evaluation 9) Outcome evaluation
Transtheoretical Model Stages of Change Sources: Glanz, Lewis, & Rimer, 1997; Kreuter & Lezin, 2002	James O. Prochaska, C. C. DiClemente 1983	Psychology	Stages 1) Precontemplation 2) Contemplation 3) Preparation 4) Action 5) Maintenance
Diffusion of Health Promotion Innovation Source: Rogers (1995) as cited in Clarke (1999)	Everett M. Rogers 1962	Communication	Stages of Technological Innovation: Knowledge, Persuasion, Decision, Implementation, Confirmation Characteristics: Relative advantage, Compatability, Complexity, Trialability, Observability Adopter Categories: Innovators, Early adopters, Early majority, Late majority, Laggards Roles: Opinion leaders, Change agents, Change aids
Precaution Adoption Model Source: Weinstein (1988)	Neil D. Weinstein 1988	Psychology	Stages: 1) Unaware of issue 2) Unengaged by issue 3) Deciding about acting 4) Decided not to act 5) Decided to act 6) Acting 7) Maintenance

Subjective norm is a generalized construct, reliant upon one's normative beliefs (what significant others would have them do), and one's motivation to comply with the wishes of these significant others. General criticism of the model was levied that the theory did not take into account behaviors not under the volitional control of the subject.

This was remedied with the 1985 evolution of the theory to address this aspect as planned behavior. See Ajzen (1988) for a thorough treatment of the Theory of Planned Behavior. With the addition of perceived behavioral control (ability), we see its impact on intention, the reciprocal determinism between perceived behavioral control and subjective norm, between perceived behavioral control and attitude, and between attitude and subjective norm. Ajzen notes that actual behavioral control is dependent upon resources and opportunity (Ajzen, 1991).

The final theory to be reviewed is the Social Cognitive/Social Learning Theory advanced by Albert Bandura. Bandura advanced Social Learning Theory in 1963 (Bandura, 1963, 1977, 1986, 1994; Pajares, 2002), by introducing the concepts of modeled behavior and vicarious reinforcement as learning mechanisms. It wasn't until 1977 that he introduced the concept of self-efficacy into the theory (Bandura, 1977a, 1977b, 1986, 1994, Pajares, 2002). In 1986, Bandura introduced the idea of reciprocal determinism (Bandura, 1986, 1994; Pajares, 2002). Pajares (2002) states that Bandura's idea of reciprocal determinism is based in "the view that (a) personal factors in the form of cognition, affect, and biological events, (b) behavior, and

(c) environmental influences create interactions that result in a triadic reciprocity." It was at this time that Bandura changed the name of the theory from Social Learning Theory to Social Cognitive Theory "...to distance it from prevalent social learning theories of the day and to emphasize that cognition plays a critical role in people's capability to construct reality, self-regulate, encode information, and perform behaviors."

This article has provided a brief overview of several of the theories used in health education today. Although the theories were categorized here as individual, interpersonal, social systems, and staged theories, they could just have well have been organized around their many uses. They provide insight into every facet of program planning, implementation, and evaluation. They also provide us with the tools necessary to understand individual behavior, as well as the behaviors of populations we wish to serve."

For those wishing a more complete treatment of theory as applied in health education, the texts by Glanz, Rimer, and Lewis entitled: *Health Behavior and Health Education: Theory Research and Practice* (2002), and *Emerging Theories in Health Promotion Practice and Research: Strategies for Improving Public Health* (Diclemente, Crosby, & Kegler, 2002) are recommended. Another source produced by the National Institutes of Health is [Theory at a Glance](#). For those wanting a quick overview of a variety of health behavior change theories and models, [Kelli McCormack Brown](#) has compiled a great deal of information that can be accessed at her web site.

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Appendix A

2003 Articles and their Attendant Theories/Models

Cognitive Dissonance Theory

Wimer, J. (2003). Video intervention projects: Using technology and cognitive dissonance theory to enhance learning. *American Journal of Health Education*, 34, 372-374.

Coping Theory

Howard, D. E., Kaljee, L., Rachuba, L. T., & Cross, S. I. (2003). Coping with youth violence: Assessments by minority parents in public housing. *American Journal of Health Behavior*, 27, 483-492.

Major, D. A. (2003). Utilizing role theory to help employed parents cope with children's chronic illness. *Health Education Research*, 18, 45-57.

Diffusion Theory

Cross, D., Hall, M., & Howat, P. (2003). Using theory to guide practice in children's pedestrian safety education. *American Journal of Health Education*, 34(1), 42-47. *

Hawks, S. R., & Madanat, H. N. (2003). Stemming racial and ethnic disparities in the rising tide of obesity. *American Journal of Health Education*, 34(2), 90-96. *

Lafferty, C. K., Mahoney, C. A., & Thombs, D. L. (2003). Diffusion of a developmental asset-building initiative in public schools. *American Journal of Health Behavior*, 27(Suppl. 1), S35-S44. *

Osganian, S. K., Parcel, G. S., & Stone, E. J. (2003). Institutionalization of a school health promotion program: Background and rationale of the CATCH-ON study. *Health Education & Behavior* 30, 410-417.

Riley, B. L. (2003). Dissemination of heart health promotion in the Ontario public health system: 1989-1999. *Health Education Research*, 18(1), 15-31. *

Elaboration Likelihood Model

Kreuter, M. W., & Wray, R. J. (2003). Tailored and targeted health communication: Strategies for enhancing information relevance. *American Journal of Health Behavior*, 27(Suppl. 3), S227-S232.

Health Belief Model

Burton, N. W., Turrell, G., & Oldenburg, B. (2003). Participation in recreational physical activity: Why do socioeconomic groups differ? *Health Education & Behavior*, 30, 225-244.

Cross, D., Hall, M., & Howat, P. (2003). Using theory to guide practice in children's pedestrian safety education. *American Journal of Health Education*, 34(5), 42-47. *

Hammig, B., & Moranetz, C. A. (2003). Gender differences in health beliefs concerning violent victimization by strangers. *American Journal of Health Education*, 34, 206-211.

Rhodes, S. D., Grimley, D. M., & Hergenrather, K. C. (2003). Integrating behavioral theory to understand hepatitis B vaccination among men who have sex with men. *American Journal of Health Behavior* 27, 291-300.

Locus of Control

Chng, C. L., Neill, K., & Fogle, P. (2003). Predictors of college students' use of complementary and alternative medicine. *American Journal of Health Education* 34, 267-271.

Organizational Theory

- Pavis, S., Constable, H., & Masters, H. (2003). Multi-agency, multi-professional work: experiences from a drug prevention project. *Health Education Research*, 18, 717-728.
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Piaget's Theory of Child Development

- Cross, D., Hall, M., & Howat, P. (2003). Using theory to guide practice in children's pedestrian safety education. *American Journal of Health Education*, 34(5), 42-47. *

Precaution Adoption Process Model

- Sharp, K., & Thombs, D. L. (2003). A cluster analytic study of osteoprotective behavior in undergraduates. *American Journal of Health Behavior*, 27, 364-372.

Precede-Proceed

- *Cross, D., Hall, M., & Howat, P. (2003). Using theory to guide practice in children's pedestrian safety education. *American Journal of Health Education*, 34(5), 42-47.

Protection Motivation Theory

- Houlding, C., & Davidson, R. (2003) Beliefs as predictors of condom use by injecting drug users in treatment. *Health Education Research*, 18, 145-155.

Social Cognitive Theory/Social Learning Theory

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*All starred entries use more than one theory.

Appendix B

Depiction of the Similarities Found within the Individual and Interpersonal Health Theories

Theory/Model	Perception of Threat/ Expectations	Efficacy Internal Control	Outcome Expectancy	Enabling Factors or Barriers	Others
Health Belief Model	Perceived Threat Susceptibility Severity	Self- Efficacy		Benefits Barriers	
Theory of Reasoned Action/ Planned Behavior	Outcome Expectancy Evaluation of Likelihood of Expectancy	Control beliefs			Subjective Norm Normative Beliefs Salient referents Motivation to comply with referents
Protection Motivation Theory	Threat appraisal Severity Vulnerability	Coping appraisal Self-efficacy Response- efficacy			
Social Learning Theory		Self-efficacy			Modeling Vicarious learning
Theory of Interpersonal Behavior		Personal factors Habit		Facilitating conditions	Social
Social Support and Coping					Supportive behaviors Emotional support Appraisal support Informational support Instrumental support Social capital
Locus of Control	Expectancy			Re- inforcement	External locus of control Powerful others
Elaboration Likelihood Model		Ability to process, Nature of cognitive processing, Persistence, Resistance		Peripheral cue present	