

INTERNAL AND EXTERNAL FACTORS
THAT ENCOURAGE OR DISCOURAGE HEALTH-RELEVANT BEHAVIORS

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INTRODUCTION

There are a number of factors that determine the likelihood of engaging in a particular behavior. These determinants can be classified as either internal factors, e.g. knowledge, or external factors, e.g. social support, that are instrumental in understanding behavior. Some internal factors considered to be important in advocating health-relevant behaviors are: (1) **knowledge** about risk factors and risk reduction, (2) **attitudes, beliefs and core values (ABCs)**, (3) social and life adaptation skills, (4) psychological disposition, e.g. self-efficacy, and (5) **physiology**. Some external factors are: (1) **social support**, (2) **media**, e.g. public service announcements (PSAs), (3) **socio-cultural, economic and political factors**, (4) **biologic**, (5) **health care system**, (6) **environmental stressors**, and (7) **societal laws and regulations** (Cole et al., 1992).

The presence or absence of these factors functions to either initiate or restrain healthy behaviors. For example, *perceived personal susceptibility* to a particular disease within the internal factor of **attitudes, beliefs and core values (ABCs)** augments the probability that the individual will engage in a health-relevant behavior. On the other hand, lack of *perceived seriousness of the threat*, also related with ABCs, would not serve as a motivation to change risky behaviors.

The following quotes from contemporary behavioral science literature mention some of the most important factors in explaining behavior. Certainly, other factors are instrumental in understanding health-relevant behaviors. A literature review may be required to construct a comprehensive list of the various internal and external factors that are involved in the process of behavior change.

INTERNAL FACTORS

1. Knowledge

"Heightened awareness and knowledge of health risks are important preconditions for self-directed change. Unfortunately, information alone does not necessarily exert much influence on refractory health - impairing habits." (Bandura, 1990 [1])

"People need enough knowledge of potential dangers to warrant action." (Bandura, 1990 [1])

"The preconditions for change are created by increasing people's awareness and knowledge of the profound threat of (illness)." (Bandura, 1990 [1])

"Other findings underscore the severe limitations of efforts to change sexual practices by information alone." (Bandura, 1990 [1])

"It is not enough to convince people that they should alter risky habits. Most of them also need guidance on how to translate their concerns into efficacious actions." (Bandura, 1990 [1])

"Knowledge of how one is doing alters one's subsequent behavior to the extent that it activates self-reactive influences in the form of personal goal setting and self-evaluative reactions." (Bandura, 1991 [2])

"It is not information, but attitudes which need to be targeted in future intervention studies." (Becker, 1988 [3])

"There is little actual evidence that an individual's knowledge and attitudes toward (the disease) significantly shape his or her behavior. It may well be that there is some 'threshold' effect and that, beyond a certain level, further increments in knowledge or improved attitudes no longer influence behaviors." (Becker, 1988 [3])

"There is little compelling evidence that patient education consistently influences health behavior. Efforts to encourage compliance with (health-relevant behaviors) must include more than just the provision of information." (Becker, 1990 [4])

"It would seem naive to assume that massive education concerning the (disease) would be sufficient to ensure (health-relevant) behaviors." (Becker, 1990 [4])

"One must avoid the naive view that compliance is merely a matter of enough information." (Becker, 1990 [4])

"Cognitive avoidance represents a coping strategy that may prevent problem recognition and the perceived need to change one's behavior." (Catania, 1990 [5])

"Knowledge of the risk factors involved in (disease) is necessary to determine personal risk accurately, and to develop perceptions of personal susceptibility to infection... This variable may not be predictive of behavioral change processes." (Catania, 1990 [5])

"Education that provides accurate and specific instructions on the health utility of (safe) behaviors and suggests ways to increase the enjoyment of low risk activities is expected to facilitate people's commitment to seek change." (Catania, 1990 [5])

"Health education that provides specific information on the best types of help and how those types of help might be obtained would have an important impact on the ('taking action') phase of the (behavioral change) process." (Catania, 1990 [5])

"Information is necessary, but is not sufficient to effect and sustain behavioral change in large segments of the population." (Coates, 1988 [6])

"Raising levels of knowledge and correcting misconceptions will be necessary as a first strategy by which individuals can begin to protect themselves and to insure an informed population so that effective and humane legislation can be enacted." (Coates, 1988 [6])

"One might reasonably speculate that knowledge about disease is used in making judgments about symptoms and the threat of disease." (Cummings, 1980 [8])

"Increasing knowledge does not necessarily overcome attitudinal barriers to preventive behavior." (Darrow, 1989 [9])

"Relying on education alone overlooks some significant aspects of helping adolescents prevent negative health outcomes: knowledge alone does not change behavior." (Howard, 1988 [13])

"Knowledge of modes of transmission and prevention has not been found to have a significant direct effect on preventive action." (Maticka-Tyndale, 1991 [15])

"Information is needed to reduce risky behavior and the likelihood of exposure to the (disease agent), but it is insufficient by itself to ensure lasting and meaningful behavior change." (O'Keeffe, 1990 [16])

"Information is a necessary but insufficient condition for behavior change." (O'Keeffe, 1990 [16])

"Basic information is needed to motivate (risk reduction), information alone is not sufficient to reduce risky behavior, and sustained social reinforcement is necessary for risk reduction to last." (O'Keeffe, 1990 [16])

"Furthermore, it has been empirically determined that information alone does not change behavior." (Page, 1985 [17])

"In the traditional health education approach, information and education about the disease process has been emphasized as a rational basis for adopting protective behavior or discontinuing established risk behavior." (Rugg, 1990 [19])

"It has now been established that knowledge itself does not produce behavioral change." (Silverman, 1992 [20])

2. Attitudes, Beliefs and Core Values

"Success... requires not only skills, but also strong self-belief in one's capabilities to exercise personal control." (Bandura, 1990 [1])

"Perceived efficacy can affect. . .whether people even consider changing their health habits, how hard they try should they choose to do so, how much they change, and how well they maintain the changes they have achieved." (Bandura, 1990 [1])

"In these interpersonal (pressures and sentiments) the sway of coercive power, allurements, desire for social acceptance, social pressures, situational constraints, and fear of rejection and personal embarrassment can override the influence of the best of informed judgment." (Bandura, 1990 [1])

"Misappraisals of riskiness of one's sexual practices tend to be associated with underestimation of personal susceptibility to infection." (Bandura, 1990 [1])

"People's belief that they can motivate themselves and regulate their own behavior plays a crucial role in whether they even consider altering habits detrimental to health." (Bandura, 1990 [1])

"Perceived self-efficacy emerged as the best predictor of sexual risk-taking behavior." (Bandura, 1990 [1])

"What people need is sound information., guidance on how to regulate their behavior, and firm belief in their personal efficacy to turn concerns into effective preventive actions." (Bandura, 1990 [1])

"Patients' perceived efficacy that they could stick to the required preventive behavior was a good predictor of whether they adopted the preventive practices." (Bandura, 1990 [111])

"The stronger the perceived self-efficacy, the more likely people are to adopt the recommended practices." (Bandura, 1990 [1])

"Success is usually achieved through renewed effort following failed attempts." (Bandura, 1990 [1])

"Human competency requires not only skills, but also self-belief in one's capability to use those skills well." (Bandura, 1990 [1])

"It is resiliency in perceived self-efficacy that counts in maintenance of changes in health habits. The higher the perceived self-efficacy, the greater is the success in maintenance of health-promoting behavior." (Bandura, 1990 [1])

"People effect self-directed change when they understand how personal habits threaten their well-being, are taught how to modify them, and believe in their capabilities to marshal the effort and resources needed to exercise control." (Bandura, 1990 [1])

"Neither intention nor desire alone has much effect (on self-regulation) if people lack the capability for exercising influence over their own motivation and behavior." (Bandura, 1991 [2])

"Self-directed change is more readily achieved by bringing consequences to bear on present behavior than on its distal effects." (Bandura, 1991 [2])

"Self-monitoring successes increase desired behavior, attending only to one's failures causes little change or lowers performance accomplishments." (Bandura, 1991 [2])

"People form personal standards partly on the basis of how significant persons in their lives have reacted to their behavior." (Bandura, 1991 [2])

"People must evaluate their performances in relation to the attainments of others." (Bandura, 1991 [2])

"In areas affecting (the individual's) welfare and self-esteem, performance appraisals activate self-reactions. The more relevant performances are to one's value preferences and sense of personal adequacy, the more likely self-evaluative reactions are to be elicited in that activity." (Bandura, 1991 [2])

"Self-reactions vary depending on how people perceive the determinants of their behavior. They are most likely to take pride in their accomplishments when they ascribe their successes to their own abilities and efforts." (Bandura, 1991 [2])

"Knowledge regarding (the disease), and the perceived value of behavioral change in reducing one's risk of (infection), were both consistently related to various measures of risk reduction." (Becker, 1988 [3])

"Appropriate knowledge and attitudes are prerequisites for alteration of behavior." (Becker, 1988 [3])

"Knowledge and attitudes are generally supportive of behavioral risk reduction." (Becker, 1988 [3])

"Changes in human behavior are occurring because of the threat of (disease)." (Becker, 1988 [3])

"Intention to perform a behavior can be accounted for by a combination of attitudes about an action and perceptions of likely normative reactions to that action." (Becker, 1990 [4])

"Performance of a behavior is a function of the strength of a person's attempt to perform a behavior and the degree of control the person has over that behavior.. .The harder the person tries, and the greater his or her control over personal and external factors that may interfere with the behavior, the greater the likelihood that the behavior will be performed." (Becker, 1990 [4])

"The more favorable an individual's attitude toward attempting a behavior, and the more he or she believes that significant others are in favor of his or her trying, the stronger will be his or her intention to try." (Becker, 1990 [4])

"Individuals will try to perform a behavior if they believe that the benefits of success are outweighed by the benefits of failure, and if they feel that significant other (with whom they want to comply) believe they should.attempt to perform the behavior. Successful performance of the behavior will be the end result if individuals have sufficient control over internal and external factors that influence such performance." (Becker, 1990 [4])

"Perceived self-efficacy influences all aspects of behavior, including the acquisition of new behaviors, inhibition of existing behaviors, and disinhibition of behaviors. Self-efficacy also affects people's choices of behavioral settings, the amount of effort they will expend on a task, and the length of time they will persist in the face of obstacles. Self-efficacy affects people's emotional reactions, such as anxiety and distress and thought patterns." (Becker, 1990 [4])

"The conviction that outcomes (good health) are determined by one's own action can have any number of effects on self-efficacy and behavior." (Becker, 1990 [4])

"While low levels of concern about the threat of some illness or condition are not likely to motivate action, too much fear can serve to inhibit undertaking the appropriate behavior." (Becker, 1990 [4])

"Perceived self-efficacy mediated changes in behavior and function." (Becker, 1990 [4])

"While low perceptions of seriousness (of contracting an illness) might provide insufficient motivation for behavior, very high perceived severity might inhibit action." (Becker, 1990 [4])

"A 'sufficiently threatened' individual would not be expected to accept the recommended health action unless it was perceived as feasible and efficacious." (Becker, 1990 [4])

"The potential negative aspects of a particular health action may act as impediments to undertaking the recommended behavior." (Becker, 1990 [4])

"Perceived susceptibility has a significant relationship to risk behaviors, independent of knowledge." (Catania, 1990 [5])

"The perceived costs and benefits of changing high risk behaviors and beliefs concerning one's ability to make the appropriate changes are expected to influence the commitment to change high risk activities." (Catania, 1990 [5])

"The degree of commitment to adopting 'safe' and reducing high risk behaviors would be increased when those actions are perceived as effective in reducing the risk of contracting (disease). These actions have personal value in terms of their health consequences for the individual." (Catania, 1990 [5])

"Response efficacy influences people's initial efforts to reduce risky health behaviors and facilitates preventive actions under conditions of high self-efficacy." (Catania, 1990 [5])

"Belief in one's capabilities for executing a behavior predict intentions to change unhealthy behavior and performance of health actions." (Catania, 1990 [5])

"Belief in our abilities to accomplish change may be influenced by observing that people similar to us have successfully accomplished such changes." (Catania, 1990 [5])

"Individuals may know the facts about disease prevention, but fail to act on this knowledge because they lack confidence in the information or fail to believe that the expected action will prevent disease transmission." (Coates, 1988 [6])

"Perception of difficulty in modifying sexual behavior discriminated between men practicing high- and low-risk sex." (Coates, 1988 [6])

"Motivation to take action requires that a person perceives the disease as a personal risk with serious consequences." (Coates, 1988 [6])

"Belief that peers engage in and support low-risk sex and disapprove of high-risk sex is a powerful predictor of low-risk behavior." (Coates, 1988 [6])

"The process of behavior change requires deciding if the behaviors can be altered and whether the benefits of change outweigh the costs." (Coates, 1988 [6])

"The process of changing health-diminishing behavior involves reaching a firm decision to make behavioral changes and committing strongly to that decision. Influencing the process of commitment to change are: (1) an individual's analysis of the costs of changing, (2) analysis of the benefits of changing, and (3) perceived self-efficacy." (Coates, 1988 [6])

"A perceived barrier was most often associated with a failure to adopt health actions." (Darrow, 1989 [9])

"In the absence of a sense of vulnerability, (persons) are not sufficiently motivated to adopt preventive measures." (Darrow, 1989 [9])

"A feeling of personal vulnerability or susceptibility to a disease is necessary for any person to consider adopting a preventive health behavior." (Darrow, 1989 [9])

"To be motivated to take preventive action, a person must perceive a disease as having serious consequences." (Darrow, 1989 [9])

"A perception of personal vulnerability is generally regarded as a prerequisite to undertaking modifications in behavior to prevent a disease. (Darrow, 1989 [9])

(People) "appraise their own vulnerability based on their evaluation of how much or little they resemble their mental representation (stereotype) of the typical person who experiences a particular kind of negative outcome." (Darrow, 1989 [9])

"Compliance behavior can also change health beliefs." (Eraker, 1985 [10])

"Decisions to adopt health-protective behaviors are influenced by expectations that a recommended action will protect or enhance valued resources or outcomes." (Ewart, 1991 [11])

"A desire to change does not stimulate problem-solving unless one believes oneself to be capable of performing the recommended action." (Ewart, 1991 [11])

An individual's personal "projects affect the creation of self-protective action patterns by causing people to generate self-directive goals or behavioral intentions.. Directive goals embodied in personal projects guide people into activities and environments that affect their responses to behavior change inducements." (Ewart, 1991 [11])

"Directive goals and self-standards affect self-efficacy, and self-efficacy appraisals guide the selection of action strategies." (Ewart, 1991 [11])

"Desire to mobilize control skills is influenced by declarative (factual) knowledge." (Ewart, 1991 [11].)

"Social action theory suggests that cognitive control schemas influence behavioral choices by increasing confidence in one's ability to persist in temptation avoidance." (Ewart, 1991 [11])

"Models of health behavior usually ascribe changes in health habits to changes in health knowledge, beliefs, attitudes, or contingencies of reinforcement." (Ewart, 1991 [11])

"Persuasive inducements affect behavior only to the degree that they prompt people to create self-change strategies." (Ewart, 1991 [11])

"The ability of health beliefs to predict behavior is related to whether or not the individual has experienced the behavior and adjusted his beliefs accordingly." (Goodwin, 1990 [12])

"Individuals will engage in or persist with a behavior to the extent that they believe themselves able to carry out that behavior and to the extent that they believe the behavior will lead to a desired outcome." (Goodwin, 1990 [12])

"Belief in one's vulnerability and in the severity of consequences of disease as well as some prompt or stimulus to change the behavior is necessary." (O'Keeffe, 1990 [16])

"Attitudes based on direct experience are more persistent, more likely to influence later behavior, and more resistant to counterinfluence than attitudes based on indirect or passive experience." (O'Keeffe, 1990 [16])

"An individual's intention to act in a specific manner will determine actual behavior. Behavioral intentions are influenced and moderated by attitudes that the individual holds toward the behavior and by subjective norms regarding the behavior." (O'Keeffe, 1990 [16])

"Beliefs are precursors of attitude, behavioral intentions, and behavior." (Page, 1985 [17])

"The attitude toward the behavior is a function of... beliefs about the consequences and the evaluation of those consequences." (Page, 1985 [17])

The perceived expectations of specific referent individuals or groups, and an individual's motivation to comply with those expectations determine the influence of the social environment on behavior. (Page, 1985 [17])

"The Health Belief Model has generally focused on factors such as perceived susceptibility, severity, and benefits/barriers" as determinants of health intentions. (Page, 1985 [17])

3. Life Adaptation Skills

"Effective self-regulation of behavior is not achieved by an act of will. It requires certain skills in self-motivation and self-guidance." (Bandura, 1990 [1])

"Self-regulatory skills thus form an integral part of risk-reduction capabilities. They partly determine the social situations into which people get themselves, how well they navigate through them, and how effectively they can resist social inducements to potentially risky behavior." (Bandura, 1990 [1])

"Social skill in negotiating protective activity was also associated with low-risk practices." (Bandura, 1990 [1])

"Communication abilities are important to achieving success in changing behaviors." (Catania, 1990 [5])

"Skills necessary for negotiating safe sex may rely on important factors such as timing, effective communication skills, verbal tone, and assertiveness abilities." (Catania, 1990 [5])

"Risk reduction requires that individuals possess the skills necessary to engage in lower risk sexual and drug injection practices, and the social skills to negotiate their use with partners." (Coates, 1988 [6])

"The necessary skills (are required for the individual) to take action. The ability to engage a sexual partner in behaviors which do not permit the transmission of sexually transmitted diseases depends upon the ability to communicate verbally about sexual issues and desires. Sexual communication abilities are essential in reaching success in changing sexual behaviors and can be taught." (Coates, 1988 [6])

"The ability to make appraisals and translate them into strategies is a function of health-relevant procedural and factual knowledge (generative capabilities), as well as the interpersonal skills possessed by oneself and by others with whom one's action scripts are interlinked (social interaction component)." (Ewart, 1991 [11])

"It appears that problem-solving activities constitute the fulcrum of the habit-change process." (Ewart, 1991 [11])

"As enablers of motivation and problem-solving, generative capabilities constitute important mechanisms by which social and physical environments affect self-regulatory acts." (Ewart, 1991 [11])

"Contemporary research...demonstrates that self-control is facilitated by skill in cognitively transforming distressing thoughts and aversive stimuli." (Ewart, 1991 [11])

"Prevention entails creating self-protective habits in the form of highly routinized and 'automatic' action sequences that lower personal risk." (Ewart, 1991 [11])

"The ability to generate effective strategies for handling day-to-day problems is related to social and emotional adjustment." (Ewart, 1991 [11])

"Providing people with skills to negotiate or resist peer pressure, to delay gratification, to avoid compromising situations will influence the fulfillment of the (behavioral) intentions." (O'Keeffe, 1990 [16])

"Positive assertive communication skills between partners are a prerequisite and contribute initially to facilitating behavior changes." (Rugg, 1990 [19])

"Successful risk reduction will require individuals to learn social and behavioral skills which are a prerequisite to performing safer behaviors... These assertive skills need to be taught, practiced, and reinforced." (Rugg, 1990 [19])

4. Psychological Disposition

"Perceived coping inefficacy increases vulnerability to stress and depression." (Bandura, 1990 [1])

"Mood states also affect how one's performances are self-monitored and cognitively processed. Self-monitoring of behavior that bears on personal competence and self-esteem activates affective reactions that can distort self-perceptions at the time the behavior is occurring, as well as later recollections of it." (Bandura, 1991 [2])

"Self-knowledge provides direction for self-regulatory control." (Bandura, 1991 [2])

"Low motivation is accompanied by unreactive self-observation." (Bandura, 1991 [2])

"Those who have a firm sense of identity and are strongly oriented toward fulfilling their personal standards display a high level of self-directedness." (Bandura, 1991 [2])

"The significantly depressed person has little interest in health practices." (Becker, 1990 [4])

"Problem related distress provides the necessary yardstick by which people judge the severity of their problem and the need to take action that decreases negative health outcomes." (Catania, 1990 [5])

"Current data underscores the importance of emotional states to achieving risk reduction." (Catania, 1990 [5])

"Loneliness may drive individuals perpetually to seek the ideal partner, disregarding the need to practice safe sex as one searches for closeness." (Coates, 1988 [6])

"The personality construct most consistently linked to health-promoting behavior is 'locus of control'--the extent to which persons perceive events in their lives to be within (or outside of) their personal control. Persons who hold internal expectations are more likely to assume active responsibility for maintaining their health." (Darrow, 1989 [9])

"Anxiety (was found) to be significantly associated with expectations of being able to quit (the health-impairing behavior), with more severe functional impairment, and with more poorly perceived health status." (Eraker, 1985 [10])

"Emotional expression or inhibition may affect behavioral control." (Ewart, 1991 [11])

"Emotional distress also can impair interpersonal problem-solving capabilities, thereby affecting relationship support for personal change." (Ewart, 1991 [11])

"Action states arise from strategies people use when trying to regulate their behavior, and the creation of strategies is prompted by motivational appraisal processes." (Ewart, 1991 [11])

"Attaining a goal results in self-approval and thus stimulates further goal-directed effort." (Ewart, 1991 [11])

"Psychological motivations to avoid dissonance or maintain cognitive consistency may lead to a very distinctive willingness or unwillingness to accept certain messages." (Lau, 1980 [14])

The Health Belief Model is "influenced by an individual's motivational state (concern about health matters and desire to maintain a positive state of health)." (Page, 1985 [17])

"Unless the flow of information and motivating incentive can be maintained, any change in behavior is likely to be short-term." (Page, 1985 [17])

"The skills of empathy, assertiveness and leadership, friendship and cooperation, and communication are linked to the social competence of youngsters in the developmental period of middle childhood." (Rose, 1987 [18])

"Psychogenic factors in health, especially individuals' sense of coherence, enables them to resist the potentially negative health consequences of stressful life events." (Stokols, 1992 [21])

"Several studies indicated the close relationship between individual wellbeing and personal orientations such as hostility, optimism, sense of coherence, personal hardiness, and coping efficacy." (Stokols, 1992 [21])

5. Physiology

"Perceived coping inefficacy..., activates biochemical changes that can affect various facets of immune function." (Bandura, 1990 [1])

"Because high physiological arousal usually impairs performance, people are more likely to expect failure when they are very tense and viscerally agitated." (Becker, 1990 [4])

"Patients with a more serious diagnosis (severity of symptoms) also appear to have increased motivation and ability to stop (the health-impairing behavior)." (Eraker, 1985 [10])

"Biologic conditions and mood states (energy level) activate health goals and may facilitate the implementation of action schemas." (Ewart, 1991 [11])

"Patients with more (disease) symptoms were less likely to follow self- management procedures." (Goodwin, 1990 [12])

"Adolescent growth and development affect their ability to use information in the control of their behaviors." (Howard, 1988 [13])

"The physiological characteristics of sexual arousal and drug addiction may further affect one's ability to comply with intentions to protect oneself." (O'Keeffe, 1990 [16])

EXTERNAL FACTORS

1. Social Support

"Personal change occurs within a network of social influences. Depending on their nature, social factors can aid, retard, or undermine efforts at personal change." (Bandura, 1990 [1])

"Social influences rooted in indigenous sources generally have greater impact and sustaining power than those applied by outsiders for a limited time." (Bandura, 1990 [1])

"In the social diffusion of new behavior patterns, indigenous adopters usually serve as more influential exemplars and persuaders than do outsiders." (Bandura, 1990 [1])

"Existing social, religious, recreational, occupational, and educational organizations can serve as highly effective disseminators of preventive health guidelines." (Bandura, 1990 [1])

"Social factors, such as social support..., may also have considerable influence on cost-benefit assessments and self-efficacy beliefs." (Catania, 1990 [5])

"Informal social support has been shown to correlate with health actions." (Catania, 1990 [5])

"When couples jointly confront a problem, there may be a mutual basis for enacting steps to change their behavior." (Catania, 1990 [5])

"Informal support groups... that prescribe changing high risk behaviors may also function to guide movement towards behavioral change." (Catania, 1990 [5])

"Loneliness and lack of social support was related to high-risk sex." (Coates, 1988 [6])

"Seeking help from formal and informal sources may help to reduce risk." (Coates, 1988 [6])

"Many people take their cue for appropriate action from peers, and significant individuals in one's environment are often influential in alerting people about risk, suggesting ways to reduce risk, and in modeling specific methods for changing behavior." (Coates, 1988 [6])

"A social action view emphasizes social interdependence and interaction in personal control of health-endangering behavior." (Ewart, 1991 [11])

"Personal action scripts are socially intertwined with scripts of family members, friends, or others in ways that pose significant obstacles to long-term change." (Ewart, 1991 [11])

"Each individual in (a close social relationship) has the ability to facilitate or impede the other's sequences and thus affect their ability to attain valued goals related to love, work, self-care, or other desired ends." (Ewart, 1991 [11])

"A partner's negative reactions to interrupted routines can undermine commitment to new patterns of health behavior." (Ewart, 1991 [11])

"Families characterized by high levels of cohesion and satisfaction may prove surprisingly unsupportive when important interlinked routines are repeatedly disrupted; and family environments characterized by lower levels of cohesion or satisfaction may be conducive to behavior change if action linkage also is low." (Ewart, 1991 [11])

"A social contextual view asserts that (action capabilities) are also a function of an individual's close personal relationships. When behavior changes threaten to disrupt a valued relationship, a satisfactory outcome depends on the partner's ability to collaborate effectively in problem-solving." (Ewart, 1991 [11])

"Research on social support indicates that the availability of a trusted confidant (typically a spouse) appears to be the critical factor determining whether people feel they are adequately supported in coping with difficult challenges." (Ewart, 1991 [11])

(Social) "Contexts modify personal generative capabilities and social relations in ways that affect how people generate goals, envisage opportunities for action, and devise and execute health-relevant strategies." (Ewart, 1991 [11])

"Environmental settings and social systems affect personal behavior by...influencing the formation of close relationships." (Ewart, 1991 [11])

"Relationships entail a range of benefits, expectations, and obligations that influence health-relevant goals and strategies." (Ewart, 1991 [11])

"Relationship systems also impose social obligations that may interfere with self-protective activities. Peer networks provide contacts with others who can assist with problems, enhance self-efficacy by suggesting effective strategies, and bolster self-esteem by advocating more favorable self-evaluative standards. These relationships also provide social models whose behavior facilitates or inhibits action patterns." (Ewart, 1991 [11])

"Social settings and relationships activate health goals, provide helpful action schemas, and facilitate the modification of problem scripts." (Ewart, 1991 [11])

"Contextual influences determine longer term success." (Ewart, 1991 [11])

"Organizational structures at the level of government, economic, educational, and health care systems channel individuals' goals, expectations, and strategies." (Ewart, 1991 [11])

"Interventions to promote habit changes are difficult to implement and sustain without broader social, institutional or political intervention." (Ewart 1991 [11])

"The drive toward social comparison and group maintenance has been considered an important determinant of behavior." (O'Keeffe, 1990 [16])

"Self-organized groups can influence perceived behavioral control by providing the means for behavior change." (O'Keeffe, 1990 [16])

"The peer group is a natural place for social skills training to occur... Social skills training with children in groups builds competence in performance." (Rose, 1987 [18])

"The behavior of teachers, friends, lovers, or family members serves as incidental antecedent and consequent events. Their behavior may be a cue which signals reinforcing or punishing stimuli for an individual's specific behavior." (Rugg, 1990 [19])

"A socially supportive family or organization may enable setting members to cope more effectively with physical constraints." (Stokols, 1992 [21])

"Supportive interpersonal relationships can enhance individuals' emotional and physical well-being and reduce the stressful consequences of negative life events." (Stokols, 1992 [21])

"To the extent that organizations promote chronic conflict among members or provide few resources to resolve such conflicts when they arise, they are more likely to impair the emotional and physical well-being of their members. (Stokols, 1992 [21])

2. Media

"Communications that explicitly (instill in people the belief that they have the capability to alter their health habits and instruct them on how to do it) increase people's determination to modify habits detrimental to their health." (Bandura, 1990 [1])

"The social diffusion of health practices promoted by mass media campaigns" is influenced by perceived self-efficacy. (Bandura, 1990 [1])

"Health communications should emphasize that success requires perseverant effort" to strengthen the staying power of self-beliefs. (Bandura, 1990 [1])

"Communications phrased in terms of benefits are less effective in altering detrimental habits than communications phrased in terms of personal losses. Examination of possible mediating mechanisms shows that the more persuasive messages achieve their effects by raising perceived self-efficacy." (Bandura, 1990 [1])

"Because of their wide reach and influence, the mass media, especially television, can serve as a major vehicle of social diffusion of information regarding health guidelines." (Bandura, 1990 [1])

"Fear messages may actually interfere with adoption of health-facilitating behavior." (Eraker, 1985 [10])

"The media cannot, of course, directly affect behavior; it must work indirectly through beliefs and attitudes." (Lau, 1980 [14])

"Highly credible sources are more likely to produce attitude change than low credibility sources." (O'Keeffe, 1990 [16])

The Health Belief Model is "influenced by... behavioral cues to health related action (mass media campaigns)." (Page, 1985 [17])

3. Sociocultural, Political and Economic

"Interpersonal, sociocultural, religious, and economic factors operate as constraints on self-protective behavior." (Bandura, 1990 [1])

"Supportive social norms (was) consistently and positively related to a range of risk-reduction behaviors.. .when examined in a longitudinal analysis." (Becker, 1988 [3])

"Social networks and norms may also influence labeling of risk behavior through disapproval of high risk activities and approval of safe behaviors." (Catania, 1990 [5])

"Social factors, such as:..reference group norms, may also have considerable influence on cost-benefit assessments and self-efficacy beliefs." (Catania, 1990 [5])

"Social norms that prescribe changing high risk behaviors may also function to guide movement towards behavioral change." (Catania, 1990 [5])

"The fear of being stigmatized for admitting socially undesirable behavior may decrease an individual's willingness to perceive his or her behavior as problematic." (Coates, 1988 [6])

"Social factors and community norms have considerable influence on the cost-benefit analysis (of behavior change) and on self-efficacy." (Coates, 1988 [6])

"Sexual decision making occurs in the context of a sociocultural system." (Darrow, 1989 [9])

"The dimensions of good and evil, clean and dirty, and socially acceptable and unacceptable will direct national and local interests, govern the distribution of resources, and limit the kinds of interventions that community leaders will tolerate and public agencies can implement at the local level." (Darrow, 1989 [9])

(People) "residing in lower socioeconomic urban areas may be less likely than their more affluent peers to detect and respond to symptoms, seek prompt and effective medical care, and comply with directions for successful treatment and follow-up." (Darrow, 1989 [9])

"Individual behavior responds to normative expectations of social settings." (Ewart, 1991 [11])

"Political arrangements that empower groups by giving them ownership of material resources, information, and decision-making authority foster individual empowerment of group members by providing direct experience in organizing people, identifying resources, and developing strategies for achieving goals." (Ewart, 1991 [11])

"Personal change is constrained... by the behavior's compatibility with enduring communal values or practices." (Ewart, 1991 [11])

"The role that group norms and pressures play in attitude formation and behavior change has been well documented throughout the development of social psychology." (O'Keeffe, 1990 [16])

"The degree to which the values of influential reference groups match those values necessary for risk reduction and prevention is a predictor of ultimate practice of (disease)-preventing behaviors. It is proposed that, for desired behavior change to be realized, the goals of (disease) prevention efforts must be consistent with the norms of appropriate and influential reference groups." (O'Keeffe, 1990 [16])

"Fishbein's model of behavioral intentions explicitly recognizes the importance of social norms as determinants of health intentions." (Page, 1985 [17])

"The environment can be viewed as an enabler of health behavior exemplified by the... exposure to interpersonal modeling or cultural practices that foster health-promotive behavior." (Stokols, 1992 [21])

4. Biologic

"Environmental settings and social systems affect personal behavior by...affecting one's biological condition, . . .and interacting with physiological processes to generate mood states that bias cognition and constrain social interaction." (Ewart, 1991 [11])

"Physical settings and social systems both affect and interact with biological structures and processes within the person to create intrapersonal contexts that influence goals and generative capabilities." (Ewart, 1991 [11])

"Biologic conditions and mood states also activate health goals and may facilitate the implementation of action schemas." (Ewart, 1991 [11])

"The environment can operate as a stressor, evidenced by the... physical debilitation resulting from chronic exposure to uncontrollable environmental demands." (Stokols, 1992 [21])

5. Health Care System

"The individual's attitudes toward health care and...accessibility to health services suggests a relationship in which access factors affect and/or are affected by one's evaluation of health care." (Cummings, 1980 [8])

"Demographic variables and access to health service variables suggests a relationship in which accessibility is a function of an individual's social class." (Cummings, 1980 [8])

"Personal change is constrained by access to important community resources." (Ewart, 1991 [11])

"Settings... influence action goals and strategies by determining access to needed material resources... as well as energy resources in the form of information, time, and money." (Ewart, 1991 [11])

"The environment can be viewed as an enabler of health behavior, exemplified by the..geographic proximity to health care facilities." (Stokols, 1992 [21])

"The environment serves as a provider of health resources such as..organizational and community health services." (Stokols, 1992 [21])

"At the community level, health-promotive urban design and planning strategies (to ensure geographic accessibility of health care systems...) can be implemented in conjunction with... other health services (public education and risk screening programs) to enhance the healthfulness of urban environments." (Stokols, 1992 [21])

6. Environmental Stressors

"Behavioral demands of one setting (work environment) affect behavior in other settings (family relationships)". (Ewart, 1991 [11])

"Environmental settings and social systems affect personal behavior by channeling a person's interpretations of events." (Ewart, 1991 [11])

"The physical design and furnishings of the workplace can have substantial long-term effects on employees' health." (Stokols, 1992 [21])

"Moreover, the social-structural qualities of settings may play an important etiologic role in promoting social cohesion and physical and emotional well-being among setting members.. .A number

of studies have suggested a positive relationship between dimensions of social climate and the mental and physical health of setting members." (Stokols, 1992 [21])

"Exposure to certain environmental conditions such as natural, aesthetic, and symbolic amenities can alleviate stress and promote physical and emotional well-being." (Stokols, 1992 [21])

"More salient short-term encounters with environmental stressors...may be associated with acute but nonpersisting episodes of emotional stress." (Stokols, 1992 [21])

"The environment can operate as a stressor, evidenced by the emotional stress... resulting from chronic exposure to uncontrollable environmental demands." (Stokols, 1992 [21])

7. Societal Laws and Regulations

"Systems of production, distribution, and promotion, together with government regulatory policies, affect exposure to settings, products, and messages that influence health choices." (Ewart, 1991 [11])

"Prevention must strive to promote individual self-protective activity by altering laws and policies, rendering environments conducive to personal action, and educating the public." (Ewart, 1991 [11])

"As incremental health promotion and environmental protection efforts are adopted in local communities, they can exert a positive, albeit gradual, influence on the quality and healthfulness of the global environment." (Stokols, 1992 [21])

"The occupational health and safety of community work settings are directly influenced by state and national ordinances aimed at protecting environmental quality and public health." (Stokols, 1992 [21])

"The environment serves as a provider of health resources such as... legislation protecting the quality of physical environments and ensuring citizens' access to health insurance and community-based health care." (Stokols, 1992 [21])

"Environmental impact assessment regulations are intended to protect public health and environmental quality." (Stokols, 1992 [21])

"Opportunities for designing health-promotive environments at local levels will be more and more influenced by the regulatory and economic policies implemented in municipal, regional, and international contexts." (Stokols, 1992 [21])

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