

Health Psychology

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Abstract

Health psychology is an area of applied psychological research and a profession. Health psychology research examines the determinants and consequences of physical health, showing that health behaviors are critical to health. Four core topics in health psychology are discussed in this article: (1) the promotion and maintenance of health, (2) prevention and treatment of (chronic) illness, (3) the etiologic and diagnostic correlates of health and illness, and (4) patient behavior in the health care system.

Health psychology is concerned with the study of psychological processes in health, illness, and health care. Health psychologists study behavioral factors associated with staying healthy, and they examine how patients with health problems can be helped to improve their quality of life and well-being. They also examine individuals in experimental research settings, work with groups in real-life settings, or observe interactions taking place between health professionals and patients in a health care setting. Findings from basic research are applied by health psychologists in a variety of settings, ranging from primary care and hospitals to municipal health services and health policy bodies, employing different intervention techniques, such as health education, training, and cognitive-behavioral therapy. Health psychology is a fast growing subdiscipline in psychology and employs theories from personality psychology, social psychology, developmental psychology, and biological psychology to understand and explain how psychological factors impact on health. Specifically, social psychological theories on behavioral regulation have proven important in advancing the field and contributing to why and how people adopt health goals and engage in strategies to achieve these goals (Mann et al., 2013). Similarly, self-regulation models, which have been developed to explain adaptive responses to threats, have been derived in specific formats to explain responses to threatened health goals (De Ridder and De Wit, 2006). These theories draw attention to the difficulties that may arise when individuals have to deal with long-term goals while being occupied with immediate needs that can be at odds with long-term investments in health. These more specific theories have replaced the generic biopsychosocial model (Schwartz, 1982) that was used in earlier work but has proven difficult to inform research and practice.

The term 'health psychology' was first used by Matarazzo in 1980, defining it as "the aggregate of the specific educational, scientific, and professional contributions of the discipline of psychology to the promotion and maintenance of health, the prevention and treatment of illness, and the identification of etiologic and diagnostic correlates of health, illness, and related dysfunction" (p. 815). Health psychology is distinguished from related disciplines such as clinical psychology and behavioral medicine with its focus on physical (rather than mental) health

and its orientation on behavioral (rather than medical) aspects of health. Following Matarazzo's definition, the core areas of health psychology are commonly defined as (1) the promotion and maintenance of health, (2) prevention and treatment of (chronic) illness, and (3) the etiologic and diagnostic correlates of health and illness. Another important core area in health psychology has been defined as (4) patient behavior in the health care system.

Promotion and Maintenance of Health

Lifestyle factors that have been identified as relevant for health, such as the holy five of eating, smoking, alcohol use, exercise, and sleep, are an important topic in health psychology. These health behaviors are estimated to account for half of the premature death from the 10 leading causes (most prominently, cardiovascular disease and cancers) in the developed world. While infectious diseases were the leading causes of morbidity and mortality until the first half of the twentieth century, lifestyle-related diseases are now regarded as most contributing to morbidity and mortality. Although many other factors are involved in the development of these diseases, it is recognized that healthier lifestyles are the key to reducing the incidence of these conditions. The concept of health behavior as behaviors that are relevant for health either because they pose a risk to health (e.g., smoking) or because they promote health (e.g., sufficient sleep) was established in the 1960s in a large epidemiological study among 7000 adults living in Alameda County (California, USA), showing that behaviors such as not being physically active, skipping breakfast, or regularly drinking more than five units of alcohol at a single session were predictive of mortality (Belloc, 1973). Health behavior has been defined as "any activity undertaken by a person believing himself to be healthy for the purpose of preventing disease or detecting it at an asymptomatic stage" (Kasl and Cobb, 1966). Importantly, activities that are relevant for health from a medical point of view may not be regarded as such by individuals. Individuals smoke because they consider it relaxing or they eat fatty foods because they appreciate their taste – they do not necessarily engage in these behaviors because they want to behave unhealthily. In a similar vein,

people may engage in health-promoting activities for other reasons than a concern about their health and, for example, exercise because they enjoy the fun of being physically active. One particularly important issue in health behavior research is to better understand the factors associated with people's nonengagement in behaviors that are beneficial to their health. Even when people have a genuine desire to stay healthy, they often do not display the behavior that is required to achieve their health goals. The 'intention behavior gap' (Sheeran, 2001) has become a widely known concept to explain why people may have the intent to be healthy but most of the time face serious difficulties in engaging in that behavior for a variety of reasons, such as underestimating the effort that is associated with acting upon one's intentions, lack of planning the activities that are required for acting, or forgetting to act when one is occupied with other activities. It should be noted that the concept of health behavior is fluid and the activities that are included may vary as a function of medical knowledge. For example, the use of a condom when having sex with a person whose sexual history is unknown only emerged as a preventive health behavior after the human immunodeficiency virus/acquired immune deficiency syndrome (AIDS) epidemic in the 1980s. Apart from the classic five health behaviors named previously (eating, smoking, alcohol use, exercise, and sleep), nowadays safe sexual behavior, using sunscreen, driving sensibly, using a seat belt, and dental behaviors are also regarded as relevant for health, but this may change as medical knowledge evolves.

Health behaviors have been studied mainly from the perspective of social-cognitive models, such as the health belief model and the theory of planned behavior, highlighting the beliefs that individuals hold about the outcomes of their action as key determinants of health behavior (Armitage and Conner, 2000). These beliefs are thought of as relatively stable characteristics that have the potential to influence behavior while being amenable to change. The models that have been used are based on the expectancy-value principle: the expectancy that a given action will lead to a specific outcome and the value that is attached to that outcome. These models thus highlight that individuals engage in deliberate rational decision making about several options. The most widely used social-cognitive model is the theory of planned behavior that has gained considerable empirical support, although explaining intention to engage in health behavior (39% of the variance in intention) has proven easier than predicting actual health behavior (21% in case of objective reports and 31% in case of subjective reports) (Armitage and Conner, 2001). Research in social-cognitive models has resulted in interventions (e.g., education and training in primary care setting) employing persuasive communication strategies to change health beliefs, mostly with disappointing results. Several effective intervention strategies exist that help people to formulate intentions to change their health behavior, whereas strategies aimed at supporting people to enact their intentions have witnessed modest results, even when information was tailored to the specific needs of people depending on the stage of change they were in (Weinstein et al., 1998). A particular successful exception are interventions that employ implementation intentions (Gollwitzer, 1999) that specify when, where, and how the intended behavior should be performed by employing an if-then plan, increasing the chance

that people will recognize the opportunities for action, which they may otherwise forget when they experience a momentary drop in their motivation for action. New generations of models of health behavior have departed from social cognition models and reflect that health behavior is not always rational and deliberate but rather governed by habits, impulses, or emotions (Hofmann et al., 2008). To date, these novel approaches recognize that interventions aimed at improving health behavior should take account of the very nature of health behavior and implement strategies that do not require a lot of effort to support people who do not have sufficient resources to change their behavior in the desired direction (Marteau et al., 2012). Regardless of the different approaches that are typically used, health promotion in behavioral models pertains to primary prevention of any type of illness that may result from engaging in these risky health behaviors and thus pertains to "maneuvers that reduce the chances that a health problem will ever develop" (Kaplan, 2000: p. 382).

Prevention and Treatment of (Chronic) Illness

Prevention and treatment of specific illness has some overlap with the first area but obviously focuses on people who have been identified to be at risk for disease (for example, those who are at risk for breast cancer as the result of screening programs involving mammography) or who have been diagnosed with chronic illness (for example, rheumatoid arthritis). Here, the aim is to detect risk of disease at an early enough stage in order to eliminate or slow down its development or, in case of already diagnosed illness, to promote adjustment to disease.

With regard to the former, screening programs (secondary prevention) take the form of health checks, such as measuring weight, blood pressure, carrying out cervical smears, and offering genetic tests for illness such as Huntington's disease and some forms of cancer. Three broad types of screening exist: opportunistic screening (using the time when a patient visits medical services for a particular reason), population screening (which involves the systematic examination of potential health problems in large community surveys), and self-screening (encouraging people to practice self-examination of, for example, breasts and testes, or buy over-the-counter kits to measure blood sugar levels or cholesterol). The aim of all screening programs is to detect a problem at the asymptomatic stage in order to offer medical treatment as early as possible. Although there exists enthusiasm for screening as a prevention strategy, there are ethical considerations as well as issues of cost-effectiveness and the psychological consequences of screening for individuals (Shaw et al., 1999). For health psychology, the effects of screening on the psychological state of individuals are most relevant. For example, receiving a negative result (i.e., not having the condition tested for) may create a false sense of reassurance while receiving a positive result (i.e., having the condition tested for) may lead to elevated levels of anxiety. Most studies in this area have shown that stress and negative effect resulting from receiving a diagnosis disappear after a short while. In addition, health psychologists study the factors that predict uptake of screening among the population, which has demonstrated considerable variety relating to health beliefs, risk perception, and feelings of

being able to do something about one's own health. Studies on perceived risk and related concepts such as perceived vulnerability refer to subjective estimates of the likelihood of personally contracting a disease and have proven a more powerful predictor of screening uptake than the perceived (serious) consequences of disease (Weinstein and Klein, 1995). Message framing (i.e., presenting health risk information as gains vs presenting it as losses) has proven an important moderator of how the general public responds to testing for health risks (Rothman and Salovey, 1997).

There is an extensive literature on the theoretical and empirical foundations of coping and adjustment in chronic illness. It is estimated that at any given moment, about 50% of the population suffers from chronic illness requiring some form of medical intervention (Taylor and Aspinwall, 1996). These patients face adaptive tasks that require them to come to terms with the disease-related changes, such as dealing with pain and incapacity, preserving an emotional balance, sustaining relationships with family and friends, and preparing for an uncertain future (Bensing et al., 2002). Coping is a response to the experience of such adaptive tasks and consists of three stages (Lazarus and Folkman, 1984): an event appraisal of what is at stake, an appraisal of one's personal and social resources to deal with the task, and the behavioral or emotional coping response aimed at either resolving the problem (problem-focused coping) or one's emotional reaction to the problem (emotion-focused coping). Research on coping strategies has met with some methodological challenges and effects of coping as studied by omnibus questionnaires have been relatively modest. Nevertheless, the coping concept is immensely popular among health professionals involved in the design of interventions to help people adjust to their chronic condition (De Ridder and Schreurs, 2001). While most research has focused on problem-focused coping as a means to adjust to (chronic) illness, emotion-focused coping has demonstrated favorable results on adjustment. Specifically, expression (rather than inhibition) of emotions and benefit finding in adverse events as specific forms of emotion-focused coping have shown impressive results (De Ridder et al., 2008; Stanton et al., 2000). Another issue deserving discussion has to do with the kind of outcome measures that health psychologists employ as dependent variables in the studies examining effects of psychological interventions. A typical measure derived from medical practice is to determine the level of adjustment by health-related quality of life, defined as measures of daily functioning and assessed by the widely used Rand 36-Item Health Survey (Van der Zee et al., 1996). Such functional measures of mental, physical, and social functioning are relevant in the context of medical treatment but have proven to be unrelated to psychological measures of adjustment, such as satisfaction with life or well-being (Taylor and Aspinwall, 1996). The basic assumption of psychological theories is that the successful pursuit of meaningful goals plays an important role in well-being (Ditto et al., 1996). Therefore, several researchers in the field of quality-of-life studies have emphasized the role of personal goals and related constructs in patient perception of quality of life. Highlighting this perspective may also account for the finding that many patients with chronic illness report positive adjustment (De Ridder et al., 2008).

Etiologic and Diagnostic Correlates of Health and Illness

Early research in the 1950s on psychological factors in chronic illness has been characterized by a strong desire to identify personality factors, which would explain why some individuals run a greater risk of becoming ill than others. In an attempt to link psychological factors to the onset of disease, research was based on the assumption that a specific psychological makeup would be predictive of disease. A typical example is the type A personality with a proneness to coronary artery disease whose behavior is characterized by competitive drive, impatience, and hostility (Booth-Kewley and Friedman, 1987). Nowadays, such strong views on the role of personality and psychological factors in the etiology of (specific) disease are no longer maintained. Rather, recent research emphasizes the role of psychological factors in (dealing with) stress and emotions. The experience of psychophysiological arousal (stress) and related negative mood is the result of exposure to stressors that have been defined as any event or condition that is demanding or challenging. Typical categories of stressors are calamitous events (e.g., natural disasters), major life events (e.g., bereavement), daily hassles, and chronic stress conditions (e.g., occupational stress) that are evaluated as threatening and potentially harmful and thus requiring some adaptive response. Acute stressors may challenge the cardiovascular, neuroendocrine, and immunological systems, whereas acute stress in general does not strain these systems as does chronic stress. The most commonly held view of the link between stress and illness suggests that stress leads to disease due to a prolonged interaction of physiological, behavioral, and psychological factors. The 'stress-diathesis' model (Levi, 1974) posits that the wear and tear caused by stress can explain the accumulative damage to the cardiovascular system and other systems of the body. Stress has been mostly studied in the context of coronary heart disease, but there are also studies exploring links between stress and illnesses such as cancer, diabetes, rheumatoid arthritis, and AIDS. Research has been devoted to studying the impact of stress on sympathetic activation (e.g., increased blood pressure and irregular heartbeats via the prolonged production of (nor)adrenaline), which may lead to increased chances of heart disease and infectious diseases, and hypothalamic-pituitary-adrenocortical activation (e.g., cortisol), which may lead to decreased immune function. In addition to these direct effects of stress on health, research has also explored the indirect impact via health-threatening behaviors such as smoking and alcohol abuse, which are also related to the experience of stress. Current stress models consider a wide variety of responses to stress, including mood, behavior, problem solving, motivation to achieve (health) goals, and engagement in health-protective behavior. These wide-ranging effects of stress illustrate the importance of examining the effects of stress on the whole organism rather than focusing on one system only. Responses across all systems work in concert to help the individual adapt by either altering the situation or accommodating its effects. However, chronic activation of these response systems may make individuals more susceptible to negative physical health outcomes at any point in the disease process: onset, progression, treatment, recovery, or recurrence. Despite the impressive effects of stress

on health, there is considerable individual variability in the stress–illness link caused by individual differences in stress reactivity and stress recovery, as well as ways of coping with stress. Negative effects of stress on health become manifest when coping and other resources are not sufficient to overcome stressful conditions. Uncontrollable stress appears more difficult to handle than controllable and predictable periods of threat or demand. An important moderator of the impact of stress on health is social support. In addition to health-protective effects of being integrated in social networks (i.e., through marriage, children, or friends), social support research has identified stress-buffering effects of supportive relationships especially when they provide emotional support. A consistent finding reported in the literature is that social support is related to better cardiovascular functioning and better immune responses (Uchino et al., 1996). Also, strategies for dealing with negative emotions have attracted considerable attention as moderators of the stress–illness relationship. There is accumulating evidence that repression or inhibition of negative emotions may be a risk factor in the onset and course of disease. Although the exact psychophysiological mechanisms involved are still unclear, it has been suggested that the inhibition of emotions may result in increased physiological activity. Denial and nonexpression of emotions can be a useful initial coping strategy to deal with the stress of disease; failure to acknowledge and express emotions can leave these emotions unresolved with chronic raised activity of the sympathetic nervous system as a result. The inhibition of emotions can also delay help-seeking behavior or compromise communication with health care providers. In contrast, the regulated (rather than uncontrolled) expression of negative emotions has demonstrated impressive effects on health. A typical example is the disclosure of emotions paradigm by talking or writing about one's emotions (Smyth, 1998). Talking or writing about emotions is believed to make the emotional experience less invasive, increase insight into why emotions are experienced, and restore psychophysiological balance (De Ridder et al., 2008).

Patient Behavior in the Health Care System

Once an individual gets ill, he or she enters the health care system. Health psychology examines a variety of topics that are related to patients using health services, such as symptom recognition and the decision to seek help, the interaction between patients and health professionals, and adherence to treatment regimens. It is estimated that over 50% of the population experiences symptoms of ill health over any 2-week period. Only a minority of these people seek help from health professionals, depending on how symptoms are perceived and interpreted. Research on symptom perception has been informed by the seminal work of Leventhal (Leventhal et al., 1984), distinguishing between five beliefs about symptoms, which influence subsequent action (identity, cause, consequences, timeline, and control and treatment effectiveness). This and other research suggest that beliefs about symptoms and emotional responses to symptoms more strongly affect the decision to consult medical professionals than the mere experience of symptoms themselves. Depending

on the beliefs individuals hold, they may either delay help seeking for reasons of wanting to avoid potentially negative outcomes (blunting) or, alternatively, may use health services for reasons of wanting to be reassured (monitoring). Although beliefs of patients play an important role in shaping their expectancies when seeking medical help, in the past decades, the role of medical professionals has also proven to be important in affecting patient behavior. In general, studies on patient–provider communication show that doctors' communication skills have the capacity to affect patient understanding and satisfaction, adherence, and health outcomes. Consequently, the success and cost-effectiveness of health care services depends critically on the way doctors interact with patients. Models of doctor–patient relationships have identified several important factors that contribute to successful interaction, such as doctors appreciating patients' dual need to know and understand and to feel known and understood (Engel, 1977). Doctor–patient interaction models have promoted new approaches to medical decision making, such as shared decision making, involving the patient to a greater extent in what kind of treatment is required. These new approaches have contributed to better patient understanding of their medical condition and better patient recall of the information given during medical encounters. Both factors are important in increasing patient adherence to treatment regimens, which is generally low with estimates of about 50% in medication adherence and even lower in behavioral recommendations. Not following advice given by health care professionals has even been observed when nonadherence can be life-threatening (e.g., medication use after organ transplantation). Low adherence has wide implications for patients' health (e.g., unnecessary complications), population health (e.g., antimicrobial resistance in case of interrupted use of antibiotics), and health care cost-effectiveness (e.g., nonused medicines). Despite the magnitude of the problem, it has proven difficult to pinpoint the causes of nonadherence in terms of patient or provider characteristics or health care system characteristics. New promising avenues for adherence research relate to the identification of patterns of adherence, distinguishing between failure to participate in the regimen altogether, to variability in regimen conduct, or to timing errors (e.g., because of cognitive impairments in prospective memory). Moreover, it has been proposed that medical professionals should seek collaboration with patients about the best way of treatment rather than instructing them what to do. It has even been proposed that the term 'adherence' should be replaced by 'concordance' as an expression of mutual agreement about treatment between patient and health care provider. These developments align with the growing importance of self-management in illness treatment, highlighting the need for health professionals to motivate and support patients to take care of health themselves by, for example, feeling responsible for treatment on a day-to-day basis (De Ridder et al., 2008). Psychological research examines in what way doctors can communicate with patients in ways that help them to manage their illness by empowering patients to actively participate in the consultation. The importance of the patient's role is also demonstrated in research on placebo effects (health gains observed following administration of inert interventions), which can be explained by patient expectations and

anxiety reduction. Psychological research has demonstrated that stress reduction based on positive expectations of treatment efficacy and trust in a competent physician provides a powerful explanation of placebo effects.

Concluding Remarks

Health psychology research can reveal psychological processes underpinning health and illness and thereby suggest changes in health care practices designed to optimize effectiveness. Central to health psychology is the concept of health behavior, which plays a major role in health promotion, prevention of illness, illness onset, and patient behavior in a treatment setting via physiological and psychological pathways. New models of health behavior and health behavior change are being developed, moving beyond the traditional models emphasizing rational deliberate decision making about engaging in health behavior, raising several new important questions about its impulsive and automatic nature that need to be answered in future research. One particular issue deserving attention from this novel perspective is how people maintain their initial changes for health behavior and how environmental changes can be implemented that support individuals in behaving healthily. In addition, societal changes pose new questions about health behavior change, such as health behavior in the elderly and cultural issues related to health behavior in an ethnically diverse population. Answers to these questions should be informed by rigorous scientific evidence and academic debate among health psychologists working in a variety of health care practices.

See also: Chronic Illness, Psychosocial Coping with; Doctor–Patient Interaction in the West: Psychosocial Aspects; Health Behavior, Psychosocial Theories of; Health Behaviors, Assessment of; Health Behaviors; Health Promotion in Schools; Health Risk Appraisal and Optimistic Bias; Health Risk Perception; Health Self-Regulation, Motivational and Volitional Aspects of; Health Social Work; Illness Behavior and Care-Seeking; Patient Adherence to Health Care Regimens; Personalized Medicine; Social Support and Recovery from Disease and Medical Procedures; Stress, Coping and Health; Water, Health and Social Inequality.

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Relevant Websites

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