

Perceived control and health behaviour

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Health behaviours are those activities engaged in by people who are basically healthy that have an impact upon their health status (Kasl & Cobb, 1966). Included in this classification are such activities as: seeking information about health-related matters; going to the doctor, clinic, or dentist for check-ups, prophylaxis, or immunizations; engaging in exercise and good nutritional practices; wearing seat belts; practising 'safe sex'; periodic self-examinations of breasts or testes; and moderate use of alcohol. Also under the rubric of health behaviours are those activities that place one's health at risk, such as: smoking cigarettes; misusing drugs; drinking to excess; and sharing needles. Kasl and Cobb (1966) distinguish health behaviours from illness behaviours (e.g. seeking a diagnosis) and sick-role behaviours (e.g. adhering to a medical regimen once diagnosed).

By definition, then, both 'positive' and 'negative' health behaviours affect health status. Psychologists study behaviour. Health psychologists, therefore, are particularly interested in isolating the factors which might affect health behaviours, not only so they might better understand the processes involved, but also so that they might change the behaviours in order to optimize health status.

Among the many factors that have been associated with whether or not a person engages in some form of health behaviour is the person's perception of control. Perception of control means the subjective determination of the ability to determine or influence something. In this context, the 'something' refers either to the behaviour itself or to the consequences of the behaviour. Take, for example, the health behaviour of going to the doctor for an annual physical examination. Perceived control, in this example, can refer to the person's belief that he or she can choose whether or not to go to the doctor, when to go to the doctor, and, even, which doctor to go to, or it can refer to the person's belief that he or she can improve or maintain his or health status by going to the doctor for a check-up. In either case, from a theoretical standpoint, the more a person perceives control in this situation (either over the behaviour or its consequences), the more likely the person is to engage in the behaviour in question all other things being equal.

Most of the research that has been done examining the linkage between perceived control and health behaviour has been based on some form of social learning theory. Two of the major social learning theorists, Julian Rotter and Albert Bandura, have each contributed key psychological constructs to the literature relevant to perceived control. These two constructs, locus of control and self-efficacy, have dominated the research literature.

Rotter's social learning theory (Rotter, 1954; 1982; Rotter, Chance, & Phares, 1972) states that, in any given situation, the likelihood that a person will engage in a particular behaviour (or set of behaviours) is a function of two things: the person's expectancy that

the behaviour will lead to a particular outcome (or reinforcement) in that situation, and the value of the reinforcement to the person in that situation. Expectancies, however, are not always strictly situation-specific. Through a variety of learning experiences, individuals develop generalized expectancies that cut across situations.

Locus of control (Rotter, 1966) is one such generalized expectancy in Rotter's social learning theory. It refers to the person's belief as to whether control over valued reinforcements is internal or external to the person. (Locus is the Latin word for 'place'.) A person with an internal locus of control orientation believes that reinforcements are a consequence of either some action (or set of actions) in which the person engages, or of some relatively enduring characteristic (or set of characteristics) of the actor. Typically, an internal locus of control orientation is equated with a perception of control over reinforcements. A person with an external locus of control orientation believes that reinforcements are the result of forces outside of the person, either the situation itself or the action(s) of other people. Also included under 'external' locus of control is the belief that reinforcements are only determined by fate, luck or chance. An external belief orientation is typically equated with a perception of lack of control over reinforcements.

Rotter (1966) conceived of locus of control as a unidimensional construct with internality at one end of a continuum and externality at the other. Rotter developed the I-E Scale (Rotter, 1966) to assess individual differences along this continuum. Because generalized expectancies, such as locus of control, are learned through experiences in a variety of situations, they are thought to be stable over time, at least in adults. Thus, a generalized locus of control belief orientation is often conceived of as a personality-like construct (Phares, 1976) and is mostly utilized in research as an independent or predictor variable. Scores on the I-E Scale are either treated as a continuous variable and are correlated with other continuous measures (such as the frequency of behaviours), or, more typically, persons at one end of the I-E continuum are classified as 'internals' and those at the other end are classified as 'externals'.

The early research linking internal-external expectancies and health-related behaviours was reviewed by Strickland (1978) and B.S. Wallston and K.A. Wallston (1978). As an example of this early research, MacDonald (1970) showed that, among single female college students nearly twice the percentage of 'internals' (62%) reported practising contraception than did 'externals' (37%). Similarly, Dabbs and Kirscht (1971) found that college students they termed 'internal' were more likely to be inoculated against influenza than those they termed 'external'.

The unidimensionality of the locus of control construct has not stood up either empirically or theoretically. Levenson (1973, 1981)

posited that internality and externality were orthogonal to one another (i.e. statistically independent; uncorrelated) rather than being opposite ends of a continuum. Furthermore, Levenson felt that externality was itself multidimensional. She developed the I, P and C Scales as separate indicators of: (i) a generalized internal locus of control orientation; (ii) the belief that 'powerful other people' controlled important reinforcements; or (iii) chance externality. Because the I Scale was only slightly correlated with the P and/or C Scales, this multidimensionality allowed a person to be simultaneously internally and externally orientated. Long *et al.* (1988) administered the I, P and C Scales to a group of college students along with an assessment of lifestyles in four domains: work, social, health, and leisure. High and low groups were formed for each locus of control dimension by taking the top and bottom 20% of the distribution. The high internals, low powerful others and low chance groups obtained significantly higher work and health scores than did their counterparts.

Responding to Rotter's (1975) suggestion that measures of expectancy that were specific to a given domain (such as health) might account for more variance in domain-specific criterion measures, the Wallstons and their associates developed a series of health-related locus of control scales in an attempt to explain individual differences in health behaviours and health status. Following Rotter, the first such measure, the HLC Scale (Wallston *et al.*, 1976) was unidimensional. It was soon followed, however, by Forms A and B of the Multidimensional Health Locus of Control (MHLC) scales (Wallston, Wallston & DeVellis, 1978) which, like Levenson's I, P and C Scales, contained separate assessments of internality (IHLC), powerful others (PHLC) and chance (CHLC) externality. Lau and Ware (1981) developed similar scales. Health locus of control beliefs are not conceived of as being as stable as more generalized locus of control beliefs; because they can be modified by significant health-related experiences, they are less reflective of personality than are more generalized belief orientations.

In Rotter's social learning theory expectancies (such as locus of control beliefs) were not the sole determinants of 'behaviour potential'. Given equal theoretical weight (although largely ignored in the early research literature) was the construct of 'reinforcement value' (i.e. how important a particular reinforcement is to the individual in a particular situation). The Wallstons made a strong theoretical case for examining interactions of health locus of control beliefs and health value in predicting health behaviours (Wallston & Wallston, 1984; Wallston, 1991). Only for persons who valued health should perceptions of control over health be deterministic of behaviour.

Early research with the health locus of control scales, especially studies accounting for variations in health value (for reviews see Lau, 1988; Wallston & Wallston, 1981, 1982), consistently supported the theoretical proposition that, among persons for whom health was valued, high scores on IHLC (or 'selfcare' in Lau & Ware's terminology) or low scores on CHLC were correlated with various indices of health behaviours. For example, Lau (1988) administered the Lau and Ware Health Locus of Control Scale along with a measure of health values to entering freshmen students at Carnegie Mellon University. The women in the sample were asked how frequently they practised breast self-examination (BSE) both at baseline and again at the end of their junior year. For the women who did not value health highly, self-control beliefs were

uncorrelated with BSE practice, but, for those who did value health, there was a significant positive correlation between self-control beliefs and BSE. Scores on the PHLC scale (or 'provider control' in Lau & Ware's parlance) have been less reliably predictive of preventive health behaviours, although, theoretically, such beliefs should be more predictive of illness and sick-role behaviours than of health behaviours. In all of these studies, however, the amount of variance in health behaviours explained by the health locus of control scores has been typically very small, seldom exceeding 10% (Wallston, 1992), thus calling into question the clinical significance of this statistical association.

The construct of self-efficacy (Bandura, 1977, 1991; O'Leary, 1985; Schwarzer, 1992) has proven to be a much more potent predictor of health behaviours than has locus of control. Self-efficacy refers to a person's subjective estimation that he or she is capable of engaging in a particular action (or set of actions) in a particular situation (Bandura, 1977). It is similar to, but different from locus of control, because the latter refers to control over an outcome and self-efficacy refers to control over a behaviour (K. A. Wallston *et al.*, 1987). As borne out by numerous studies (see chapter 20 in this Handbook for a review), a person who is self-efficacious in regard to a particular behaviour is likely to engage in that behaviour. Self-efficacy, as originally conceived of by Bandura, is highly behaviour- and situation-specific. According to this viewpoint, perceiving control over the behaviour in a certain situation does not necessarily generalize to other behaviours or other situations.

Wallston (1992) modified Rotter's social learning theory, substituting self-efficacy for locus of control as the major generalized expectancy construct. Generalized self-efficacy (which is, perhaps, more appropriately referred to as 'mastery' or 'competence') is the belief that one is capable of doing whatever the situation requires in order to obtain valued reinforcements. This is a more global conceptualization of self-efficacy than Bandura originally had in mind, but measures based on this construct can be quite predictive of health behaviour. For example, Pender *et al.*, (1990) studied a sample of 589 employees enrolled in six employer-sponsored health promotion programmes and found that perceived personal competence was the single most robust predictor of their measure of health-promoting lifestyles.

In Wallston's (1992) modification of Rotter's theory, locus of control is considered a moderator variable (Baron & Kenny, 1986). Assuming health is a valued reinforcer, internality and self-efficacy interact to predict health behaviour. A person who is motivated by health but who does not believe that his or her health status is controlled by his or her health behaviour will not likely engage in health behaviour *even if he or she is capable of doing so*. In the case of both an internal locus and high health value, however, health behaviour is largely, but not entirely, influenced by one's perceptions of control over that behaviour (i.e. by self-efficacy beliefs). Ajzen's (1988) Theory of Planned Behaviour similarly incorporates behavioural control as a major determinant of intentions and behaviour, particularly in instances where the behaviour is not under the volitional control of the actor. In tests of the Theory of Planned Behaviour, perceived behavioral control is operationalized similar to measures of self-efficacy. Protection Motivation Theory (Rogers, 1975) was revised in 1983 by Maddux and Rogers to incorporate self-efficacy in the prediction of intentions and behaviour, and the Health Belief

Model, which has a 30-year history of being applied to the prediction of health behaviours, was revised in 1988 to emphasize the critical role of self-efficacy (see Rosenstock, Strecher & Becker, 1988) despite the fact that a lack of *self-efficacy* could have always been construed as a 'barrier' to engaging in 'positive' health behaviors. Finally, Schwarzer's recent attempt at combining the best elements from the Health Belief Model, Protection Motivation Theory, and the Theory of Planned Behavior, which he termed the Health Action Process Approach (see Schwarzer, 1992), specifies self-efficacy as both a mediator of intentions and as a direct predictor of action during the volitional process phase of his model.

The antithesis of perceiving control is to feel helpless. Learned helplessness theory (Abramson, Seligman & Teasdale, 1978) states that, when a person comes to believe that his or her outcomes are not contingent on his or her behaviour, there are significant motivational, emotional and behavioural consequences. Feeling helpless is

similar to feeling incompetent, non-self-efficacious, and to having a chance locus of control orientation. People who feel helpless either do not engage in 'positive' health behaviours or abandon those behaviours before they can have a 'positive' effect on health status. Because of the link with helplessness and depression (Seligman, 1975) and depression with 'negative' health behaviours such as substance abuse and attempted suicides (Attkisson & Zich, 1990; Wells *et al.*, 1989), there is even some reason to believe that the lack of perceived control can be life-threatening. Psychologists, however, can often successfully treat depression using such techniques as cognitive-behaviour therapy (Beck, 1973; Dryden & Golden, 1987; Kendall & Hollon, 1979). (See also 'Attributions and health', 'Lay beliefs about health and illness', 'The health belief model' 'Self-efficacy and health behaviour', 'Stress and disease', 'Planned behaviour theory of 'Behaviour change: transtheoretical model of' 'Life events and health', 'Noise effects on health'.)

REFERENCES

- Abramson, L.Y., Seligman, M.E.P. & Teasdale, J.D. (1978). Learned helplessness in humans: critique and reformulation. *Journal of Abnormal Psychology*, 87, 49-74.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Milton Keynes: Open University Press.
- Attkisson, C.C. & Zich, J.M. (Eds.). (1990). *Depression in primary care: screening and detection*. London: Routledge.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1991). Self-efficacy mechanism in physiological activation and health-promoting behavior. In J. Madden (Ed.). *Neurobiology of learning, emotion and affect*, pp. 229-270. New York: Raven Press.
- Baron, R.M. & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-82.
- Beck, A.T. (1973). *The diagnosis and management of depression*. Philadelphia: The University of Pennsylvania Press.
- Dabbs, J.M. & Kirscht, J.P. (1971). Internal control and the taking of influenza shots. *Psychological Reports*, 28, 959-62.
- Dryden, W., & Golden, W.L. (Eds.). (1987). *Cognitive-behavioural approaches to psychotherapy*. Washington, DC: Hemisphere.
- Kasl, S.A. & Cobb, S. (1966). Health behavior, illness behavior, and sick role behavior: I. Health and illness behavior. *Archives of Environmental Health*, 12, 246-66.
- Kendall, P.C. & Hollon, S.D. (1979). *Cognitive behavioral interventions: theory, research, and practice*. New York: Academic Press.
- Lau, R.R. (1988). Beliefs about control and health behavior. In D.S. Gochman (Ed.). *Health behavior: emerging research perspectives* (pp. 43-63). New York: Plenum Press.
- Lau, R.R. & Ware, J.E. (1981). Refinements in the measurement of health-specific locus of control beliefs. *Medical Care*, 19, 1147-58.
- Levenson, H. (1973). Multidimensional locus of control in psychiatric patients. *Journal of Consulting and Clinical Psychology*, 41, 397-404.
- Levenson, H. (1981). Differentiating among internality, powerful others, and chance. In H. Lefcourt (Ed.). *Research with the locus of control construct (Vol. 1)*. New York: Academic Press.
- Long, J.D., Williams, R.L., Gaynor, P. & Clark, D. (1988). Relationship of locus of control to lifestyle habits. *Journal of Clinical Psychology*, 44, 209-14.
- MacDonald, A.P.Jr. (1970). Internal-external locus of control and the practice of birth control. *Psychological Reports*, 27, 206.
- O'Leary, A. (1985). Self-efficacy and health. *Behavior Research Therapy*, 23, 437-51.
- Pender, N.J., Walker, S.N., Sechrist, K.R. & Frank-Stromberg, M. (1990). Predicting health-promoting lifestyles in the workplace. *Nursing Research*, 39, 326-32.
- Phares, E.J. (1976). *Locus of control in personality*. Morristown, NJ: General Learning Press.
- Rogers, R.W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Personality*, 91, 93-114.
- Rosenstock, I.M., Strecher, V.J. & Becker, M.H. (1988). Social learning theory and the health belief model. *Health Education Quarterly*, 15, 175-83.
- Rotter, J.B. (1954). *Social learning and clinical psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80 (whole No. 609, 1).
- Rotter, J.B. (1975). Some problems and misconceptions related to the construct of internal vs. external control of reinforcement. *Journal of Consulting and Clinical Psychology*, 43, 56-67.
- Rotter, J.B. (1982). *The development and applications of social learning theory: selected papers*. Brattleboro, VT: Praeger.
- Rotter, J.B., Chance, J. & Phares, E.J. (1972). *Applications of a social learning theory of personality*. New York: Holt, Rhinehart & Winston.
- Schwarzer, R. (1992). *Self-efficacy: thought control of action*. Washington, DC: Hemisphere.
- Seligman, M.E.P. (1975). *Helplessness*. San Francisco, CA: Freeman.
- Strickland, B.R. (1978). Internal-external expectancies and health related behaviors. *Journal of Consulting and Clinical Psychology*, 46, 1192-211.
- Wallston, K.A. (1991). The importance of placing measures of health locus of control beliefs in a theoretical context. *Health Education Research, Theory and Practice*, 6, 251-2.
- Wallston, K.A. (1992). Hocus-pocus, the focus isn't strictly on locus: Rotter's social learning theory modified for health. *Cognitive Therapy and Research*, 16, 183-99.
- Wallston, B.S. & Wallston, K.A. (1978). Locus of control and health: a review of the literature. *Health Education Monographs*, 6, 107-17.
- Wallston, B.S. & Wallston, K.A. (1981). Health locus of control. In H. Lefcourt (Ed.). *Research with the locus of control construct (Vol. 1)*. New York: Academic Press.
- Wallston, K.A. & Wallston, B.S. (1982). Who

is responsible for your health? The construct of health locus of control. In G. Sanders & J. Suls (Eds.). *Social psychology of health and illness*, pp. 65-95. Hillsdale, NJ: Erlbaum.

Wallston, B.S. & Wallston, K.A. (1984). Social psychological models of health behavior: an examination and integration. In A. Baum, S. Taylor & J.E. Singer (Eds.). *Handbook of psychology and health, Volume 4: Social aspects of health*, pp. 23-53 Hillsdale, NJ: Erlbaum.

Wallston, B.S., Wallston, K.A., Kaplan, G.D. & Maides, S.A. (1976). Development and validation of the health locus of control (HLC) scale. *Journal of Consulting and Clinical Psychology*, 44, 580-5.

Wallston, K.A., Wallston, B.S. & DeVellis, R. (1978). Development of the multidimensional health locus of control (MHLC) scale. *Health Education Monographs*, 6, 101-5.

Wallston, K.A., Wallston, B.S., Smith, S. & Dobbins, C. (1987). Perceived control and health. *Current Psychological Research and Reviews*, 6, 5-25.

Wells, K.B., Stewart, A., Hays, R.D. Burnam, M.A., Rogers, W., Daniels, M., Berry, S., Greenfield, S. & Ware, J. (1989). The functioning and well-being of depressed patients: results from the Medical Outcomes Study. *Journal of the American Medical Association*, 262, 914-9.