

# INDIVIDUAL DIFFERENCES AND HABIT

# 5 FIVE

## INDIVIDUAL DIFFERENCES AND HABIT

and: **dispositional optimism**

**unrealistic optimism**

**locus of control**

**self-efficacy**

**habit**

**personality type and health**

What accounts for the observation that some people act in a healthy way and others do not? Why do people respond to perceived health threats in different ways? What factors can be used to understand why one person's interpretation of a particular set of symptoms may be distinct from another person's? Some indication of possible answers to these types of questions can be gleaned by examining a number of key psychological factors and processes that lie predominantly within each person. These key concepts include perceived control (e.g. Rotter, 1982), perceived self-efficacy (e.g. Bandura, 1997), types of optimism (dispositional and unrealistic) (e.g. Klein and Weinstein, 1997), and personality-based factors (e.g. Krantz and McCeney, 2002). In addition, recent work has started to emphasize that differences in behaviour adoption may be based on those processes concerned in the development and maintenance of habit (e.g. Stacy, et al., 2000). This chapter is concerned with the relationship between these key individual differences factors and health-related experience, decision making and health behaviour. The assumption is that levels of these factors vary quantitatively between individuals to create differences in, for example, health-related decision making, symptom perception and health behaviour.

## INDIVIDUAL DIFFERENCES AND HABIT and: DISPOSITIONAL OPTIMISM

**MEANING** Individual differences in generalized expectancies about positive and negative (health) outcomes have been conceptualized according to a number of factors including locus of control and self-efficacy (see the relevant concept in this chapter), as well as dispositional optimism/pessimism and explanatory style. Each of these factors has been studied by health psychologists to ascertain how they predict whether or not a person undertakes health protective behaviour, and also as to possible reasons for not behaving in a self-protective way. **Dispositional optimism** is a generalized expectancy that good things will happen in the future and bad things will not, irrespective of how these outcomes occur. Unlike locus of control and self-efficacy, dispositional optimism considers expectations of outcomes in a very general sense – locus of control and self-efficacy are more concerned with expectations about what caused these outcomes.

**ORIGINS** Scheier and Carver (1985) introduced the concept of dispositional optimism as part of a behavioural self-regulatory approach for understanding goal-directed behaviour. This approach argues that goal-directed behaviour is governed by a feedback system in which the current behaviour or condition is compared against a behavioural goal. When there is an inconsistency between the goal and the conditions, the likelihood of a reduction in this inconsistency is dependent on one's expectancies about reducing such inconsistency through behavioural modification (Scheier and Carver, 1992). Optimistic individuals are likely to adopt active and directive forms of coping under such conditions, whereas pessimists may disengage in the process and use avoidance coping strategies. In other words, a generalized optimistic outlook is likely to lead to an individual having a set of expectancies about how best to achieve a goal, to believe that a desired outcome is possible and to act on these beliefs. A pessimist is more likely to 'give up' and disengage.

**CURRENT USAGE** To measure dispositional optimism versus pessimism, the Life Orientation Test (LOT) was devised by Scheier and Carver (1985) and revised as the LOT-R to explicitly map onto expectancies for the future (Scheier et al., 1994). The LOT and LOT-R have good internal reliability and have been subjected to extensive validation work.

While these measures were conceptualized as measuring a single optimism-pessimism dimension, work has shown that two predominantly independent factors, optimism (based on the positive items) and pessimism (based on the negative items), are present (e.g. Robinson-Whelen et al., 1997). In other words, being pessimistic is not just about *not* being optimistic – you can be pessimistic for some health events and optimistic for others. Optimism and pessimism have been found

to predict a number of health outcomes (see Anderson (1996) for a meta-analysis of LOT studies). For instance, pessimism (and not optimism) was found to predict mortality rates in younger cancer sufferers (Schultz et al., 1996), and optimism has been shown to predict decreased distress levels in HIV positive individuals (Taylor et al., 1992) and people undergoing surgery for breast cancer (Carver et al., 1993). The question remains however – what are the mechanisms through which dispositional optimism may be adaptive for psychological and physical functioning?

One major explanation revolves around the differential use of coping strategies by optimists and pessimists. Optimists use more problem-focused, active and engaged coping styles when confronted with a health threat which guard the individual against psychological stressors (e.g. negative affect) related to physical health (Shepperd et al., 1996). In addition, optimism is associated with more health protective behaviours such as a good diet and physical exercise, emphasizing a behavioural route through which optimism might protect against certain negative health outcomes (Miles and Scaife, 2003). One recent prospective study examined the effect of pessimism and optimism on the outcome of a major life event in over 5,000 individuals and was particularly interested in studying the role of pre-existing optimism on health outcomes (Kivimäki et al., 2005). Highly optimistic people were found to return to work significantly faster and have fewer sick days than pessimistic individuals after the event, suggesting that an optimistic outlook may reduce the likelihood of experiencing health problems.

In addition to a generalized expectancy, optimism has also been thought of as a type of **explanatory style**, or the manner in which individuals attribute causes to events. Optimistic individuals are less likely to attribute internal (e.g. personal fault), stable (e.g. believing the cause of a stressful experience stems from one's own personality) and global (e.g. the stressor as being less transient, less modifiable and not generalized to other similar events) causes to stressful or negative events. Optimists attribute events to external and unstable causes, and believe these events are caused by specific situational factors. Pessimists attribute negative events to internal, stable and global causes and have a pessimistic explanatory style. Physiological evidence suggests that a pessimistic explanatory style is related to decreased immune functioning (e.g. Kamen-Siegel et al., 1991) while psychological evidence has shown a relationship with the type of self-reported illness reported and also attendance at medical clinics (e.g. Peterson and Seligman, 1987). These effects result because pessimists have maladaptive beliefs in being helpless as well as decreased self-efficacy, which create differences in the types of coping activities undertaken by this group resulting in behavioural harm.

Dispositional optimism is important because it describes an individual difference factor that is predictive both of physical health and behavioural factors. Different levels of dispositional optimism should be important for predicting the types of decisions people make when deciding which course of action to take in response

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to a health threat, as well as how they interpret and respond to the symptoms of illness and the onset. However, because dispositional optimism is thought of as being stable within people the feasibility of designing interventions to manipulate dispositional optimism is questionable. In addition, if optimism and pessimism are viewed as independent constructs changing optimism will not necessarily be reflected in changes in pessimism and vice versa.

#### *Further reading*

Anderson, G. (1996) The benefits of optimism: a meta-analytic review of the Life Orientation Test. *Personality and Individual Differences*, 21, 719–725.

Provides a detailed account of the utility of the key measure of dispositional optimism in psychological functioning.

Scheier, M.F., Carver, C.S. and Bridges, M.W. (1994) Distinguishing optimism from neuroticism (and trait anxiety, mastery and self-esteem): a reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67, 1063–1078.

A very useful conceptual account of the role of dispositional optimism in everyday functioning and behaviour.

See also **individual differences and habit and unrealistic optimism**

## **INDIVIDUAL DIFFERENCES AND HABIT and: UNREALISTIC OPTIMISM**

**MEANING** It is clear that central to many psychological approaches and theories in understanding why people do or do not take health protective behaviours is the concept of risk perception. An individual's appraisal of the likelihood that they will experience a particular health threat has been proposed in a number of models including protection motivation theory, the health belief model, the health action process approach and the precaution adoption process model (see Chapter 3 – Social Cognitive Models, and also Conner and Norman, 2005). In essence, these approaches have emphasized that the likelihood that a person will form an intention to behave (and thus actually behave in a specified way) is partly determined by how at risk they think they are of experiencing a negative health outcome. But how do individuals judge whether they are likely, or not, to experience either positive or negative life and health-related events in the future? One answer to this question comes from evidence that has explored the role of a comparative

appraisal process in risk perception, termed **comparative optimism, optimistic bias** or **unrealistic optimism**.

**Social comparison theory** argues that individuals are motivated to seek self-understanding and self-knowledge (Festinger, 1954). People need to evaluate themselves in their social worlds, and attempt to understand whether the beliefs and opinions they hold are correct. One way they do this is by 'looking' at others and how others' behaviour or belief sets differs from their own. For example, it seems logical that one way in which people decide their own perceived likelihood of contracting a particular disease is by comparing themselves (that is, their personal perceived risks) against the risk they perceive for others. While Festinger himself did not apply the theory to health-related decision making, other social psychologists recognized the relevance of social comparison theory in providing a partial understanding of health-related decision making (see Buunk and Gibbons, 1997). For instance, Bailis et al. (2005) showed that older people, who had reduced perceptions of control in relation to their health, used positive social comparisons as a means of enhancing their own self-concept. Importantly, this mechanism was shown to predict lower mortality and hospitalization rates.

One set of evidence suggests that people show a tendency to believe that they are less likely to encounter or experience negative events in their lives compared to other people. They believe themselves to be invulnerable to negative outcomes in comparison to other people. In addition they believe themselves more likely to experience positive events in the future in comparison to other individuals. Initially coined by Weinstein (1980), this tendency is termed 'unrealistic optimism', 'optimistic bias' or 'comparative optimism'. Unrealistic optimism is a group effect. For some people responses that they are less likely to experience a health outcome may well be accurate but not everybody's risk can be lower than other individuals', as many people see themselves as 'above average risk' as 'below average risk'. Because it has been shown that the large majority of people believe their risks to be lower than a comparative other person, this optimism is unrealistic or biased (van der Pligt, 1998; Weinstein, 1989).

People have been shown to be unrealistically optimistic in the face of a vast array of health and life events including precise types of cancer (e.g. Eiser et al., 1993; Fontaine and Smith, 1995), heart disease (Marteau et al., 1995) and sexually transmitted diseases (Gerrard et al., 1996). It has also been shown for behaviours that put the individual at increased risk of experiencing related negative outcomes. These include drink-driving (Albery and Guppy, 1996), other driving behaviour (Rutter et al., 1998; McKenna and Albery, 2001), smoking (McKenna et al., 1993; Rise et al., 2002), food choice (see Miles and Scaife, 2003) and even bungy jumping (Middleton et al., 1996). The bias is not culturally specific, although differences in terms of the magnitude of the bias exist across cultures according to specific cultural identity factors like construal of self (see Fontaine and Smith, 1995; Heine and Lehman, 1995). Optimistic bias has been shown in older adults (e.g. Holland,

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1993) and younger adults (e.g. Weinstein, 1980), as well as for adolescents' perceptions (e.g. Quadrel et al., 1993; Whalen et al., 1994) and even in children as young as eight years of age (Albery and Messer, 2005).

Optimistic bias is usually measured by either an indirect method or a direct method. The indirect method involves a person making a judgment about their own risk (e.g. 'The chance of me getting lung cancer in the future is ... ') and then a judgment about the average person ('The chance of the average person getting lung cancer in the future is ... '). The difference between these two responses is said to represent the magnitude of the bias. The direct method requires the respondents to mark on a scale how likely they are compared to the average person of experiencing a health outcome. The midpoint of the scale is usually marked as the 'average'. Optimistic bias is determined by calculating the difference between the midpoint scale score (e.g. '0') and the mean response made by each individual. One advantage of the indirect method over the direct method is that one is able to ascertain whether different events are resulting in changes in either self or other perception. This is very important when ascertaining the effects of an intervention designed to reduce optimistic bias.

Both motivational and cognitively-based explanations have been offered for the operation of unrealistic optimism (see Weinstein, 1989; Klein and Weinstein, 1997). Motivational causes focus around the idea that because people 'want' to maintain self-esteem, self-worth and avoid threat (defensive denial) so as to maintain psychological well being, they will make risk-judgments that do not destabilize but enhance self-competence (Taylor and Brown, 1988). The outcome of this process is to see oneself as 'better' than others, thus reaffirming and maximizing self-esteem and avoiding threatening information sources. Cognitive explanations emphasize how risk-relevant information is processed to lead to the observed bias. Weinstein (1980) argued that optimistic bias results from an egocentric information processing bias – when a person is unable to take another's perspective – such that when making judgments about the self based on self-protective actions, people are unlikely to understand that similar preventative actions are also undertaken by others. They focus only on themselves.

### **Box 5.1 The effects of personal experience on unrealistic optimism**

McKenna and Albery (2001) studied the effects of previous exposure with a threat-related event on the operation of unrealistic optimism. A number of driving groups were examined who had been exposed to varying degrees of threat. One group had been involved in a severe road accident in which they had been hospitalized, a second group was involved in a severe road accident in which

another person had been hospitalized, a third group had been involved in a minor accident in which nobody had been injured, and the final group was a control group who had never been involved in a road accident. Measures of comparative optimism for driving skill, driving safety and future accident involvement (e.g. 'Compared to the average driver how skillful a driver do you think you are?'), as well as intended future driving speed on the motorway, were taken. Participants marked on an 11-point scale, ranging from 'much less skillful', 'much less safe' and 'much less likely' (scored as 1), to 'much more skillful', 'much more safe' and 'much more likely' (scored as 11). The midpoint scale (6) was labeled 'average'. In addition, a number of comparative measures for other health-related events were taken to establish the generalization of any debiasing effects of driving perceptions on other aspects of a person's life.

Table 5.1 Mean responses for perceived comparative skill, safety, future accident likelihood and intended driving speed (on the motorway) for groups of accident and non-accident involved drivers (Source: McKenna and Albery, 2001)

<i>Accident Group</i>	<i>Group</i>			
	<b>Skill</b>	<b>Safety</b>	<b>Accident likelihood</b>	<b>Speed</b>
Non-accident Involved - control	7.74 (1.59)	8.31 (1.70)	4.39 (2.04)	74.26 (9.62)
Minor accident	7.65 (1.57)	7.94 (1.78)	4.31 (2.12)	73.83 (8.51)
Other severe injury	7.67 (1.71)	7.98 (1.47)	4.64 (1.87)	73.07 (10.01)
Personal severe injury	7.25 (1.65)	7.62 (1.69)	4.57 (1.99)	71.16 (8.41)
Group total	7.57 (1.65)	7.98 (1.67)	4.47 (1.99)	73.13 (9.27)

Note: For skill and safety responses (first two response columns), increased scores indicate increased comparative optimism. For accident involvement, increased scores indicate decreased comparative optimism.

Table 5.1 shows that only those who had experience of the most severe threat (being hospitalized after a traffic accident) showed decreased comparative risk estimates for skillfulness, safety and self-reported future speed intentions as compared to those who had experienced no threat – the control group. Comparative optimism (unrealistic optimism) is affected by personal experience of a severe health threat. In addition, no differences between the groups were found for other health events, suggesting that any effect is domain-specific.

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The role of personal experience in predicting types of information processing has also been shown to be influential in understanding the operation of the bias (Weinstein, 1980; McKenna and Albery, 2001) (see Box 5.1). Personal experience makes it easier for similar events to be recalled from memory and as such this makes these events more available for recall and use. A final factor concerns the idea that people may be using a salient stereotype in their judgments such that they compare themselves with a high risk stereotypical group who may be different from themselves (Weinstein and Klein, 1995). In addition, evidence has been accumulated that optimistic bias varies as a function of how much control people think they have over future events (e.g. McKenna, 1993; Harris, 1996) but not according to how severe a health threat is deemed to be (Welkenhuysen et al., 1996).

It is assumed that being unrealistically optimistic about future health events is likely to result in a person not taking self-protective action. While this has been shown by comparing different groups of people, little evidence has shown a prospective link between the bias and actual future behaviour (e.g. Taylor et al., 1992; Rutter et al., 1998). Nevertheless, recent work has examined ways of changing, or debiasing, such optimistic perceptions and related behaviour. These have included making people accountable for their judgments (McKenna and Myers, 1997), creating a scenario in which people were to blame for the severity of an outcome (Myers and Frost, 2002), and restricting the comparison to a more similar to self target (e.g. Harris et al., 2000).

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If the manner in which people process health-related information is biased, resulting in the non-adoption of health protective behaviour, the study of possible cognitive biases (such as unrealistic optimism) in judging the likelihood of experiencing negative health outcomes and related decision making is fundamental. Unrealistic optimism locates this processing in a social comparative context, emphasizing that people make judgments about themselves relative to other people. The various factors found to be important in this mechanism, and which need to be overcome, can be utilized in the design and implementation of interventions created to enhance the likelihood that a person will take self-protective actions.

#### *Further reading*

Weinstein, N.D. (1980) Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39, 806–820.

The classic study that identified the operation of unrealistic optimism for a large number of health and non-health related life events. Provided the basis for the large body of work that has identified key operational accounts of the operation of the bias in health-related decision making and behaviour.

Klein, W.M. and Weinstein, N.D. (1997) Social comparison and unrealistic optimism about personal risk. In B.P. Buunk and F.X. Gibbons (eds), *Health, Coping and Well-being*. London: Lawrence Erlbaum. pp. 25–61.

An interesting review of the relationship between unrealistic optimism and judgments about personal risk. Explores the role of how making comparisons with others is important in predicting health and non-health related decision making.

See also **individual differences and habit and dispositional optimism; social cognitive models and health action process approach**

## INDIVIDUAL DIFFERENCES AND HABIT and: **LOCUS OF CONTROL**

One of the many factors that have been implicated in the decision to undertake or not undertake health protective action is perceived control. In effect, this is about how much control a person thinks they have in determining whether or not they undertake a behaviour or attain an outcome associated with that behaviour (Wallston, 1997). This idea is central to some types of social cognition models identified in Chapter 3 (see the theory of planned behaviour) and has similarities with the concept of self-efficacy (see the self-efficacy concept in this chapter).

### MEANING

Perceived control has its roots in **social learning theory** (e.g. Rotter, 1982; Bandura, 2000, and see social cognitive theory in Chapter 3). Rotter (1966) identified the term **locus of control** to describe the idea that over time people learn to expect that outcomes are determined by factors internal to themselves, such as their own actions or beliefs, as well as those related to external sources like chance or luck. In particular, it is argued that people can believe they have control over any reinforcement that results from doing a behaviour and that the source of this reinforcement is either internal or external to the individual.

### ORIGINS

Locus of control is a generalized belief. This means that people may have a predominantly internal or external locus of control across many situations, but this will have the greatest effect when the expectancies (or outcomes) of a situation are not clear or defined for the individual (see Contrada and Goyal, 2004). Rotter (1966) originally thought of locus of control as a unidimensional factor comprising a continuum with internal to external control poles. This conceptualization led to

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the development of the Internal-External (I-E) scale to measure individual differences along this continuum. Further work identified that internal control and external control were in fact independent constructs (not correlated with one another) and should not be thought of as ends of a continuum (e.g. Levenson, 1974). In addition this work showed that external locus of control was also multidimensional, incorporating different types of external control. This led to the redevelopment of the locus control scale to comprise distinct constructs measuring internal control (the 'I' scale), and two external factors – powerful others controlling outcomes (the 'P' scale) and chance externality (the 'C' scale). As such, this allows for a person to be both internal and external in control at the same time. In general it has been shown that high internal locus of control is associated with beneficial health outcomes. Dalgard and Haheim (1998) in a long term prospective study showed that an external locus of control was related to increased mortality for males. Gerits and De Brabander (1999) showed increased symptoms of depression to be associated with externality in women with breast cancer.

Wallston and colleagues developed the multidimensional **health locus of control** scale (MHLC) to capture the idea that behaviours in a particular field (e.g. health behaviours) should be predicted best by field-specific beliefs (Wallston et al., 1978) (see Box 5.2). In other words, health behaviours should be correlated best with health-related control beliefs.

### **Box 5.2 The condition-specific multidimensional health locus of control scale (after Wallston et al., 1994)**

This version of the MHLC was developed by Wallston et al. (1994) to be condition specific. It was designed to apply to people who have an illness and this is reflected in some of the control factors included in the scale. Unlike other versions of the MHLC scale, the powerful others subscale is divided into one that taps control attributed to doctors and another which refers to control in other people. People are asked to rate each of the items (given below) in terms of how strongly they agree or disagree with them on a scale ranging from strongly disagree (scored as 1) to strongly agree (scored as 6). Wallston suggests that the word 'condition' should be replaced with the condition's name e.g. 'If I see my doctor regularly, I am less likely to have problems with my diabetes'.

1. If my condition worsens, it is my own behaviour which determines how soon I will feel better again.
2. As to my condition, what will be will be.
3. If I see my doctor regularly, I am less likely to have problems with my condition.

4. Most things that affect my condition happen to me by chance.
5. Whenever my condition worsens, I should consult a medically-trained professional.
6. I am directly responsible for my condition getting better or worse.
7. Other people play a big role in whether my condition improves, stays the same, or gets worse.
8. Whatever goes wrong with my condition is my own fault.
9. Luck plays a big part in determining how my condition improves.
10. In order for my condition to improve, it is up to other people to see that the right things happen.
11. Whatever improvement occurs with my condition is largely a matter of good fortune.
12. The main thing which affects my condition is what I myself do.
13. I deserve the credit when my condition improves and the blame when it gets worse.
14. Following doctor's orders to the letter is the best way to keep my condition from getting any worse.
15. If my condition worsens, it's a matter of fate.
16. If I am lucky, my condition will get better.
17. If my condition takes a turn for the worse, it is because I have not been taking proper care of myself.
18. The type of help I receive from other people determines how soon my condition improves.

Scoring note: each of the items in the scale corresponds to one of the subscales – internal, chance, doctors and others (the last two scales are derived from the original powerful others dimension).

Internal questions are 1, 6, 8, 12, 13, 17

Chance questions are 2, 4, 9, 11, 15, 16

Doctors 3, 5, 14

Others 7, 10, 18

Many health behaviours have shown associations with locus of control dimensions (Mahler and Kulik, 1990). For instance, evidence has accumulated that internal health locus of control is positively related to HIV protective behaviours (Kelly et al., 1990), food choice indices (Step toe and Wardle, 2001) and frequency of exercise (Norman et al., 1997). In addition, chance locus of control has been shown to be associated with, among other behaviours, delay in seeking medical advice (e.g. O'Carroll et al., 2001). This means that people with a more external profile are less likely to undertake health protective actions, although in one study powerful others' beliefs (external) were shown to predict an increased uptake of HIV medication (Evans et al., 2000). This may reflect a normative influence factor and one's wish to comply with

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what important others want us to do (see the theory of planned behaviour concept in chapter 3). In line with social cognitive theory (see chapter 3), it has also been argued that health locus of control is only relevant if an individual values their health – in other words, the value people ascribe to the expected outcomes of behaviour (Wallston et al., 1994). One study showed that breast self-examination was predicted most strongly among women who showed high internal locus of control and health value in undertaking the behaviour (Quadrel and Lau, 1989).

While there is evidence of the predictive utility of health locus of control in predicting health behaviours, the proportion of variance accounted for in behaviour is on average quite small, at around 10 per cent (Wallston, 1992; Norman and Bennett, 1996). A related factor, self-efficacy, has been found to be much more predictive of health and illness behaviour, and sick role behaviour (see the self-efficacy concept in this chapter).

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The concept of locus of control details an individual difference type factor that predicts whether a person is more or less inclined to undertake health protective actions. In general, a high internal locus of control is more predictive of health behaviours whereas external control is associated with health compromising behaviours. This evidence indicates that such a relationship is statistically weak, accounting for a small amount of variance in behaviour. Variations of the concept have been developed and incorporated into a number of social-cognitive models including perceived behavioural control (in the theory of planned behaviour) and self-efficacy (in, among others, protection motivation theory and the health action process approach – see Chapter 3).

#### *Further reading*

Contrada, R.J. and Goyal, T.M. (2004) Individual differences, health and illness: the role of emotional traits and generalised expectancies. In S. Sutton, A. Baum and M. Johnston (eds), *The Sage Handbook of Health Psychology*. London: Sage. pp. 143–168.

A thorough review of the relationships between various individual difference-based factors, including perceptions of behavioural control, in the experience of health.

Norman, P. and Bennett, P. (1996) Health locus of control. In M. Conner and P. Norman (eds), *Predicting Health Behaviour*. Buckingham: Open University Press. pp. 62–94. Provides a detailed overview of the role played by perceptions of control characterized by a locus of control in health-related decision making and behaviour. Includes issues related to the measurement of control, as well as a review and synthesis of relevant literature.

See also **individual differences and habit and self-efficacy; social cognitive models and theory of planned behaviour**

## INDIVIDUAL DIFFERENCES AND HABIT and: SELF-EFFICACY

In their everyday lives individuals need to feel in control of situations that affect their psychological and physical well being (see the locus of control concept in this chapter). Motivational and emotional states, and also related behaviours, are all dependent on how much control people perceive they have over situational demands. **Self-efficacy** beliefs specifically concern the perceived degree to which people have control over outcomes associated with undertaking a particular behaviour. Self-efficacy is about how confident a person is in their ability to perform a certain action and attain anticipated outcomes, whereas perceived control is more about an appraisal of environmental factors on behavioural enactment. Armitage and Conner (2002) argue that this discrimination is best thought of as the difference between internal and external sources of control – self-efficacy being an internal source (related to feelings of competence and the ability to undertake a behaviour) and perceived control as being external (an understanding of the influence of environmental factors on behaviour).

### MEANING

As a concept, self-efficacy has its roots in social cognitive (learning) theory or SCT (Bandura, 1997) (see the social cognitive theory concept – Chapter 3). Self-efficacy is an individual's belief in their personal ability to arrange, plan and undertake the actions necessary to result in a particular outcome. From this conceptualization it is clear that self-efficacy beliefs are expectancy-based cognitions about control and are important determinants of behaviour. Self-efficacy expectancies determine whether certain behaviours will be used to attain certain goals, how much effort will be directed towards attaining a goal and how persistent an action will be when confronted with obstacles to behaviour. In this way self-efficacy beliefs have a profound motivational effect on the adoption of behaviour. These beliefs predict the motivation to act (Luszczynska and Schwarzer, 2005). Self-efficacy beliefs develop through vicarious experience, or the observation of another person having successfully completed a given behaviour. These beliefs also develop and change as a result of an individual experiencing situational demands and acting in an appropriate way.

### ORIGINS

Bandura (1977, 1997) proposes that self-efficacy expectancies about behaving in a certain manner comprise three distinct dimensions. These are magnitude (beliefs about how well one can perform a task), strength (how much confidence a person thinks they have in their ability to perform a behaviour) and generality (how far these beliefs apply only to the current or specific behaviour or are more generally relevant to other related situations). These dimensions govern the expression of self-efficacy beliefs which are used, along with beliefs about outcome expectancy, to predict the likelihood of behavioural adoption or development. In other words, for SCT self-efficacy

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forms one of two factors that determine behaviour – the other being perceived outcome expectancies. Those people who think that a behaviour will have a looked-for effect (outcome expectancy) and who believe themselves capable and competent in undertaking the behaviour (self-efficacy) will (1) be more inclined to behave in that way and (2) will exert more effort in performing the behaviour.

While the original conceptualization of self-efficacy was focused on situation-specific beliefs, the inclusion of generality as a dimension of self-efficacy expectancies has led to the development of the concept of generalized self-efficacy. This allows for the proposal that self-efficacy beliefs may be more global, more trait-like, and more stable (in much the same way as dispositional optimism – see the relevant concept in this chapter). This includes the idea that people have a general set of beliefs about their personal ability to perform a variety of behaviours across a number of situations, called ‘mastery’ or ‘perceived competence’ (Smith et al., 1995). While most work has focused on situation-specific self-efficacy, some evidence suggests that generalized self-efficacy is related to better health outcomes, health behaviours and adaptation to the onset of disease (e.g. Ormel et al., 1997; Schwarzer and Schroder, 1997).

Many of the models based on social cognitive theory (SCT) emphasize self-efficacy as an important determinant of health-related decision making and behaviour. These include extensions to the health belief model and the theories of reasoned action and planned behaviour (see the concepts in Chapter 3). Other SCT-based models specifically identify self-efficacy as a determinant in its own right of the intention to behave in a protective manner and actual behaviour directed at a health threat. These include protection motivation theory (PMT), the health action process approach (HAPA), as well as a number of stage models (e.g. the precaution adoption process model and the transtheoretical model) which think of changes in self-efficacy as being important in the transition from one stage to a subsequent decisional stage (see the relevant concepts in Chapter 3). Protection motivation theory, for example, identifies how efficacious a response is in reducing the perceived threat of a health event as one of three primary stimulus variables in fear-based appeals (the other two being the degree of severity of an event, and the likelihood of an event happening if no adaptive response is made) (Rogers, 1974). More specifically, PMT distinguishes between the types of self-efficacy used when appraising coping responses made to a health threat. These are response efficacy – beliefs that a recommended self-protective action would decrease the health threat – and self-efficacy – beliefs associated with whether this behaviour can be performed by the individual.

Schwarzer’s (1992) health action process approach model proposes that types of self-efficacy are also important in determining motivational factors leading to the formation of an intention to behave in an adaptive manner, and also an individual’s translation of this intention in action as part of the volition phase in the adoption of health behaviour. For example, as well as arguing that generalized self-efficacy is important at all phases in behavioural enactment, work has shown that so-called ‘initiative self-efficacy’ is particularly important when people are implementing intentions or planning behaviours (see the HAPA concept in Chapter 3 for further examples).

Irrespective of model type, self-efficacy has been shown to be an important predictor of motivation to behave, intention to behave and actual behavioural enactment across a number of discrete health behaviours (see Connor and Norman, 2005, for a comprehensive review). In short, increased belief that one is able to undertake a recommended course of action is associated with forming an intention to behave in that way, translating that intention into behaviour, maintaining that behaviour over time and overcoming threats or challenges to the current behaviour, such as when an ex-smoker relapses for a short-time after having given up smoking (e.g. Marlatt and Gordon's (1985) relapse prevention model).

Self-efficacy is a central individual difference factor that functions to predict a motivation to engage in health behaviour, the implementation of behavioural intention (or goal striving), and responses to illness experience (e.g. the attribution of symptoms, and so on). It has been applied in a number of models based on social cognitive theory and has also been shown to be effective in promoting changes in health beliefs and health behaviour, and maintaining change over time (see Conner and Norman, 2005; Luszczynska and Schwarzer, 2005).

## SIGNIFICANCE TO HEALTH PSYCHOLOGY

### *Further reading*

Bandura, A. (1997) *Self-efficacy: The Exercise of Control*. New York: Freeman.

The classic text that details the development and operationalization of the concept of self-efficacy in terms of behavioural self-regulation.

DeVillis, B.M. and DeVillis, R.F. (2000) Self-efficacy and health. In A. Baum, T.A. Revenson and J.E. Singer (eds), *Handbook of Health Psychology*. Mahwah, NJ: Erlbaum. pp. 235–247.

Provides a summary of the role of self-efficacy in health-related decision making and behaviour.

See also **social cognitive models and social cognitive theory**

## INDIVIDUAL DIFFERENCES AND HABIT and: HABIT

The vast majority of behaviours that we undertake during our lifetime, including those related to health outcomes, are repeated over and over again. It is not that common an occurrence to do something for the first time but when we do

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so we are deliberate and conscious in the plans we have to make, and also the thinking inherent in planning the behaviour and our own evaluation of the behaviour after the event. Try and remember about first learning to ride a bicycle and the enormous amount of thinking and concentration that went into that endeavour. Doing behaviours initially is a cognitively taxing thing to undertaken given the amount of processing of plans, goals, beliefs, and so on that occurs. Over time, and with the repeated enactment of a behaviour in similar environmental circumstances, we will just seem to perform the task without consciously thinking about or planning it (Ouellette and Wood, 1998). At this point the behaviour has become a **habit** or habitual in nature (Verplanken, 2005) and the best predictor of future behaviour becomes past behaviour (see Sutton, 1994). These details are nicely brought together and extended in Verplanken and Aarts' (1999) definition of habits as 'learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals and end-states' (p. 104).

### ORIGINS

Thus habits are characterized by repetition and learning – created by doing the behaviour repeatedly. These behaviours are characterized as automatic responses to specific cues in the environment such that after repeated learning, exposure to a particular cue or stimulus will activate an automatic cognitive process which then guides behaviour (Bargh and Ferguson, 2000). **Automaticity** has a number of components. When a process or behaviour is called 'automatic' it operates outside of conscious awareness, is very difficult to control, is mentally efficient such that it can operate when cognitive resources are also being used to do other tasks, and it is also unintentional, that is, not consciously planned (Bargh, 1994). There is a plethora of research generated from experimental psychology that has sought to understand the role of automaticity in perceptual processing. Social psychologists, for instance, have been interested for many years in examining the automatic nature of social behaviour and have generated some very interesting results. For example, Bargh and his colleagues have undertaken a significant amount of work demonstrating aspects of automaticity in social perception (e.g. impression formation, and so on) and goal striving (see Bargh and Chartrand, 1999). Since health behaviours are no different from other behaviours, there is no reason why they should not be conceptualized within the boundaries of automaticity and habit as well.

### CURRENT USAGE

While this holds true it is only recently that health psychologists have begun to embrace the role habits, and more importantly, automatic cognition play in the enactment of health behaviour (e.g. Stacy et al., 2000). This is an important development because social cognitive approaches (see Chapter 3) when applied to health behaviour have taken insufficient account of the role of automatic cognitive processes in the generation, development and change of health behaviour

outside of the adage that 'the best predictor of future behaviour is past behaviour'. An examination of implicit or automatic cognition in health behaviour allows us to access a potential understanding of the processes that make this observation true. In a very important review of the past behaviour - future behaviour relationship for all behaviours, Ouellette and Wood (1998) make the point that the relationship holds true when well learnt behaviours occur in stable contexts and are subject to automatic processing that controls the skill. When this is the case, then the frequency of past behaviour can be seen as a habit strength and will have a direct effect on future behaviour. This in turn reflects key components of the automaticity idea seen earlier. When behaviours are subject to conscious processing (namely, deliberation with high cognitive resources) which occurs when a behaviour is not well learnt or is performed in more unstable and less predictable contexts, past behaviour only predicts the formation of an intention to act and not behaviour per se.

Previous measurement of habit has been criticized for not focusing on the key attributes of the term, relying solely on the frequency of a given behaviour as a measure. However, recent work has shown the development of a general self-report measure of habit which reflects coherently the component definition of habit detailed earlier (namely, the Self-Report Habit Index or SRHI – Verplanken and Orbell, 2003) (see Box 5.3).

**Box 5.3 A measure of habitual strength: the self-report habit index (*Source: Verplanken and Orbell, 2003*)**

Behaviour X is something ...

1. I do frequently.
2. I do automatically.
3. I do without having to consciously remember.
4. That makes me feel weird if I do not do it.
5. I do without thinking.
6. Would require effort not to do.
7. That belongs to my (daily, weekly, monthly) routine.
8. I start doing before I realize I'm doing it.
9. I would find hard not to do.
10. I have no need to think about doing.
11. That's typically me.
12. I have been doing for a long time.

*(Continued)*

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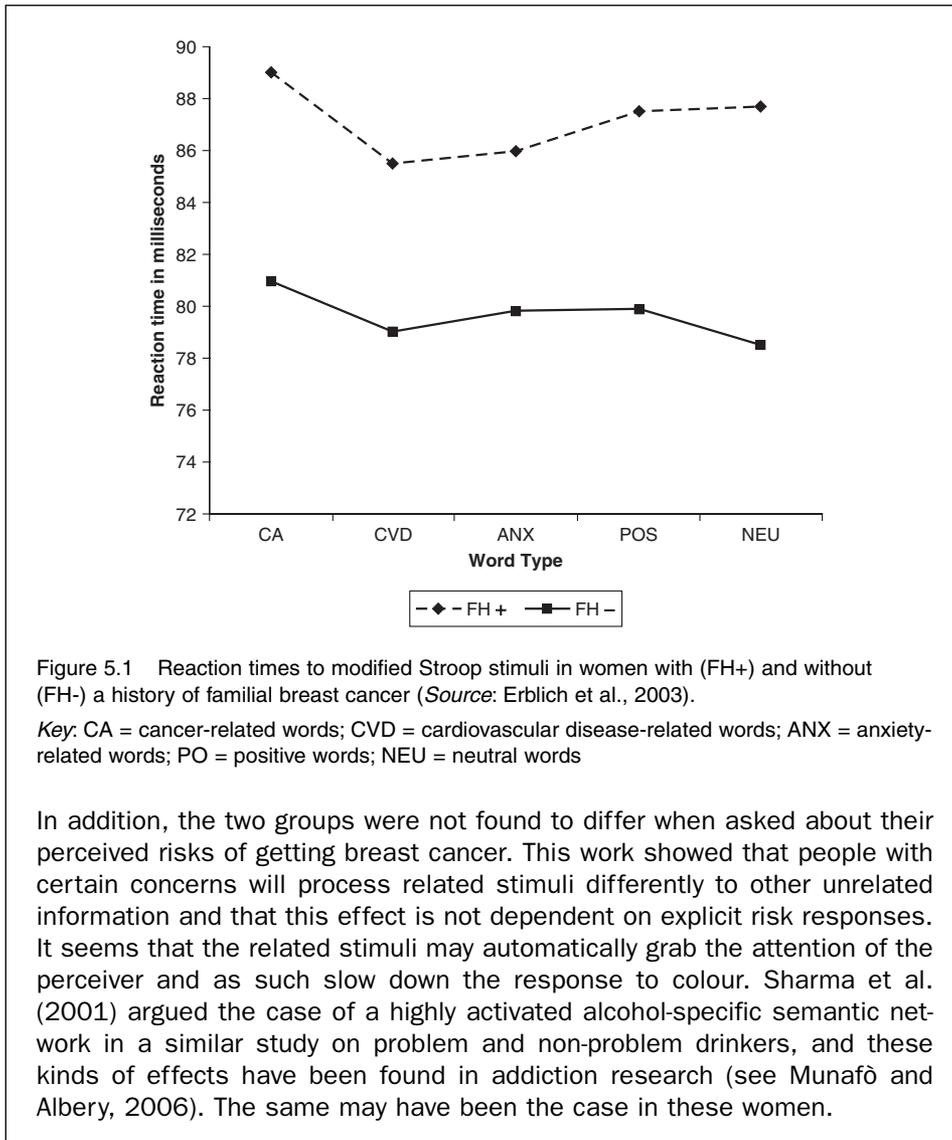
*(Continued)*

This scale was designed to reflect the core components: uncontrollability, lack of awareness, efficiency, a history of repetition and also the habit as a sense of identity. Although the sense of identity is not a classic characteristic, Verplanken and Orbell argue that habits might be deemed by the individual to be descriptive of the person.

But to measure habit and the automatic cognition that guides the enactment of habitual behaviour it may not be sufficient simply to ask participants about factors that could be important in the generation of behaviour – although take the example here of the study of addictive behaviours. McCusker (2001) points out that psychologists interested in examining the cognitive determinants of addiction as a habit are not interested in ‘what people ‘say’ about what they think, but rather make inferences about cognitive processes and structures based on behavioural responses’ (pp. 49–50). In effect, researchers such as McCusker and others (e.g. see Munafò and Albery, 2006), utilize experimental paradigms that do not require the participant to consciously report their behaviour or thoughts about a behaviour, such as those based on attention and implicit memory processes (e.g. Stacy et al., 2000; Field, 2006; see also Chapter 9). This type of investigation allows the researcher to examine the automatic or implicit processing of health-related stimuli and to make suggestions of how people’s thoughts and feelings are organized in the mind for guiding habitual behaviour (e.g. post-operative pain – Munafò and Stevenson, 2003; breast cancer history – Erblich et al., 2003; see also Box 5.4 and Figure 5.1).

### **Box 5.4 Implicit cognitive processing biases in women with or without a family history of breast cancer**

Erblich et al. (2003) studied how women with (FH+) or without (FH-) a family history of breast cancer process stimuli related to cancer, another chronic illness (namely, cardiovascular disease) and negative emotional words. The idea was to examine whether stressful current concerns affect the processing of types of stimuli. Using a modified Stroop in which people responded to the colour a word is written in while ignoring the word itself, they showed that FH+ women were significantly slower to respond to the colours of cancer-related words compared to the other word types (see Figure 5.1).



In a series of three experimental studies, Sheeran, Aarts et al. (2005) investigated how drinking behaviour may be dependent upon automatic cognitive processes. By simply categorizing people as habitual or non-habitual in their drinking behaviour, the first two experiments showed that the habitual people were fastest in responding to drinking-related words when they had been exposed previously to a condition in which the goal of socializing when drinking alcohol had been activated, as

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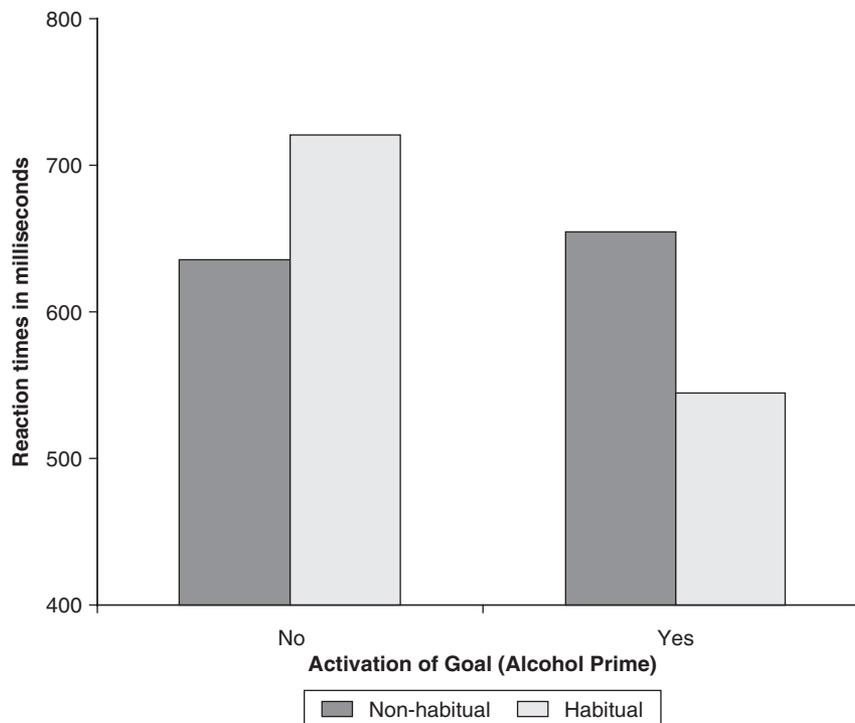


Figure 5.2 Reaction times to verify the verb 'drinking' by habit strength and goal activation type (after Sheeran, Aarts et al., 2005, Experiment 2)

Note: The above diagram shows the speed with which participants responded to whether a word presented on a computer screen was a verb or not. Half of the words presented were verbs and half were non-verbs. Of the verbs, 'drinking' was presented five times and it is the responses to these critical trials that are reported in Figure 5.2. Prior to the test, participants had been 'primed' with a concept related to drinking alcohol, namely socializing by completing a scrambled sentence task. In this task participants are presented with a number of five-letter strings and are asked to make four-word sentences. In prime condition participants were presented with a number of scrambled sentences that included socializing-related words (e.g. associate, join, mingle, greet, and so on). Other participants in the no prime control were presented with non-socializing related words (e.g. writes, floats, and so on). In addition, participants were asked how long ago their last drinking occasion was and how much they had consumed. From these measures participants were classified into 'habitual' or 'non-habitual' in their groups.

compared to non-habitual individuals (see Figure 5. 2). This means that habit influenced the accessibility of drinking behaviour stimuli only when under conditions where a goal related to the drinking of alcohol was activated.

An important point here is that people were not aware that they had been primed with the drinking-related goal, which corresponds to the idea of unawareness as part of an automatic cognitive process. In the third experiment in this study Sheeran et al. showed that a measure of actual behaviour related to drinking

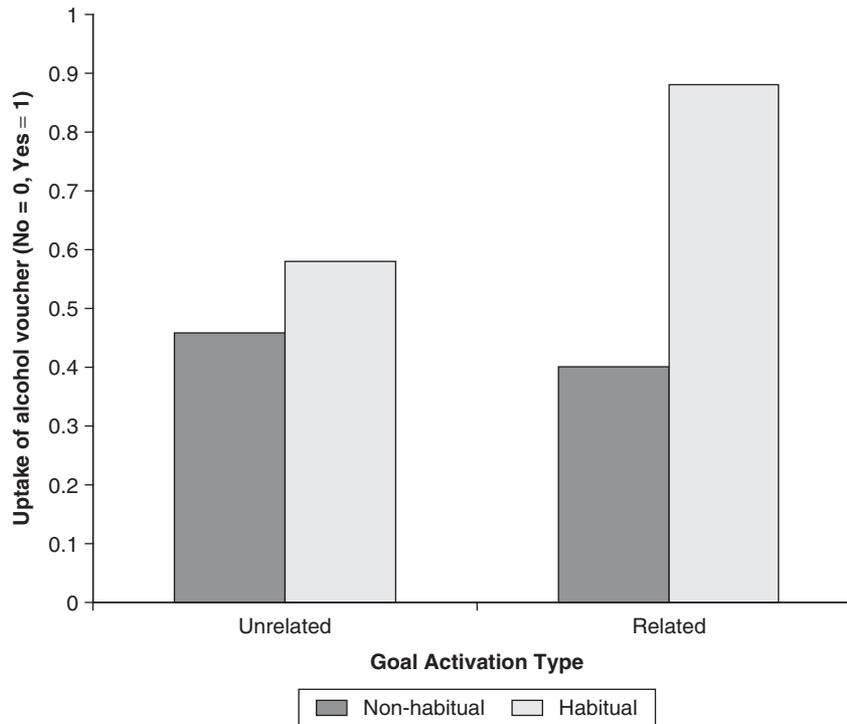


Figure 5.3 Alcohol voucher uptake by habit strength and goal activation type (after Sheeran, Aarts et al., 2005, Experiment 3)

Note: In this experiment half the participants were 'primed' with the drinking-related concept of socializing by asking them to nominate a number of cities in the UK, Europe and the rest of the world that would be worth visiting in order to have a good social life. This was labelled the 'related goal condition'. The other half were asked to nominate cities that were good for historical sites – the 'unrelated goal condition'. Participants were classified as 'habitual' or 'non-habitual' on the basis of their answers to questions about how often they had been out drinking in the past two weeks, and also about how often they had been drunk over the same time period. After priming participants were offered the choice of a £1 discount for alcohol or a £1 voucher for tea or coffee. The graph above shows the uptake of the alcohol voucher for habitual and non-habitual participants who had either been primed or not with the related goal of socializing.

(namely, the uptake of an alcoholic versus non-alcoholic drink voucher) was also dependent on habit strength and the activation of drinking goals. Briefly, those participants who had previously been primed with a drinking-related goal, in terms of good cities for socializing in (socializing being related to consumption of alcohol), and who were also scored as high in habit strength, were more likely to select the voucher which could supposedly be redeemed at a local bar/pub (see Figure 5.3). In effect, this study illustrates the dynamic influence of habit and goal activation on drinking behaviour.

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This evidence provides a good example of the role of automatic thinking processes in habitual behaviour. Theoretically, the idea of this type of evidence is that the experience of a cue in the environment (e.g. in this case, socializing) activates a mental representation of behaviour – ‘drinking’ – in the long term memory which contains information about beliefs associated with the behaviour, as well as behavioural goals and behavioural sequences (e.g. skills information for behaving in the associated manner). In an habitual individual this activation is fast acting; the person does not know that the representation has been activated, they cannot control it and it also increases the likelihood of that person acting in line with the stored behavioural representation.

What are the implications if we assume that some health behaviours are more than likely to be habitual in nature (subject to automatic cognitive processes) and that one of the goals of health psychology is to utilize theoretically-driven ideas for the design of interventions to change maladaptive health behaviours or promote healthy behaviours? Some evidence has shown that habitual people are less attentive to new information (e.g. Verplanken and Aarts, 1999) and have an attentional bias for behaviour-related stimuli (e.g. Cox et al., 2006). As such, habitual individuals are likely to ignore new information and attend to information that is more consistent with their current behaviour. Recent work has, however, demonstrated that these attentional processes can be changed if a person is trained to attend to new information over time. In the addiction field, research suggests that the attentional bias for addiction-related cues over other cues is the related treatment outcome (Waters et al., 2003), and that by training an individual to cognitively avoid these cues by making other cues salient over time may result in a decrease in the addictive behaviour (see Franken, 2003; Wiers et al., 2006).

One alternative is to attempt to create new habits to replace existing ones. While attentional training is a mechanism that may result in the establishment of a new automatic cognitive sequence, other researchers have emphasized the use of the formation of implementation intentions to this end (see Verplanken, 2005; and the implementation intention construct in Chapter 3). Implementation intentions are likely to tap the development of habitual cognition because forcing people to plan when an action will be undertaken, what actions exactly will be undertaken and where they will be undertaking the behaviour together creates a cue-specific action plan. In other words, people are forced to plan how often they will undertake a behaviour (e.g. three times a week) and under what circumstances (e.g. last thing at night) which have the effect of transferring control for the behaviour from the person to their environmental conditions. Over time and the enactment of the implementation intention it is likely that the environmental stimulus will automatically trigger the behavioural sequence. The formation of implementation intentions has been shown to make it more likely that a person will undertake a behaviour and implement their goal intentions when presented with the relevant environmental situation, as compared to people who have not formed an implementation intention (see Sheeran, 2002; Steadman and Quine, 2004).

Some have argued that the vast majority of everyday social behaviour, of which health behaviours may be an example, is driven predominantly by automatic cognition which is fast acting, bound to stimuli in the environment, outside of people's awareness and difficult to change (Bargh, 1997). In addition, central to the concept of habit is the idea that aspects of decision-making processes and behavioural enactment processes have been transferred to these automatic processes. If this is the case, health psychologists have to embrace such reasoning in understanding how and why people undertake the behaviours they do. The role of both explicit (non-automatic factors such as self-reported beliefs, and so on) and implicit (automatic processes) has to be recognized and studied in terms of the development and maintenance of health-related behaviours. In addition, the role of such processes should be considered in the design of interventions to change health behaviours, such that individuals who show increased behavioural habituation may require a completely distinct intervention compared to the behavioural novice.

## SIGNIFICANCE TO HEALTH PSYCHOLOGY

### *Further reading*

Ouellette, J.A. and Wood, W. (1998) Habit and intention in everyday life: the multiple processes by which the past predicts the future. *Psychological Bulletin*, 124, 54–74.

Provides a detailed account of the dimensions of habitual processes, how they can be conceptualised and their importance in predicting behaviour.

Sutton, S. (1994) The past predicts the future: interpreting behaviour-behaviour relationships in social psychological models of health behaviour. In D.R. Rutter and L. Quine (eds), *Social Psychology and Health: European Perspectives*. Aldershot: Avebury, pp. 71–88.

A discussion of the finding that the best predictor of future behaviour is past behaviour and how the model in health psychology accounts for this finding.

See also **social cognitive models and implementation intentions**

## INDIVIDUAL DIFFERENCES AND HABIT and: PERSONALITY TYPE AND HEALTH

**Personality** is about individual differences and what makes us unique as human beings. Factors that describe ways in which people are different from one another in how they think and behave encapsulate the concept of personality. Personality refers to how psychological systems (that is, traits) are organized within an individual

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and how these cause behaviours and ways of thinking that are characteristic of that individual. Personality research in understanding health decision making, health behaviour and coping responses to the threat or onset of disease or illness has concentrated on a number of key factors including personality type (Type A, Type C, Type D, negative affectivity or neuroticism and hardiness), as well as other individual difference factors outlined in this chapter (e.g. locus of control, dispositional optimism, and so on).

### ORIGINS

Personality was argued in the past to be global, dispositional and trait-like (Allport, 1961). This perspective viewed personality as a personal profile that was stable over time and enduring. Personality traits were argued to group together in certain ways to form a coherent impression or typology of those individuals having these traits. For instance, an extrovert had traits that reflected sociability, impulsivity and adventurousness, whereas a psychotic type of person had traits like egocentrism and aggressiveness (Eysenck, 1982). While this view was popular in the early to mid-twentieth century, the trait approach was questioned through a growing body of evidence that suggested that traits did not always predict observed behaviour and that some consideration needed to be given to other factors that were determined more by situation, and referred to state-like characteristics such as situation specific mood or anxiety (e.g. Spielberger et al., 1983).

### CURRENT USAGE

In general, health psychologists have been interested in assessing the association between a number of personality factors and the experience of health and illness. From this work a number of propositions have been forwarded to describe the nature of this personality-illness relationship. These include the idea that personality predicts health outcome because certain personality types are more likely to undertake health compromising behaviours such as smoking and drinking. A plethora of research has also been undertaken to assess the nature of the relationship between the experience of stress, personality type and illness experience (see McCrae and Stone, 1997). The question is – does personality type mediate the effect of the experience of stress on health outcome? And if so, in what ways? Much research on the stress-personality-illness relationship has focused on **Type A behaviour** (TAB). TAB is a typology that includes competitiveness, achievement-orientated behaviour, impatience, being easily annoyed, hostile and angry, trying to achieve too much in too little time and a vigorous speech pattern (Rosenman, 1978). Early large-scale research programmes gave the impression that there was a reasonable link between TAB and coronary heart disease (CHD) (e.g. Haynes et al., 1980), although other longitudinal work has not shown such an effect (e.g. see Booth-Kewley and Friedman, 1987).

More recent work has focused on the role of **hostility** (one of the TAB characteristics) as being of particular importance (e.g. Dembrowski et al., 1989). Hostility comprises thoughts and behaviours that have as their basis the expression of anger.

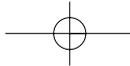
People high in hostility hold particularly cynical views of their social world, and have negative expectations of others around them (Miller et al., 1996). Hostility has its affect on illness because these individuals (1) are not protected from the strain imposed by stressors through accessing support systems – the psychosocial vulnerability hypothesis (Kivimäki et al., 2003); (2) engage in health risk behaviours more often, such as drinking and smoking (Vögele, 1998); and (3) are more physiologically stress reactive (showing increased blood pressure, and so on) (Suarez et al., 1998).

Other research has also identified a personality profile associated with increased cancer risk – **Type C personality** (Temoshok, 1987). This personality type is characterized as being cooperative, appeasing, compliant, passive, stoic, unassertive, self-sacrificing and inhibiting negative affect (emotions). It has been shown that inhibiting emotional expression has a significant prospective effect on the subsequent development of cancer (Shaffer et al., 1987). Experiencing negative emotions but inhibiting expression of these and at the same time avoiding social interaction to avoid feelings of disapproval – the **Type D personality type** (Denollet, 1998) – has also been shown to be predictive of physiological indicators of coronary heart disease (Habra et al., 2003).

Other factors that have been found to be related to negative health outcomes are **negative affectivity** or NA (neuroticism) and hardiness. People low in NA have a general negative outlook on life and are more inclined to personal introspection, poorer mood and self-concept (Watson and Clark, 1984). Low NA is associated with more health complaints and lower self-rated health status, although objective health indices only show weak correlations with the profile (Evers et al., 2003). **Hardiness** is a factor that has been shown to be protective against the experience of stress (Kobasa, 1979). Commitment (a sense of purpose in life events and activities), control (the belief of personal influence over situations) and challenge (seeing adaptation and change as 'normal' and positive experiences) characterize increased hardiness. In a seminal study, Kobasa et al. (1982) showed that in situations of high stress hardiness essentially buffered the effects on illness likelihood. High hardiness people exposed to high levels of stress not only reported significantly decreased illness scores relative to low hardiness participants, they were found to be no different from people who had experienced only low levels of stress.

The role of personality factors in understanding of health decision making, health behaviour and coping responses to the threat or onset of disease or illness is important because it identifies factors for understanding why there is such diversity in people's health-related thoughts and actions. Such factors are also important because they show that objective physical markers of health or illness may be related to dispositional personality-based factors and that these factors may interact with thinking and behavioural profiles to predict health and well being.

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### *Key Concepts in Health Psychology*

#### *Further reading*

Contrada, R.J. and Goyal, T.M. (2004) Individual differences, health and illness: the role of emotional traits and generalised expectancies. In S. Sutton, A. Baum and M. Johnston (eds), *The Sage Handbook of Health Psychology*. London: Sage. pp. 143–168.

A general discussion of the various individual difference factors involved in predicting the likelihood of an individual experiencing health and illness. Includes a good discussion of a range of personality characteristics.

Booth-Kewley, S. and Friedman, H.S. (1987) Psychological predictors of heart disease: a quantitative review. *Psychological Bulletin*, 101, 343–362.

An excellent and detailed account of the role of a number of personality-based factors important for studying the likelihood of heart disease.

See also **individual differences and habit and dispositional optimism**

