A healthy contribution

Marie Johnston, John Weinman and Angel Chater introduce a special feature to mark the founding of the Society’s Health Psychology Section 25 years ago

The emergence of health psychology (HP) as a distinct disciplinary area can be traced back to an American Psychological Association (APA) task force that met in 1973 (your first author was a corresponding member) to examine ways in which psychologists could contribute to the maintenance of physical health, the management of people with physical health problems and healthcare delivery. This led to the development of the APA Division of Health Psychology and Joseph Matarazzo’s 1980 presidential address on ‘a new health psychology’. The term ‘health psychology’ was first used in print by Stone et al. (1979), and the first journal (Health Psychology) appeared in 1982, followed by Psychology & Health in 1987 and the British Journal of Health Psychology in 1990.

Looking back, there are many possible reasons for the emergence of HP:

- Epidemiological evidence of the importance of behavioural factors health: such as the link between reduced smoking behaviour and rates of lung cancer (Doll et al., 2004), as well as the early results from the Alameda County Study (Housman & Dorman, 2005) underlining the potential for behaviour change as a method of enhancing health.
- Evidence for health service effectiveness and efficiency: which became necessary and led to the measurement of a wide range of outcomes, with many being in a psychological domain.
- Medical schools: that added behavioural sciences to the curriculum, often taught by psychologists. The publication of projects from medical students created a body of health psychology research.

Communication skills training: began to develop for health professionals, originally with the aim of improving patient satisfaction and adherence.

Primary care: became a focus for clinical psychology where the line between physical and mental health was more blurred and interventions based on psychological theory were applied.

Behaviour modification and therapy: had demonstrated that theoretically based methods could change behaviours and be clinically effective (D.W. Johnston, 1991).

Psychophysiology and psychoneuroimmunology (PNI) emerged: coming from an understanding of how psychological and physiological factors interact, particularly in the cardiovascular (Steptoe, 2007) and immune (Adler & Cohen, 1975) systems.

Social psychologists: frequently used the health domain for testing theoretical propositions, such as the relations between beliefs, attitudes and behaviour (e.g. Fishbein & Azjen, 1975), resulting in a body of evidence and theory development in factors that can predict health behaviour.

AIDS/HIV: was diagnosed in the early 1980s, leading to increasing interest in behaviour change and to the funding of behavioural research.

However, the immediate prompt to action in the UK was the British Psychological Society’s reconsideration of the role of the Medical Section. In a letter to the BPS Bulletin (the precursor of The Psychologist) in August 1985, Marie Johnston and John Weinman argued there was a need for a Health Psychology Section. Following consultation with the BPS, the Section was inaugurated at the BPS London Conference in December 1986 with Marie Johnston as chair.
The first Section conference was in Sussex in 1987 and there has been an annual conference ever since. In 1993 the BPS Annual Conference invited a review of ‘Current Trends in Health Psychology’. This paper (M. Johnston, 1994) proposed a definition of HP as ‘the study of psychological and behavioural processes in health, illness and healthcare’, to offer a simple definition and re-emphasise the scientific nature of HP. The paper reviewed six developments representing health psychology: (1) health psychology in the UK was given Divisional status, recognising the distinct training needs and professional practice of health psychologists in the areas of research, consultancy, teaching and training. This allowed members to obtain chartered status within the BPS, which regulated training and practice in HP until 2010 when the regulation of professional standards and qualifications was taken over by statutory registration with the Health Professions Council.

Research

So what progress have we seen in the last 25 years? In terms of research, this can be gathered under various headings.

Theory and models

In 1987, the year after the start of the HP section, a paper for the BPS Bulletin by Marie Johnston and Theresa Marteau on ‘the danger of neglecting psychological models’ argued that health psychologists tended to frame questions and offer theory and methods within a medical framework. It argued that progress as a discipline would require more focus on psychological principles in framing research questions, using theory and designing methods of investigation. In the early 1990s, symposia at HP and European Health Psychology Society (EHPS) conferences focused on social cognition. There is now much agreement about core models, with theories such as the theory of planned behaviour (TPB) and the health action process approach (HAPA) explaining behaviour, the commonsense self-regulation model (CS-SRM) explaining the response to illness or health conditions, and the social cognitive theory (SCT), implementation intentions and control theory often used to assist behaviour change.

Methods

There have been substantial developments in research methods, specifically in measurement, design and statistics. Methods have become more transparent and replicable, for example in developing theory-based measures, and there is more reporting of early qualitative work and theories such as the TPB and SCT, which have clearly published methods of measuring key variables. There is also much agreement that useful evidence can be obtained by both quantitative and qualitative methods.

Measurement

Since the 1980s there has been less emphasis on measuring deficit or negative states such as anxiety, and increasing emphasis on measuring behaviour and theoretical constructs postulated to influence behaviour. The emergence of new psychometrically sound measures (M. Johnston et al., 1995) led to a greater consensus. However, there has been disappointing progress in establishing the validity of many measures.

Behavioural and psychological measures are increasingly important as health outcomes. There is a growing emphasis on finding objective measures of behaviour, including routinely collected data, such as: the use of electronic monitoring to assess medication adherence; prescribing data to reflect the behaviour of clinicians: the use of exercise facilities to reflect exercising behaviours; and the use of accelerometers to assess activity levels. However, these methods have additional problems, including the difficulty in gaining a true match to the behaviour and measuring the full and appropriate range of behaviours (Hrisos et al., 2009).

Physiological and psychophysiological measures continue to be important but tend to be restricted in use to groups specialising in their use.

Research designs and statistical methods

There has been a shift from the much criticised, cross-sectional study of the relationship between two self-report measures to more prospective studies with objective assessments and the development and evaluation of theory-based interventions. Prospective designs offer some progress in assessing causal questions as the hypothesised cause precedes the outcome, but clearly experimental designs are necessary to...
test causality, and these continue to be rare. Process evaluations are increasingly used to assess whether an intervention has changed the targeted theoretical construct with resulting effects on the outcome variable.

**Intervention**

Health psychologists are increasingly involved in developing interventions to change behaviour with a view to improving health outcomes, and this competency has been added to the professional training in HP. Interventions derive from two main traditions: persuasive messages based on social psychology, and cognitive-behavioural methods more related to clinical psychology. While many successful interventions have been published in HP and medical journals, evidence synthesis has made it clearer than ever that we need shared transparent methods for describing interventions in order to have a cumulative body of evidence that can be applied in practice (e.g. M. Johnston & Vogele, 1993; Michie et al., 2009). The work done by Abraham and Michie (2008) and colleagues in developing reliable methods of describing behaviour change techniques using a taxonomy approach is a significant advance, but indicates the amount of work to be done. The future evidence base for interventions will depend on the publication of studies that have both clear trial methods and descriptions that allow reliable replication.

**Consultancy and committees**

In offering consultancy, health psychologists bring their theory and methods to address identified problems, and this has been clearest in consultancy to government. Work for the Public Health Directorate of the Westminster government by Susan Michie, Charles Abraham and Nicky Rumsey focused on behaviour change to reduce behavioural risk factors for disease, such as smoking, low physical activity, alcohol use and ‘unhealthy’ diet. Amongst other things, they completed major reviews (Abraham & Michie, 2008; Michie et al., 2009) that contributed to the Wanless Report (2004; see tinyurl.com/62kks2s), and the Choosing Health public health White Paper (2004). Michie and Rumsey led the writing of the NHS Health Trainer Manual (2007) and the development and evaluation of the England-wide NHS Health Trainer Service. In Scotland, Diane Dixon and Marie Johnston were contracted to focus on the competencies needed by staff to deliver behaviour change programmes, and the work resulted in the Health Behaviour Change Competency Framework (2010; see tinyurl.com/628s68l). Health psychologists are also often asked to respond to NICE and government consultations both directly and through the DHP Specialist Knowledge List as part of DHP Publicity and Liaison. Health psychologists also serve on research and health committees including MRC, NIHR, NICE, Scottish Government Chief Scientists Committee.

**Teaching and training**

Health psychology is taught in undergraduate psychology courses, in postgraduate master's and doctoral courses and in training other health professions. To become a full member of the Division of Health Psychology and apply for chartered status a student needs a BPS-approved psychology degree, MSc in health psychology (Stage 1) and two years supervised practice thereafter (Stage 2). To practise health psychology, they also need to be registered with the HPC. Most university psychology departments were slow to recognise HP as a distinct area, and even now it is still relatively uncommon for it to be taught as a mandatory part of the undergraduate psychology degree. Nevertheless, there are now good textbooks, including several UK texts in more than one edition (e.g. Morrison & Bennett, 2006; Ogden, 2007).

In contrast to the patchy role of HP in the undergraduate curriculum, the UK has seen the strong development of postgraduate training, particularly in the form of master’s (Stage 1) programmes. From the first master’s courses in HP in 1988 (London, City and Surrey) rapid expansion has resulted in well over 20 accredited courses, plus a few doctoral-level professional HP courses. In 2007 the Scottish Government (NHS) supported the first funded Stage 2 trainee places in HP, and to date there have been 10 Health Psychologists in Training on this programme. However, it is not yet clear how the training and increasing roles for health psychologists will be funded in future.

The numbers of postgraduates undertaking PhDs in HP has risen very impressively over the past 25 years, and many of these also completed Stage 1 and 2 HP training, thus qualifying as BPS-accredited health psychologists.

On the basis of teaching and research, a number of university departments have developed strong HP research groups that have been influential in establishing the international recognition of UK HP research.

**Conclusions**

We have been mightily impressed by what has been achieved in HP from small beginnings. HP research has developed a large body of evidence with increasing sophistication of theory and methods used. Intervention development and evaluation is now on a more secure footing and looks promising for the future. We are increasingly called on as consultants or collaborators on programmes and projects where behaviour may influence health, illness or health care. Thus there continues to be a need for well-trained health psychologists and for other health professionals to have health psychology inputs.

The challenges lie in ensuring that professional commitments do not undermine our contributions to high-quality research, in enabling professional health psychologists to gain the posts that allow HP to make optimal inputs to health and health care and in continuing to integrate our work with that of other psychological as well as biomedical disciplines. We are confident that the current strength of health psychology can meet these challenges. This issue illustrates this, by asking top figures in the field to choose a significant contribution to the field and the health of the nation.

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Socio-economic status and obesity: epidemiology and explanations

Throughout much of human history, wealth has divided those who cannot afford to eat and those able to indulge themselves with a life of glutony and sloth. The 20th century marked a change in the implications of poverty in developed countries: intensive agriculture, effective food distribution and supply networks, low food prices and welfare provision have democratised access to energy-dense foods. The traditional association between low socio-economic status (SES) and leanness has disappeared, or even reversed. A review in 1989 confirmed the historical links between poverty and leanness in developing countries but showed that in developed countries, lower SES was associated with higher levels of obesity in women. Patterns in men and children were more inconsistent (Sobal & Stunkard, 1989). More recent reviews have showed that the inverse association between SES and weight now extends to children (Shrewsbury & Wardle, 2008). One challenge for health research is to explain why women's and children’s weights are socio-economically graded but men are less affected.

A possible mechanism behind the SES gradient is that obesity confers social disadvantage, leading to lowered SES. There is evidence that overweight young people, particularly women, have worse employment, income and marriage prospects, and are more likely to experience downward social mobility, than those who are thinner in early adult life (Gortmaker et al., 1993). A second possibility is that in contemporary industrialised countries, low SES confers a risk of becoming obese. Lower SES is linked to environmental risks, such as poorer access to healthy nutrition and active recreation, lower health literacy and higher levels of social stress. These factors should affect both sexes, but women may be more likely to conform to social norms for behaviours related to weight. Voluntary health behaviours that can affect weight, such as healthy eating and activity, are also socially patterned, and higher SES women express more concern about weight and diet than either men or women of lower SES (Wardle & Griffith, 2001). High SES women could be said to inhabit a microculture that places a high value on appearance and stigmatises overweight, motivating lifestyles that are less likely to lead to weight gain. They are also the group that have experienced the lowest gains in weight over the two to three decades of the ‘obesity epidemic’.

A third possible explanation is that genetic risk for obesity has become socio-economically distributed due to weight-related social mobility over generations; although there is no evidence to date that any obesity-related gene variants are linked to SES. However, it is clear that genes and environments must interact: genetic susceptibility to weight gain will be more strongly expressed in environments that facilitate overeating and inactivity. A study of genetic and environmental influences on weight has shown that thin parents in all SES groups are likely to have thin children, but obese parents in lower SES environments are more likely to transmit obesity to their children than obese parents in higher SES environment (Semmler et al., 2009). Environmental conditions linked with lower SES may therefore be more permissive of the expression of genetic vulnerabilities for weight gain. This leaves the question of why the SES gradient in weight in children resembles that of their mothers rather than their fathers. Maternal transmission of obesity risk is stronger than paternal transmission; that is, children’s weights correlate more strongly with their mothers than their father’s weight (Whitaker et al., 2010). This may reflect the fact that child feeding is a role predominantly taken on by mothers, and higher SES women’s concerns for dietary health, and the value they place on thinness, could influence their children’s weight through the home food environment that they create.

Explanations for links between SES and weight based on social mobility, lifestyle and expression of genetic susceptibilities are not mutually exclusive and are all likely to contribute to the socio-economic and gender inequalities in obesity.

References

Designing more effective behaviour change interventions

Behaviour change is important to health psychology practice and research. NICE have provided guidance on health behaviour change intervention (see Abraham et al., 2009, for an introduction to the guidance), and the House of Lords Science and Technology Committee has recently completed an inquiry into the use of behaviour change interventions by the government, to which the present UK government has responded positively. The content of behaviour change interventions is crucial to their effectiveness. Understanding what content is associated with effectiveness for which

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behaviours is fundamental to intervention design. Unfortunately, the absence of standardised definitions of behaviour change techniques (BCTs) included in interventions makes it difficult to specify exactly what was in an intervention and so impede accurate replication.

To help resolve this problem we developed a theory-linked taxonomy of 26 generally applicable BCTs. We found that these could be reliably identified across 195 published intervention descriptions. This work demonstrated the feasibility of developing standardised definitions of BCTs included in behavioural interventions so that intervention content can be directly compared and accurately represented. Our work also highlighted problematic variability in current reporting of behaviour change intervention content (Abraham & Michie, 2008).

We also found that when we compared descriptions in 13 journal articles with fuller descriptions of the same interventions in manuals, the latter included more BCTs. This was a worrying finding because it suggested that scientific reports may not fully convey the content of complex interventions. This warrants further investigation with larger samples.

In a subsequent study we used this taxonomy of BCTs to examine the link between content and effectiveness in interventions using behavioural and/or cognitive techniques to increase physical activity and healthy eating among adults. A meta regression of experimental and quasi-experimental evaluations of 122 interventions showed that the BCT ‘self-monitoring’, explained the greatest amount of heterogeneity of effectiveness. Self-monitoring involves the intervention participant becoming more aware of how they are currently behaving. This can facilitate evaluation of performance and new goal setting. Interventions that included self-monitoring or combined self-monitoring with a group of self-regulatory techniques derived from control theory (Carver & Scheier, 1982) were found to be more effective. This study showed that decomposing interventions into theoretically derived BCTs and conducting meta-regression enables identification of effective components of interventions (Michie et al., 2009).

Our initial BCT taxonomy has been developed and improved. In one development, we created a 40 BCT generic taxonomy in which BCTs are grouped into 11 sets according to the psychological changes they target. For example, different BCTs are used to change normative beliefs to those that are used to enhance and maintain self-efficacy (Abraham et al., 2012). This work shows how a mechanism-based framework of BCTs could be developed spanning ranging across the diverse set of BCTs that behavioural scientists use to promote behaviour change. This work is ongoing (Michie et al., 2011).

Work on BCTs has also highlighted the importance of routine care content. Imagine two randomised control trials comparing different novel interventions to routine care. The two studies report effect sizes of 0.3 and 0.2. We would usually conclude that the former intervention is more effective and recommend its adoption over the latter. However, this interpretation assumes that the routine care content relevant to the behaviour was identical. If, instead, the apparently less effective intervention was compared to very high-quality routine care while the other was compared to poor routine care, then the apparently less effective intervention may be the most effective! So the content of active control groups as well as interventions themselves is critical to understanding the results of trial data (de Bruin et al., 2010). These findings emphasise the need to use standard terms to describe the content of behaviour change interventions and active control groups. Doing so will enhance data synthesis, accelerate scientific understanding of behaviour change processes and help to ensure adoption of best practice.

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Healing talk

Effective communication can result in improved engagement with services/treatments, better prognosis and health outcomes, and increased patient satisfaction; poor communication leads to misdiagnosis and mismanagement, and is the cause of most patient complaints. How clinicians and patients interact influences their ability to understand each other, reach a diagnosis, choose and implement treatment. Stewart’s (1995) review showed that quality of clinical communication has an effect on patient outcomes including emotional health, pain control, symptom resolution and physiological measures such as blood pressure.

The past 25 years has seen a shift from a paternalistic doctor-centred model of care (the expert doctor uses their knowledge to make decisions for the passive patient) towards a patient-centred model, where patients’ opinions are valued and they are involved in treatment planning. Clinical communication is a growing field to which health psychologists contribute across the full spectrum.

Clinicians are cautious about addressing patients’ emotional concerns.
Illness cognitions influence how we interpret health threat information and predict health status, functioning and coping (Hagger & Orbell, 2003). By understanding these factors, consultations can be individually tailored and become more effective. An important application of this is adherence; approximately 50 per cent of medications are not taken as intended, with serious health and economic implications. Research (e.g. Horne et al., 1999) demonstrates that patients weigh up the necessities and concerns of treatments to reach decisions over their regime compliance and that deciding not to follow ‘doctor’s orders’ is a form of coping behaviour.

Clinicians are cautious about addressing patients’ emotional concerns; cues and concerns voiced in consultations are often missed or avoided by health professionals. They report lacking either the time or skill to deal with them. Conversely, evidence reveals that time spent responding to patients’ concerns can shorten consultations whilst increasing patient satisfaction.

Health care often involves complex information that needs to be communicated in a way that patients can understand and recall. Psychology informs us of the value of chunking information and making use of primacy/recency effects to ensure key points are remembered. Risk information is particularly challenging. To make informed decisions, people need to know what factors predict disease, their personal risk, and the risks associated with having (or refusing) treatment. Human interpretation of such information is often poor, and health professionals can also struggle to interpret and communicate risk data. Studying how patients process information means that health professionals can learn to explain risk in a patient-centred way.

Helping patients then change their behaviour (e.g. attend screening, exercise), is a complex communication task. WHO estimate that 60 per cent of mortality is associated with avoidable lifestyle behaviours (e.g. smoking, poor diet). Many health professionals feel inadequate in facilitating behaviour change: they want to protect the patient relationship and fear that raising challenging topics damages rapport. As behaviour change becomes a global health priority, improving clinicians’ skills becomes increasingly important. Recently, a taxonomy of effective health behaviour change techniques (Abraham & Michie, 2008) has helped to progress training in behaviour change talk, as it provides an accessible framework for conveying complex health psychology theory and evidence to non-psychology practitioners. All of this means that health psychologists play an important role in developing and delivering communication training. Doctors conduct around 100,000 consultations during their career. Clinicians can learn how to be flexible to a patient’s model, communicate information understandably, deal with emotions/concerns, and facilitate sustained behaviour change. This is not without challenges, as health professional curricula are still largely developed and delivered by clinicians/scientists unfamiliar with psychology who don’t always recognise its contribution.

Nevertheless there is increased involvement of health psychologists in curriculum development for medicine (Bundy et al., 2010) and similar developments are afoot for other health professionals’ training.

In conclusion, effective communication heals and clumsy communication can harm. Whilst the mechanisms by which clinician–patient communication predicts health outcome are only partly understood, health psychologists have informed the development of theory, intervention and training to equip clinicians to communicate more effectively with patients.

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Appearance and body image

Twenty-five years ago, there was a paucity of research into the psychology of appearance and body image. However, interest in this area has since increased rapidly, as demonstrated by the growing number of appearance-related papers published in psychology journals and, since 2004, the production of the international journal Body Image. Much of this work has been conducted by health psychologists interested in issues such as the role of appearance as a motivator for behaviours associated with health risks (including smoking, dietary restriction and sun tanning) and the psychosocial impact of disease and biomedical interventions that alter appearance. Research in this area has typically been segregated into that which focuses on visible difference (disfigurement) and that which deals with dissatisfaction with ‘normal’ appearance. However, two recent UK studies (both of which are the largest in these areas to date) have demonstrated that the issues facing these two groups are surprisingly similar.

Firstly, health psychologists recently developed the Body Confidence Test to accompany a Channel 4 TV series aired in February 2011. With over 74,000 responses to date, this has become the largest body image study in the world. The final results will highlight the nature and extent of appearance-related issues amongst men and women of different ages and backgrounds. Preliminary results from the first 23,886 respondents (21,387 women; 2,499 men) provide a snapshot of how British adults feel about their appearance and body image, and the impact of sociocultural influences. For example, 54 per cent of women rarely feel proud of their appearance and 56.6 per cent of men are often upset by their looks; 70.2 per cent of women and 41.5 per cent of men feel pressure from magazines and television to have a perfect body; 29.7 per
cent of women and 27.7 per cent of men reported pressure from friends to look attractive; and 23.8 per cent of women and 15.7 per cent of men often feel pressure from family to change their appearance (Diedrichs et al., 2011). Both men and women thought that increasing diversity in the body shapes and physical appearance displayed in the media would be the best way to promote a healthy body image.

Regarding the 1.1 million people in the UK living with a visible difference such as cleft lip and palate, burns scarring, skin conditions and altered appearance due to cancer treatment, the Appearance Research Collaboration (ARC) (a group including both health and clinical psychologists) recently conducted the largest multicentred study to date exploring the factors and processes facilitating adjustment to disfigurement (Rumsey et al., 2010). Many participants demonstrated positive adjustment, but more than 65 per cent had significant levels of appearance-related anxiety and social avoidance. However, as highlighted in previous research (Moss & Carr, 2004), adjustment was not predicted by demographic or condition-related factors. Instead, psychosocial factors (optimism, fear of negative evaluation, satisfaction with social support and feeling socially accepted) were key predictors, as was the importance (salience) that the individual places on appearance. All of these are amenable to interventions that focus on appearance-specific rather than generic factors that influence the variability in adjustment, provide a wealth of information from which new interventions can be developed to help people living with appearance-related concerns, and pinpoint where best to target these interventions to promote adjustment and positive body image. Members of the Centre for Appearance Research (http://hls.uwe.ac.uk/research/car.aspx) have therefore developed a stepped model including face-to-face, online and group interventions designed to ameliorate distress in individuals and promote a change in attitudes concerning appearance at societal level. These studies also emphasise the need for campaigning and education around body image issues. Furthermore, they have demonstrated the value of appearance-related outcome measures suitable for use with people with or without a visible difference (e.g. the Derriford Appearance Scale). Finally, the overwhelming response to these studies demonstrates how important body image and appearance are for the public, and how interested they are in taking part in research in this field.

Is ‘planning’ an ‘obvious’ way to change health behaviour?

A colleague (Stafford, 2007) has written about the dangers in considering the findings of psychological research ‘obvious’. To adopt the argument slightly, I think that many attempts to change health behaviour (only a fraction of which involve psychologists) are based on the ‘obvious’. Large-scale approaches to changing health behaviour have tended to centre around educating people about the health risks associated with the way they are acting. The rationale is ‘obvious’: people want to live longer healthier lives and the way to achieve this is to tell them that their current behaviour is not going to lead to a longer healthier life.

The problem, though, is that a majority of people are actually reasonably well-informed about health risks and are already generally motivated to engage in health behaviours. Based on my own research, I would estimate that 60–70 per cent of participants report being motivated to make – and feel capable of making – positive health behaviour changes. From the perspective of broad-brush public health campaigns, the implication is that there should be additional emphasis placed on translating this motivation into action. In terms of Gollwitzer’s (1999) model, we should be targeting the volitional phase, as opposed to targeting only the motivational phase as seems to happen at present.

‘Planning’ is one possible approach to tackling this issue: if a majority of people are motivated to act in ways that are beneficial to their health, then the gap between motivation and action might be explained by a lack of planning. However, research shows that the precise nature of the plan can exert a large influence on health behaviour change. For example, Armitage (2009) randomised participants who were...
drinking more alcohol than recommended by the UK government either to ‘plan’ to drink within government-recommended levels or to form plans by linking in memory critical situations with appropriate behavioural responses (i.e. form ‘implementation intentions’. Gollwitzer, 1999). The alcohol intake of participants who were asked to ‘plan’ decreased by 0.73 units of alcohol per day, but decreased by significantly more (by 1.37 units of alcohol per day) in the group who formed implementation intentions. In this study, then, implementation intentions—a very specific, well-researched kind of plan—exerted roughly double the effect of generic plans.

The question arises, though, as to how implementation intentions could be made into slogans or advertising materials that work on a larger scale. From this perspective, asking people to form their own implementation intentions is problematic for several reasons: (a) people generate many idiosyncratic critical situations and appropriate behavioural responses that will not generalise; (b) the administrator has little control over the quality of the implementation intention; and (c) the participant has to generate an implementation intention from memory.

This led me (Armitage, 2008) to develop a ‘volitional help sheet’, a tool that draws on Prochaska and DiClemente’s (1983) transtheoretical model to help people form implementation intentions (Gollwitzer, 1999). The volitional help sheet works by encouraging people to link situations in which health-risk behaviours might be triggered (i.e. ‘temptations’ from the transtheoretical model) with 10 core strategies by which health-risk behaviour is changed or health-protecting behaviour is sustained (i.e. ‘processes of change’ from the transtheoretical model). One advantage of this approach is that ‘successful’ implementation intentions could be extracted for use in future campaigns.

Armitage (2008) asked smokers to plan to quit using the volitional help sheet and randomised them to: (a) identify critical situations/appropriate behavioural responses (control group); or (b) draw a line between critical situations and appropriate behavioural responses (experimental group). The results showed that significantly more people quit in the experimental group (19 per cent) compared with the control group (2 per cent). Thus, simply planning to quit and identifying critical situations/appropriate behavioural responses was not sufficient to change behaviour—linking the two elements was crucial (Gollwitzer, 1999).

In conclusion, there is a danger in assuming that changing behaviour is ‘obvious’—even seemingly simple plans need careful formulation before they can exert strong effects.

References

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Health Behaviour Research Limited – making psychology available for public benefit

Only a fraction of health behaviour interventions in use in health services are based on psychological research, and only a fraction of interventions developed and evaluated by health psychologists are in use in health services. Academic psychology puts a premium on high academic impact publications from research, read by a narrow academic readership. There is little incentive and resource for translating research into practice.

The Applied Research Centre in Health and Lifestyle Interventions has pioneered the systematic development of interventions that meet known health service priorities, and where from the outset the requirements of the end user, including the funder of services for the end user, are factored into the design.

A step further in translating research into common practice is taken by making the product directly purchasable by end users. We are mindful that the most influential health psychology theory known to non-psychologists is the transtheoretical change model (TTM). This is because three decades ago the leading researchers, James Prochaska and Wayne Velicer, established a spin-out company from the University of Rhode Island (www.prochange.com). Products are derived from research funded via academic and commercial sources. From our experience of collaborating on a stages of change intervention (Wallace et al., 2007) we decided to adapt this business model to commercialise the interventions developed using a number of theoretical models. Health Behaviour Research Limited (www.healthbehaviourresearch.co.uk) began trading in 2007.

Using research from our own systematic reviews and primary research, we know that many women want to breastfeed, but feel unsupported by health services to do so. Clinicians complain their colleagues give conflicting advice and are poorly trained to support breastfeeding. Those who volunteer for training are the least likely to need it, as they assess themselves as more competent than their more reluctant colleagues (Wallace & Kosmala Anderson, 2007). Whether they are or are not more skilled is unknown, as this is never tested nor is their knowledge tested after they attend training.

We developed a system that would enable mass training, so creating a rapidly upskilled staff who can give consistent care to all mothers. We designed the assessment and training using principles from self-determination theory (Ryan & Deci, 2000) to support motivation to learn and practise new skills. Several hundred staff have now used our online unique breastfeeding knowledge test (CUBA – Coventry University...
Unexpected targets in treatment for chronic pain

Chronic pain is an important problem within health psychology. It is also a very large problem for those affected by it, and one that can lead to a great deal of suffering and disability. The role of health psychologists in relation to chronic pain is perhaps obvious, to find ways to reduce suffering and promote healthy functioning. One way to do this is to seek to reduce the pain, as pain and healthy functioning appear to be in an inverse relationship. This is an extremely natural way to frame the relationship between pain and functioning, and consistent with the perspective of most patients. At the same time this view appears to be at odds with the latest evidence from psychological studies of treatment outcome. So, what processes ought to be the focus in treatment for chronic pain?

A somewhat counterintuitive approach to chronic pain is demonstrated within acceptance and commitment therapy (ACT). ACT is an empirically based psychological intervention that uses acceptance and mindfulness strategies mixed in different ways with commitment and behaviour-change strategies, to increase psychological flexibility. In a small randomised trial of ACT for people with chronic pain from whiplash-associated disorders (Wicksell et al., 2008) participants in the ACT condition demonstrated significant improvements in disability, life satisfaction, fear of movement and depression, and, notably, no improvement in pain intensity. Follow-up analyses showed that it was not changes in pain, anxiety, depression or self-efficacy that mediated treatment results. These results were mediated by the theoretically specified process from ACT, psychological flexibility (Wicksell et al., 2010).

A larger study done in the UK looking at a group-based form of ACT actually showed a medium-sized effect on pain (d = .50), although this was among the smallest effects apparent at post-treatment. Additional analyses examined variance in the degree of participants’ improvements at follow-up. These revealed that changes in pain during treatment played only a minor role in improvements achieved in depression, anxiety, physical disability and psychosocial disability, while changes in aspects of psychological flexibility appeared significantly more important (McCracken & Gutiérrez-Martínez, 2011).

Psychological flexibility is, loosely, the capacity to accept or to be open to psychological experiences, to be aware and present focused, to choose one’s directions according to one’s values, and to take action depending on what the situation affords. This is a process in the interaction of direct experience with cognitive processes in which the constraining effects of the cognitive influences on behaviour are minimised. This process derives from the therapeutic model of ACT.

There are now numerous studies showing that chronic pain does not need to change for the lives of the people who suffer with it to change for the better. Other intriguing findings show that changes during treatment in physical strength appear less important than psychological processes related to avoidance, and adherence to trained ‘self-management methods’ during treatment appear to show little relationship with treatment outcome, a puzzling if not provocative finding.

The more one looks at processes in treatment the more one is surprised that the expected processes do not appear to be at the core of how people shift from patterns of suffering and disability to patterns of healthy engagement and activity. The key processes appear to focus less directly on symptoms and less on control, and more on acceptance and the psychological contexts around symptoms and suffering. Processes like these are emerging across a wide range of health conditions that fit squarely within the scope of health psychology, conditions such as chronic pain, epilepsy, obesity, diabetes, smoking, insomnia, cancer, and end of life (McCracken, 2011). They seem to mark a significant shift in approaches to chronic conditions in particular, including

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Are illness representations key?

In the 1980s Howard Leventhal and his colleagues published a series of papers on the common-sense model of the self-regulation of illness behaviour (see Cameron & Moss-Morris, 2010, for review). This model specifies that individuals hold cognitive representations of their illnesses that include beliefs about the identity, cause, timeline, consequences, cure/controlability and cause of their conditions. They also have emotional responses or emotional representations of their illnesses which influence, for example, whether they seek medical help or adhere to treatment recommendations. A substantial literature has emerged over the past two decades showing that illness representations are associated with a variety of patient outcomes including psychological adjustment and illness severity.

We wanted to see whether illness representations could actually predict who develops a chronic illness in the first place. Functional somatic syndromes such as irritable bowel syndrome (IBS) and chronic fatigue syndrome (CFS) provide a unique opportunity to investigate this possibility. Biopsychosocial models of these syndromes suggest that biological factors such as acute infections and injuries precipitate these conditions, whilst patients’ negative interpretations of the acute illness serve to maintain or perpetuate the symptoms. In turn these negative beliefs direct ways of coping, such as avoiding activity, or engaging in bursts of activity followed by periods of prolonged rest. These behaviours ultimately maintain symptoms, confirm beliefs that the illness is chronic, uncontrollable and serious, and lead to ongoing disability (Moss-Morris, 2005).

To test this model, we recruited 620 people from primary care with a positive test for Campylobacter gastroenteritis, a nasty form of food poisoning, and no previous history of any bowel conditions (Spence & Moss-Morris, 2006). Participants completed a series of questionnaires at the time of infection, including the Revised Illness Perception Questionnaire (IPQ-R). IPQ-R subscales measuring beliefs about how long they thought the illness would last, how serious they believed the consequences of the illness to be, and how emotionally distressed and puzzled they were by their illness were combined to form a negative illness representation score for each individual. Patients who had more negative beliefs about their food poisoning episode at the time of the acute infection were significantly more likely to go on to develop IBS three months later and to still have IBS symptoms six months later.

In a similar study we showed that people who developed CFS after an episode of infectious mononucleosis (glandular fever), perceived their acute illness as a serious, distressing condition that will last a long time and is uncontrollable (Moss-Morris et al., 2011). People who developed CFS also held a stronger illness identity; that is, they ascribed a number of daily physiological complaints to their glandular fever. More recently, we investigated perceptions of injury in a cohort of patients who had just experienced a mild traumatic brain injury (Hou et al., in press). All patients had the same level of mild concussion but 22 per cent went on to develop postconcussional syndrome (PCS), a diagnosed symptom cluster including headache, dizziness, fatigue, irritability, concentration difficulty, memory impairment and insomnia. The strongest predictor of the development of PCS six months post-injury was patients’ negative perceptions of their acute mild head injury.

These results have important clinical implications. Negative illness representations were a consistent predictor of all three syndromes, together with anxiety and the tendency to engage in bursts of activity followed by periods of prolonged rest (all-suffering behaviour). Early interventions targeting negative illness representations and associated behaviours may prevent the onset of chronicity in patients with known precipitants of functional syndromes.

We already have evidence that altering illness perceptions is an effective treatment mechanism for reducing symptom severity. In a randomised controlled trial of cognitive behavioural therapy for multiple sclerosis fatigue, we showed that patients in the CBT arm developed more positive representations of their fatigue, which in turn mediated the reduction in the severity of fatigue (Knoop et al., 2011). For people with more acute symptoms, we may be able to use more straightforward brief interventions to prevent the onset of these debilitating symptoms.

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What’s stress got to do with it?

E cclesiastes tells us that ‘there is nothing new under the sun’, and it is certainly true that the idea that the mind and body may be connected has been around for a long time. But a chance discovery in the 1970s revolutionised our understanding in this area. Ader and Cohen were seeking to produce a taste aversion response in animals trained to associate saccharine (conditioned stimulus) with an immunosuppressant substance known to produce nausea and vomiting: cyclophosphamide (unconditioned stimulus). However, in their early trials they noticed a significantly higher mortality rate in the animals exposed to the unpaired saccharine. This observation led them to wonder whether they had inadvertently conditioned their animals to suppress their immune systems. They tested this seemingly outrageous proposal by conducting a further conditioning experiment in which they also assessed the immune system. Ader and Cohen reported that, even after a single exposure to the conditioned stimulus (i.e. saccharine), these animals displayed evidence of significant immune suppression. Suddenly, behaviourally conditioned immune suppression was a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind can affect the body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to a reality, and tangible proof that the mind and body are connected was presented to.
intervention to be programmed individually by software developers – a laborious and costly process that results in an intervention that then cannot easily be modified. However, over the past three years the LifeGuide team, led by University of Southampton, has overcome this problem by creating free, open source software that can be used by people without a programming background to build and modify their own web-based interventions and easily adapt them for use in different contexts. The LifeGuide Community (which anyone can join, simply by logging onto www.lifeguideonline.org) already has over 500 members worldwide who are interested in creating their own interventions, ranging from postgraduate students to leading international researchers. LifeGuide interventions now being developed and trialled include interventions to help people to lose weight, increase their physical activity, stop smoking, and prevent or self-manage colds and flu (Yardley et al., 2010), bowel symptoms, high blood pressure, eczema and stroke.

LifeGuide is particularly useful for international collaboration, as interventions can be copied and then modified for different countries. For example, hundreds of GPs from the UK, Spain, Belgium, the Netherlands and Poland are currently recruiting thousands of patients in an EC-funded LifeGuide intervention to reduce antibiotic prescribing rates across Europe; this has involved translating the webpages into five different European languages and altering text to suit local customs and preferences. As this example illustrates, a scientific advantage of web-based interventions is that they can facilitate cost-effective automated collection of very large data-sets, providing sufficient statistical power to permit sophisticated analyses of the mediators and moderators of interventions – allowing us to find out what works for whom.

A particularly interesting finding from the review of web-based interventions cited above (Webb et al., 2010) is that digital interventions appear to be more effective if they use more ways of interacting with the user, by e-mail and text messages (e.g. to motivate and cue behaviour). Increasingly, internet users are turning to mobile phones to provide the information and support they need where and when they need it. Previously, digital

References


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Helping people to walk more

Guidelines for good health encourage regular physical activity of moderate intensity (i.e. sufficient to get a person slightly out of breath). Brisk walking is a form of moderate physical activity that is especially acceptable to populations who are the most physically inactive. It does not have to be scheduled, nor does it require any special clothes or equipment, so it is very low cost.

Although there have been many studies demonstrating that interventions can successfully increase walking, they have largely been devoid of theory. Consequently there is a limit to how much evaluations of these interventions can inform the development of future interventions: they provide little information on why these interventions work or do not work. We have developed and evaluated an intervention to help adults increase their walking, based on the theory of planned behaviour, a generic model of human behaviour that has been used in literally hundreds of studies. This theory was extended to include consideration of volitional processes, specifically how to help people translate their ‘good’ intentions into action.

Extended developmental work using this theory identified that the strongest predictor of intentions to walk more was self-efficacy – the degree of confidence a person has that they can successfully carry out a behaviour (in this case walking). Thus, the people who most intended to increase their walking were those who felt most confident that they could walk more, not those who thought they would enjoy it, or who thought that it would be good for their health. Further, the most common reasons why the general public gave for why it would be easy or difficult to walk more concerned (lack of) time (Darker et al., 2007).

Our intervention therefore had the overall strategy of changing this belief about not having enough time to walk more, thereby
increasing self-efficacy for walking and, in turn, increasing walking. To bring this about, we used techniques that aimed to elicit from participants their own reasons why they could walk more, (e.g. by asking them to think of times when they found it easy to walk, and what are the factors that make it easier for them to increase their walking). The final intervention consisted of a structured set of six techniques, with each participant providing their own reasons why it would be easy for them to walk more, including prompts to translate participants’ intentions to walk more into concrete plans about how exactly they would do this additional walking, and how they would bring about factors that they had identified as making it easier for them to walk more.

An evaluation of this intervention found that it had large effects on the walking behaviour of 130 volunteers in Birmingham, as assessed by pedometer (Darker et al., 2010). These increases were maintained for the follow-up period of six weeks. Further, the effects of this intervention on objectively assessed behaviour were mediated by self-efficacy, in line with theory. These large effects on walking have since been replicated when the intervention was delivered by a different person to volunteers in London (French et al., in press).

The approach we have taken to helping people increase their walking has been successful, at least in the short term. We are now examining whether this intervention works in the long term when delivered in primary care. To optimise our chances of success, the intervention has since been refined, informed by a systematic review of what is the best way of increasing self-efficacy for physical activity (Williams & French, 2011), and extended developmental work with practice nurses and patients in primary care, to increase acceptability to both recipients and providers (French et al., 2011). We are continuing to adapt this intervention for other specific groups, such as people who recently experienced a stroke.

We believe this work demonstrates the importance of a systematic approach to developing interventions to change health-related behaviours, underpinned by explicit psychological theory.


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Practitioner Doctorate (PsychD) in Psychotherapeutic & Counselling Psychology

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