Editorial

Current issues and new directions in *psychology and health*: What happened to behaviour in the decade of behaviour?

MARIE JOHNSTON[1] & DIANE DIXON[2]

[1]*Institute of Applied Health Sciences, University of Aberdeen, Scotland, UK and*
[2]*Department of Psychology, University of Stirling, Scotland, UK*

Abstract
This editorial addresses two key aspects of the investigation of behaviour: the science and the application. On the one hand, researchers and policy makers recognise a need for good scientific evidence about behaviour and behaviour change, but are slow to turn to psychology for such evidence. On the other hand, there is a gap in scientific thinking about behaviour and behaviour change.

Behaviour is recognised to be important for health

The importance of behaviour for health and healthcare has clearly been established and even recognised to have importance at government level. It has been argued that 48% of deaths in the USA are attributable to behaviour, the 'all consequence' behavioural risk factors being smoking, physical activity, dietary behaviours and alcohol intake. Doll and Peto (1981), in evaluating the potential for preventing cancers, suggested that up to 70% of cancers had behavioural factors as causes.

Additionally, behaviour is involved in the translation of biomedical findings into applications. Biomedical science and health services research identify evidence-based practice, but implementation is slow, because of the behaviour of those planning and delivering health services. Clinical studies demonstrate treatments to be effective, but patients may not use or adhere to recommended treatments.

Where clinical interventions are delivered, the outcomes are frequently evaluated in terms of patient activity limitations and restriction in participation (World Health Organisation, 2001). As Kaplan argues (Kaplan, 1990), the key outcomes are behavioural and, for example, death is important not as a physiological event but as the cessation of behaviour.

But (health) psychology is not recognised to be important for behaviour

Astonishingly, investigation of these issues frequently occurs without input from psychology, despite the discipline being defined as 'the study of the mind and behavior . . . the understanding of behavior being the enterprise of psychologists' (American Psychological Association, 2007) and health psychology as 'the study of psychological and behavioural processes in health, illness and healthcare' (Johnston, 1994a, p. 114). Psychology and health psychology should be supplying the fruits of that science: theory of behaviour and behaviour change plus methods of measurement and intervention.

However, major government-funded studies of behaviour change in the context of coronary heart disease used no theoretical models or evidence-based methods of changing behaviour (Johnston, 1995). Indeed the reporting of such studies says little about the actual techniques used to change behaviour. Even where there are good protocols, experts rate their confidence in replicating the methods to be low (Michie et al., in press). The lack of a theoretical basis for interventions prevents the development of cumulative knowledge. For example, a review of 235 rigorous evaluations (reporting 309 comparisons) of behaviour change interventions for health professionals showed modest effects but, since the interventions were largely based on intuition, could not identify common factors in effective interventions (Grimshaw et al., 2004) and as a result could not offer a recommendation for implementing the required behaviour changes.

This is not to argue that psychology has exclusive expertise in behaviour, but rather that we are failing to be recognised by the public, policy makers and researchers in related disciplines as having any expertise in that domain of knowledge. While people use various amateur or 'common sense' inputs in mending a leaking pipe, solving financial problems, or treating a child's fever, when they need expertise they turn to plumbers, bankers or economists and doctors or healers. By contrast, psychology does not appear to have captured a market in expertise in behaviour.

How do (health) psychologists behave about behaviour?

This may be due to some extent to how we as psychologists behave about behaviour. Yardley and Moss-Morris (2007) argue that we should communicate more effectively about the theoretical constructs we use, without unnecessary over-simplification, and this is undoubtedly important. Michie, Rothman, and

Sheeran (2007) emphasise the need for development of good theory of behaviour change and the processes required to achieve this.

However perhaps more fundamentally, it is not clear that we recognise 'behaviour' as a theoretical construct. In health psychology, theories focus rather more on the intra-psychic phenomena (Ogden, 1995) – thoughts and emotions – that may determine behaviour, rather than on the behaviour *per se*.

Do (health) psychologists recognise the importance of behaviour?

Behaviour is clearly important – for example, in Psychology and Health in 2006, observable behaviour was investigated in at least 38 of the 45 empirical papers. However, we do not use a coherent language – we tend not to call behaviour 'behaviour' – but use diverse labels referring to specific forms and contexts, e.g. smoking, diet, exercise, walking, condom use, sleeping, drop-out, participate, uptake, adherence, delay, referral, prescribing, taking medication, taking a screening/genetic test, implementation, coping, help-seeking, social support, evidence-based practice, absenteeism, pain, disability/physical limitations, activities of daily living, participation in social activities, substance use, etc. While accurate in themselves, these labels may fail to attract the benefits of using the label 'behaviour', both in communicating to our potential market and in gaining the insights offered by theories of behaviour. So, for example, when lung cancer was attributed to tobacco, solutions were sought in developing alternative ingredients for cigarettes, e.g. filter tips, low tar; but when attributed to behaviour, the solutions required understanding behaviour. Similarly, in introducing the phrase 'pain *behaviour*', Fordyce opened up new approaches to dealing with pain and, more generally, the conceptualisation of disability as behaviour opens up new methods of reducing activity limitations (Johnston, 1994b). More recently, the professional practice of clinicians has been recognised as a form of human behaviour. This has enabled theories of behaviour change to inform implementation research that aims to change health professional behaviour in line with evidence based practice. For example, dentists' behaviour in taking oral radiographs was predicted by perceived behavioural control cognitions, risk perception and action planning (Bonetti et al., 2006).

We have too many theories of behaviour

Many psychological theories explain behaviour – a consensus group recognised at least 33, with over 130 theoretical constructs (Michie et al., 2005) in the context of professional behaviour. In spite of this, it was possible to identify 11 theoretical domains describing the determinants of behaviour with considerable overlap to the domains identified by Fishbein et al. (2001) in the context of HIV/AIDS prevention. Labelling phenomena such as exercise, coping, treatment, adherence and implementation as 'behaviour' taps into these theories for explanation. Failure to use the label results in apparently innovative theory, but more usually

in 'rediscovering the wheel' or creating theoretical constructs which are only contextual variants of those that have already been well developed. One reason for the under use of psychology to address social and health problems has been this proliferation of theory that has not benefited from a cumulative scientific approach. Each of the new behaviour investigated should not require a new theory.

There is still a problem in choosing theories for specific contexts and our choice of theory may tend to reflect stereotyped thinking as much as scientific evidence. For example, explanations of professional behaviour are usually sought in skill/knowledge or environmental domains, while the behaviour of people with chronic illness is more often explained by emotions and control beliefs. There is no *a priori* reason to expect this kind of separation and much to be gained by examining or obtaining evidence. Further, theories do not necessarily specify their range of applicability; this is in part because we have not done the fundamental work in characterising behaviour in such a way that it could assist in this specification. Many of the descriptors used, e.g. volitional or automatic, signal the determinants of the behaviour rather than the behaviour *per se* and in doing so indicate the kind of theory that might be relevant.

Classifying behaviour

Given the importance of behaviour to our discipline, we have done remarkably little to classify or categorise behaviours in a form that would assist theory development and selection. Chemistry gained by classifying chemicals in the periodic table, biology by Linnaeus's classification of plants and medicine by the classification of diseases; and these disciplines continue to maintain nomenclature committees to ensure consistent and unique labelling, e.g. of newly discovered proteins. Can we progress without classifying behaviours? How do we decide that a theory that was found to apply to behaviour A is applicable to behaviour B? This requires that we can decide whether A and B are the same type of behaviours and this in turn requires some form of classification of behaviours. Or we assume that it applies until the limits of the theory are found; so for example, Skinner's operant learning approach was successful over a wide range of behaviour though not so successful when applied to linguistic behaviours.

The opportunity

There is clearly a need for the application of a science of behaviour in the domain of health and anticipated opportunities for development of that science. The American Psychological Association (in collaboration with the US National Science Foundation) has recognised this as a scientific field with capacity for immediate progress in labelling the decade 2000–2010 as the Decade of Behaviour. For health psychology to be recognised as having a contribution to make in understanding and changing behaviour for improved health and

healthcare, we argue that we need to label behaviour 'behaviour', to use the existing theories of behaviour to explain behaviour and to guide behaviour change, and to invest in a cumulative rather than in proliferative science. In developing the application of our science, the only behaviour we can change is our own!

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