



Behavioural sciences and dentistry

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The behavioural sciences comprise those disciplines which are concerned with the systematic observation and analysis of the behaviour and thoughts of human beings. Other organisms may, of course, be relevant insofar as they inform this understanding. With such a broad definition, it is difficult to envisage any aspect of human behaviour and thought which is excluded, and therefore it is not surprising that the field of dentistry has seen a growth in studies incorporating the behavioural sciences. Lois Cohen in 1981 stated: '...we are far from the ultimate goal of the social and behavioural sciences in dentistry – that of understanding, explaining, and predicting oral health behaviour',¹ and went on to identify the following areas within which the behavioural sciences could contribute to that goal:

- Application of social survey technology; namely, the public opinion poll, questionnaire construction and analysis
- Development of health education research, primarily that concerning influences of mothers on children and pressures of peer groups for conformity
- Orientation towards problem analysis and problem solving in human relations
- Management by objectives and education by objectives, particularly in relation to

dental curricula and the use of dental teams for treating patients

- Testing procedures for recruitment of personnel and criteria for selecting dental and auxiliary students
- Application of situation analyses to facilitate planning for large public efforts, such as community water fluoridation and national delivery of health care.¹

Some 40 years later, the Behavioural, Epidemiological and Health Services Research group of the International Association for Dental Research came together in a summit to explore the future priorities for behavioural and social research in dentistry, culminating in a consensus statement endorsed by over 400 individuals and groups involved in dental research and practice. Under the leadership of Dan McNeil and Cameron Randell, the group identified four main 'areas of emphasis':

1. Behavioural and social theories and mechanisms related to oral health
2. Use of multiple and novel methodologies in social and behavioural research and practice related to oral health
3. Development and testing of behavioural and social interventions to promote oral health

4. Dissemination and implementation research for oral health.²

Comparing the two lists, we see several shifts, most notably from specific topics to a more general development of an approach to addressing issues of importance in dentistry (and more generally in healthcare). This may reflect the increasing understanding of the enormous scope of the behavioural sciences, and therefore rather than produce a list that would inevitably exclude some topics, the approach is to focus on developing the theoretical and methodological approaches to the systematic observation and analysis of issues in dentistry.

There is also a development from the contribution of behavioural and social sciences to dentistry (behavioural sciences for dentistry); what Exley³ has termed behavioural sciences 'of oral health and healthcare' (I have added the emphasis and broadened the scope of her argument from sociology alone to the wider behavioural sciences). Within the traditional areas of social disparities in health, there have been advances in incorporating social, mid-level and individual-level theory into our understanding, as well as methodological and epistemological advances. With this increasing sophistication, we are driven to develop more sophisticated measures of key constructs,

complex statistical modelling and qualitative approaches.

Perhaps most relevant to the readers of *Evidence-Based Dentistry* have been developments in our understanding of the implementation of best practice in healthcare. There is a growing understanding of the necessity to understand the determinants of the adoption of evidence-based and best practice in healthcare, and an acknowledgement that approaches such as the passive dissemination of information and the production of guidance documents while necessary are certainly not sufficient to induce behaviour change among healthcare professionals. The most comprehensive model of behaviour change to date has been provided through the work of Susan Michie *et al.* in a series of developments.^{4,5,6} The model starts with a simple three-element overview – suggesting that in order to change behaviour, we need to consider capability, opportunity and motivation, termed the COM-B model.⁴ These elements are expanded in the ‘Behaviour Change Wheel’ to demonstrate how each can be influenced by interventions operating at a societal or individual level.⁴ Expanding on this, the team have identified a ‘Theoretical Domains Framework’ which explores the enablers and barriers to change – comprising 14 domains: knowledge; skills; social/professional role and identity; beliefs about capabilities; optimism; beliefs about consequences; reinforcement;

intentions; goals; memory, attention and decision processes; environmental context and resources; social influences; emotions; and behavioural regulation.⁵ Finally, the ‘Behaviour Change Taxonomy’ identifies 93 strategies suitable for creating behaviour change.⁶ For a summary of these approaches and their application in dentistry, see Asimakopoulou and Newton.⁷ The approach to changing behaviour is of necessity sophisticated and complex – reflecting the very nature of behaviour. Creating behaviour change such as the introduction of new ways of practising healthcare is challenging and complex, and requires in-depth exploration and analysis. It is a field of science in its own right. There is unlikely to be a simple ‘one-size-fits-all’ approach. It is incumbent upon us to be aware of such complexity, and while simple models of behaviour change have attractions,^{8,9} those implementing system change need to be aware of the limitations of such models and if necessary explore the wider barriers, enabling factors and techniques to promote positive change.

On 1 April 2022, I celebrated the 30th anniversary of my appointment as Lecturer in Psychology as Applied to Dentistry. Those 30 years have been a time of developing understanding of the critical role of behavioural sciences for and of dentistry, both personally and for the discipline. I have

also seen an increasing number of social and behavioural researchers become interested in the field of dentistry and I am excited and delighted at the prospects for the future of this important work.

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