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Introduction to health psychology

Health

Health psychology is the study of the relationship between behaviour and health including our intentions and norms. However, in order to understand health psychology, we must first understand **health**. This is not as straightforward as it may at first seem. Health is a dynamic concept – if we look back over time we can see clear, marked changes in the way that health has been understood.

Historical perspectives on health and illness

Concepts of health have fluctuated greatly over time. For example, there is evidence that during the Stone Age (10 000–2000 BC), ‘evil spirits’ were seen as a cause of ill health. Across time, we have seen religious explanations for health, resulting from favour or punishment from God, predominating through Ancient Hebrew (100–300 BC) and early Christian (600 AD) belief systems (Magner, 1992).

In contrast, Greek physician Hippocrates (460–370 BC), credited with the Hippocratic Oath, argued that health depended on balance between bodily fluids or ‘humours’. He believed that the mind and body were one, and that external pathogens could lead to humour imbalance, and in turn, ill health (Franco & Williams, 2000; Jackson, 2001). Hippocrates’ ideas were later supported by Galen (129–199 AD), who believed that temperament was a product of bodily humours, and that people with different temperaments may be differentially susceptible to illness (Jackson, 2001; Stelmack & Stalikas, 1991). However, this was not an acknowledgement of the psychological impacting on the physical. Rather, temperament and illness were both seen as a reflection of the same underlying physical cause – the change in bodily humours.

Indeed, the mind–body relationship (the role of the psychological and the physical) is a central concept, which is continually revisited throughout definitions of health and illness. French philosopher Descartes (1596–1650) argued that the mind and body

were separate. This is the concept underpinning dualism – that the body is visible and material, and is distinct from the mind, which is invisible and insubstantial (Duncan, 2000; Sullivan, 1986). It has been argued, although not by all authors (Duncan, 2000), that this led to conceptions of the body as a machine, and medical professionals became primarily responsible for the workings of the machine. In contrast, issues of the mind were the domain of spiritual experts. We can view this as the foundation for the **biomedical model of illness**, which was also highly influenced by Virchow, the ‘father of pathology,’ who argued that all disease is the result of abnormal changes to the cells (Magner, 1992). The biomedical model is founded on several tenets (Wade & Halligan, 2004, p. 1398):

- All illness and all symptoms and signs arise from an underlying abnormality within the body (usually in the functioning or structure of specific organs), referred to as a disease;
- All diseases give rise to symptoms, eventually if not initially, and although other factors may influence the consequences of the disease, they are not related to its development or manifestations;
- Health is the absence of disease;
- Mental phenomena, such as emotional disturbance or delusions, are separate from and unrelated to other disturbances of bodily function;
- The patient is a victim of circumstance with little or no responsibility for the presence or cause of the illness; and
- The patient is a passive recipient of treatment, although cooperation with treatment is expected.

The biomedical model has been associated with enormous advances in healthcare. In focusing on the cause of the disease, biomedical science has produced antibiotics, vaccines and countless pharmacotherapies, which have led to substantive reductions in infectious illness (e.g. smallpox) in many societies (Magner, 1992). In Australia, the biomedical model has led to a dramatic shift in the healthcare landscape. In the 18th and 19th centuries, dietary and infectious illnesses such as tuberculosis, diphtheria, measles and influenza represented the primary healthcare burdens. With biomedical reductions in these causes of illness and death, in combination with changes in lifestyle, the majority of the healthcare burden is now driven by chronic illness including cardiovascular disease, diabetes, obesity, cancer and mental health conditions (AIHW, 2011, 2014a, 2014b). Importantly for health psychology, some of the key risk factors for these illnesses are behavioural. In particular, smoking, excessive alcohol consumption, poor diet and physical inactivity are critical and ubiquitous risk factors for chronic illness (AIHW, 2015). In Australia, the contribution of sun exposure to skin cancer risk must also be acknowledged (Chen, Halliday & Damian, 2013). Other behavioural factors, such as sleep loss and disruption of our daily rhythms, are becoming increasingly recognised as risk factors for health (Knutsson, 2003; Rajaratnam & Arendt, 2001). The elevated risk of chronic illness with increasing stress (including stress resulting from job insecurity, burnout, marital/family discord, financial stress and trauma) is also a prominent concern for health psychology (Rozanski et al., 2005; VanItallie, 2002).

These issues are addressed in the following chapters in this book:

Chapter 5: Nutrition, exercise and health

Chapter 6: Sleep, sleep loss, safety and health

Chapter 7: Health risk behaviours: alcohol, drugs and smoking

Chapter 8: Stress and managing stress

Chapter 9: Lifestyle-related chronic illnesses (CVD and T2D) and depression

Chapter 10: Experiencing cancer: an acute and chronic condition

In addition, there are demographic, social, cultural and political risk factors (AIHW, 2015). For example, life expectancy has been estimated at 56 years in male and 63 years in female Indigenous Australians, compared to 76.6 years and 82.1 years for non-Indigenous males and females respectively. These disease-specific discrepancies in mortality rates are higher in Australia than in New Zealand, Canada and the US (Bramley et al., 2004). Such inequalities have been highlighted globally as a matter of social justice.

There is no necessary biological reason why life expectancy should be 48 years longer in Japan than in Sierra Leone or 20 years shorter in Australian Aboriginal and Torres Strait Islander peoples than in other Australians. Reducing these social inequalities in health, and thus meeting human needs, is an issue of social justice.

(Marmot, 2005, p. 1103)

These issues are addressed in the following chapter in this book:

Chapter 12: Health inequalities

Interestingly, the absence of a concept of biomedical mind–body dichotomy has been discussed as one of the potential barriers to engaging Indigenous Australians in mental health services. Descriptions of Indigenous concepts of health include more holistic beliefs, and can encompass an understanding that ‘things aren’t well’ without specific reference to physical and mental injury. This approach to health goes beyond the biomedical, involving not only interpersonal and cultural factors, but also environmental and historic factors in a multifaceted, interconnected understanding (Westerman, 2004; Ypinazar et al., 2007), with a well-established, widely practised pharmacopoeia (traditional medicine practice) (Best & Fredericks, 2014).

This highlights the importance of **cultural competence** (understanding and consideration of diverse cultural needs; Douglas et al., 2014), **cultural sensitivity** (putting this understanding into practice as a foundation for an effective therapeutic relationship; Fleming & Towey, 2001) and avoiding, at all costs, **ethnocentrism** (the belief that your own culture is somehow superior; Jones & Creedy, 2012). In the Australian

context, this includes recognising multiple Indigenous communities with unique cultural practices as well as shared concepts such as the importance of country, elders, ancestors and storytelling (Australian Government, 2015). These ideas extend to the recognition of the many cultural groups in Australia in order to promote cultural safety in healthcare practices, respecting cultural diversity and maintaining cultural integrity at all times (Schnierer, Ellsmore & Schnierer, 2011).

These issues are addressed in the following chapter in this book:
Chapter 13: Cross-cultural psychology

Therefore, it is clear that while genetic and medical risk factors for chronic illness are still important, there is a spectrum of factors that are of central relevance in the current healthcare climate that go beyond biomedical explanations. For these reasons, the biomedical model has been heavily criticised and best practice in healthcare now includes understanding the personal and social context, rather than simply the physical condition (Wade & Halligan, 2004). In other words, we need to acknowledge the psychosocial context – *there has never been a more important time for health psychology!*

The biopsychosocial model

The **biopsychosocial model** builds on the very successful, but increasingly limited, biomedical model by explicitly acknowledging that the biological factors that we know are important (such as genes and physiological dysfunction) interact with psychological factors (such as experience, behaviour patterns, thoughts and emotions) and social factors (such as family, friends, community and societal context) (Figure 1.1). This not only considers how illness is generated, but also how it is experienced and treated.

This is not a new model, but the inclusion of biopsychosocial practices in healthcare – this evolution from the biomedical approach – is still occurring after many decades.

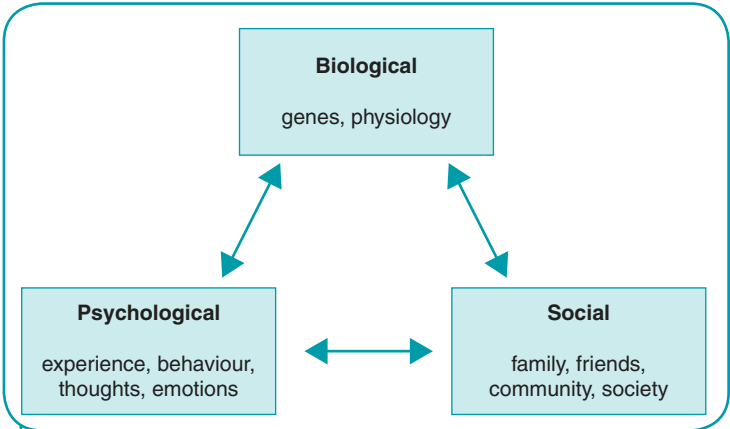


Figure 1.1 The biopsychosocial model of health
Source: adapted from Engel, 1977

In 1977, George Engel published an article in *Science*, one of the leading international journals, arguing for the importance of the biopsychosocial approach. It is recommended reading, especially highlighting the development of biopsychosocial understanding over time (when reading the article, note the gendered language referring to the doctor as 'he'). Engel spoke about the paradox whereby a patient could be provided with a test that shows that they are sick without expressing any feelings of being sick, or a patient could feel sick and seek help from a doctor without any clear underlying physical causes. He also described the interesting example of grief, which can manifest in many debilitating physical symptoms, even without the patient being conscious of the link between their experience, their emotions and these physical consequences. He argues that 'the physician's basic professional knowledge and skills must span the social, psychological and biological, for his decisions and actions on the patient's behalf to involve all three' (Engel, 1977, p. 133). He also noted the importance of referral to relevant allied healthcare professionals, highlighting multidisciplinary healthcare.

Another clear example of biopsychosocial interactions in healthcare is pain. Pain may have a clear biological cause (e.g. broken arm), pain may be experienced in the body in a different location from an injury (e.g. referred pain), or there may be no obvious insult or injury in the body (e.g. phantom limb pain). In all cases, the brain is interpreting signals to produce a pain signal that we experience. Even in the case where pain has an obvious physical cause, we know that the experience of pain can be influenced by psychosocial factors (e.g. focus, **anxiety**, social context and beliefs about the cause and meaning of the pain) (Loeser & Melzak, 1999).

These issues are addressed in the following chapter in this book:

Chapter 11: Pain and its optimal management

What you can see from this discussion is that these models reflect changing understandings of what is meant by 'health'.

Evolving definitions of health

The biomedical approach to health as the absence of disease or illness is inadequate in this context. A definition consistent with the biopsychosocial model that is frequently cited in the current literature comes from the World Health Organisation (WHO, 1946): 'health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity'.

In this definition, it is clear that health is not simply considered as a binary (healthy/sick), and specifically includes mental and social factors. Consistent with the WHO definition, health has been conceptualised on a continuum (Roscoe, 2009). This acknowledges that at any point in time, a person is in a dynamic state of health that is somewhere along this continuum from death through to optimal wellness (Figure 1.2). Consider the example of the high school student who has no current medical diagnoses, is involved in many

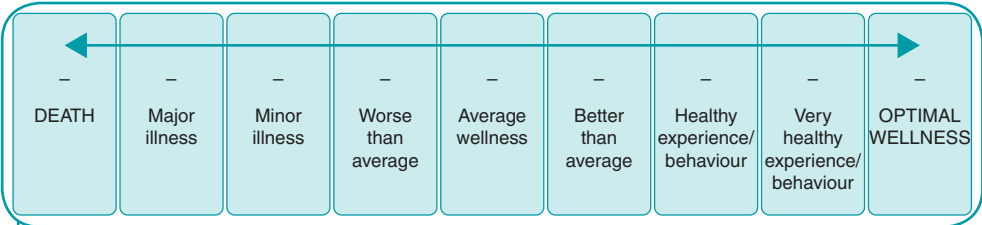


Figure 1.2 Health as a continuum

sports teams, eats a healthy diet, does not drink alcohol and gets plenty of sleep. Would you consider them healthy? Now consider their transition to university life. They still have no medical diagnoses, but now they are socialising much more, have turned 18 and drink alcohol. Their study load leaves them little time for exercise. They often sacrifice sleep for socialising and pull ‘all-nighters’ to finish assignments. They are often tired, eat chocolate and drink lots of caffeine to compensate (sound familiar?). Would you consider them healthy now? While they have not been diagnosed with an illness, it could be argued that it is likely that their social and behavioural changes might have moved them further from optimal wellness (i.e. they have moved along the continuum in Figure 1.2).

Having models of health that allow us to capture these changes in behaviour and experience gives us a framework for *health promotion* and *preventative healthcare*, and the ability to target interventions before patterns of behaviour over time result in illness.

However, even today, as we feel that we are getting ever closer to a more informed understanding of health, controversies remain. The WHO definition has been criticised for resulting in ‘overmedicalisation’ as an increasing number of daily lifestyle characteristics are being described as risk factors for illness, and for being impossible to achieve for most people in a global context (i.e. ‘a state of complete physical, mental and social wellbeing’). It has also been criticised for undervaluing the ability for an individual to take responsibility for their health-related behaviour and to cope with health-related challenges (Godlee, 2011). In response to these criticisms, a ‘global conversation’ was initiated, yielding the following definition of health (Godlee, 2011): ‘the ability to adapt and self-manage in the face of social, physical, and emotional challenges’.

Arguably, this definition builds even further on the WHO inclusion of psychosocial factors to acknowledge the role of the individual and their behaviour in health. **Health psychologists** are centrally placed to contribute to individual adaptation and self-management, and to understand the combination of social, physical and emotional challenges. *Health psychology is absolutely critical in the current healthcare context.*

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What is health psychology?

Health psychology is the study of the effects of behaviour on health and health on behaviour. It examines the pattern of behaviours helping to maintain optimal health

and those behaviours leading to illness. One of the main aims of health psychology is to encourage health-promoting behaviours, such as optimal diet and increased activity levels, and to help people quit smoking and reduce alcohol consumption. In helping the individual to achieve better health, health psychology focuses on prevention through education programs and public healthcare policy. The biggest challenges in Australia at the moment are to reduce obesity, increase activity levels (e.g. walking, exercise, sport participation), improve diet, and cut smoking rates and alcohol consumption. Prevention does not reach or work for everyone. Thus, health psychology also focuses on treatment and harm reduction to help ‘move’ people towards better health (i.e. to move to the right on the health continuum shown in Figure 1.2). In the current healthcare climate, helping people to quit smoking, improve sleep, reduce stress, be ‘sun smart’ and increase wellbeing are central.

These issues are addressed in the following chapter in this book:

Chapter 2: Understanding health behaviour and evaluating change

Given this broad focus of health psychology and the health status of Australians, there is no shortage of work for healthcare professionals to enable people to improve their physical and mental health. Healthcare workers from different disciplines (e.g. psychology, medicine) tend to approach health differently given their varying perspectives. The biopsychosocial model brings these different perspectives together. In practice, the implementation of the model provides a foundation for multidisciplinary healthcare, allowing healthcare professionals to examine the biological, psychological and social perspectives, and how they overlap. The biological perspective tends to focus on physical ‘roots’ such as genetic causes of health and behaviour, and dominates in medicine. As described previously, the psychological perspective is not exclusive to psychology and focuses on causal factors such as learning (e.g. reinforcement of behaviour). The social approach is more concerned with society as a whole and the norms it projects via news outlets and magazines in the form of ‘role models’ such as celebrities and sporting stars. To use smoking as an example, an individual who smokes has not taken up smoking in a social vacuum. It is likely that they were influenced by norms from family, peers, friends and the media. They may also have experienced feelings of being cool, independence, pleasure and being in control of his or her own destiny, thus reinforcing smoking-related behaviours. Biologically, smoking is reinforced through feelings of wellbeing and satisfaction as the nicotine enters the bloodstream.

Many common models in health psychology build on this biopsychosocial understanding of health. For example, the **ecological model** puts individual behaviour in context through interactions with social, environmental and societal factors. The ecological model is just one example of an expansion of the biopsychosocial model and takes into account the dynamic interaction effects that are at play in determining behaviour.

Health psychology is informed by a spectrum of psychological perspectives, including the following.

- Evolutionary: links evolutionary biology and psychology, exploring the processes that have shaped the human mind over time, from natural selection to communal living (Buss, 2015).
- Cognitive: the scientific study of the mind (Braisby & Gellatly, 2012).
- Behaviourist: objective approach to predicting and changing behaviour (Watson, 1913).
- Humanist: client-centred approaches that acknowledge the drive for self-actualisation (Elkins, 2009).

This is critical to informed and evidence-based approaches to understanding the relationships between individual factors, the social context and health more broadly.

Work environment

In Australia, health psychologists need to think and act in a multidisciplinary workplace. The ability to approach different situations from any or all of the different perspectives on the biopsychosocial model is essential for an effective workplace producing optimal outcomes for the clients involved. Health psychologists in Australia are expected to have certain skills in areas of intervention, treatment and research (Australian Psychological Society, 2016b), and are represented by one of the Australian Psychological Society's Colleges (Australian Psychological Society, 2016a).

In hospitals

Health psychologists who work in hospitals should be critical players in multidisciplinary research teams and do so using their skills in bringing together different perspectives and research talents. The skills a health psychologist brings to this team include an understanding of research design (e.g. longitudinal, experimental evaluation of interventions), logistics (e.g. ethics, timeline, funding), statistical analysis and interpretation, report writing for internal purposes, and manuscript writing for submission to peer-reviewed journals, grant and ethics writing and application. Conducting research is rewarding, but so is implementing research findings. A health psychologist will be able to read and disseminate research findings and then implement changes and interventions accordingly through ongoing education. This helps to maintain the focus on best practice given the available evidence, such as for hygiene-related behaviour (Hong et al., 2015). This may include working on improving the hygiene practices of those who enter a hospital (e.g. staff, patients, visitors). There are plenty of such interventions needed in hospitals to target staff and patients; however, for the changes to become permanent and thus effective they need to come not only from research findings but from the staff and patients themselves. Patients need to know the importance of adherence to treatment, from cognitive behavioural treatment through to drug treatment. To understand problems with adherence, a health psychologist needs to know how to conduct surveys and interviews with patients and staff asking not about adherence but lack of adherence and barriers to adherence. Assuming there is a problem will tend to expose the problem in this case.

In private practice

A health psychologist working with clients may incorporate health coaching to enable the client to develop more health-friendly behaviours (Gale, 2007). This will help the client cope with conditions such as diabetes and hypertension. All health psychologists should have the skills and knowledge necessary to enable them to help change clients' behaviours such as quitting smoking, changing diet and adhering to treatment. Another important factor is timing. Health psychologists may not always be able to help their clients change damaging behaviour before it has negative consequences for their health. However, they may be able to do so after the client has been diagnosed with a health condition such as cardiovascular disease or diabetes. A health psychologist may not be able to convince a client to change a diet which is high in sugar and processed food before problems are evident, but can help the client manage their condition following diagnosis. For example, after a client has been in a diabetic coma, health psychologists use their time with clients to alter the behaviours that may have led to the diabetic coma by using interventions to reduce the risk of future diabetic comas. Changes in behaviour need to be driven not just by the health psychologist but by the client as well. The client needs to see the value in change and the method to achieve the desired change, such as to quit smoking or improve diet. The health psychologist also understands the wider context that sustains behaviours such as bad sleep habits and a lack of work–life balance. This context includes the client's norms that may be maintained by culture, family, friends and religion. Changing lifelong habits can require consultation with family and friends. We would like to think that clients can decide to change their diet if they want to, but if they don't have a say in the food that is being sourced or cooked then it may be an illusion to think that the client has many options. There are several models that can be utilised by the health psychologist to help predict behaviour and thus to plan behavioural change.

These issues are addressed in the following chapter in this book:

Chapter 3: Common models in health psychology

The health psychologist can also work with individuals and their support networks (e.g. friends, family) to assist in social cohesion during critical times of adjustment such as diagnosis of a chronic illness, or during treatment regimens that may result in a need for extra support and care (e.g. during chemotherapy). At these points, it is common that those in the support network would benefit from support themselves. Relationships are often put under strain, right at the time when they are particularly necessary. Health psychologists are perfectly positioned to promote health in the whole social network, which ultimately improves outcomes for the individual.

These issues are addressed in the following chapter in this book:

Chapter 10: Experiencing cancer: an acute and chronic condition

Scientific knowledge and research

Psychology research employs various study designs in order to gain scientific knowledge and understanding. Studies relying on correlational designs focus on the relationships between variables. For example, the relationship between adherence, conscientiousness and wellbeing may be examined, revealing that higher conscientiousness is positively correlated with adherence and wellbeing. This study could have a cross-sectional design (participants could answer the survey once) or a longitudinal design (participants could answer the survey more than once and their answers could be linked between Time 1 and Time 2 in the dataset; for an example see Lytle et al., 2013). The time interval between Time 1 and Time 2 depends on the issues being examined and expectations about change. For instance, there is little point in measuring adherence and wellbeing only a week after the Time 1 measurement as a week may not be enough time for any treatment or intervention to have an effect on adherence and wellbeing, thus there is no or little change from Time 1 to Time 2 to examine.

Studies that are quasi-experimental compare two or more pre-existing populations, such as smokers versus non-smokers (e.g. Mendrek et al., 2006). As these are pre-existing populations, there is no baseline (e.g. pre-smoking). Quasi-experimental approaches are often used in human participants to explore health outcomes in two groups with different behavioural exposures (e.g. smoking/non-smoking). Due to ethical issues, animal models are frequently used to experimentally examine questions relating to exposures and health outcomes (e.g. Does second-hand smoke cause cancer?). In these cases, animals (e.g. mice, rats) may be used, and then inferences drawn for humans. Experimental studies use randomisation to allocate participants into different groups so as to examine the effects of exercise on mental health (e.g. Bretland & Thorsteinsson, 2015). Experimental models are also used with human participants. For example, if you wanted to compare the effectiveness of different interventions to assist people to quit smoking (e.g. chewing gum versus spray versus chewing gum and spray) then you would complete your baseline measures and then randomly allocate participants to four (not three) conditions: 1. chewing gum; 2. spray; 3. chewing gum and spray; and 4. control (waiting list). In the end you would have measured your participants at baseline, post-intervention and maybe two follow-ups (perhaps at 3 and 6 months).

When it comes to health psychology, we have to start expanding our study design horizon. We need to do this because the studies we are reading overlap with other health professions (e.g. medicine) and often focus on binary outcomes (e.g. diagnosis versus no diagnosis, heart attack versus no heart attack). Epidemiology, the study of control and progression in health and disease, with its odds and risk ratios, will become familiar to you and you will quickly understand these different indices (e.g. Satman et al., 2002). In many ways, these indices are simpler than the typical indices you are familiar with from your undergraduate psychology statistics lectures. A t value from a t test has little meaning on its own and a p value simply reflects the number of participants your analysis relied on. This is why effect sizes are so important and why ratios like risk, relative risk and odds are effect sizes. These ratios, along with a confidence interval, can then clearly show the