

2 Psychosocial Determinants of Health Behaviour – Can We Modify the Lifestyle?

We can identify many different determinants of health behaviour and at the same time many different pathways to explore them. Psychologists usually focus on processes within the individual and their research is pursued from the perspective of a cognitive or behavioural theory. Sociologists investigate culture, social structure and relationships within and between societies or social groups. The main interest of medical sciences is human body functions (e.g. physiological processes). Whether engaged in the study of health behaviour at the level of a cell, an individual, or a society, researchers from each field tend to treat their domain as fluid and dynamic. When they do acknowledge the contributions of other domains, they regard these factors as static inputs. As Leventhal, Musumeci and Leventhal (2006) point out, it is possible and necessary to explore the cross-pathway relationships between individual behaviour and social, individual and biological determinants (Fig. 2.1). In this exploration context, collaboration among investigators from different disciplines and integration of different concepts is needed. The outcome would be that we could also get more broadly useful results, especially for health practitioners, lifestyle consultants, health educators, medical specialists or health service managers, social policy.

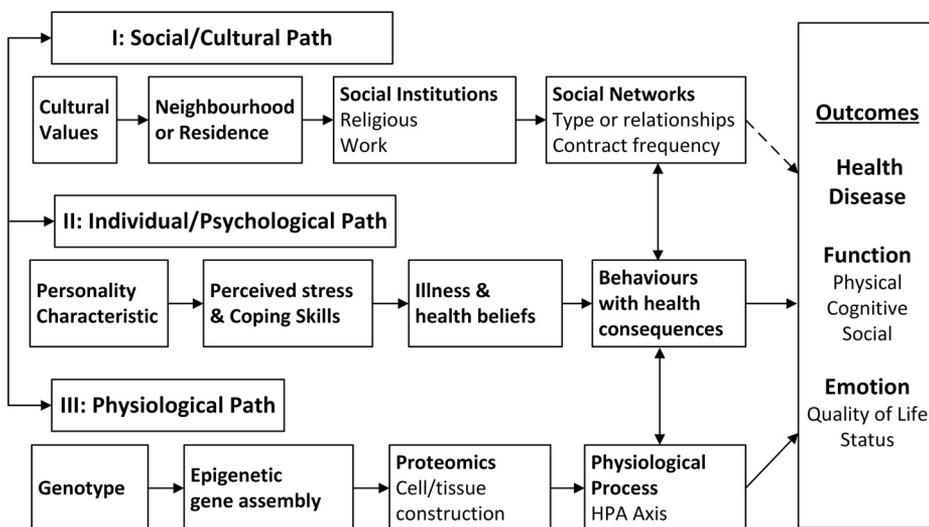


Figure 2.1 Three pathways for the study of health and behaviour (Leventhal et al., 2006)

There are different pathways to study health behaviour and there are also many theories for analysing and predicting health related behaviours. The current study offers a twofold perspective. Firstly, it considers theories as potential ways

of explaining health behaviours of current and future medical staff. Secondly, those theories indicate key abilities of health professionals willing to support their patients and clients in changing. We would like to specify the foundations for creating effective intervention programmes, promoting health, in particular in health settings like hospitals, outpatient clinics, medical practices. Psychological theories are probably the most common, these describe the cognitive variables believed to predict behaviour. Cognition is the generic term which refers to organising and evaluating our experiences. Our beliefs, expectations, perceptions, values, motives, and attitudes lead us to interpreting, understanding, filtering and predicting events (Gochman, 1988). There are theories which focus on the individual or intrapersonal level. Three key concepts cut across these theories: (1) behaviour is mediated by cognitions; that is, what people know and think affects how they act; (2) knowledge is necessary for, but not sufficient to produce, most behaviour changes; (3) perceptions, motivations, skills, and the social environment are key influences on behaviour (Theory at a Glance A Guide For Health Promotion Practice, 2005). Common examples of such theories are the Health Belief Model and the Theory of Planned Behaviour (Ajzen, 1991; Becker, 1974; Rosenstock, 1966). These theories are based on the assumption that an individual's activity is the result of evaluating the usefulness of the outcome of the action and probability of achieving it; this will explain whether an individual formulates an intention to change the behaviour. The advantage of those theories consists in their simplicity and precise operationalization (Łuszczynska & Sutton, 2004). A frequently tested model is the Theory of Planned Behaviour. Ajzen (2002) proposes concrete templates of questions which may be used for various health behaviours, sets of mathematical formulae which enable precise calculation of relations between variables of the model, and thus makes it possible to compare studies. This must have contributed to the popularity of the theory (Łuszczynska, 2004). At the same time weaknesses of the model relating to the method of its verification are indicated, because in the verifying studies the correlation-regressive pattern prevail (Sutton, 2002) and because during interventions based on this theory, there are rarely manipulated factors building this model (Hardeman, Johnston, Johnston, Bonetti, Wareham, & Kinmonth, 2002).

On the other hand, the essence of the Stages of Change (Transtheoretical) Model (TTM) (Prochaska & DiClemente, 1983, 1992), the Precaution Adoption Process Model (PAPM) (Weinstein, Sandman, & Blalock, 2008) or the Health Action Process Approach (HAPA) (Schwarzer, 2001, 2008) is to explain what causes the behaviour to be initiated and maintained for a long time. They also explain how it can be undertaken to realise the intention of behaviour after a relapse to adverse behaviour and what social and cognitive factors determine maintaining a given behaviour by an individual for a longer time. The first theory, the TTM, assumes a change in behaviour in five stages: precontemplation (the period when an individual has no intention of changing their behaviour), contemplation (an individual considers the

pros and cons of undertaking action in the following six months), preparation (an individual makes a decision about intention to act in the following 30 days and prepares to change), action (change in behaviour, undertaking the intended action within less than last six months) and maintenance (stabilization of behaviour and maintaining it for more than six months). Definitions of the stages vary slightly, depending on the behaviour at issue. The model is circular, not linear. Usually, an individual goes through all stages of change in this order, but there is a possibility of relapse to an earlier stage and beginning the process once more or starting the change at any stage. The model has been an object of many studies and has had educational applications, which were particularly readily used in health education for patients/clients who required modification of behaviours such as, smoking, physical activity, or nutrition (Emmons & Marcus, 1994). The advantage of the model is that it presents detailed strategies for individual use (as self-management methods) or for use as part of professional programmes (see Tab. 2.1).

Table 2.1 Educational potential of TTM (Theory at a Glance A Guide For Health Promotion Practice, 2005)

Stage	Definition	Potential Change Strategies
Precontemplation	Has no intention of taking action within the next six months	Increase awareness of need for change; personalize information about risk and benefits
Contemplation	Intends to take action in the next six months	Motivate; encourage making specific plans
Preparation	Intends to take action within the next thirty days and has taken some behavioural steps in this direction	Assist with developing and implementing concrete action plans; help set gradual goals
Action	Has changed behaviour for less than six months	Assist with feedback, problem solving, social support, and reinforcement
Maintenance	Has changed behaviour for more than six months	Assist with coping, reminders, finding alternatives, avoiding slips/relapses (as applicable)

The main objection concerns an artificial division into stages of behaviour and the role ascribed to the two main markers of these stages: expectations of the outcome of action (most important for stage 2) and the sense of one's effectiveness (the role of which increases in subsequent stages) (Łuszczynska, 2004; Sutton, 2000).

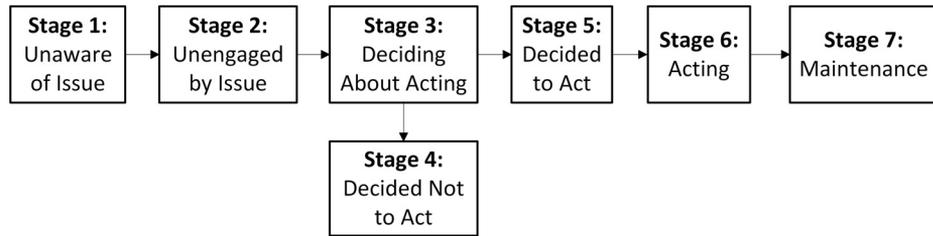


Figure 2.2 PAMM distinct stages (Weinstein et al., 2008)

The PAMM specifies seven distinct stages (see Fig. 2.2), some of which are specific for this model, while others resemble the stages distinguished in the TTM. The author of the model believes that in order to change behaviour effectively an individual must go through all stages of change in the indicated order and that it is not possible to avoid any stage. A relapse to a previous stage is however possible, but once they have completed the first two stages of the model they do not return to them. For example, a person does not move from unawareness to awareness and then back to unawareness (Weinstein & Sandman, 2002). The model appears to be very similar to the TTM, but its particular usefulness in dealing with hazards that have recently been recognized or precaution is emphasized. The PAMM emphasizes the difference between people who are aware of dangers caused by behaviour, but do not undertake it (that is decide not to act) and people who are not aware of specific dangers (in particular new, recently recognized ones). These two groups are faced with different barriers. The PAMM enables health practitioners to develop intervention strategies concentrating on stages preceding making the decision by patients/clients.

The HAPA suggests a distinction between (a) pre-intentional motivation processes that lead to a behavioural intention, and (b) post-intentional volition processes that lead to the actual health behaviour (see Fig. 2.3).

In both stages many social and cognitive variables have been considered, the role of which in the model is varied (discontinuous). The only variable which is significant for both stages is perceived self-efficacy. The authors indicate various possibilities of applying the model in research and interventions pointing out various educational strategies adequate for various stages of change. It is possible to switch from the path-analytic mediator model to a 2-stage model by separating pre-intenders from post-intenders. Moreover, depending on the research question, it is usually a 3-stage model that is chosen (pre-intenders, intenders and actors) which constitutes the best way of reflecting the stage view of the HAPA (Lippke, Ziegelmann, & Schwarzer, 2005).

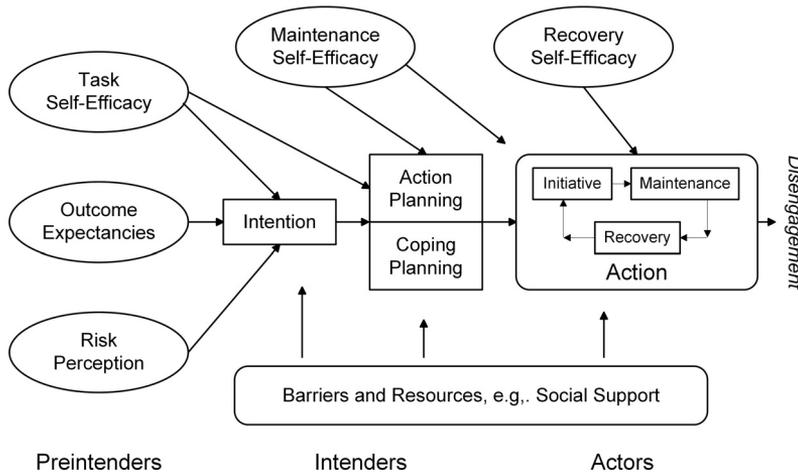


Figure 2.3 HAPA model (Schwarzer, 2008)

The second group of theories include the social context, e.g. Social Cognitive Theory (SCT, Bandura, 1977, 2001). By analyzing behaviour on an interpersonal level we emphasize that individuals are part of and are influenced by social environment. In particular, the emphasis is on the social context of the development of behaviours, related to the influence of people who surround us: family members, teachers, colleagues, health professionals and others through their opinions, advice, support and behaviour. The SCT explains human behaviour as the result of dynamic interaction between personal factors environmental influences and behaviour (Tab. 2.2).

Table 2.2 Educational potential of SCT (Theory at a Glance A Guide For Health Promotion Practice, 2005)

Concept	Definition	Potential Change Strategies
Reciprocal determinism	The dynamic interaction of the person, behaviour, and the environment in which the behaviour is performed	Consider multiple ways to promote behaviour change, including making adjustments to the environment or influencing personal attitudes
Behavioural capability	Knowledge and skill to perform a given behaviour	Promote mastery learning through skills training
Expectations	Anticipated outcomes of a behaviour	Model positive outcomes of healthful behaviour
Self-efficacy	Confidence in one’s ability to take action and overcome barriers	Approach behaviour change in small steps to ensure success; be specific about the desired change
Observational learning (modelling)	Behavioural acquisition that occurs by watching the actions and outcomes of others’ behaviour	Offer credible role models who perform the targeted behaviour
Reinforcements	Responses to a person’s behaviour that increase or decrease the likelihood of reoccurrence	Promote self-initiated rewards and incentives

The main construct explaining the modification of human behaviour proposed by Bandura (1977) is self-efficacy. “*Self-efficacy is the belief in one’s capabilities to organize and execute the sources of action required to manage prospective situations*” (Bandura, 1986, p. 391). It is an optimistic belief of an individual in one’s capabilities to act according to the chosen objective, irrespective of the obstacles on the way to achieving the objective. Indirectly, self-efficacy affects also the behaviour, influencing the choice of objectives (the stronger the self-efficacy the more ambitious the objectives) and expected gains and losses related to undertaken behaviour (the stronger the self-efficacy, the more gains than losses an individual perceives). In the SCT changeable environmental variables such as barriers and factors facilitating behaviour are also widely considered. The SCT evolved from research on the Social Learning Theory (SLT). The main message of the SLT, so important for health professionals is that people learn not only from their own experience, but also by watching other people’s actions and results of these actions. Thus, the educational strategies developed within the SLT and updated in the SCT are so interesting and could be used by health practitioners (see Tab. 2.3). On the other hand, it may be worth considering whether and to what extent health professionals can use modeling in their work and whether their patients would actually benefit.

Table 2.3 Educational potential of SLT (Theory at a Glance A Guide For Health Promotion Practice, 2005)

Concept	Definition	Application
Reciprocal determinism	Behaviour changes result from interaction between person and environment; change is bi-directional	Involve the individual and relevant others; work to change the environment, if warranted
Behavioural capability	Knowledge and skills to influence behaviour	Provide information and training about action
Expectations	Beliefs about likely results of action	Incorporate information about likely results of action in advice
Self-efficacy	Confidence in ability to take action and persist in action	Point out strengths; use persuasion and encouragement; approach behaviour change in small steps
Observational learning	Beliefs based on observing others like self and/or physical results	Point out others’ experience, physical visible changes; identify role models to emulate
Reinforcements	Responses to a person’s behaviour that increase or decrease the chances of recurrence	Provide incentives, rewards, praise; encourage self-reward; decrease possibility of negative responses that deter positive changes

The third group of theories comprises those focused on ultimate determinants (e.g. macro-system level, sociocultural environment, community level). This group includes Community Organization and Other Participatory Models, which emphasise community-driven approaches to assessing and solving health and social problems. The Diffusion of Innovations Theory (Rogers, 1995) addresses how new ideas, products, and social practices spread within an organization, community or society, or from one society to another. The Communication Theory describes how different types of communication affect health behaviour.

Finally, there are integrative theories that combine all those levels of determinants. Examples of such theories include the Biopsychosocial Model (Irvin & Millstein, 1986; Irwin, Igra, Eyre, & Millstein, 1997), the Bronfenbrenner’s Model of Human Development (Bronfenbrenner, 1986) or the Theory of Triadic Influence (TTI) (Faly, Snyder, & Petraitis, 2009). Of all attempts to formulate an integrative theory that predicts health-related behaviours, the TTI appears to be the most comprehensive one (Flay & Petraitis, 1994). The TTI originates from and includes the ideas of Bronfenbrenner and Bandura. The TTI proposes that variables (determinants) can be arranged into three relatively distinct types or “streams of influence”: the cultural-environmental stream, the interpersonal social stream and the intra-personal stream (see Fig. 2.4).

Within each stream of influence (personal, social, environmental), two sub-streams are recognized, which can influence behaviour. One is more cognitive/rational in nature, the other is more affective (emotion based). Within each of these streams, three levels of determinants with increasing influence on behaviour are distinguished: ultimate, distal and proximal.

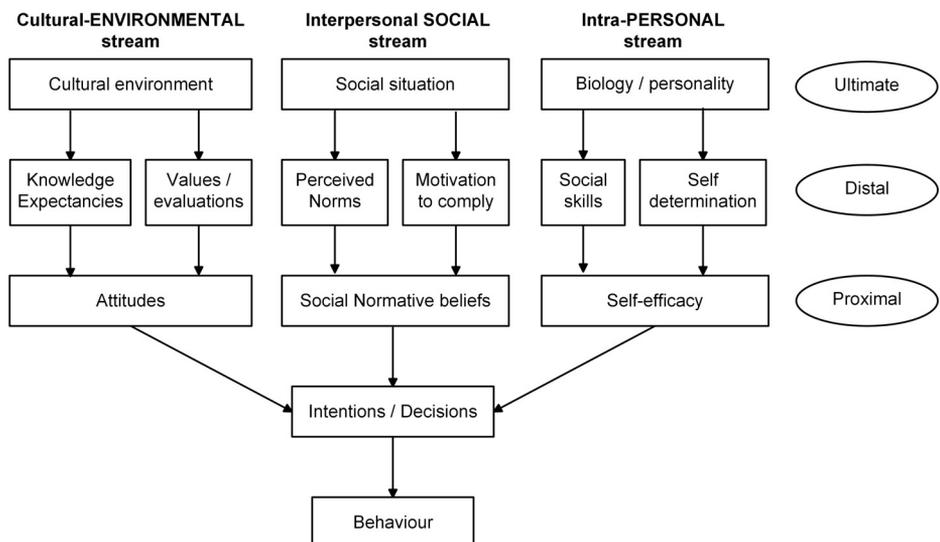


Figure 2.4 Streams of influence in Theory of Triadic Influence (Faly, Snyder, & Petraitis, 2009)

The TTI then proposes that the effects of ultimate and distal causes of behaviour flow predominantly within each stream (personal, social and environmental factors) and act through a small set of proximal predictors of behaviour (e.g. self-efficacy, social normative beliefs, attitudes and intentions), with multiple mediating factors between (Fly, Snyder, & Petraitis, 2009). Proximal causes are usually most influential, in particular in relation to a single specific behaviour (for example, beliefs concerning specific health behaviour, perceived personal health risks, perceived subjective norms of peers or parents, self-efficacy). Distal causes have indirect effects on behaviour. They are related to social relations, knowledge and the system of values, social competence (e.g. internal locus of control, self-esteem, the perceived behaviour of significant others, the parent-child relationship) and have weaker direct effect on single behaviour than proximal determinants, thus their effects on behaviour are mediated by another, more proximal, factor. The ultimate causes are more deeply rooted and less predictive of behaviour than distal and proximal determinants. They are believed to be almost unchangeable (like personality, Social Economic Status, religiousness) (Fly, Snyder, & Petraitis, 2009).

Increasingly often co-occurring health-related behaviour is identified (Allegrante, Peterson, Boutin-Foster, Ogedegbe, & Charlson, 2008; Fine, Philogene, Gramling, Coups, & Sinha, 2004; Pronk, Anderson, Crain, Martinson, O'Connor, Sherwood, & Whitebird, 2004). Hence, factors related to such clusters are sought. The TTI is a model which allows for searching for them. If such factors exist, then there would be support for the development of more integrated approaches to promoting healthier lifestyles. As predicted by Prochaska (2008) “*Multiple Health Behaviour Research represents the future of preventive medicine*” (p. 281).

Using the TTI model Wiefferink, Peters, Hoekstra, Dam, Buijs and Paulussen (2006) identified several protective determinants in adolescents: living with supportive parents, high self-esteem, high perceived personal health risk, perceived healthy behaviour of peers and parents, and perceived acceptability of the healthy behaviour by peers and parents. However, adolescents can be seduced into unhealthy behaviour by the immediate gratification they anticipate. Dusseldorp's and colleagues (2014) findings suggest that addressing self-control and descriptive norms of friends might reduce a broad range of negative behaviours. They also highlight that parental monitoring and descriptive norms of parents may remain important ultimate targets for intervention development, since these provide good opportunities for achieving positive health outcomes sustainable for life. These findings have broadly educational consequences. This identifies the direction in which health educators should look for a more efficient programme design. There are recognized, potentially modifiable distal determinants (as opposed to ultimate determinants like personality), which may become an object of interventions including many various health behaviours (Wiefferink, Peters, Hoekstra, Dam, Buijs, & Paulussen, 2006).