

# Health belief model



According to Colman (2009), social cognition is the cognitive activity that accompanies and mediates social behaviour, including the acquisition of information about the social environment, the organization and transformation of this information in memory, and its effects on social behaviour. Health belief model according to John (2007) is a conceptual model of health-related behavioural factors affecting health. The model emphasizes the role of cognition (understanding) and beliefs (values ) and explains how behavioural determinants influence ways individuals behave in matters affecting their health. Protection Motivation Theory operates as a mediating variable between the threat and coping appraisal processes and protective behaviour. It is results from the two appraisal processes and is a positive function of perceptions of severity, vulnerability, response efficacy and self efficacy, and a negative function of perceptions of the rewards associated with maladaptive responses and the response costs of the adaptive behaviour. (Norman, Boer & Seydel, 2007, p. 85). Theory of Reasoned Action suggests that the proximal determinant of volitional behaviour is one's behavioural intention to engage in that behaviour. Whereby, Theory of Planned Behaviour was developed to broaden the applicability of the TRA beyond purely volitional behaviours by incorporating explicit considerations of perceptions of control over performance of the behaviour as an additional predictor of behaviour (Conner, 2007, p. 171). Lastly, Stages of Change have two main stages: Transtheoretical Model (of Prochaska & DiClemente) & Precaution Adoption Process Model (of Weinstein). TTM proposes 5 stages: precontemplation, contemplation, preparation, action & maintenance. Whereby, PAPM proposes

7 stages: unaware of issue, unengaged by issue, deciding about acting, decided not to act, decided to act, acting and maintenance (Sutton, 2007).

## **Health Belief Model and Health Behavioural Change**

Minugh, Rice & Young (1998) conducted a study of the relationship between health beliefs, health practices and alcohol consumption among women and men using the Health Belief Model (HBM). Among the health belief variables, more subjective health perceptions were related to frequent drinking, whereas negative health perceptions were associated with greater alcohol consumption. Whereby, the health practice variables give a more objective measure of the relationship between actual health practices and alcohol consumption. This study found no consistent relationship between subjective health knowledge and objective health behaviour. This study concluded that health beliefs and behaviours are related to alcohol consumption after adjustment for demographic characteristics and those differences exist between perceived risks and behaviours for both women and men. This study showed that both gender when they are more concern or less concern regarding their health, it will verify their alcohol consumption. However, alcohol is still regards as unhealthy even people consume it less.

Another study conducted by Wang, Borland & Whelan (2005) to predict intentions to quit in three disparate sub-samples (medical workers, teachers, and factory workers) of male Chinese smokers. HBM variables susceptibility and severity were predictors of both outcome expectancy and outcome incentive and this study strongly suggested that expectancy value constructs have universal application for smoking cessation. The finding demonstrated that HBM is relevant to the prediction of quitting intentions in the Chinese

male smokers. This study suggested that the Social Cognitive Theory is the most important theory for predicting intentions, and if the HBM constructs have a role, it is in their effects on the SCT variables. In addition, a study by Schofield & Tolson (2007) explored the smoking-related beliefs of older people with chronic obstructive pulmonary disease (COPD). The finding has proved that HBM is useful in highlighting particularly the perceived costs, barriers and cues to a successful smoking cessation attempt. These two studies showed that when people have the intention to quit smoking and they have their self efficacy and they know the consequences of smoking, they will try hard to quit smoke. However, even though Social Cognitive Theory is the most important theory to predict health behaviour change, it will not totally prove that people will change even they are aware and struggle with illnesses and diseases.

Boone & Lefkowitz (2004) conducted a research to build on the HBM by adding predictors of late adolescent safer sex behaviour. Predictors from the original HBM included perceived vulnerability, condom use self-efficacy and the sexual double standard emerged as significant correlates of condom use. Individuals with positive attitudes about condoms reported more condom use over their lifetimes. It appears that this belief may represent a benefit or “absence of barrier” in the HBM. This finding suggested that a continued focus on condoms as protections as well as natural, and not an impediment to sexual pleasure, will encourage condom use among this age group. This study showed that when people are aware of safer sex, they will use condoms as a self-efficacy.

Another research was, impact of health promoting television program series on health knowledge and the key factors of the health belief model that have led people to engage in healthy behaviour (exercising, losing weight, changing eating habits, and not smoking/quitting smoking). The findings suggested that viewing the television program series, A Family Year, improved efficacy, seriousness, susceptibility, health motivation and health knowledge, the perception of a lack of reliable information, and the practice of health behaviours (Chew et. al, 2002). This research showed that some people will be aware and influenced by television program but still, not all will improve their efficacy and seriousness to change their health behaviour. Some will just ignore what they had watched.

## **Protection Motivation Theory and Health Behavioural Change**

Courneya & Hellsten (2001) examined whether cancer prevention is a meaningful source of exercise motivation using Protection Motivation Theory (PMT). The interaction was such that individuals who were led to believe that colon cancer was a severe disease (high perceived severity) were more motivated to exercise if they also believed that exercise was effective (high response efficacy) as opposed to ineffective (low response efficacy) in reducing their risk of colon cancer. Contrary, individuals led to believe that colon cancer was not a very severe disease (low perceived severity) were not differentially motivated to exercise based on their response efficacy beliefs. Furthermore, Plotnikoff & Higginbotham (2002) conducted a study to develop psychometric scales to measure the main components of Roger's PMT along with a stage of change measure to examine exercise behaviour towards the

prevention of coronary heart disease. PMT's coping appraisal component of self efficacy and response efficacy produced stronger positive significant associations with exercise outcome measures than the theory's threat components.

In additional, a study by Wood (2008) identified an appropriate theoretical framework to study exercise motivation for breast cancer risk reduction among high-risk women. PMT could be used to examine the effects of perceived risk and self efficacy in motivating women to exercise to facilitate health-related behavioural change. These studies concluded that cancer prevention may be a meaningful source of exercise motivation. In contrast, individuals suffer from cancer, might feel useless and might be they will even not taking care of themselves.

### **Theory of Reasoned Action/Theory of Planned Behaviour and Health Behavioural Change**

According to Loving & Vazquez (1999), the components of the Theory of Reasoned Action enable us to predict 25% of condom use when the intention to use it is measured and 20% of the behaviour when the intention to request condom use is inserted into the model. These results are a great improvement over the relations documented for knowledge and general attitudes towards AIDS in the literature. This study showed that TRA is a good predictor of safer sex and showed that people are aware of the consequences of not using condoms.

Whereby, Park et. al (2009) conducted a research, the aim was to verify whether the variables of Theory of Planned Behaviour can properly

distinguish the stages of change in exercise in the proposed integrated model and to figure out how attitude, subjective norm, perceived behaviour control, influence, and intention can explain the stages of change in exercise. This research showed that TPB control significantly explained the physical activity and exercise intention.

## **Stages of Change and Health Behavioural Change**

A study conducted by Basta, Reece & Wilson (2008) examined the distribution of the stages of change for exercise among individuals living with HIV as well as to identify the differences between the transtheoretical model (TTM) constructs. The results of this study provided basic support for the use of the TTM with these populations in these settings. The behavioural and experiential processes of change and the constructs of self-efficacy and decisional balance were important necessary part of stage of change for exercise behaviour, offering further support for the internal validity of the TTM. This study showed that TTM can be a good predictor of HIV patients to change their behaviour and be healthier. Besides, Garcia & Mann (2003) tested the ability of several social-cognitive models to predict intentions to engage in two different health behaviours (resisting dieting and performing breast self exam). The result supported their early prediction; the health action process approach was the best predictor of intentions to resisting dieting and performing breast self-exam.

While, a study by De Vries et. al (2008), investigated the clustering of health behaviours, cognitive determinants and stages of change in 2827 adults for the lifestyle factors of physical activity, fruit, vegetable and fat consumption and smoking. The results showed that behaviours were found to be weakly

associated. However, behaviour-specific cognitions and stages of change for the behaviours gathered more strongly. With respects to diet and physical activity, respondents in the preparation stage for one behaviour were likely also to be preparing to change another behaviour as well. The results indicated that targeting multiple behaviours in a single intervention may be helpful in health education and promotion programmes. If we cannot make people change all their behaviours in one time, at least an intention for one behaviour change, it is better than nothing.

Whereas, from a study by Verheijden (2004) had accessed the effects of stage-matched nutrition counselling on stages of change and fat intake. Stage-matched nutrition counselling promotes movement through stages of changes resulting in a reduced fat intake. Movement through the stages of change for fat reduction could explain part of the change in fat intake at 6 months after enrolment in the study. Between 6 and 12 months, small changes in the intervention group and the control group led to the disappearance of differences in distribution across the stage of change. This research showed that it is partly supports stage of change as a tool for behaviour change. In addition, a study by Casey, Day & Howells (2005), reviewed the application of TTM model to offender populations. The application of the TTM to offenders raises a number of issues regarding the process of behaviour change for offenders attending treatment programmes. It is argued that while the TTM has been designed to account for high frequency behaviour (e. g smoking, alcohol misuse), offending behaviour may be less important issue in a treatment context is the proper integration of the TTM constructs. This study showed that the TTM have some values to



explain how rehabilitation programmes help offenders to change their behaviours.

Abrams et. al (2000) the study are extended from the finding of Farkas et al (1996), revealing that stages of change did not add unique predictive power when analyzed simultaneously with other more potent predictors. The processes of change and pros and cons of smoking were relatively ineffective predictors of future abstinence, while the contemplation ladder and self-efficacy were relatively successful stand alone predictors. In addition, a study by Balmford, Borland & Burney (2008) tested the homogeneity of the pre-contemplation stage of TTM for smoking cessation. The result showed the evidence of discontinuity in prediction was found within the pre-contemplation stage, but across a different split point than expected. More predictive power of a multivariate model was found among smokers who stated they were not interested in quitting, with this at least in part due to “wanting to smoke” than was found when the model was run on the overall sample. The study supported a possibility discontinuity in prediction within the pre-contemplation stage, suggesting that the stage may not be uniform.

## **Conclusion**

As a conclusion, social cognition and cognition models (Health Belief Model, Protection Motivation Theory, Theory of Reasoned Action/Theory of Planned Behaviour and Stages of Change) can be used to change health behaviours. Health Belief Model might be more successful in predicting addictive behaviours changes such as alcohol consumption, smoking especially smokers that have cancer. It is also might be a good predictor of safer sex by using condoms and also improved efficacy, seriousness, susceptibility, health

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motivation and health knowledge by watching television motivation programmes. Protection Motivation Theory might be a good predictor for rehabilitation among cancer patients and their awareness to exercise and healthy lifestyle. Theory of Reasoned Action/Theory of Planned Behaviour might be a good predictor of safer sex and showed that people are aware of the consequences of not using condoms. It also might be a good predictor of physical activity and exercise awareness. Lastly, Stages of Changes might be a good predictor of HIV patients and their awareness to exercise and do physical activity. It is also might be a good predictor of lifestyle factors such as awareness to do physical activity, eating healthy diet and self breast examination. In addition it might be a good predictor to rehabilitation progress among cancer patients.

However, there are still some limitations of their extent of contributions to health psychology research. Health belief model for example from an examination found just moderate support for the ability of the health-belief model to predict dietary quality and body mass among a nationwide sample of US adults. The predictive ability was moderate to weak. The results indicated that solutions to improved diets and health are not as simple as improving the various types of nutrition knowledge (Sapp & Yuan Weng, 2007). Furthermore, a study by Armitage (2009) reported that the transtheoretical model is arguably the dominant model of health behaviour change, having received unprecedented research attention, yet it has simultaneously attracted exceptional criticism. Elements of the transtheoretical model offer promises in developing effective health behaviour change interventions, but the question arises as to whether

extracting these elements undermines completely the idea of a transtheoretical model.

To summarize, social cognition and cognition models can be a good predictor and a good start for health behavioural changes. However, they still have some limitations on how far and how extent it can be. Still, it really depends on individuals on how and when they want to change their behaviours. Some people might not even think to change their behaviours and they prefer to stay with their unhealthy behaviours.