Social Marketing in Foods: A Review of Behavioural Change Models of Healthy Eating

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Introduction

The prevalence of poor diets and a decline in physical activity, particularly among the young, has drastically increased public health problems in the past decades. Indeed, the World Health Organization (WHO) report significant increases in deaths worldwide due to chronic diseases such as ischaemic heart disease, diabetes, stroke and lung disease (World Health Organization, 2019) - health issues that are mainly due to changes in the food environment, low awareness of health threats, and impulsive human food choice behaviour.

Typically, unhealthy eating habits and high fast food consumption are still rising, with research revealing few signs of encouragement in tackling these problems. Also, the negative impact of diseases is still under-emphasised in public, reducing the level of public health awareness (Better Health Channel, 2019). Furthermore, food advertisements tend to focus on aspects such as new fast food restaurants or cafes opening rather than on the value of food (Watson et al., 2014; Emond et al., 2016; Kim and Jang, 2019). Social marketing is one approach that attempts to address these problems by influencing individuals to engage in positive behaviour and synergising social change, such as through informing the design of interventions to 'nudge' consumers into making better, healthier food choices (Dibb, 2014; Newton et al., 2016). This chapter provides a literature review on behavioural change models on healthy eating that inform the social marketing of food in order to help the reader understand human cognition towards food choice and provide a conceptual framework on human behavioural prediction. In particular, the Theory of Planned Behaviour, Health Belief Model, Social Learning Theory and Social Cognitive Theory are employed to explain individuals' decision making processes and perceptions towards food in order to better predict human behaviour.

Social Marketing

Definition of Social Marketing

Social marketing was originally named to reflect a specific sub-area of marketing. Its primary goal is to achieve a community's well-being with the application of marketing techniques and tools (Carins et al., 2016; Gordon et al., 2016). The main difference between social marketing and all other sub-areas of marketing is that the social marketer's goal is to achieve and maintain a socially desirable good, whereas the marketer's goal is to maximise an organisation's profit (Dibb, 2014; Domegan et al., 2016; Jutbring, 2018). Furthermore, its end goal is not only to achieve social good, but also to counter undesirable social change (Bastami et al., 2018; Chin and Mansori, 2018b).

More formally, the concept can be traced to Kotler and Zaltman (1971), who discussed 'the design, implementation and control of programmes calculated to influence the acceptability of social ideas … involving considerations of product planning, pricing, communications and market research', which epitomises social marketing as the acceptance of social ideas with the tools of marketing to achieve social good.

Similarly, Andresen (2002) defined social marketing as ' … the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programmes designed to influence the voluntary behaviour of target audiences in order to improve the welfare of individuals and society' - emphasising the voluntary aspect of human behavioural change.

Social marketing has been used to promote awareness of global issues such as illicit drugs, smoking, and child abuse, though it can also be used to promote healthy behaviour like positive food choice and healthy diet (Newton et al., 2016; Milani et al., 2017; Velema et al., 2018). As an example, food manufacturers might need encouragement to reduce preservatives and flavourings during

food processing. In this case, the initial 'target audience' – according to Andresen's definition – would seem to be food producers instead of the campaign audience, since it is *their* behaviour that is seen as 'voluntary', with the behaviour of the audience of the food campaigns being somewhat involuntary. Hence, Andresen's definition has been revised by adding the term 'involuntary' to emphasise the well-being of others as well as the direct target of a campaign.

To clarify, there are several methods to bring about social change and one method widely utilised by social marketing is the non-confrontational approach, such as the delivery of social ideas through leaders, social media influencers, mass media, regulations and legislative change by individuals who have the power to make change happen (Paek et al., 2015; Chin and Mansori, 2018b).

Since the 1940s in the United States, social marketing has focused mainly on public education campaigns, health promotions, malaria control and forest safety. The social marketing approach has also been applied among developing countries to enhance socially desirable ideas on issues such as family planning and sanitation (in the 1970s). The next milestone in the evolution of social marketing was in the 1990s, with many health-related campaigns around the world on issues such as HIV/AIDS, global threats, anti-smoking, health literacy, injury prevention and other social needs.

More widely, social marketing has been developed and expanded in several countries (particularly since 2004), like the US, UK, Canada and Australia. In particular, many health-related and social change programs have adopted a strategic social marketing approach along with social psychology, with high prominence in society (Brubaker et al., 2017; Zainuddin et al., 2017; Wijayaratne et al., 2018).

However, there have also been criticisms of social marketing campaigns, claiming that these have often focused less on social and environmental factors (e.g. education, literacy, workplace and different groups of community) than on cognitive and economic factors (**Fig. 1**). Such criticisms have not generally been because of inappropriate marketing techniques and tools, but rather because of the misinterpretation of these tools, as some social marketers have lacked expertise/understanding in this area. Consequently, experts face challenges in predicting behavioural change and hence in communicating and delivering their message to their target audience in an effective way (Roy et al., 2016; Tobey et al., 2016; Bazhan et al., 2018). Also, there are still ambiguous explanations regarding the definition of social marketing. For example, how good is 'good'? To what extent is the 'common good' considered? Who decides on the level of common good? This field has been shackled by these questions about its legitimacy and its distinction from commercial marketing for a long time. Therefore, it is arguably time to encourage proper usage of marketing techniques in social marketing applications in order to eventually achieve social good.

Social Marketing in Food and Well-Being

Over the last twenty years, obesity, diabetes, heart disease and stroke have become significant health problems around the world (World Health Organization, 2019). Associated with this, numerous reports have identified that food is directly involved in many risk factors for leading fatal diseases. The rise in these incidents is perceived to be a result of low awareness of the importance of food choice, lack of knowledge of the severity of chronic diseases in the long term, and changes in lifestyle due to high technology adoption.

The abundance of high energy fast foods, canned foods and sugary drinks is promoting unhealthy food consumption and food choice behaviour (Brubaker et al., 2017; Wijayaratne et al., 2018). Additionally, hectic lifestyles and technological changes like food apps are further pushing people away from making their home cooked meals and consequently leading to a drastic increase in fast food delivery demand. Also, due to changes in the food environment, it has become prevalent among people to possess low culinary skills and food nutrition literacy and hence to further rely on pre-made food. The increase of using labour-saving gadgets and systems at home also contributes to a reduction in people's intention to be involved in outdoor activities in order to maintain healthy behaviour (Roy et al., 2016; Tobey et al., 2016).

To turn around this trend, food related knowledge needs to be repositioned into consumers' minds in order to increase their healthy food choice awareness and cultivate healthy eating behaviour. As a result, food literacy has become a crucial concept

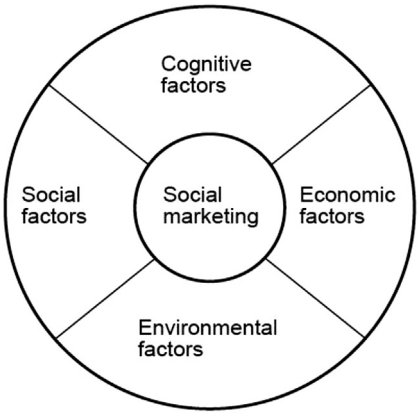

Figure 1 Factors that lead to the success of social marketing.

that should be increasingly utilised in social marketing in order to have a deeper understanding of human behaviour towards food. That is, the best social marketing might not come from the best social marketing campaign but the best use of marketing techniques and tools to achieve desirable social change (Carins et al., 2016; Milani et al., 2017; Bastami et al., 2018; Velema et al., 2018). Given this, the current paper seeks to contribute a review models on social cognition and behaviour towards food to aid social marketing efforts. These 'cognition-attitude-behavioural change' models are so-called because they emphasise influences on *behaviour* and hence provide a framework for behaviour development. The following models have been found to be good predictors of behavioural change and intention, as will be described.

Literature Review of Behavioural Change Models of Healthy Eating

Theory of Planned Behaviour (TPB)

Contemporary studies have shown that educational interventions are influential towards food literacy (Dutta and Singh, 2014; Canova and Manganelli, 2016; Ebadi et al., 2018; Cheng et al., 2019). Relatedly, successful health and nutrition related programs have shown linear associations between the correct applications of certain theories and strategic marketing techniques, one of which is the Theory of Planned Behaviour (TPB). This theory attempts to explain the key psychosocial constructs that influence human behaviour.

TPB is widely used in the context of social marketing and has substantially contributed to society, policy makers, government, hospitals and academia via the social marketing approach by providing better prediction of human behavioural change in the related fields (Kim, 2014; Chan et al., 2016; Jun and Arendt, 2016). TPB was initially proposed by Icek Ajzen in 1985 as an extended version of Theory of Reasoned Action (TRA). TPB postulates three core constructs of intention (predictors) of behaviour, and these constructs are (1) attitude toward the behaviour (behavioural beliefs), (2) subjective norms (normative beliefs) and (3) perceived behavioural control (control beliefs) - which is shown in **Fig. 2**. The theory differs from TRA due to the addition of a third core factor, perceived behavioural control (Rahmati-Najarkolaei et al., 2017; Rahimdel et al., 2019), which has been found to lead to better predictions towards non-volitional behaviours than TRA – the third factor being a mixture of two components, namely self-efficacy and controllability. To be precise, self-efficacy refers to a person's ability to overcome his/her own perceptions and execute a suggested behaviour, whilst controllability concerns the extent to which a person believes that he/she is able to control certain outside factors and perform a particular behaviour.

'Attitude toward the behaviour' is the degree to which a person possesses a favourable or unfavourable perception towards a behaviour, where the perception is defined as subjective assessment linking the possible behaviour with the outcome expectancy (Alami et al., 2019; Ukenna and Ayodele, 2019). The perception is based on a person's past experience, observations and knowledge. Thus, it is presumed that attitude toward the target behaviour can justify and form a person's behavioural intention. A person who believes the positive outcome expectancy of a behaviour will have a positive attitude toward the intended behaviour, while a person who believes the negative consequences will avoid engaging into the behaviour (Dutta and Singh, 2014; Ebadi et al., 2018). In relation to food literacy, this would suggest that a person would be more likely to execute a healthy eating behaviour when he/she possesses a favourable perception (perceived benefits) towards the decision than otherwise – such as reducing salt intake in order to reduce the risk of getting high blood pressure and heart disease.

'Subjective norms' refer to a person's perception of what he/she ought to do, which is influenced by significant others (family members, friends, siblings) and the network on social media. With motivation and support from these third parties, a person is more likely to perform the recommended behaviour (Close et al., 2017; Shimazaki et al., 2017; Rouhani-Tonekaboni et al., 2018). Subjective norms suggest that a person's behaviour might be highly dependent on his/her social networks and hence that social influence is another impactful factor for a person to adopt a new behaviour (Canova and Manganelli, 2016; Jun and Arendt, 2016). As such, significant others' opinions are central elements that strengthen certain cues for a person and encourage him/her to comply with the intended behaviour when the opportunity arises. Similarly, numerous studies have shown that subjective norms can successfully predict a person's behavioural intention, with the more social pressure a person feels, the more likely he/she will be motivated to carry out the behaviour (Kim, 2014; Alami et al., 2019; Cheng et al., 2019; Rahimdel et al., 2019). In this sense, if

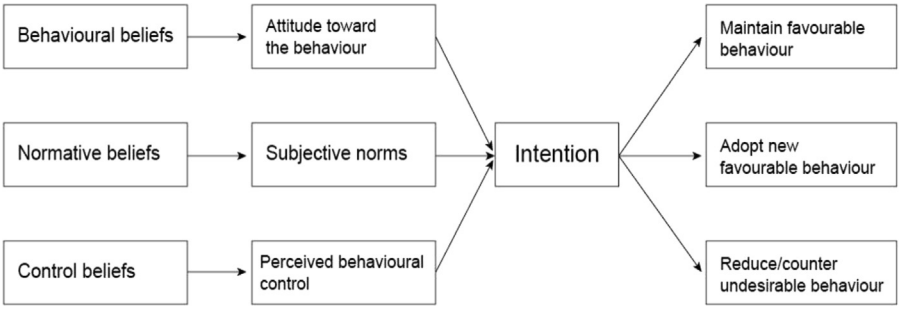

Figure 2 Theory of planned behaviour (TPB) with social marketing behavioural change model (SMBCM).

a person's friends, family members or work colleagues are the people who have healthy lifestyles, such as eating well, then they will tend to emulate such behaviour and vice versa.

In TPB, 'perceived behavioural control' is defined as a person's perception of the level of difficulty of executing a particular behaviour. Contributing to this is past experience, available information, knowledge and the self-expectations of a person, which may facilitate or hinder his/her confidence and capability to perform a recommended behaviour (Chan et al., 2016; Cheng et al., 2019). Prior evidence has concluded that perceived behavioural control has a direct effect on healthy eating behavioural intention. Consequently, the higher the level of a person's perceived behavioural control, the higher their ability to overcome hurdles and execute the intended behaviour. Likewise, a person with a high level of perceived behavioural control believes that he/she is able to overcome the inconvenience and time (hurdles) to prepare meals at home frequently in order to maintain his/her current health condition and prevent certain diseases. In brief, by understanding these three underlying elements, TPB is able to provide social marketers and social change practitioners a better understanding of human cognition processes and better prediction of healthy eating behaviour (Close et al., 2017; Rouhani-Tonekaboni et al., 2018).

Health Belief Model (HBM)

By and large, the health belief model (HBM) is a psychological model initially used to predict behavioural change in health care services. It was developed in the 1950s by US Public Health Service psychologists to understand and evaluate the failure of a tuberculosis screening program. In 1988, HBM was further reviewed and amended with the addition of the core construct of *self-efficacy*. More recently, HBM became a widely used model in health research, although it also has been employed to predict people's responses and cognitive processes in other fields (Kamal et al., 2018; Tweneboah-Koduah, 2018; Sutliffe et al., 2019). HBM proposes the following factors as influencing behaviour: (1) perceived severity, (2) perceived susceptibility, (3) perceived benefits, (4) perceived barriers, (5) cues to action and (6) self-efficacy. The model also presumes that individual characteristics (modifying variables) such as demographic, psychosocial and structural variables have indirect effects on the perception of a person towards a particular intended behaviour (**Fig. 3**).

Utilising this model in a food context, an individual will most likely carry out a recommended behaviour if he/she perceives that the consequence of unhealthy eating is severe, perceives himself/herself as at high risk (vulnerable) of developing health issues (diabetes, stroke, inflammatory bowel disease, etc.), perceives that healthy eating behaviour is effective in reducing the risk or preventing him/her from getting diseases, perceives that he/she can adopt this new behaviour without undue effort (financial, social, physical), and if a significant other draws his/her attention and encourages him/her.

'Perceived severity' (also known as perceived seriousness) is synonymous with an individual's perception of the seriousness/negative impact of a health problem (McArthur et al., 2018; Sirico et al., 2018). The possible impact of an untreated illness can be medical consequences (long term medication, pain, disability or death) and social consequences (unable to return to working and social life, negative relationships with family or spouse) (DelGiudice et al., 2018; Khumros et al., 2018). With that in mind, the stronger the perception of an individual of the consequences of an unhealthy eating habit, the stronger is his/her motivation to adopt and consume healthy food in order to avert the severe consequences. Conversely, if an individual believes that the impact of the health problem is not medically or financially serious, he/she might not perform the suggested behaviour to prevent it. In the context of food literacy, an individual is more likely to execute healthy eating behaviour if he/she perceives certain diseases like heart attack or liver problems as serious but preventable by having a right diet.

On the other hand, 'perceived susceptibility' (perceived vulnerability) is the subjective assessment of a person of the probability/risk of developing a disease (Chin and Mansori, 2018a; Kamal et al., 2018). Reflecting this viewpoint, HBM elaborates that a person

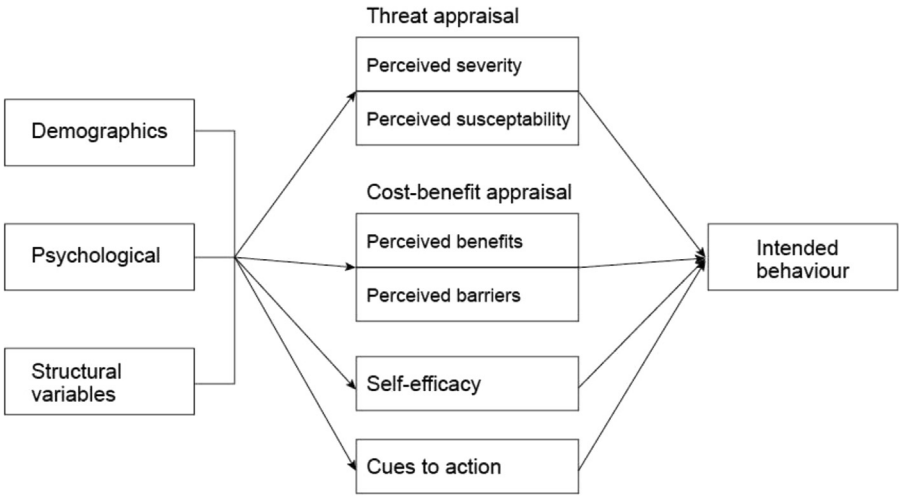

Figure 3 Health belief model with modifying variables.

who perceives that he/she is vulnerable to a particular disease will perform preventive health behaviour to reduce the risk of developing the disease (Fuddah and Zeitoun, 2016; Sulat et al., 2018; Rezaei and Mianaji, 2019). In contrast, a person with low vulnerability perception who believes that the negative consequence is unlikely to happen to him/her may ignore the risk. Given that, a person is motivated to cultivate healthy diet habits if he/she perceives himself/herself vulnerable to the risk of a disease due to his/her family medical history, age or working environment. Essentially, the combination of perceived severity and perceived susceptibility is called *threat appraisal* and thereby, the higher the threat level a person feels, the higher is his/her likelihood of engaging in the preventive behaviour (Ma, 2018; Shilan et al., 2018; Yee et al., 2018).

According to HBM, 'perceived benefit' is defined as an assessment of a person of the value gained from the suggested behaviour or from adopting a new behaviour. It posits that engaging in a particular behaviour will reduce/prevent the perceived threat of an incident (Diddana et al., 2018; Ghaffari et al., 2018). Sometimes, a person with high perceived threat may not feel the threat level to be sufficient enough to trigger him/her to leap into action. Instead, he/she needs to value the benefits accrued from the intended behaviour and have confidence towards the outcome. In other words, perceived benefit needs to outweigh perceived threat in order to induce behavioural change (Sobati and Masoudi, 2017; Zhang et al., 2017; Young, 2018). As such, the higher the value a person perceives the outcome of an incident to be, the higher is their likelihood of taking action. Thus, if a person believes that taking nutritious food daily (multigrain, fruits, vegetables) provides him/her sufficient energy, reduces the risk of cancer, and boosts the immune system, then this person will be more likely to carry out the eating-well behaviour than a person who does not highly weight the benefits derived from it.

'Perceived barriers' are the negative perceptions that stop a person from acting out a behaviour. They are a person's perception of the costs incurred in adopting the suggested behaviour (Jones et al., 2014; Shobeiri et al., 2016). Such costs include tangible (inconvenience, availability of facilities/choices, transportation) and psychological costs (lack of knowledge, lack of social support, attitude towards the situation). To further clarify, perceived barriers might prevent a person from executing an intended behaviour even though he/she has high perceived threats and perceived benefits (Naghashpour et al., 2014; Mohebbi et al., 2019; Smith et al., 2019). As an example, consider a person who believes that heart disease is a serious health problem and that he/she has high risk in getting it due to his/her family history. This person is also aware that he/she can reduce the chance of developing this disease by eating healthy/organic food every day. However, their financial condition or hectic lifestyle might delay or prevent this person from performing healthy eating behaviour. Against this backdrop, a cost-benefit appraisal is needed within a person to outweigh both perceived threats and perceived barriers in order to enable behavioural change to occur (Khumros et al., 2018; Tweneboah-Koduah, 2018; Yee et al., 2018). Therefore, the weaker/fewer the perceived barriers to a person, the stronger is the motivation for him/her to engage in positive behaviour, and vice versa.

With respect to the above, 'self-efficacy' concerns a person's subjective assessment of his/her own capability to overcome the challenges necessary for them to execute beneficial behaviour (Sirico et al., 2018; Rezaei and Mianaji, 2019; Sutliffe et al., 2019). As mentioned earlier, self-efficacy was added to the HBM in 1988 to provide a better explanation of personal cognition. Rigorous health-related research has identified that self-efficacy is the key component in changing a person's intention into actual behaviour (DelGiudice et al., 2018; McArthur et al., 2018; Shilan et al., 2018; Mohebbi et al., 2019). That is, if a person believes in his/her own competence and feels confident that he/she can overcome the obstacles of a particular situation, he/she is most likely to engage in the proposed behaviour. In line with this, a person who perceives that he/she can adopt and maintain a new positive behaviour (healthy eating) will carry out this intended behaviour in order to have a long-term healthy lifestyle.

Within HBM, 'cues to action' are triggers/cues that prompt a person to leap into action (Jones et al., 2014; Naghashpour et al., 2014; Smith et al., 2019). Cues can be divided into two types: internal cues (feeling pain, discomfort, symptoms of a disease) and external cues (mass media, events, motivations from significant others, persuasions from consultants). In effect, the influence of cues to action highly depend on the variance of total perceived severity, perceived susceptibility and perceived benefits compared to perceived barriers (Shobeiri et al., 2016; Sobati and Masoudi, 2017; Ma, 2018).

In the case of healthy eating behaviour, if a person perceives the consequences of a disease to be serious (perceived severity), perceives himself/herself as at high risk in developing a particular disease (perceived susceptibility), sees the importance and benefits (perceived benefits) of adopting behaviour of eating well, perceives that nutritious food is affordable and easily accessible (perceived barriers), believes that he/she has the capability to overcome the obstacles (self-efficacy), and is appropriately influenced by social media advertisements, social marketing campaigns and motivations by his/her family members, friends or siblings, this person will most likely will be triggered to carry out (cues to action) the favourable behaviour. Essentially, being the best known model among health-related theories, HBM has proven of relatively high accuracy in predicting human behavioural change and it is thus widely used nowadays in many other fields, including food literacy (Naghashpour et al., 2014; Diddana et al., 2018; Rezaei and Mianaji, 2019; Sutliffe et al., 2019).

Social Learning Theory (SLT)

At the elementary level, learning is a constant process and individuals experience learning through a process of reinforcement. Human nature leads to the repeat of a particular behaviour by a person if he/she is rewarded for doing so (positive reinforcement). In contrast, an individual will stop repeating a behaviour if he/she is punished for doing so (negative reinforcement) (Hamilton et al., 2015; Nematollahi and Eslami, 2017; Rankin et al., 2017). Thus, desirable stimulus behaviour leads to a favourable emotional experience (satisfaction, happiness, inspiration) and automatically tends to be repeated, whilst undesirable stimulus behaviour causes an unfavourable experience (frustration, discouragement, fear). Social learning theory (SLT) thus concerns

cognitive processes and social behaviour, explaining how new behaviour adoption is learnt through direct experience and through observing and imitating others (Stephens et al., 2015; Jung et al., 2019).

Social learning scholars conclude that human behavioural change depends on social reinforcement, such as through social norms/social influence about aspects like healthy diet, physical activities and recycling (Bagherniya et al., 2015, 2018; Hall et al., 2015). To be specific, social reinforcement consists of two components: actually experiencing reinforcements (an individual's direct experience) and observing reinforcements (imitating others, modelling). From the broader viewpoint, social reinforcement not only emphasises an individuals' behaviour but also the entire environment as well (Miller et al., 2017; Rosario et al., 2017). In this context, a role model's charisma, attractiveness, status and power ensures high influence on the audience. Likewise, the more credible the role model's behaviour, the more rewards he/she attains, the more impact he/she is liable to have on behavioural change or behaviour mirroring in an audience. As a result, SLT is the main rationale for the modelling of positive behaviour especially in mass media.

SLT has been widely applied in various research domains to understand social learning and social cognition among humans, being a hybrid theory that blends the principles of learning with cognitive psychology, explaining how the learning process happens in a social context through direct experience of a person and from observation of others' behaviour (Tiedje et al., 2014; Flattum et al., 2015; Weaver et al., 2015). Throughout decades, three major principles were utilised to provide thorough explanations of learning process in SLT: (1) vicarious reinforcement, (2) modelling and (3) reciprocal determinism (**Fig. 4**).

Utilising SLT, many studies have shown that an individual adopts a new behaviour by observing others' behaviour and the outcome expectancy of the behaviour, being either a punishment or a reward (vicarious reinforcement) (Hall et al., 2015; Miller et al., 2017; Nematollahi and Eslami, 2017). Taking healthy eating behaviour as an example, if an individual observes that his/her colleagues always choose nutritious food during lunchtime, he/she is more likely to adopt this desirable behaviour. As opposed to this, an individual will avoid/prevent a particular behaviour when a negative consequence is observed. And an individual may reduce his/her sugar intake when he/she learns that his/her significant other is diagnosed with diabetes.

In 'modelling' (also called observational learning), the learning process includes observation, obtaining information/knowledge on a behaviour from this, and evaluating the outcome of the observed behaviour (Hamilton et al., 2015; Weaver et al., 2015; Jung et al., 2019). There are three types of modelling stimuli, notably 'live models', 'verbal instruction' and 'symbolic'. In the case of food literacy, live models, such as ambassadors, athletes, leaders and social media influencers, are employed in social media to demonstrate a specific positive behaviour, for example, choosing organic food over snacks/sugary drinks in order to influence the target audience to foster a favourable behaviour.

On the other hand, verbal instruction involves an explanation given by an individual on how to carry out an intended behaviour (Flattum et al., 2015; Stephens et al., 2015; Rosario et al., 2017). Thus, nutritionists or consultants in campaigns or event activities can share with visitors information on the benefits gained from having a healthy eating behaviour and guide them on how to cultivate and maintain the habit. As for symbolic stimuli, this refers to characters that appear in the mass media, as in movies, television, radio and newspapers. These models have high influence on the audience as they are characterised by charisma, status and desirable behaviour. In the case of 'reciprocal determinism', an individual is influenced by personal factors and the social environment. In other words, an individual's behaviour is affected by the environment and vice versa (Miller et al., 2017; Bagherniya et al., 2018). As such, an individual who eats healthily will likely influence his/her friends or family members to imitate his/her behaviour.

Social Cognitive Theory (SCT)

Social cognitive theory (SCT) was originally conceived in 1931 by Edwin B. Holt and Harold Chapman Brown, stating that humans learn through observing and imitating others. SCT was further revised and expanded by a Canadian psychologist, Albert Bandura in 1986. In addition, Bandura also found that human behaviour can be changed and a new habit can be formed through personal factors (cognitive factors), behavioural factors and environmental factors – the appreciation of which significantly enhanced researchers' understanding of human behavioural change (Jeihooni et al., 2016; Eck et al., 2019; Nami Nazari et al., 2019).

Over the intervening years, SCT has been widely employed to predict human behaviour in a large number of studies and over a wide range of behaviours, including public health, global issues and mass media effects (Branscum et al., 2016; Torkan et al., 2018;

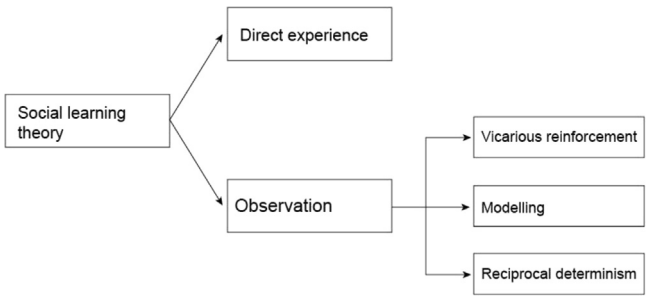

Figure 4 Types of social learning process.

Fait et al., 2019; Hurwitz et al., 2019). SCT continues to have such importance by providing scholars a rich and deep understanding of human cognition. Within SCT (**Fig. 5**), the three main factors - represented as reciprocal triadic determinism (integrations of three-way) - are: (1) personal (cognitive), (2) behavioural and (3) environmental.

Every behaviour observed by a person can influence his/her mindset (cognition) and overall personality regardless of the level of self-efficacy, past experience and knowledge of this person (personal factors/cognitive factors) (Dai and Sharma, 2014; Young et al., 2015; Rankin et al., 2017). It is therefore critically important to recognise that personal factors are the formative aspects of a person's personality, which are influenced by other people's behaviour, his/her raised environment and performed behaviour.

To further illustrate, personal factors include knowledge, goal and self-efficacy. Humans have neural systems that enable them to understand, evaluate incidents happening around them, and adopt new thinking styles and skills from their experiences (Ackermann and Palmer, 2014; Diep et al., 2015; Olfert et al., 2019). Throughout the process, humans gain knowledge from both direct and indirect processes. Direct learning is actual self-experience, while indirect learning is done by conveying the message delivered by an event, information or modelling and by providing justification of the value of the anticipated outcome (McCabe et al., 2015; Ko et al., 2016; Richards et al., 2017). In the case of healthy eating behaviour, people learn and are aware of the benefits accrued from eating well and maintaining healthy lifestyles. This knowledge can either come from education learning, workplace exploration, influence by significant others, or information from mass media.

A 'goal' is a desired result set aimed to be achieved by a person. A goal can be accomplished by self-regulating one's own behaviour, evaluating both positive and negative feedback, and exerting effort consistently to fulfil it (Jeihooni et al., 2016; Lee et al., 2016). For example, if a person is yet to perform a healthy eating behaviour, he/she can try to apply a baby steps approach to counter undesirable behaviour, first by reducing his/her daily sugary drinks intake. As another example, a person can cultivate desirable behaviour by setting a short term goal, such as choosing to eat one vegetable-focused meal at least three times a week.

As in other models, self-efficacy in SCT is defined as a person's ability to overcome his/her own belief and execute a particular behaviour (Eck et al., 2019; Nami Nazari et al., 2019). Self-efficacy plays an integral role in prompting a person to achieve his/her goal. A person with a high level of self-efficacy has a higher chance of overcoming a challenge and engaging in the intended behaviour than a person with a low level of self-efficacy, who might avoid facing the challenge (Muzaffar and Nickols-richardson, 2019; Zolghadr et al., 2019). As noted previously, self-efficacy can be influenced by three factors: performance accomplishments, vicarious experience and mastery experience, and verbal persuasion.

Performance accomplishments (also called social modelling) relate to an identifiable model that performs a particular positive behaviour and guides the target audience in how to accomplish it (Ahn et al., 2017; Eck et al., 2018). That is, humans tend to learn by observing others' behaviour and behave in similar ways. For example, children tend to mimic the way their parents talk, while a younger brother might start to study hard when he observes his sister obtaining gifts (reward) by attaining excellent results.

There are four factors of learning which include attention, retention, reproduction and motivation. For example, in the context of healthy eating behaviour, if the target audience finds a particular model credible, interesting, or somehow connects with the model emotionally (motivation), the audience will start to focus on him/her (attention). Then, after paying attention to the model, the audience will remember the observed eating well behaviour (retention) and reapply it constantly (reproduction) when it is their turn to choose their meals.

'Vicarious experience' plays a major role in increasing the success rate of a person carrying out a suggested behaviour, combined with 'mastery experience' (Diep et al., 2015; Ahn et al., 2016; Branscum et al., 2016). By and large, vicarious experience is a person's experience gained by observing people who are similar to him/her. During the process, the role model's success method, behaviour and sustained effort will be observed by the person (audience) to raise his/her confidence and belief regarding a similar outcome (Ko et al., 2016; Lee et al., 2016; Rankin et al., 2017). Subsequently, this person will start to master a simple task needed for the success of his/her anticipated outcome (direct mastery experience). Having obtained success from doing the simple task, this

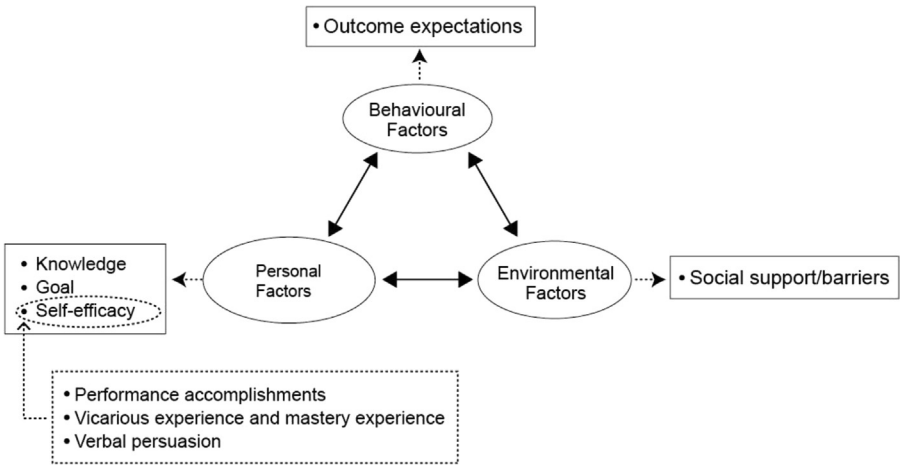

Figure 5 Determinants of social cognitive theory.

increases the person's self-efficacy to control the anticipated outcome and vice versa. In the same vein, a person is more likely to engage in healthy eating behaviour when he/she observes his/her friend succeed in reducing weight by having vegetable-focused meals every day (vicarious experience). This is because the person perceives the positive outcome from his/her friend and thus raises his/her confidence to perform the observed behaviour.

Consistent with SCT, verbal persuasion means motivating a person to execute a recommended behaviour in the form of words (Ackermann and Palmer, 2014; Ahn and Nelson, 2015; Young et al., 2015; Branscum et al., 2016). Generally, influential people like parents, coaches, celebrities, consultants and professionals have the ability to motivate and raise a person's belief and confidence in an anticipated outcome through verbal communication. After being guided and persuaded by them, the person has a higher likelihood of performing certain behaviours. Reflecting this phenomenon, it is therefore of utmost importance to consider that parents, universities, welfare campaigns and mass media act as critical roles in motivating the young to cultivate and practise healthy eating behaviour.

Behavioural factors are the responses received (outcome expectations) from a person after he/she has engaged in a specific behaviour (Richards et al., 2017; Torkan et al., 2018; Fait et al., 2019; Nami Nazari et al., 2019). The factors might be integrated with the person's personality or environment. Likewise, a person will feel motivated after he/she has correctly performed the desired behaviour whereas this person will feel depressed or frustrated if he/she does not perform well and this will make him/her stop repeating the behaviour. This explains why motivation and advice by influential people are critical as the audience need to be guided properly to feel encouraged, and to consequently repeat the desired behaviour.

Last but not least, regarding environmental factors, there are two main components: social support and barriers. These components greatly influence a person's ability to either successfully carry out a behaviour or refrain from doing it (McCabe et al., 2015; Ahn et al., 2016; Branscum et al., 2016; Eck et al., 2018). Social support refers to a person who gains the support or encouragement from his/her significant others (family members, friends, spouse) to raise his/her confidence towards a situation (Ahn and Nelson, 2015; Eck et al., 2019). Diametrically opposed to this, environmental barriers are the obstacles that delay or prevent a person from executing an intended behaviour, such as inconvenience, limited information and lack of transportation. In the context of healthy eating behaviour, family, friends and the community supports strengthen a person's perception and belief that eating well is a favourable behaviour and subsequently, this person will most likely adopt the recommended behaviour. Ultimately, SCT has been applied in a broad range of research in understanding human cognition and behaviour and nowadays it is been widely applied in the domain of food literacy.

Conclusion and Discussion

Social marketing has suffered problems with legitimacy for many years, and without a doubt needs to be more firmly establish in both academia and - in an applied manner - within society, in order to aid in achieving positive social change. Additionally, recent transformations of the food environment have brought a myriad of opportunities for food-consumption behavioural-change research, elevating social marketing in food to a new stage. The success of some social marketing campaigns demonstrates how the proper application of marketing techniques as promotional tools can achieve social change. As an example, successes includes weight control among adolescents in Thailand (application of the health belief model) (Khumros et al., 2018), using the theory of planned behaviour and self-efficacy to predict young people's engagement in healthy eating (Chan et al., 2016), and establishing social-cognitive determinants of healthy eating (application of the social cognitive theory) (Young et al., 2015).

To achieve this goal, appreciating the relevant literature and the theoretical concepts within this is an important first step in understanding human behavioural change and cognitive processes to eventually inform a strategic social marketing approach in food. To aid in this, this chapter has described a number of the key relevant theories/models, notably, the Theory of Planned Behaviour, Health Belief Model, Social Learning Theory and Social Cognitive Theory. However, challenges remain and despite all evidence, social marketing in food remains limited and ill-informed. This paper closes with a call for social marketing legitimacy to be further justified in order to be implemented in society for social good. To accomplish this socially desirable goal, a progressive approach becomes a necessity for social marketing in food to uncover new ways to unlock its potential.

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