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Health marketing communications: An integrated conceptual framework of key determinants of health behaviour across the stages of change

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Despite the development of many health behaviour theories across various topics, the inconsistency in empirical support for their propositions and the on-going criticism about their limitations highlight the need for an adjusted and integrated approach. These theories have never been 'abandoned' or altered significantly to address their limitations, since their conceptualisations. The aim of this paper was to make a conceptual contribution by integrating distinct health behaviour theories (i.e. Health Belief Model, Extended Parallel Process Model, Transtheoretical Model), with a popular information-processing and attitude change theory from the marketing communications arena (namely, the Elaboration Likelihood Model). The specific objectives of this paper were: (1) to address limitations of prevailing health behaviour theories, by identifying key determinants of health behaviour across the most commonly used health behaviour theories; (2) to identify source, consumer, channel, and message characteristics, in addition to executional/situational factors and attitudinal variables, which may influence health behaviour; and lastly, (3) to explain under which conditions (i.e. stage of change) these determinants and factors are likely to impact health behaviour change and maintenance. In doing so, four assumptions and several propositions are developed. Future research directions and practical implications for creating health marketing communication messages are also discussed.

Keywords: marketing communications; health behaviour determinants; stages of change; attitude change; information processing

1. Introduction

The world is faced currently with numerous public health issues and threats (e.g. cancer, obesity, H1N1 flu pandemic, HIV, AIDS and SARS pandemic). Marketing communication messages are key in promoting health and well-being (Liang and Scammon 2011), whether this is for treatment or prevention purposes, for chronic or acute illnesses, and have long been used to change health-related attitudes and persuade consumers[1] to engage in health-related behaviours (Dias and Agante 2011; Liang and Scammon 2011; Marshall, O'Donohoe, and Kline 2007; Martin and Kamins 2010). Many attitude change and information-processing theories related to health behaviour have been formulated to explain how consumer-related factors (i.e. self-efficacy, perceived risk) affect health-related information processing and decision-making. These health behaviour theories often include elements of communication processes, which is why they are often used to guide health marketing communication endeavours.

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Even though these theories have been already tested and provide some indication of the determinants of health behaviour (Hagger and Chatzisarantis 2009), the literature suggests that most studies provide inconsistent findings about the validation of these theories (Weinstein 2007). In recent meta-analysis articles, it is concluded that not all their propositions are consistently supported (Harrison, Mullen, and Green 1992; Marshall and Biddle 2001; Popova 2011; Witte and Allen 2000). In addition, each theory provides a different approach to changing health-related attitudes and behaviours, and each of them has been criticised for its limitations (see Glanz, Rimer, and Viswanath 2008). One of these limitations is the fact that consumers do not always act as rational decision-makers (i.e. many believe 'this cannot happen to me') who examine every merit of an argument in an effortful way, before reaching a decision. Sometimes, consumers may act irrationally. Nevertheless, these theories have never been 'abandoned' (Weinstein 2007) or altered significantly to address their limitations since their conceptualisations.

Thus, the aim of this paper was to make a related 'conceptual contribution' (MacInnis 2011) by integrating distinct health behaviour theories with popular information-processing and attitude change theories, from the marketing communications arena. However, our intention is not to suggest a 'one-size fits all' model, but rather provide a 'unifying (or at least classifying)' (Alba and Hutchinson 2000, 124) framework, which suggests interesting future research directions, within the context of health. First, this paper aims to address limitations of prevailing health behaviour theories, by identifying key determinants of health behaviour across the most commonly used health behaviour theories. Second, it looks to identify source, consumer, channel, and message characteristics, in addition to situational/executional factors and attitudinal variables, which may influence health behaviour. Lastly, it aims to explain under which conditions (i.e. stage of change) these determinants and factors are likely to have an impact on health behaviour change and maintenance, by also taking into account how consumers may process health marketing communication messages.

This paper also responds to a recent call by Yadav (2010) for conceptual articles in the field of marketing, related to concepts and theories, which are not well understood. Consequently, the proposed integrative framework challenges prior conceptualisations and synthesises the Elaboration Likelihood Model (ELM; Petty and Cacioppo 1981) with popular health behaviour theories [Health Belief Model (HBM), Extended Parallel Processing Model (EPPM), Transtheoretical Model (TTM)]. The former theory recognises that persuasion may occur through effortful thinking or through peripheral cues, and considers the multiple roles that the source, recipient (consumer) and message characteristics can play during a persuasion attempt (i.e. exposure to a health marketing communication message). These elements are often neglected by health behaviour theories. By bringing together these two areas of research, this paper takes a micro-perspective at the individual level, to answer the following research question: How does persuasion occur at different stages of change in a health-related context?

The following sections of this paper discuss the advantages and disadvantages of these aforementioned theories, and outline the proposed integrative framework of how persuasion occurs at different stages of change. The framework will highlight the key determinants of health behaviour, how health-related information may be processed, and the role of source, consumer, and message-related factors for each stage of change. The proposed framework is based on prior empirical evidence within the marketing communications and health behaviour literatures. Gaps are identified in empirical support, which provide interesting future research directions. In addition, practical implications for

the design of health marketing communication messages are presented based on the proposed framework.

2. Discussion of theories

A review of the applications and recent findings of the ELM, the HBM, the EPPM, and the TTM (stages of change) can be found in several reviews and meta-analysis articles (see Choi and Salmon 2003; Harrison, Mullen, and Green 1992; Popova 2011; Marshall and Biddle 2001, respectively). Table 1 provides a summary of the advantages and disadvantages of the original conceptualisations of these theories, which are also discussed in more detail in the sections that follow.

2.1. *Attitude change and the ELM*

Since the inception of the *attitude* construct in 1862 by Herbert Spencer (Allport 1925), many attitude change and knowledge–attitude–behaviour theories have been developed to explain: how consumers form and change attitudes; how consumers' attitudes influence information processing and decision-making; and how elements of marketing communication messages influence consumers' attitudes and/or their behaviours (see reviews of Bohner and Dickel 2011; Eagly and Chaiken 1993). Most of the popular attitude change theories (i.e. Cognitive Response Theory by Greenwald 1968; ELM by Petty 1977; Heuristic-Systematic Model by Chaiken 1978; The Communication/Persuasion Matrix Model of Persuasion by McGuire 1985) are still relevant to a range of contemporary topics and issues, and represent the theoretical basis for a vast number of empirical research for the past five decades (Bohner and Dickel 2011; Petty and Wegener 1998).

Altogether, this large body of research confirms that attitudes (consumers' general predispositions to evaluate other people, objects, and issues favourably or unfavourably – *cf.* Petty, Priester, and Brinol 2002) may influence behaviour (Bohner and Dickel 2011), and that marketing communication messages are often used to influence/change consumers' attitudes, in the hope of eliciting specific behaviours (McGuire 1985; Yang 2004). This is because consumers often

> tend to act favourably toward things they like ... and unfavourably toward things they do not like (Petty, Priester, and Brinol 2002, 2).

However, this does not necessarily mean that attitudes always precede (Foxall 1983), and/or predict behaviours (Ajzen and Fishbein 1980; Fazio and Zanna 1981; Petty, Priester, and Brinol 2002). The tripartite theory supports the view that attitudes may be based on cognitions or beliefs, affect or feelings, and actions or behaviours (Petty, Priester, and Brinol 2002). Attitudes formed as a result of an action or behaviour (direct experience) are more likely to influence subsequent behaviours, than attitudes formed based on indirect experiences (Fazio and Zanna 1981). In addition, an example of where attitudes do not always predict behaviours is the influence of consumers' beliefs in one's social environment (subjective norms), which can have a direct impact on behavioural intentions, independently of attitudes towards the behaviour (Ajzen and Fishbein 1980).

Nevertheless, within a health context, attitudes may also play a critical role on how consumers make health-related decisions and process health-related information (Petty and Wegener 1998). This is why the ELM by Petty and Cacioppo (1981, 1986) is used in this paper's theory integration, to shed some light on how consumers process information and form/change attitudes. The ELM is one of the most popular and comprehensive

Table 1. Advantages and disadvantages of original conceptualisations of theories used to synthesise the proposed integrated framework.

Advantages	Disadvantages
ELM by Petty and Cacioppo (1981, 1986) *Explains how consumers process, interpret advertising messages, form/change attitudes and make decisions* (Eagly and Chaiken 1993; Petty, Priester, and Wegener 1994).	
• Most comprehensive and widely used information-processing framework (Vakratsas and Ambler 1999) • Has also been applied in health-related (e.g. HIV prevention) contexts • Distinguishes between two routes of persuasion, which are considered two end points along a thinking continuum, and illustrates the various ways consumers may process information (effortful elaboration or through peripheral cues) • Recognizes the multiple roles consumers/ recipient, source, channel, message, and situational/environmental factors may play on how consumers process information • Provides practical recommendations on the design of marketing communication messages	• Focuses on attitudinal outcomes, which do not always predict behavioural change, nor do they always precede behaviours (Ajzen and Fishbein 1980; Fazio and Zanna 1981; Foxall 1983; Petty, Priester, and Brinol 2002). • Despite including consumer's mood, the ELM ignores emotions as another type of affect, which may impact on attitudinal outcomes (Dillard and Peck 2000) • Neglects the interdependence of cognition and affect (Storbeck and Clore 2007) • Lacks important health-related variables (e.g. perceived susceptibility and self-efficacy) that have been shown to have an effect on health behaviour change (Slater 2000), as this theory was not initially conceptualised to guide health behaviours
HBM by Rosenstock (1966) (first introduced by Hochbaum, Rosenstock, and Kegels, in the1950s) *Specifies the process of cognitive evaluation that precedes action tendencies* (Das, De Wit, and Stroebe 2003).	
• Supported across a range of health-related topics • Identifies important health behaviour constructs, such as perceived susceptibility, which is the strongest predictor of health behaviour (Becker 1974; Janz and Becker 1984), self-efficacy, and barriers to action, among others	• Consumers do not always scrutinise every merit of an argument (Petty and Cacioppo 1981) to reach a rational decision, and even if they do, they sometimes choose to behave irrationally (Airhihenbuwa and Obregon 2000) • Overlooks the impact of source, channel, message, and situational/environmental factors on health-related decision-making (Petty and Cacioppo 1981)
EPPM by Witte (1992) *Focuses on the use of fear appeals to form/change attitudes* (Witte 1992)	
• Consumers sometimes behave irrationally • Recognizes the existence of two possible outcomes of perceived threat: danger control (success of communication message) and fear control (communication message fails) • Identifies the importance of an additional efficacy component: response efficacy	• Neglects to take into account important consumer-related factors (i.e. perceived barriers based on HBM) that may impact health behaviour • Focuses on the impact of a negative appeal (fear), and neglects to consider the effects of other negative (i.e. guilt) and positive (i.e. humour) appeals, which may motivate health behaviour (Fredrickson 2004)
Stages of change (or TTM) by Prochaska and DiClemente (1984) *Specifies the stages people have to go through to change health-related behaviours* (Slater 2000).	
• Suitable for addictive behaviours, or treatments that require consumers to maintain health-related actions	• Focuses on changes, rather than on health behaviour variables (Glanz, Rimer, and Viswanath 2008)

(*Continued*)

Table 1 – *continued*

Advantages	Disadvantages
• Can be interpreted as a hierarchy of effects model in regards to how consumers make decisions, which ensured its suitability for integrating theories across the stages of change	• Treats all consumers at each stage of change the same

persuasion theories of all (Vakratsas and Ambler 1999). According to this model, *persuasion* refers to the change in attitude consistent with the goal of a communication message (Petty, Priester, and Brinol 2002). According to the ELM, attitude formation/change may result via effortful thinking (central route processing) or through peripheral cues (peripheral route processing), which impacts the strength of the attitudes that result from those processes (Petty and Cacioppo 1981, 1986).

A key construct in the ELM is the elaboration likelihood continuum. This is defined as the likelihood that the consumer will engage in active thought processing (elaboration) of the message, and is impacted by factors related to the recipient (i.e. motivation and ability to assess the merits of an argument) and message/situation characteristics (source, medium, message style, environment, etc.). Central route processing and peripheral route processing can be seen as two end points along the elaboration likelihood continuum. Under the high elaboration condition, consumers effortfully scrutinise all available topic-relevant information in relation to their prior knowledge (whether this knowledge is accurate or biased) and derive a reasoned attitude formation/change (central route). Alternatively, in the low elaboration condition, information scrutiny is reduced and attitude change may result from less effort-demanding processes (peripheral route). The central route of persuasion implies that the memory of cognitive responses is responsible for attitude formation, rather than remembering executional elements of a message. This suggests that recall and attention are unrelated to message effectiveness, which is a debatable topic (Tellis and Ambler 2008). According to the ELM's central route, examples of elements that are important to consumers are the generated thoughts, including their valence, the number of thoughts generated, confidence and beliefs in thoughts. Attitudes formed via the peripheral route are determined by simple decision processes such as classical conditioning, mere exposure, or the use of mental shortcuts (rules of thumb). Examples of peripheral cues include source expertise (e.g. 'he is a doctor, he must be right'), source attractiveness, the number of arguments presented, or the consumer's mood (Tellis and Ambler 2008).

However, the ELM also recognises that source, consumer, and message content factors (such as the examples above) may serve multiple roles: as peripheral cues, central arguments, or influence aspects of consumers' thoughts (i.e. lead to bias thinking, affect one's confidence in their thoughts, and impact the amount of thoughts generated). This is known as the multiple roles hypothesis (Petty, Wheeler, and Tormala 2003, 10), which states that

> even though a particular message element may be more consistently related to a particular function, the element can serve any of the three functions, depending on the situation (Liu and Shrum 2009).

For example, the perceived expertise of the source (i.e. spokesperson) might serve as a simple associative cue, i.e. 'he is a doctor, what he says must be correct', as consumers are motivated to hold correct attitudes. Otherwise, if elaboration is high, other elements

have been found to affect elaboration based on whether the source is perceived to be an expert or not (i.e. trustworthiness of the source and stigmatisation of the source) (see also Petty, Priester, and Brinol 2002). Thus, the elements that may affect processing and attitude formation cannot be categorised by processing route. A summary of factors that may impact the way information is processed and may lead to attitudinal outcomes, based on the ELM, can be seen in Table 2 (see Petty and Cacioppo 1986; Petty, Priester, and Brinol 2002 for a review of how these factors affect information processing according to the ELM). Some of these factors will be discussed in detail later in this section.

In addition, it is important to mention that along the elaboration continuum, various processes can 'co-occur and jointly influence judgments' (Petty, Wheeler, and Tormala 2003, 10). However, the impact of factors/variables on judgements is stronger/higher, under high elaboration, than under low elaboration. This is known as the trade-off hypothesis (Petty, Wheeler, and Tormala 2003, 10). The ELM argues that there is not just one path to persuasion. Consumers can be persuaded by active or passive information processing; however, the effects of persuasion are different depending on how the information is processed (Petty and Wegner 1998). According to the ELM, attitudes formed via the central route tend to be easier to recall, more stable over time, more resistant to change, and more predictive of behaviour than attitudes formed via the peripheral route. This is why Petty and Cacioppo (1986) suggested that true attitude change, which impacts behaviours, can only take place through the central route, thus implying that the absence of effortful thinking cannot motivate consumers to engage in a certain action or behaviour.

Contrary to recent studies suggesting the interdependence of cognition and affect Storbeck and Clore 2007), the ELM is a cognitive processing model which neglects to consider the impact of emotions on processing and decision-making outcomes. The term affect, sometimes defined as a valenced feeling state (Cohen and Areni 1991), is a threefold concept that includes moods, affective personality traits and emotions. Mood is a low intensity affective state, with longer duration (Cohen and Areni 1991) and it is a less-specific response to the environment (Frijda 1993). According to the ELM (Petty et al. 1993), a consumer's mood at the time of exposure to a persuasive attempt is recognised as a factor impacting thoughts, when the consumer is motivated and has the ability to process a message. Affective personality traits (e.g. optimism, pessimism) represent individual inclinations, which are not generated by a particular stimulus (Pieters and Van Raaij 1988). Emotions are affective states of a higher intensity, with shorter duration than mood and are elicited as a result of an object (Cohen and Areni 1991), such as exposure to a marketing communications message. Emotions have been defined largely as 'as a complex set of interactions… which can give rise to affective experiences, generate cognitive processes, activate widespread physiological adjustments to the arousing conditions, and lead to behaviour that is often, but not always, expressive, goal directed, and adaptive' (Kleinginna and Kleinginna 1981, 355). Unlike in the case of moods, people are often aware of the emotions that they experience (Frijda 1993). The psychology literature posits that 'basic' emotions and feelings help organise and motivate rapid (and often more-or-less automatic though malleable) actions that are critical for adaptive responses to immediate challenges to survival or wellbeing' (Izard 2009, 3).

Moreover, the use of emotions is a widespread tactic in persuasive messages (see Lee 2010). Numerous social marketing campaigns have used emotional appeals in order to determine compliant behaviour among consumers with regards to issues such as road safety and cancer screening (Brennan and Binney 2010). Altogether, there is a significant

Table 2. Antecedents and attitudinal outcomes of information processing according to the ELM.

Determinants of motivation and ability (respectively)	Determinants of elaboration	Determinant of route selection	Routes	Processes	Source, recipient,message, executional factors and elements impacting processing	Attitudinal outcomes
• Involvement • Personal responsibility for processing the message • Need for cognition	*Motivation* (higher involvement, personal responsibility, and need for cognition lead to great motivation to process a message)	*Elaboration* (the higher the motivation and ability to process the message, the higher the level of elaboration will be)	*Central* (higher elaboration)	High scrutiny of arguments	Source: • Source expertise • Source attractiveness/likability • Source trustworthiness • Stigmatization of the source Message: • Perceived prestige • Response to audiovisual elements • Quality of arguments (strong vs. weak) • Number of arguments • Message length • Speed of speech • Agreement (with pre-existing attitudes and/or past behaviour and/or subjective norms) • Complexity of arguments • Comprehensibility Recipient: • Mood of the consumer (at the time of exposure) Executional: • Channel • Repetition of message	Attitude strength Attitude certainty Attitude valence Attitude correctness
• Consumer knowledge • Amount of distraction • Repetition of message	*Ability* (great consumer knowledge, less distraction, and higher repetition of the message lead to higher ability to process a message)		*Peripheral* (lower elaboration)	• Classical conditioning • Mere exposure • Heuristics (mental shortcuts, rules of thumb)		

Note: See reviews of Petty and Cacioppo (1986) and Petty, Priester, and Brinol (2002) for definition of constructs and relationships between them.

amount of research that examined the role of emotions in various marketing contexts. Emotions were shown to influence consumers' response to both positive and negative appeals of social marketing communications (Dillard and Peck 2000; Basil, Ridgway, and Basil 2008), decision-making processes and strategies (Lerner and Keltner 2000; Pham 2004), advert responsiveness and attitude towards the advert (McKay-Nesbitt et al. 2011), as well as a positive influence on brand attitudes (Pham, Geuens, and De Pelsmacker 2013). This is why the affective responses to HMC messages should not be overlooked. Particularly, positive emotions could be beneficial for health marketing communications since recent research states they broaden people's attention and thinking, undo the lingering of negative emotional arousal, and fuel psychological resilience (see Fredrickson 2004; Johnson, Waugh, and Fredrickson 2010; Vacharkulksemsuk and Fredrickson 2013).

Even though the ELM has been developed for products and services that usually contain a lower level of risk than health-related decisions (e.g. detergent purchase vs. vaccination), and the fact that ELM has additional limitations than the ones discussed in this section (such as the fact that it does not explain why music is not processed through the central route, or when consumers may stop processing information – see Eagly and Chaiken 1993), the ELM does recognise that consumers may form/change attitudes via peripheral cues, as they are not always motivated to elaborate on every persuasion attempt they are exposed to. This is different from most health behaviour theories, which acknowledge only a central route processing (e.g. HBM), and lack insight on how source, channel, and message content factors may impact processing and outcomes. Past research has also applied the ELM to health-related topics, such as HIV prevention (Melzler, Weiskotten, and Morgen 1999), but lacked the theoretical background of incorporating health-related theories in their considerations (Slater 2000). Thus, the inclusion of such theories (i.e. HBM, EPPM, TTM) is important in order to understand how to create health marketing communication messages that motivate actions (health behaviours).

2.2. *Health Belief Model*

A popular health behaviour theory that 'specifies the process of cognitive evaluation that precede action tendencies' (Das, De Wit, and Stroebe 2003) and identifies important health-behaviour determinants is the HBM developed by Prochaska in the 1950s. The model postulates the likelihood of a consumer acting upon the recommended health-related action (Glanz, Rimer, and Viswanath 2008) and it has found support across a range of health issues and topics (e.g. obesity prevention, mammography testing, breast self-examination, condom usage, smoking, alcohol reduction, H1N1 vaccination, and AIDS preventative behaviours).

A very similar attitude change health-related theory is the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1980) and its extension the Theory of Planned Behaviour (TPB) by Ajzen (1985, 1991). According to Werle (2011), the TRA/TPB models measure similar constructs to the HBM. Which theory is superior is debatable (Conner and Norman 1996; Oliver and Berger 1979); however, the reason for including the HBM in this paper's conceptual framework is due to the HBM's construct of *cues to action*. This construct takes into account bodily (i.e. sneeze) or environmental (i.e. media publicity) events that may affect one's readiness to take the recommended health-related action (which is not explicitly portrayed in the TRA/TPB). Cues to action can also be seen as strategies that activate the consumer's readiness to act, which is why these strategies should not be neglected when developing promotional messages. Cues to action is one component often

missing from prior research, and has the greatest influence on behaviours in situations where threats and benefits are high, and barriers are low (Werle 2011).

In addition to cues to action, other HBM constructs include perceived susceptibility, perceived severity, perceived barriers, perceived benefits, perceived efficacy, and demographic and socio-psychological variables (Glanz, Rimer, and Viswanath 2008). The first two constructs, perceived susceptibility and severity, refer to a consumer's health-related risk assessment of a certain condition/situation and the seriousness of the condition's potential consequences, respectively (Glanz, Rimer, and Viswanath 2008). Perceived susceptibility is believed to be a strong predictor of behaviour when dealing with preventative actions (Becker 1974; Janz and Becker 1984). This is one of the strengths of this model as other health related models neglect to address perceived susceptibility to a condition and its effect on the likelihood of engaging in health-related actions. Together, perceived susceptibility and severity are used to measure the perceived threat of a certain condition, which could determine whether or not a consumer would engage in the recommended health behaviour (Witte et al. 1998).

Perceived barriers (costs) and benefits refer to a consumer's assessment of the negative and positive influences and consequences of adopting the recommended behaviour (Glanz, Rimer, and Viswanath 2008), which in simple economic terms would be the calculation of the benefits minus the costs of undertaking the recommended action. A meta-analysis study found that barriers had the strongest relationship with behaviour change (Glanz, Rimer, and Viswanath 2008). Thus, fewer the perceived barriers, the higher the likelihood of engaging in health behaviours. In addition, self-efficacy refers to a consumer's self-assessment of his/her ability to successfully engage in the recommended health-related action (Glanz, Rimer, and Viswanath 2008).

Criticism regarding the identification of the relationships among the HBM constructs (Das, De Wit, and Stroebe 2003) is one of the model's major limitations, along with the overlook of the different ways consumers may process information, and other marketing communication elements (i.e. source, channel, message, and execution). The HBM is a cognitive-based theory, which generally assumes that consumers are rational decision-makers (Airhihenbuwa and Obregon 2000), contrary to more contemporary research findings (Singh 2003). On the contrary, the EPPM, which is another health behaviour theory, takes into consideration the fact that consumers may act irrationally and identifies fear appeals as way to elicit behaviour change, through the generation of fear (a negative emotional response).

2.3. *Extended parallel process model*

The EPPM identifies the importance of *threat* and *efficacy* components (Witte 1992). Perceived threat is measured by *perceived susceptibility* and *perceived severity*, as per the HBM. The efficacy component of the message included in the EPPM refers to two types of efficacies (i.e. self-efficacy and response efficacy), as opposed to the HBM that only identifies one (Witte 1992). The former (self-efficacy) refers to the perceived ability of the consumer to take/carry out the recommended health-related action (Bandura 1994). Perceived barriers (e.g. embarrassment), also identified by the HBM, are important and are 'a subset of self-efficacy because barriers impede one's perceived ability to perform a given action' (Witte et al. 1998, 348). Response efficacy refers to the portion of the message that tries to convince consumers that the recommended action will avert the threat (Witte et al. 1998). Each type of efficacy appears to consistently affect health behaviours (Witte et al. 1998; Popova 2011).

Research has been conducted on fear appeals and how these drive health-related actions (Das, De Wit, and Stroebe 2003; Martin and Kamins 2010). Leventhal (1970, cited in Petty and Wegner 1998, 4) suggests that fear generates

> both cognitive responses designed to protect oneself from danger (such as accepting the advocacy) and emotional responses aimed at protecting oneself from aversive arousal (such as avoidance).

The EPPM identifies two possible processes of fear appeals; danger control and fear control (Das, De Wit, and Stroebe 2003; Witte 1992). Danger control refers to a consumer's attempt to control the threat a disease may pose, and fear control refers to a consumer's attempt to control their fear generated by the threat of a disease. Consumers who try to control the danger of a disease are more likely to cognitively evaluate the recommended action in the health marketing communications message. Conversely, consumers who try to control their fear of a disease focus so much on their emotional response and feelings arisen from the awareness of a disease, that they neglect to consider taking steps to avert the threat of the disease, but rather focus on reducing their perception of threat, without taking action (Cohen, Shumate, and Gold 2007). Consumers' impulses to control their fear is consistent with the literature in psychology about emotional regulation mechanisms (Gross and Thompson 2007) and coping with negative emotions in generic behaviour (Lazarus 1991) and health-related behaviour (e.g. coping responses and smoking; Dickinson-Delaporte and Holmes 2011). However, fear control processes are one of the reasons why fear appeals fail to persuade, according to Witte et al. (1998). The other reason is that the threat is perceived to be trivial to the receivers of the message (Witte 1992).

Despite EPPM's contribution to the literature (Das, De Wit, and Stroebe 2003), it neglects to consider other types of emotions, which may affect information processing, thus limiting its application to fear appeal-based HMC messages. In addition, HMC messages that elicit fear may not be effective, for consumers who have direct experiences with a health issue, or for all types of health issues/conditions (i.e. smoking cessation). Slater (2000) argues that the EPPM and the HBM are complementary and can be applied to specific problems, by using the stages of change, which is also known as the TTM, as a cross-theoretical platform for combining key constructs/determinants of health behaviours.

2.4. TTM (stages of change)

The TTM (stages of change) is often used to understand how consumers intentionally change their health related behaviour (Prochaska, DiClemente, and Norcross 1992). The model describes the stages consumers go through to change health-related behaviours (Slater 2000) and has been applied to both addictive behaviours (e.g. drug use, smoking cessation) and other health-related topics (e.g. weight control, mammography testing, and condom use) (Prochaska 1994). The TTM identifies six stages of change: pre-contemplation, contemplation, preparation, action, maintenance, and termination.

According to Prochaska (1994), consumers in the *pre-contemplation stage* are unaware or have limited awareness (i.e. low consumer knowledge) of an existing health issue/condition. This is why consumers in the pre-contemplation stage have no intention to change their behaviours. If consumers become aware or more aware of the existence of a health issue, then they are more likely to move to the *contemplation stage*. In the contemplation stage, consumers are aware of an existing health issue, and are seriously thinking about reducing the risk associated with the health issue (or overcoming a health condition); however, they have not yet made a commitment to take action. Those

consumers who are seriously thinking about taking action are more likely to move to the *preparation stage*. Consumers in the preparation stage have high behavioural intentions to change, which means that they have thought about it and have made a decision. According to the TTM, consumers in the preparation stage intend to take action within 30 days or have unsuccessfully taken action in the past year. These consumers might have taken some behavioural steps in that direction (i.e. made an appointment for vaccination), but have not yet acted (i.e. are not yet vaccinated). It is expected that consumers who have taken some behavioural steps more than others are more likely to move from the preparation to the *action stage*. Consumers in the action stage act upon their behavioural intentions by changing their behaviour, experiences, or environment in order to overcome their problems (i.e. barriers to action). According to the TTM, action involves the most overt behavioural changes and requires considerable commitment of time and energy. After the action stage, consumers move to the *maintenance* or the *termination stage* depending on the type of health behaviour change required. For health behaviours that require repeated actions (i.e. addictive behaviours), consumers move to the maintenance stage where consumers try to prevent relapse and consolidate the gains attained during action. On the contrary, for health behaviours that are associated with no temptation to relapse, and/or for which consumers have full confidence in their ability to avert relapse, consumers are more likely to move to the termination stage. Factors that may affect temptation include negative affect or emotional distress (i.e. condom usage), social situations that encourage unhealthy situations (i.e. social drinking) and craving (i.e., dieting) (Glanz, Rimer, and Viswanath 2008).

The stages of change are completed in succession, but progression through the five stages is not always linear due to the likelihood of relapse (Slater 2000). This is consistent with the view that consumers sometimes act irrationally without passing through all the stages of change (i.e. classical conditioning – eliciting behaviour change without passing through the contemplation stage).

In addition, the TTM does identify some processes that take place when consumers move from one stage of change to another (Glanz, Rimer, and Viswanath 2008; Slater 2000). In early stages, consumers apply cognitive processes (i.e. conscious raising involving learning and increasing awareness), affective processes (i.e. dramatic relief involving the decrease of negative emotions if action is taken), and evaluative processes (i.e. self and environmental re-evaluation – realising how unhealthy behaviours impact one's identity, proximal social and/or physical environment). These processes help them to progress through the stages of change. In later stages, consumers rely more on commitments (self-liberation if action is taken), counterconditioning (learning about substituting unhealthy with healthy behaviours), environmental controls (reminders, increasing rewards) and support (social support) for progressing towards maintenance or termination.

This model does not provide guidance on how marketing communication messages can persuade consumers to engage in the recommended health behaviours, nor does it take into account important health-related constructs (i.e., perceived risk, efficacy, barriers). Therefore, the utility of the stages of change alone, as conceptualised originally, is limited for guiding the design of health marketing communications messages. In addition, other limitations of the TTM include treating all consumers in the same stage the same and focusing on changes, rather than on health behaviour variables (e.g. consumers in the contemplation stage might have lower barriers than consumers in the pre-contemplation stage – Glanz, Rimer, and Viswanath 2008), which might affect outcomes at each stage of change.

In summary, these aforementioned theories offer different perspectives to health behaviour (or attitudes in respects to the ELM). Each theory by itself suffers from limitations that undermine their ability to guide the design of health marketing communication messages. The HBM identifies important health behaviour variables that have been consistently found to impact decision-making; however, it assumes that consumers are rational decision-makers, thus focusing only on effortful processing of HMC messages. The EPPM is one health behaviour theory that recognises that consumers may act irrationally, but focuses only on the use of fear appeals to change behaviours. The TTM acknowledges that repeated behaviours may also be required to prevent or treat a disease, and maintain health and well-being (e.g. smoking cessation, weigh management, HPV vaccination), as well as identifies processes of how consumers move from one stage of change to another. ELM is another theory that focuses on processes, but more specifically related to incoming information, rather than processes of change, and it specifically identifies how these processes affect attitudinal outcomes. The marketing roots of the ELM provide valuable insights for the design of health marketing communication messages, even though caution should be exercised when transferring theories/concepts via empirical evidence from traditional purchase situations to health-related contexts.

These aforementioned limitations are addressed by the integrative framework proposed next, which identifies key determinants of health behaviour, how health-related messages may be processed and possible outcomes, in addition to identifying source, consumer/recipient, message, and executional/situational factors which exert the greatest influence on each stage of change. In doing so, this framework attempts to add to our understanding of how persuasion occurs at different stages of change.

3. The proposed integrated framework

The proposed integrated framework uses the TTM as an integration platform for combining constructs, and concepts of the ELM, HBM, and EPPM enriched with additional constructs, i.e. emotional proneness and responses (discussed in detail in a latter section of this paper) relevant to its purpose. A hierarchy-of-effects approach is used to illustrate which constructs should be taken into account when designing HMC messages for each stage of change of the TTM, as well as map out the various processes that might lead to behaviour change. However, this hierarchy-of-effects does not imply that succession through all the stages of change is always linear and/or relevant across all health issues/behaviours, nor that each stage of change is a necessary condition for behaviour change (Slater 2000). For example, HMC messages are not only designed to target consumers when they are unaware of the existence of an issue, but may also target consumers who have considerable knowledge on the topic and high behavioural intentions to take health-related action, even though they have not acted upon them. Also, consumers who become aware of a health issue (increased consumer knowledge of a health issue/behaviour) will not necessarily be motivated to effortfully assess all merits of arguments presented in an HMC message. Thus, HMC messages might have more than one intended goal, and many possible outcomes. This is why hierarchies-of-effects are not always an accurate portrayal of how consumers process messages and make decisions. However, they are predominant in the marketing communications literature (Vakratsas and Ambler 1999), due to their usefulness in identifying, in an organised manner, concepts and constructs that might affect behaviour. As noted earlier, the proposed integrated framework is not intended to suggest a 'one-size fits all' model, given differences across

health issues/behaviours (e.g. chronic or acute, treatment or prevention, behaviours requiring medical professional approval/prescription or daily health-related activities such as exercising), differences among consumers (e.g. demographics, health status, knowledge of health issue) and social situations (e.g. peer influence, support, social situation). Thus, the proposed framework is based on the following main assumption:

Assumption 1. Consumers might be exposed to HMC messages at different stages of change, and succession through all the stages is not always linear and/or necessary.

Even though the ELM focuses on persuasion as a result of attitude change/formation, this proposed integrated framework takes into account prior research findings that support the view that attitudes do not always predict and/or precede behaviour change (Ajzen and Fishbein 1980; Fazio and Zanna 1981). In addition, within a health context, most HMC messages would aim to ultimately increase the likelihood of behaviour change, according to health behaviour theories (i.e. HBM, EPPM, TTM), rather than focus on changing/forming attitudes. Therefore, in this proposed integrated framework, *persuasion* is not limited to attitude formation/change, as per the ELM, but rather refers to whether or not the goal of the health marketing communications message has been achieved. What it means to be *persuaded* at each stage of change is discussed in the outline of the proposed framework. However, it should be clarified that the proposed integrated framework does not distinguish between ELM's routes of persuasion, but rather uses the ELM to illustrate the different ways health information can be processed (i.e. not only relying on the cognitive evaluation of arguments and scrutiny of their merits, as the common health-behaviour theories do). Therefore, this integrated framework proposes that consumers process information along a thinking/elaboration continuum, and elements related to the source, message content, recipient, channel and execution of the HMC message can be processed as arguments and/or peripheral cues, simultaneously, at various levels of elaboration. All these views are summarised in the following two assumptions:

Assumption 2. A persuasive HMC message is not restricted to influence attitudinal outcomes, as attitudes do not always predict and/or precede behaviour change, but rather the meaning of a *persuasive* HMC message can differ based on the goal(s) of the message and the stage of change.

Assumption 3. Consumers may process elements of HMC messages (source, message content, recipient, channel, and executional), as arguments and/or peripheral cues, simultaneously, along a thinking/elaboration continuum.

The proposed integrated framework also recognises the interdependence of cognition and affect (Storbeck and Clore 2007). The contemporary psychological approach on judgement and decision-making considers that cognition and affect are interrelated due to the informational role of affect (Schwarz and Clore 1988) and the affect-priming effect (Forgas 1991). The affect-priming principle states that affect informs social judgements by easing the access to other cognitive processes such as attention, encoding, retrieval and associative processes (Bower 1981; Isen 1987). 'Rapid, automatic affective response ... may inform cognition and behavioural choice' (Baumeister et al. 2007, 167). Both positive and negative affect have been found to impact on one's decision to act on goals, with positive affect encouraging action, while negative affect hindering it (Huntsinger

et al. 2006). As noted in the literature review, affect is a threefold concept that includes: moods, affective personality traits and emotions. However, in this paper and the proposed framework, the focus is only on moods and emotions for which there is a significant amount of supportive literature. Positive moods and emotions are 'associated with processing that is generative (e.g., Erez and Isen 2002), constructive (e.g., Fiedler 2001), and broad (e.g., Fredrickson and Branigan 2005)' (Storbeck and Clore 2007, 12). Some psychologists also consider that 'the primary function of emotion is to modulate and bias action' (see Barish 2009, 13). Emotions shape behaviour via feedback, anticipation and reflection, rather than direct causation (Baumeister et al. 2007). Additionally, recent cognitive psychology theories (stemming from neurological theories) propose that an individual's beliefs depend on both informational or cognitive factors as well as affective factors. It is regarded that the strength of a belief is influenced both by the information obtained, but also by the emotional responses on the belief. This assumption is aligned with earlier views on the influence of emotions on beliefs, by which that emotion can create and shape beliefs (*cf.* Frijda et al. 2000). All this prior literature implies that contrary to the ELM and the HBM, which are cognitively based theories, affective responses to an HMC message and its elements can influence processing, attitudinal and behavioural outcomes. These views are summarised in the following assumption:

Assumption 4. Cognitive and affective processes are interdependent during message processing and both can influence attitudinal and behavioural outcomes. The manifestation of these processes, however, varies by stage, by consumer, by HMC message, and by situation.

Based on the aforementioned theories (HBM, EPPM, TTM, ELM) and assumptions, an integrated framework is advanced regarding how persuasion occurs across different stages of change, which is depicted in Figure 1. At the top of Figure 1, the conditions under which the consumers may become exposed to HMC messages for each stage of change are identified. The next row, in grey font, identifies the stages of change of the TTM that correspond to the conditions identified, and each dotted column corresponds to each stage of change.

The main differences between the TTM's stages of change, and those of the proposed integrated framework, are: (1) the pre-contemplation stage, which in the proposed framework only refers to consumers who have no awareness of an existing health issue (as opposed to the TTM, which includes consumers with limited awareness in that stage), and (2) the contemplation stage, which in the proposed framework refers to the multiple ways consumers may process HMC messages (thus not restricted to processing arguments in an effortful way, as per the TTM). Reasons for these differences and their implications are discussed below in the relevant subsections.

The subsequent rows of the framework, after the identification of the stages of change, are organised by a common set of antecedents across all stages of change; processing (of arguments and/or peripheral cues), emotional responses to the HMC message, and resulted health behaviour perceptions; factors which exert the greatest influence on processing at each stage of change; and possible outcomes. Below the framework, the legend clarifies the proposed relationships and symbols used in Figure 1.

The rest of this section will outline the proposed integrated framework by first discussing a common set of antecedents across all stages of change and then using each stage of change, as an organisational platform, to discuss the following aspects: (a) conditions under which consumers may be exposed to HMC messages at each stage of

change; (b) the HMC message(s) goal(s) – which is a way of defining what it means to be *persuaded* depending on each stage (not depicted in Figure 1); (c) the ways consumers may process these messages and outcomes of each stage; (d) the factors that exert the greatest influence on each stage; and (e) other possible outcomes and movements across stages of change. Lastly, relationships among possible outcomes across the stages of change are identified. A series of propositions are put forward based on supportive literature from empirical studies and research gaps for future research are identified.

3.1. Antecedents across stages of change

The proposed integrated framework suggests that there is a common set of antecedents across the stages of change, which impacts information processing, decision-making and outcomes, after exposure to an HMC message. More specifically, these antecedents include: a consumer's ability and motivation to process an HMC message, the level of elaboration a consumer is willing to devote to a message, a consumer's mood at the time of exposure, and a consumer's emotional proneness. A series of propositions are advanced, regarding these antecedents, which are based on the ELM (see Section 2.1) and prior empirical findings; except the proposition relating to the construct of emotional proneness, which was not part of ELM's conceptualisation and constitutes an additional component of the proposed integrated framework.

Firstly, as indicated earlier, in Assumption 3, consumers may process messages in different ways; as arguments and/or as peripheral cues. This depends on the level of elaboration the consumer is willing to devote to message processing (Petty and Cacioppo 1986). A consumer's ability and motivation to process a message determines the level of elaboration a consumer is willing to devote to message processing, according to the ELM. More specifically,

Proposition 1.1. Consumers with high ability and motivation to process an HMC message will be more likely to bestow a higher level of elaboration on message processing, than consumers with low ability and motivation (Petty and Cacioppo 1986).

According to the ELM, a consumer's ability to process a message depends on consumer's knowledge, the level of distraction faced by the consumer at the time of exposure, and the repetition of the message. When consumer knowledge is low or inaccessible, consumers are more likely to process messages based on peripheral cues (under low elaboration conditions), rather than process every merit of an argument included in a message (under high elaboration conditions) (Wood and Kallgren 1988). As external distractions and time pressures increase, consumers are more likely to process peripheral cues, rather than the arguments of a message (Petty, Wells, and Brock 1976). Moderate message repetition may provide more opportunities for argument scrutiny (Cacioppo and Petty 1979, 1989), while high message repetition may be more effective when peripheral cues are processed, rather than arguments of a message (Petty and Cacioppo 1986). Thus repetition may affect consumers' cognitive ability to process a message.

In addition, a consumer's involvement with the health issue/behaviour, need for cognition, and personal responsibility for processing the HMC message determine his/her level of motivation to process the message, as per the ELM. Therefore, consumers who display a high level of involvement will be more inclined to carefully scrutinise arguments of the message, than pay attention to peripheral cues (Petty, Cacioppo, and Goldman 1981). Consumers with high need for cognition, present in those who enjoy thinking, are also more likely to process the arguments in a message (Cacioppo and Petty 1982), rather

than be influenced by peripheral cues. Personal responsibility, such as being solely responsible for processing a message (Petty, Harkins, and Williams 1980), or expectations to discuss with partner (Chaiken 1980) increase the level of scrutiny bestowed on the message arguments, and decrease the impact of peripheral cues.

Based on the earlier discussion, the following propositions are advanced:

Proposition 1.2. (a) High consumer knowledge (Wood and Lynch 2002) and low levels of distraction (Petty, Wells, and Brock 1976) will be more likely to result in high consumer ability to process an HMC message.

(b) The repetition of a message is likely to affect consumers' ability to process an HMC message (Cacioppo and Petty 1979, 1989; Petty and Cacioppo 1986).

Proposition 1.3. High consumer involvement (Petty and Cacioppo 1979), need for cognition (Cacioppo et al. 1983), and personal responsibility for processing the message (Petty, Harkins, and Williams 1980) will be more likely to result in higher consumer motivation to process an HMC message.

Proposition 1.4. Consumers with high levels of elaboration will be more likely to carefully scrutinise all merits of its arguments, rather than processing the message's peripheral cues (Petty and Cacioppo 1986).

According to ELM, when elaboration is low, a person's mood will serve as a peripheral cue and a simple association process (Rucker, Petty, and Priester 2007). This implies that a positive mood at the time of exposure to an HMC message will be more likely to result in positive attitudinal outcomes, when consumer's elaboration is low. When elaboration is high, mood can affect the extent of thinking (elaboration). Batra and Staynman (1990) found that consumers with a positive mood are more likely to process a marketing communication message, by its peripheral cues (low elaboration conditions), rather than scrutinise its arguments (high elaboration conditions). On the contrary, consumers with a negative mood are more likely to effortfully process (elaborate on) arguments of a message, if the consumer has the motivation (i.e. high involvement) and ability (i.e. less distraction) to elaborate on it, rather than process peripheral cues. Research by Riener et al. (2003) has also shown that moods (both sad and happy) influence one's perception, which is why a consumer's mood is proposed as an antecedent in the present framework. In addition, research by Raghunathan and Trope (2002) indicates that positive mood may also increase processing of threatening information, if the information is considered to have high self-relevance for the consumer. This is different from the ELM's view that a consumer's mood is only a factor affecting whether or not a message is processed as arguments and/or peripheral cues (as conceptualised by Petty and Cacioppo 1986).

Proposition 1.5. (a) When elaboration is high, consumers with a negative mood at the time of exposure to an HMC message will be more likely to process a message by its arguments, rather than by its peripheral cues, if they have the ability and motivation to do so (Batra and Staynman 1990).

(b) Consumers with a positive mood at the time of exposure to an HMC message will be more likely to form positive attitudinal outcomes, through simple association processes, when elaboration is low (Rucker, Petty, and Priester 2007), or process peripheral cues of an HMC message (rather than its arguments) when elaboration is high (Batra and Staynman 1990).

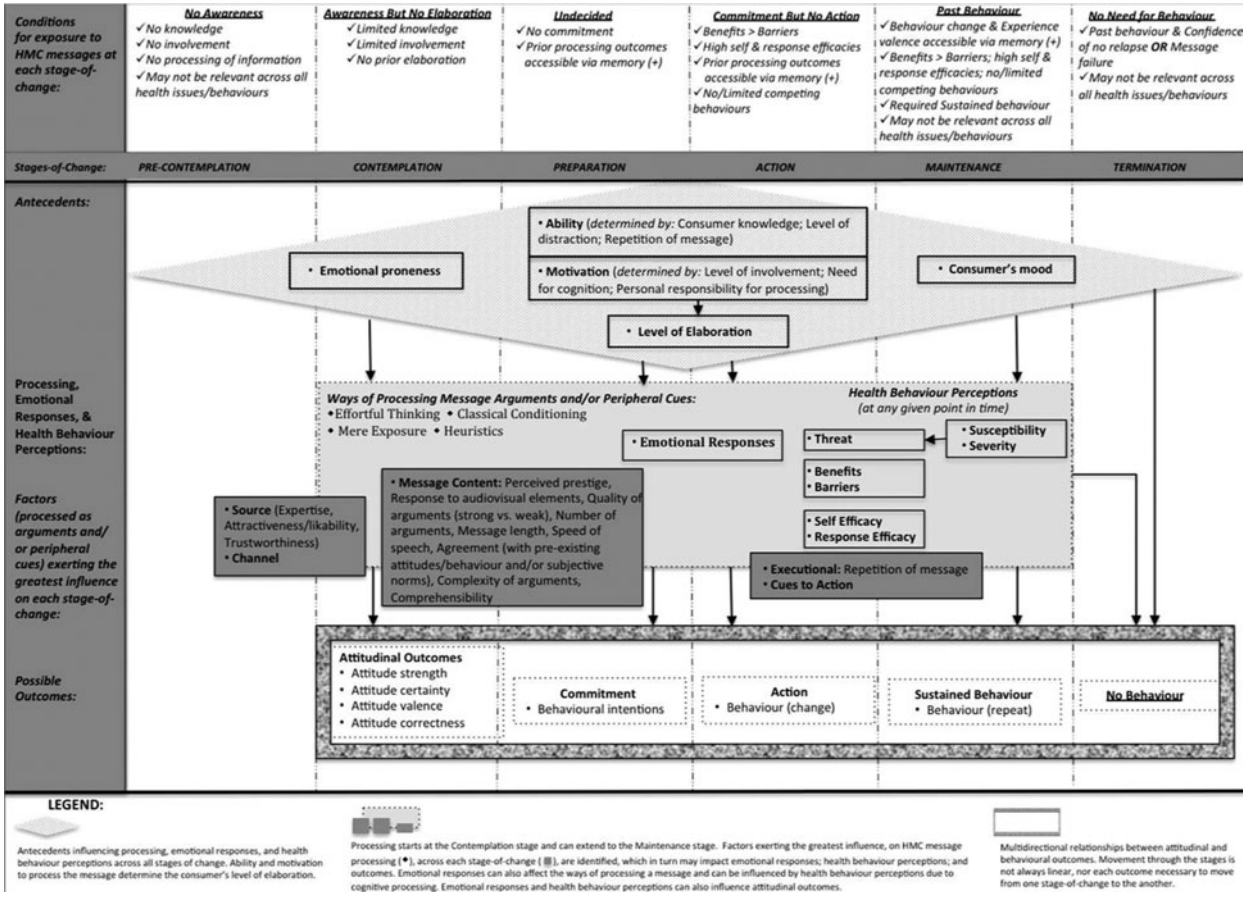

Figure 1. An integrated conceptual framework of key determinants of health behaviour across the stages of change.

(c) A consumer's mood can affect perceptions (Riener et al. 2003) such as health behaviour, and a positive mood may also increase processing of threatening information, if the information is considered to have high self-relevance for the consumer (Raghunathan and Trope 2002).

The aforementioned propositions (Propositions 1.1–1.5), except Proposition 1.5(c), are based on the ELM, and have been supported by prior empirical studies, within a marketing communications context. Even though these propositions come from a marketing communications context, they are not expected to change, due to the health-related context of the proposed framework, as they are related to the consumer, and are independent of the content of the message and the consumer's health-related behaviour. However, this is not the case for Proposition 1.5(c), as the impact of consumer's mood at the time of exposure to an HMC message on health behaviour perceptions (i.e. perceived threat/fear, benefits, barriers, self-efficacy, and response efficacy) has yet not been examined and requires further research to validate the proposition.

Emotional proneness, an additional (to the ELM's constructs) antecedent proposed here, also needs to be examined within a health-related communications context. Emotional proneness has been added to the antecedents of the proposed framework, because of its relevance to consumers' emotional responses to an HMC message, which are also taken into account to address limitations of prior cognitive-based health behaviour theories. Research in psychology shows that individuals differ in the degree to which they are prone to experience positive affect and negative affect, also known as positive emotionality and negative emotionality (Tellegen 1985; Watson, Clark, and Tellegen 1988). Research has found that there are individual differences in proneness to experience specific emotions, with consequences on a range of cognitive and behavioural responses (e.g. both adaptive and maladaptive processes). Such differences were found, for example, in relation to proneness to shame and guilt (Tangney 1990). This was important in understanding why individuals' responses to the same situation can be different, i.e. some would experience shame while others guilt, depending on whether focus of the evaluation was the 'self' or a particular behaviour (Smith et al. 2002). Emotional proneness is thus an important factor to be considered in marketing communications since consumers could respond with either guilt or shame to the same HMC, and this would entail different action tendencies. Therefore, if the consumer is characterised by proneness to shame, then he/she could respond with a desire to hide, ignore or be defensive. Alternatively, proneness to guilt will lead to experiencing guilt that has been associated with the desire to confess, amend and reparative behaviour (Tangney 1993). Thus, it is proposed:

Proposition 1.6. Consumer's emotional proneness towards experiencing certain emotions will influence his/her emotional responses to an HMC message and behavioural outcomes (Tangney 1990, 1993).

In addition to the aforementioned propositions, it should be noted that each stage of change involves its own conditions for exposure to HMC messages, with implications for the antecedent factors; this will be noted in each relevant section below. Thus, these antecedents should not be regarded independently of each stage of change, but rather in combination with the relevant factors at each stage, when designing HMC messages.

3.2. *Pre-contemplation stage*

The pre-contemplation stage is proposed to be the stage during which consumers have no awareness of the existence of a health issue. Note that in the TTM, this stage includes consumers who might have limited awareness. The reason behind this slight difference is that even a limited level of awareness requires some level of elaboration (minimal levels – automated processing) from the consumer, based on the ELM. Therefore, consumers who have no awareness of a health issue/behaviour need to be distinguished from consumers who have limited awareness. Such a distinction may be helpful, especially with new scientific breakthroughs related to health for which consumers have no awareness of (e.g. the HPV vaccine was first introduced in the market in 2006).

3.2.1. *Conditions under which consumers may be exposed to HMC messages*

Consumers in the pre-contemplation stage have no knowledge and involvement with the health issue being promoted, which implies that no elaboration (even minimal – automated processing) has taken place at this stage. Consumers at this stage are ignorant (i.e. have no awareness) as to the existence of the health issue. Therefore,

Proposition 2.1. At least some consumers exposed to HMC messages will be at a pre-contemplation stage where they have no knowledge/awareness of and involvement with the health issue/behaviour, and will have not engaged in any prior processing of information related to the health issue and/or message.

As an implication of the condition of no knowledge or involvement, the pre-contemplation stage may not be applicable to or relevant across all health issues and behaviours, for all audiences. For example, HMC messages in the pre-contemplation stage, for health issues associated with smoking, or health behaviours such as dieting, healthy eating and exercising, may not be needed, as it is highly unlikely that consumers have no knowledge/awareness of these health issues or behaviours. However, this depends on the target audience of the HMC message. Children may not be aware of the benefits of healthy eating, implying that for this audience an HMC message targeting children at the pre-contemplation stage may be needed, as opposed to the one for adults.

3.2.2. *HMC message goal(s) and definition of 'persuasion'*

The main goal of these messages in the pre-contemplation stage is to raise consumers' awareness about the existence of a health issue. Therefore, an HMC message targeting consumers in the pre-contemplation stage is regarded as persuasive if it successfully increases consumers' level of knowledge in regards to the health issue, from non-existent to low/limited knowledge (i.e. being aware of the existence of the health issue but not knowing the facts). However, in reality, there are hardly any messages that only target consumers in the pre-contemplation stage, without necessarily aiming to increase significantly consumers' knowledge and elicit attitude and/or behaviour change, by motivating consumers to elaborate (even minimal elaboration) on the message (moving them to the contemplation stage).

3.2.3. *Ways of processing information and outcomes on this stage*

Given that consumers at this stage have no knowledge and involvement with the health issue (i.e. the conditions of the pre-contemplation stage), they are more likely to have

minimal to low motivation and ability to process the message (antecedents of the proposed framework). No processing (cognitive or affective) takes place at this stage, therefore no emotional responses or health behaviour perceptions are formed at this stage.

3.2.4. *Factors exerting the greatest influence on this stage*

Even though no processing takes place at this stage, there are two factors which may exert the greatest influence on consumers exposed to HMC messages at the pre-contemplation stage: source factors and the channel via which the message is communicated to the consumer. Attention is mandatory for the success of any message (Heath 2007). Attention, however, is not a construct identified in the proposed framework, given its difficulty in being measured as it exists at an unobservable level. This is why earlier advertising models such as AICA (attention → interest → cognition → action), were ceased to be used, and A for attention was replaced by A for awareness (Barry and Howard 1990). Given that consumers in the pre-contemplation stage are not aware of the health issue/behaviour, they are not motivated to process the message. Thus, messages that passively transmit information via TV or radio channels are more likely to grab consumers' attention, at the pre-contemplation stage. This will increase consumers' awareness of the health issue/behaviour, even if only minimally, without necessarily motivating them to elaborate on the message. Information delivered via such channels is spoken and/or presented in multiple sensory modes, and thus can influence consumers who are not actively seeking exposure to the message (Edell and Keller 1989), or people who are not aware of the health issue/behaviour. In addition, the identification of the source in a message might refer to the explicit depiction/use of an endorser or to the implicit nature of the source (i.e. company, organisation communicating the message) (Petty and Wegener 1998). According to the ELM, source factors such as expertise, attractiveness/likability, and trustworthiness impact processing of message information as arguments and/or as peripheral cues (Petty and Cacioppo 1986). However, in the pre-contemplation stage, where no processing of messages is taking place, source factors serve as awareness initiators by catching consumers' attention. Thus, the use of sources which are considered experts (i.e. doctors for health-related issues) is highly attractive, trustworthy, and more likely to raise consumers' awareness of the health issue/behaviour (even minimally) by motivating them to pay attention to the HMC message. Based on the above literature, the following proposition has been advanced for the pre-contemplation stage.

Proposition 2.2. Sources high in expertise, attractiveness and trustworthiness (Petty and Cacioppo 1986) and passive channels such as TV and radio (Edell and Keller 1989) will be more likely to grab consumers' attention and increase their awareness of the health issue/behaviour at least at a minimal level.

3.2.5. *Possible outcomes and movement to other stages of change*

Consumers who decide to pay attention to an HMC message at the pre-contemplation stage might have a slight increase in their knowledge (become aware of the existence of the health issue) and thus will become motivated to move to the contemplation stage. This process is rather automated and does not require much effort. However, some consumers might not pay attention to an HMC message at the pre-contemplation stage and therefore remain unaware of the existence of the health issue/behaviour, which would imply that they remain in the pre-contemplation stage; this indicates message failure.

Proposition 2.3. (a) Consumers exposed to HMC messages at the pre-contemplation stage, who become aware of the existence of the health issue/behaviour (even minimally by paying attention to the message), will be more likely to move to the contemplation stage (indicating message success);

(b) Consumers exposed to HMC messages at the pre-contemplation stage, who do not become aware of the existence of the health issue/condition (do not pay any attention to the message), will be more likely to remain at this stage (indicating message failure).

Lastly, it should be noted that Propositions 2.1 and 2.3 are based on the conceptualisation of the pre-contemplation stage and its assumptions, and therefore do not require examination via empirical data. However, awareness of a health issue/behaviour can be used as a proxy to illustrate whether consumers are more likely to be exposed to HMC messages at the pre-contemplation (no awareness) or the contemplation (minimal awareness) stages. It must be noted that any measurement of awareness will automatically move consumers from the pre-contemplation to the contemplation stage, as it will initiate processing. Proposition 2.2, however, requires further validation, and needs to be explored within the context of the proposed framework.

3.3. Contemplation stage

During the contemplation stage, consumers do not require considerable cognitive effort to process an HMC message, contrary to the TTM's assumptions. Based on the ELM, and the elaboration continuum, consumers may process messages in an effortful way or through peripheral cues, which depends on the level of elaboration consumers are willing to devote to a message. Therefore, the word *contemplation* here implies that some information processes are taking place, without necessarily consumers having to effortfully elaborate on the message. The level of elaboration can vary from low to high, along a thinking/elaboration continuum, according to the ELM. Therefore, contemplating does not imply effortful processing, and also includes affective processing, as per Assumption 4.

3.3.1. Conditions under which consumers may be exposed to HMC messages

It is proposed that consumers in the contemplation stage have at least a minimal level of knowledge and involvement in regards to the health issue being promoted (implying that they are aware of its existence or become aware of its existence automatically after exposure to the HMC message). However, it is assumed that for consumers to be exposed to HMC messages at this stage, no elaboration has taken place yet.

Proposition 3.1. At least some consumers exposed to HMC messages will be at the contemplation stage and will have limited knowledge of (or at least awareness) and involvement with the health issue/behaviour, but will have not elaborated on the issue/behaviour and/or prior HMC messages related to the health issue, yet.

3.3.2. HMC message goal(s), and definition of 'persuasion'

The goal of HMC messages targeting consumers in the contemplation stage aims to initiate processing, and motivate consumers to form or change attitudes in a positive way. Therefore, persuasion at the contemplation stage implies that the consumer will have enough knowledge and involvement to decide how much he/she wants to elaborate on the HMC message, and then elaborate on it. The level of elaboration can range from low to

high, on an elaboration continuum as per the ELM, which in turn affects attitudinal outcomes in the contemplation stage. Thus, persuasion at the contemplation stage implies the formation of or change to positive attitudinal outcomes.

Memory of cognitive responses, rather than memory of executional elements, has been found to be more critical when processing messages and forming attitudinal outcomes (Rucker, Petty, and Priester 2007). Knowledge accessibility in memory is an important construct for information processing (Chaiken 1987), which influences attitude change/formation (Petty and Cacioppo 1986). Therefore, attitudes are conceptualised here as stored memory constructs that can be retrieved with more or less difficulty upon encountering a persuasion attempt (see Fazio and Zanna 1981), even though some researchers support the formation of attitudes in an automatically generated way (Dasgupta and Greenwald 2001; Ferguson and Bargh 2007; Hofmann, Rauch, and Gawronski 2007; Payne, Govorun, and Arbuckle 2008).

The attitudinal outcomes that may be impacted by the HMC message processing are: attitude strength (how strong is the attitude the consumer holds; behaviour-initiated attitudes are stronger than cognitive- or affect-initiated attitudes), attitude certainty (how certain a consumer is about his/her attitude), attitude valence (whether the attitude is favourable or unfavourable towards the health issue or recommended action), and attitude correctness (how close the attitude of the consumer is, compared to what he/she thinks is correct or appropriate or mostly accepted by others), according to Petty, Priester, and Brinol (2002) and based on the ELM. Attitudes can also be formed in regards to the message itself, according to Petty and Cacioppo (1986) and/or to the recommended action/behaviour of the HMC message, according to Ajzen and Fishbein (1980).

Lastly, reinforcing attitudes is easier than changing them (Heath 2007), and requires less cognitive effort. However, changing attitudes results in a higher certainty for the new attitude formation (Rucker, Petty, and Priester 2007). Repeatedly expressing attitudes increases certainty (Rucker, Petty, and Priester 2007). Therefore, different processes are involved in forming versus changing attitudes, which should be taken into account when designing HMC messages at the contemplation stage. Based on the aforementioned discussion, the following hypothesis is advanced:

Proposition 3.2. (a) Attitudinal outcomes are stored memory constructs that can be retrieved with more or less difficulty upon encountering a persuasion attempt (Fazio and Zanna 1981).

(b) Attitudinal outcomes in the contemplation stage include attitude strength, certainty, valence, and correctness (Petty, Priester, and Brinol 2002), and can be formed in regard to the message itself (Petty and Cacioppo 1986) and/or to the recommended action/behaviour of the HMC message (Ajzen and Fishbein 1980).

(c) The processes involved in forming versus changing attitudes are different (Petty and Cacioppo 1986).

3.3.3. Ways of processing information and outcomes on this stage

In the contemplation stage, consumers' way of processing message arguments and/or peripheral cues is determined by the level of elaboration (antecedent of the proposed framework) the consumer is willing to devote to a message, based on Proposition 1.4. According to the ELM, consumers with high elaboration are more likely to process an HMC message effortfully and scrutinise all merits of its arguments. Alternatively, consumers with low elaboration are more likely to process the HMC message via its

peripheral cues, through processes such as classical conditioning, mere exposure, and heuristics (Petty and Cacioppo 1986). Each process, whether low or high elaboration, may lead to attitudinal outcomes. However, as per the ELM, attitudinal outcomes formed through higher elaboration are more resistant to change, persistent over time, and come to mind faster, than those formed under lower elaboration (Petty and Cacioppo 1986). Therefore, it is proposed that

Proposition 3.3. (a) Consumers with low levels of message elaboration will be more likely to use automated processes such as classical conditioning, mere exposure and heuristics, in forming/changing attitudinal outcomes (Petty and Cacioppo 1986).

(b) Consumers with high levels of message elaboration will be more likely to use effortful thinking processes in forming/changing attitudinal outcomes (Petty and Cacioppo 1986).

Proposition 3.4. Attitudinal outcomes formed through high elaboration are more resistant to change, persistent over time, and come to mind faster, than those formed under low elaboration (Petty and Cacioppo 1986).

Low elaboration models, such as Ray's (1973) low involvement model, suggest that feelings/emotions (i.e. as a type of affect) are capable of driving decision-making on their own and judgment can be influenced by the manipulation of affect (Tellis and Ambler 2008). Affect can be processed automatically and pre-cognitively. Thus, messages can work without any cognitive processing of information, under low elaboration conditions, and can have longer lasting effects (Tellis and Ambler 2008). This is in contrast to the ELM, which states that true change comes from cognitive and effortful elaboration. This is especially likely to happen when such messages are exposed repeatedly (i.e. moderate repetition) to consumers, through passive information channels such as the TV (Tellis and Ambler 2008). Consumers who devote low levels of elaboration are more likely to process HMC messages based on heuristics, mental shortcuts, and rules of thump, and impact implicit learning. For example, Forgas's (1995) affect-as-information principle acknowledges that affect informs judgements in quick, heuristic processes (i.e. 'How do I feel about it?'). In these situations, affect acts as a 'shortcut to infer their evaluative reactions to a target' (Forgas 1995, 40). Furthermore, the literature points out that emotion utilisation is 'typically dependent on effective emotion-cognition interactions [and] is adaptive thought or action that stems, in part, directly from the experience of emotion feeling/motivation and in part from learned cognitive, social, and behavioral skills' (Izard 2009, 3).

Given Assumption 4, regarding the interdependence of cognition and affect, low elaboration does not imply the absence of cognition, but rather using more affective decision-making processes rather than cognitive ones. For example, when consumers have limited time to process a message, they are more likely to make affect-based decisions, rather than cognitive ones (Heath 2007). That does not mean that cognition is absent, but that it is less likely to impact decisions. Therefore, cognitive and affective processes co-exist when consumers process an HMC message, at any level of elaboration. Thus, it is important to remember that the affect-related antecedents mentioned earlier on in the paper (i.e. consumer's mood and emotional proneness) can impact processing (see Proposition 1.5) and emotional responses to the HMC message (Proposition 1.6), respectively. Their influence can be independent of or in combination with message elaboration, as a result of exposure to the HMC message.

As mentioned in the literature review, the proposed integrated framework also borrows constructs related to health behaviour perceptions such as perceived threat, benefits, barriers,

self and response efficacy, from the HBM and the EPPM, and integrates them with processing at the contemplation stage. Health behaviour perceptions may be formed at any given point in time, as a result of processing, whether elaboration is low or high. For example, self and response efficacies perceptions (based on the HBM and EPPM), may be formed as a result of effortful thinking or automated processes. Self-efficacy could be formed as a result of more automated processes, such as processing the source of the message (endorser) which is usually treated as a peripheral cue, through heuristic processes ('He can do it, I can do it'); or it might be a result of effortful thinking of message arguments. Thus:

Proposition 3.5. Any level of elaboration and/or type of processing may result in the formation of health behaviour perceptions, such as perceived threat, benefits, barriers, self and response efficacy.

According to the HBM, perceived threat is the result of perceived susceptibility and severity. The higher the perceived susceptibility and severity, the greater the perceived threat will be. High perceived vulnerability, which is a construct related to high perceived susceptibility, although not entirely the same, has been found to bias processing, but this 'does not compromise the evaluation of the recommendation' (De Hoog, Stroebe, and de Wit 2005, 24). This may be due to the fact that high perceived threat may result in the generation of fear (negative emotional response), which in turn generates both cognitive and affective responses (Witte 1992; Petty and Wegner 1998). Research in psychology has documented well the link between fear and threat perception (see Ohman and Mineka 2001), and even has identified difference source of fear elicitation such as predators, threatening strangers and diseases, among many others (Nesse 1990). Therefore, based on the aforementioned discussion, the following propositions are advanced:

Proposition 3.6. Consumers with high perceived susceptibility and severity will be more likely to perceive a higher level of threat, than those with low perceived susceptibility and severity (based on the HBM).

Proposition 3.7. High perceived threat may affect the ways of processing the HMC message (De Hoog, Stroebe, and de Wit 2005) and/or may lead to negative emotional responses such as fear (Ohman and Mineka 2001; Nesse 1990).

Even though it is proposed that perceptions of barriers and benefits to action (HBM constructs) can be formed as a result of any level of elaboration on the HMC message, they are more likely to be weighted and impact outcomes, when elaboration is high, rather than when elaboration is low. This is because consumers require considerable cognitive effort to carry out this comparison. Health behaviour perceptions are proposed to affect emotional responses (given the interdependence of cognition and affect – Assumption 4) and/or attitudinal outcomes at the contemplation stage. However, these relationships (Proposition 3.8) have not been examined before and require validation in the health context of this framework.

Proposition 3.8. (a) Health behaviour perceptions may affect attitudinal outcomes at the contemplation stage.

(b) Health behaviour perceptions may affect emotional responses.

In addition, consumers' emotional responses may influence the ways of processing the HMC message and/or attitudinal outcomes. Mackie and Worth (1989) found that 'positive affect influences message processing by reducing the cognitive capacity available for processing' (Lien 2001, 305). Other research has proposed that 'positive affect reduces

message elaboration by reducing the "motivation" to process … (Howard and Barry 1994; Smith and Shaffer 1991)' (Lien 2001, 305). Emotional states might also influence attitudes in a mood-congruent fashion: 'I'm happy right now, so this product must be great' (Rucker, Petty, and Priester 2007, 81). Therefore,

Proposition 3.9. Consumers displaying positive emotional responses are more likely to process HMC messages via peripheral cues – using automated processes and in a mood-congruent fashion – rather than effortfully assessing the merits of message arguments (Mackie and Worth 1989; Howard and Barry 1994; Smith and Shaffer 1991; Rucker, Petty, and Priester 2007).

It should also be noted that in the contemplation stage, consumer's emotional proneness (i.e. the antecedent) may also impact emotional responses, and the consumer's mood may impact processing/elaboration and/or health behaviour perceptions, based on Propositions 1.5 and 1.6, respectively.

3.3.4. Factors exerting the greatest influence on this stage

According to Assumption 3, consumers may process elements of HMC messages (i.e. source, message, recipient, channel, and executional), as arguments and/or peripheral cues, simultaneously, along a thinking/elaboration continuum. However, this integrated framework proposed that there are three factors which may exert the greatest influence on consumers exposed to HMC messages at the contemplation stage: source factors (credibility, attractiveness/likability, and trustworthiness), message content factors (prestige, audiovisual, quality of arguments, number of arguments, message length, speed of speech, agreement with and complexity of arguments, and comprehensibility of message), and the channel via which the message is communicated to the consumer. A summary of prior empirical findings related to these factors and the ELM is given below.

3.3.4.1. Source. As noted earlier in the literature review of the ELM, source factors such as expertise, attractiveness/likability, and trustworthiness impact processing of a message via effortful scrutiny of message arguments or via processing peripheral cues (Petty and Cacioppo 1986). Source expertise and source attractiveness/likeability have typically been associated with the peripheral route of the ELM, but it can also influence issue-relevant thinking when elaboration likelihood is high, moderated by certain kinds of messages (e.g. quality of arguments – Petty, Cacioppo, and Goldman 1981; Petty and Wegener 1998). Prior marketing communication studies have shown that expert sources are more likely to lead to attitudinal outcomes, than non-expert sources, when involvement is low rather than high (Petty, Cacioppo, and Goldman 1981). Similarly, source expertise has a greater impact on attitudinal outcomes when distraction is high rather than low, and/or when consumer knowledge is low rather than high (Petty and Wegener 1998). When elaboration is high, source expertise is not as important and is affected by various moderators such as topic importance (Petty, Cacioppo, and Goldman 1981), among others (see for a review Petty and Wegener 1998). Other studies have shown that source expertise influences the amount of thinking devoted to a message. More specifically, when messages are presented in a rapid pace, source expertise becomes more important than quality of message, but on a normal pace the opposite was found (Moore, Hausknecht, and Thamodaran 1986). Under high elaboration, expertise of the source is more important than celebrity (Rucker, Petty, and Priester 2007), which is very important especially for the contemplation stage.

Moreover, source attractiveness/likeability has been found to have a greater effect on attitudinal outcomes, when elaboration is low rather than high (Petty and Wegener 1998). However, source attractiveness/likeability has also been found to affect attitudinal outcomes, under high elaboration, based on moderators such as motivation to process the message, relevance of source attractiveness with merits of arguments, and so on (see Petty and Wegener 1998 for a review of the literature). Source trustworthiness also impacts processing and attitudinal outcomes, and the literature suggests trustworthy sources have a greater impact on attitudinal outcomes than untrustworthy sources (Eagly, Wood, and Chaiken 1978). Additionally, untrustworthy sources influence more effortful thinking, due to the uncertainty generated (Petty and Wegener 1998). Petty and Wegener (1998) also note additional source factors that may impact processing and/or attitudinal outcomes, such as similarity to receiver, number of sources, etc.

3.3.4.2. Message content. Many factors related to the message can affect the extent of message scrutiny, as well as attitudinal outcomes (for a comprehensive review see Petty and Wegener 1998). This section will discuss only the most common message content factors. Involvement, as an antecedent of elaboration, according to our proposed framework, can be increased by messages that use personal rather than impersonal pronouns, according to Petty and Wegener (1998). In addition, active generation of arguments produces greater attitudinal arguments, than passive exposure, given that consumers tend to find their own arguments more persuasive. Therefore, messages that require consumers to form their own arguments tend to have a greater effect on attitudes. Moderate levels of agreement with pre-existing attitudes are also factors that have been found to affect attitude change (Hovland, Harvey, and Sherif 1957). According to ELM, when elaboration is low, agreeable sounding messages would be more likely to be accepted, and disagreeable sounding messages rejected. Moderate elaboration would affect the extent of scrutiny, so that counterattitudinal messages would receive greater scrutiny than proattitudinal messages. Higher elaboration would bias processing negatively for counterattitudinal and positively for proattitudinal messages (Petty and Wegener 1998). Argument quality although is regarded as a very influential message content factor and was largely explored, the results still remain inconclusive. According to the TRA (Fishbein and Ajzen 1975), which has often been applied to many health-related topics, messages that maximise likely and desirable outcomes are more persuasive in forming positive attitudinal outcomes, than those less likely or less desirable. The number of arguments has also been found to impact processing, with greater number of arguments eliciting more favourable attitudes, under low elaboration, regardless of quality, according to the ELM. However, under high elaboration, a greater number of strong arguments elicit more favourable attitudes, as opposed to a greater number of weak arguments which is more likely to elicit unfavourable attitudes (Petty and Cacioppo 1984). Factual messages elicit greater and more positive attitudes, for consumers with high need for cognition (Venkatraman et al. 1990). However, feeling-based messages are more effective in attitude formation/change when ability to process the message is low (i.e. cognitive resources are low – Burke and Edell 1986). Comparative adverts can also increase consumers' motivation to process message arguments (Droge 1989; Pechmann and Esteban 1994; Lien 2001). Additional message content factors have been investigated such as speed of speech (which can also be categorised as a source factor according to Petty and Wegener 1998), and perceived prestige has been found to impact processing (see Petty and Cacioppo 1986 for a review).

3.3.4.3. Channel. Channels that require active processing of information, such as printed HMC messages, would require more effortful thinking than passive channels such as TV or radio HMC messages. Therefore, consumers are more likely to process active channels, if consumer involvement is high rather than low (Greenwald and Leavitt 1984). Buchholz and Smith (1991) state that for highly involved consumers, active channels offer more the opportunity to elaborate on the message than passive channels. As far as interactive channels go, such as the Internet, it is believed that they require effortful thinking, which is also not effective in stimulating emotions (Leong, Huang, and Stanners 1998). However, given the new embedded information on the Internet, such as TV, radio, etc., further research needs to explore the effects of channel on processing, and attitudinal outcomes.

Thus, based on the aforementioned factors and their effects on processing and/or attitudes:

Proposition 3.10. At the contemplation stage, source, channel, and message content factors of HMC messages, rather than executional elements and cues to action, will exert the greatest influence on the way consumers process an HMC message (as arguments and/or as peripheral cues) and form/change attitudinal outcomes.[2]

In addition, how source, channel, and message content factors of HMC messages may also impact emotional responses, and/or health behaviour perceptions, is an area that requires further research.

3.3.5. Possible outcomes and movement to other stages of change

Aside from the possible outcome and goal of the contemplation stage (i.e. the formation/change of attitudinal outcomes), attitudes can also be a proxy to behavioural intentions (Fishbein and Ajzen 1981). This is why in this proposed framework, attitudinal outcomes are visualised as an outcome of processing of the contemplation stage in Figure 1 and are distinguished from processing and behavioural intentions (which are part of the preparation stage). However, attitudes are not a necessary step for behaviour change and/or are not always formed prior to behavioural outcomes, as per Assumption 2. Any processing of information can also lead to attitudinal and/or behavioural outcomes (i.e. behavioural intentions, preparation, behaviour change/action, sustained behaviour/maintenance, lack of behaviour/termination due to confidence of no relapse), according to Assumption 4. Therefore, consumers in the contemplation stage may be motivated to automatically move to the preparation stage and form behavioural outcomes (which range from the preparation stage to the termination stage), without necessarily forming attitudes, which would still imply message success. This is consistent with the view that HMC messages often aim to influence the likelihood of behaviour change and not only the formation of positive attitudinal outcomes, as noted earlier. Therefore, the HMC message at the contemplation stage might fail for the following reasons: (a) the formation of negative attitudes and/or attitudes low in strength, certainty and correctness; (b) the formation of low behavioural intentions in the preparation stage, without the formation of attitudinal outcomes (given that if attitudes are formed, an HMC message at the contemplation stage is regarded a success even though it might not lead to behavioural intentions); or (c) the movement to the termination stage where no behaviour is taking place (whether a result of negative/low attitude formation or no attitude formation). Taking also into account that emotional responses to the HMC message and health behaviour perceptions might be formed during the contemplation stage, the following proposition is advanced:

Proposition 3.11. Consumers in the contemplation stage will be more likely to move to the preparation or action stage, if prior processing outcomes (i.e. attitudinal outcomes, emotional responses, health behaviour perceptions) are positive/high (indicating message success).

How behavioural outcomes may be formed as a result of processing, with or without the formation of attitudinal outcomes, and the attitude–behaviour relationship are discussed in the preparation stage, given that behavioural outcomes begin to form during that stage, and are not considered to be part of the contemplation stage. Lastly, Propositions 3.2, 3.5, 3.7, 3.8, 3.10, and 3.11 require examination and validation within the context of this proposed integrated framework. All other propositions (except Proposition 3.1 which is based on the stages of changes in the proposed framework) are expected to hold in the context of the proposed framework, even though they have been advanced based on empirical work in traditional marketing situations and psychology research.

3.4. Preparation stage

Indecision and lack of commitment are the main reasons for the need of HMC messages at the preparation stage.

3.4.1. Conditions under which consumers may be exposed to HMC messages

Consumers exposed to HMC messages at the preparation stage have not yet decided whether or not to take action (i.e. form behavioural intentions), nor have they made a specific commitment to an action (i.e. distractions prohibiting further elaboration and formation of behavioural intentions). However, these consumers might have formed prior processing outcomes, such as attitudinal outcomes, and/or emotional responses to prior HMC messages, and/or health behaviour perceptions. This implies that HMC messages at the preparation stage are designed to target consumers who have previously elaborated (even minimally) on the health issue/behaviour or prior HMC messages, but have not yet formed behavioural intentions to act. The reasons consumers may stop elaboration without making a decision are not well-understood and require further research (Liu and Shrum 2009). Accessibility in memory is an important construct for information processing (Chaiken 1987), which influences attitude change/formation (Petty and Cacioppo 1986) and the consistency of the attitude–behaviour relationship (Fazio 1990). This is why positive prior processing outcomes should be accessible via memory to ensure that consumers pay attention to HMC messages at the preparation stage.

Proposition 4.1. At least some consumers exposed to HMC messages will be at the preparation stage and will have not yet formed behavioural intentions to act, even though they might have formed prior positive processing outcomes, accessible via memory.

3.4.2. HMC message goal(s) and definition of 'persuasion'

The goal of the preparation stage is to motivate consumers with positive prior processing outcomes to commit to a decision, and form behavioural intentions. Thus, a persuasive message in the preparation stage is considered one that leads to high behavioural intentions to act (whether a result of attitude formation or not).

3.4.3. Ways of processing information and outcomes on this stage

Consumers' level of elaboration will influence the way the HMC message at the preparation stage will be processed (as arguments and/or as peripheral cues), according to Petty and Cacioppo (1986). However, the outcomes of those processes are proposed to be behavioural rather than attitudinal at this stage. The rationale for this proposition is that attitudes might lead to behavioural outcomes when they have high strength, certainty, correctness, and are positively valenced (Petty and Cacioppo 1986). Attitudes, a potential prior processing outcome, are not necessary for the formation of behavioural intentions, nor do they always precede them (Foxall 1983; Fazio and Zanna 1981). Thus, the same processes impacting attitudinal outcomes according to the ELM are proposed to affect behavioural outcomes in the preparation stage of the proposed integrated framework, given Assumption 4 (any process can lead to attitudinal and/or behavioural outcomes). In addition, as per the ELM, attitudinal outcomes formed through higher elaboration are more predictive of behaviour (Petty and Cacioppo 1986) and higher attitude certainty improves the consistency of the attitude–behaviour relationship (Rucker, Petty, and Priester 2007). Thus, the following propositions are advanced:

Proposition 4.2. (a) Consumers with low levels of message elaboration will be more likely to use automated processes such as classical conditioning, mere exposure and heuristics, in influencing behavioural outcomes (based on Assumption 4 and the ELM).

(b) Consumers with high levels of message elaboration will be more likely to use effortful thinking processes in influencing behavioural outcomes (based on Assumption 4 and the ELM).

Proposition 4.3. Prior attitudinal outcomes formed through high elaboration are more predictive of behavioural intentions, than those formed under low elaboration (Petty and Cacioppo 1986; Rucker, Petty, and Priester 2007).

According to the HBM and EPPM, health behaviour perceptions (perceived threat, barriers, benefits, self and response efficacy) impact behavioural intentions to act. This is true, whether health behaviour perceptions are formed under high or low elaboration, and based on cognitive or affective processing, according to Proposition 3.5, which also holds for the preparation stage.

Proposition 4.4. Health behaviour perceptions (perceived threat, benefits, barriers, self and response efficacy – based on HBM and EPPM) will impact behavioural intentions (based on HBM and EPPM), whether formed under high or low elaboration.

More specifically, according to Witte et al. (1998), the EPPM distinguishes between danger control and fear control processes. Danger control processes initiated by high perceived threat are more likely to lead to greater likelihood of behaviour change (behavioural intentions), rather than fear control processes. Therefore, danger control processes are more likely to lead to positive behavioural intentions, while fear control processes are more likely to lead to negative behavioural intentions. Emotion regulation mechanisms for negative emotions (Gross 1998) and emotions management strategies (Gregory-Smith, Smith, and Winklhofer 2013) have been identified as coping mechanisms used by consumers to reduce or suppress their negative emotional responses, which would have determined a different course of action, i.e. behaviour. In addition, if the perceived benefits outweigh the barriers of taking action (most likely compared under high elaboration conditions) there will be higher behavioural intentions to take action.

According to the HBM, and EPPM, high perceptions of self and response efficacy also lead to greater likelihood of behaviour change (behavioural intentions). Thus,

Proposition 4.5. High perceived threat associated with danger control is more likely to lead to positive behavioural intentions, as opposed to high perceived threat associated with fear control, which is more likely to lead to negative behavioural intentions (based on the EPPM; Gross 1998; Gregory-Smith, Smith, and Winklhofer 2013).

Proposition 4.6. Consumers who perceive more benefits of taking action than barriers will be more likely to have high behavioural intentions (based on the HBM) and this weighting process is more likely to happen under high elaboration conditions, rather than low elaboration conditions.

Proposition 4.7. Consumers who perceive a higher level of self and response efficacy will be more likely to have high behavioural intentions (based on the HBM and EPPM).

Health behaviour perceptions may also lead to emotional responses, such as in the case of high perceived threat leading to negative emotional responses (see Propositions 3.7 and 3.8(b) which also stand for the preparation stage). However, there is a lack of research regarding these aspects and further examination is required to support them.

Moving away from earlier theories such as Forgas's (2003) affect-congruency theory that proposed negative emotions will lead to negative evaluations and attitudes (and vice versa in the case of positive emotions), recent evidence from psychology research shows that different negative emotions lead to different behavioural outcomes (e.g. guilt vs. shame; *cf.* Lindsay-Hartz 1984; Tangney 1993 – see Proposition 1.6). Similar conclusions were drawn about the impact specific positive emotions. For example, Griskevicius, Shiota, and Nowlis (2010) have found that two positive emotions (i.e. pride and contentment) have different influences on product preference and desirability. There is also evidence from health-related studies, which support the view that both positive and negative emotions could have a positive effect on behavioural outcomes. For example, Passyn and Sujan (2006) showed that, in the context of using sunscreen and eating high fibre foods, emotions (fear and combination of fear and other emotion) have an impact on intentions and behaviour. Anticipated positive and negative emotions were found to explain different types of behaviour such as eating junk food and drinking alcohol (Richard, van der Pligt, and De Vries 1996), and exercising (Perugini and Bagozzi 2001). Therefore, it is proposed that consumers' emotional responses will influence behavioural intentions at the preparation stage. However, this depends on the experienced emotion and on the considered health issue/behaviour.

Proposition 4.8. Consumers' emotional responses will influence behavioural intentions, depending on the experienced emotion (Lindsay-Hartz 1984; Tangney 1993), and health issue/behaviour (Richard, van der Pligt, and de Vries 1996; Perugini and Bagozzi 2001; Wang 2010; Allen et al. 2005).

3.4.4. Factors exerting the greatest influence on this stage

Message content elements of HMC messages will exert the greatest influence on the formation of behavioural intentions, at the preparation stage. This is proposed as consumers may have been exposed to HMC messages prior to the preparation stage or at least have elaborated on the health issue/behaviour and/or have formed positive prior

processing outcomes (i.e. attitudes, emotional responses, health behaviour perceptions). Therefore, consumers at the preparation stage will have greater ability (due to increases in consumer knowledge) to process an HMC message at the preparation stage. Thus, they are more likely to process the message effortfully by scrutinising every merit of its arguments, rather than its peripheral cues. Further research on how message content factors may impact behavioural intentions is, however, needed.

Proposition 4.9. At the preparation stage, content elements of HMC messages (e.g. prestige, audiovisual, quality of arguments, number of arguments, message length, speed of speech, agreement with and complexity of arguments, and comprehensibility of message), rather than source, channel, and executional elements and cues to action, will exert the greatest influence on the formation of behavioural intentions.

3.4.5. Possible outcomes and movement to other stages of change

Consumers exposed to HMC messages at the preparation stage who have formed high behavioural intentions (whether an outcome of attitude formation or not) are more likely to move to the action stage (action/behaviour change), indicating message success. Consumers who form low behavioural intentions or remain undecided are more likely to move to the termination stage or back to the contemplation stage, respectively (indicating message failure). Indecision and lack of commitment is nothing new in the context of health, as often consumers become paralysed by fear aroused by the threat associated with the health issue/behaviour. This often stops any processing of information and, thus, results in no related health action (according to the EPPM). When the processing may stop and why this is happening have not been investigated by prior ELM studies (Rucker, Petty, and Priester 2007). These aspects require further research in the context of health.

Proposition 4.10. Consumers are more likely to move from the preparation to the action stage, if they form high behavioural intentions to act (indicating message success).

Propositions 4.2 and 4.3 require further validation due to their origination from marketing communication contexts. Propositions 4.8 and 4.9 require further research given the lack of conclusive results in the literature, and all the rest (except Proposition 4.1 which is based on the stages of change of the proposed integrated framework) come from health behaviour theories and empirical studies and thus are appropriate given the context of this framework advanced. It should also be noted that Propositions 3.7 and 3.8(b) from the contemplation stage also hold for the preparation stage, based on the ELM, given that the preparation stage also involves processing of information.

3.5. Action stage

In reality, many consumers might have formed prior positive processing outcomes (i.e. positive/high attitudinal outcomes, and/or positive emotional responses, and/or high behavioural intentions), but have not yet taken the health-related action recommended in the HMC message. For example, one might have positive attitudes towards health eating, and/or high behavioural intentions to eat healthy; however, one might still choose to eat unhealthy food. There is a multitude of reasons why this may happen (i.e. high barriers to actions, low self-efficacy, competing behaviours, etc.), which may be in

the health context (e.g. afraid of vaccines more than the consequences of not getting vaccinated) or situation specific (e.g. alcohol consumption increases within social contexts).

3.5.1. Conditions under which consumers may be exposed to HMC messages

According to the HBM and EPPM, consumers will be motivated to take action (behaviour change) only if they perceive no or limited barriers to action, see high perceived benefits, have high self and response efficacies, and have formed prior positive processing outcomes (whether they have formed positive attitudes/behavioural intentions or not). Elder, Ayala, and Harris's (1999) research on approaches to health-behaviour change discusses how behaviour modification may or may not occur due to performance deficit. Performance deficits refers to the fact that a person will not carry out a certain behaviour because he/she might see numerous negative outcomes and limited positive outcomes related to that behaviour, or because there are competing behaviours that he/she can engage in and receive positive reinforcement. Earlier research by Kuhl (1984), in relation to the Theory of Action Control, posits that volitional self-regulatory processes can be used by consumers to control competing intentions, which might interfere with the initially chosen intention and action plan. Thus, competing behaviours may also reduce the likelihood of behaviour change/action. Thus, none or limited competing behaviours at a given point in time are also a condition for behaviour change/action to take place. Therefore,

Proposition 5.1. (a) At least some consumers exposed to HMC messages will be at the action stage and may form prior positive processing outcomes, accompanied by perceptions of greater benefits than barriers to taking action, and greater self and response efficacies, but have not yet taken action.

(b) At least some consumers who experience none or limited competing behaviours to the one recommended in the HMC message will be more likely to take action (behaviour change) (Kuhl 1984; Elder, Ayala, and Harris 1999).

In addition, Petty and Cacioppo (1986) found that consumers with higher/more favourable attitudinal outcomes are more predictive of behaviour, under high elaboration conditions. However, given that sometimes health-related actions do not require effortful processing of information and decision-making, HMC messages could encourage consumers to take action via more automated processes such as classical conditioning, mere exposure, and heuristics, based on the ELM. This implies that consumers at the contemplation or the preparation stage might be encouraged by HMC messages to take action (thus jump to the action stage), without the formation of attitudinal outcomes, health behaviour perceptions or behavioural outcomes. Formation of attitudinal outcomes and/or behavioural intentions is not a necessary condition for action or exposure to HMC messages at the action stage. Thus:

Proposition 5.2. (a) Prior attitudinal outcomes formed through high elaboration are more predictive of behaviours than those formed under low elaboration (Petty and Cacioppo 1986; Rucker, Petty, and Priester 2007).

(b) Consumers exposed to HMC messages at the contemplation and/or preparation stages may move to the action stage, through more automated processes (classical conditioning, mere exposure, heuristics), without the formation of attitudinal outcomes, health behaviour perceptions or behavioural outcomes.

3.5.2. HMC message goal(s) and definition of 'persuasion'

The goal in this stage is to motivate consumers to take action and thus persuasion at this stage implies 'behaviour (change)'.

3.5.3. Ways of processing information and outcomes at this stage

Processing an HMC message at the action stage may depend on whether or not consumers have formed behavioural intentions (according to Assumption 1, not all stages of change and their outcomes are necessary to move from one stage to another). If consumers have high behavioural intentions to act, the HMC message at the action stage will act as a reminder to take action, and thus less likely to be processed via effortful thinking. If consumers have not yet formed behavioural intentions, but have prior positive processing outcomes (i.e. positive attitudes), the same processes as in the preparation stage would take place (see Propositions 4.1–4.10). Thus, it is proposed that:

Proposition 5.3. Consumers who have formed high behavioural intentions, prior to exposure to the HMC message at the action stage, are more likely to take action (behaviour change) (based on the HBM, TRA/TPB).

Proposition 5.4. Consumers who have not formed behavioural intentions, prior to exposure to the HMC message at the action stage, will face similar processes (processing of arguments and/or peripheral cues of the message, emotional responses to the message, and resulting health behaviour perceptions) as the ones taking place during the preparation stage (see Propositions 4.1–4.10).

3.5.4. Factors exerting the greatest influence on this stage

HMC messages at the action stage would be designed to reinforce decisions to act (behavioural intentions). This implies that these messages might serve as a reminder to take action or as a way to increase urgency in taking action. Thus, executional factors such as repetition of message (at moderate levels) and cues to action (bodily or environmental) would exert the greatest influence on processing and subsequently behaviour, after consumers become exposed to an HMC message at the action stage. Initially, repetition enhances message scrutiny, but subsequent exposures will bias evaluation. If arguments are strong, then moderate repetition of message would lead to greater and more favourable attitudinal outcomes (Cacioppo and Petty 1989) and subsequently to more favourable behavioural intentions and behaviours. Environmental cues to action may also include a doctor's recommendation, media publicity, discussion with friends/relatives, and would act as a reminder for action, according to the HBM.

Propositions 5.5. In the action stage, cues to action (based on the HBM) and executional elements of a message (i.e. moderate repetition of message), rather than source, channel and message content factors, will have the greatest influence on behavioural change.

3.5.5. Possible outcomes and movement to other stages of change

Consumers who are exposed to HMC messages at the action stage may take action, based on the conditions and propositions explained in this section, which would indicate

message success. However, consumers who fail to take action, may move to the termination stage, or any of the prior stages of change (contemplation, preparation), indicating message failure.

Proposition 5.6. Behaviour change, after exposure to the HMC message at the action stage, indicates message success.

What happens after the behaviour change may depend on the type of health issue/behaviour, as some health issues/behaviour require maintenance (i.e., dieting, alcohol reduction), while others do not (i.e. vaccination against disease that require only one jab).

Lastly, Propositions 5.4 and 5.5 (in terms of repetition of message) require further examination and validation within the health-related context of this framework. All other propositions (except Proposition 5.1. which is based on the proposed integrated framework's stages of change) come from a health-related context (including the reference to cues to action as per Proposition 5.5) and thus are supported within this context.

3.6. Maintenance stage

It should be noted that the maintenance stage may not be relevant across all health issues/behaviours. This stage is applicable and relevant only to health issues/behaviours that require continued monitoring and repeated behaviours/actions, such as addictive behaviours (e.g. smoking).

3.6.1. Conditions under which consumers may be exposed to HMC messages

The necessary condition for exposure to HMC messages at the maintenance stage is that consumers have previously engaged in the health behaviour at least once in the past, and that the health issue/behaviour requires sustained behaviour. Thus,

Proposition 6.1. At least some consumers who have previously engaged with the recommended behaviour will be exposed to HMC messages at the maintenance stage, if there is a need for sustained behaviour.

3.6.2. HMC message goal(s) and definition of 'persuasion'

The goal of this stage is to motivate consumers to maintain their behaviour and thus persuasion during this stage implies that the consumer will be motivated to sustain his/her behaviour change, until action is no longer needed (termination stage).

3.6.3. Ways of processing information and outcomes at this stage

The behaviour is likely to be sustained if consumers had a positive prior experience with the recommended health behaviour, and maintain high levels of perceived benefits, self-efficacy and response efficacy, while experiencing no or limited barriers to action and competing behaviours. Research by Perugini and Bagozzi (2001) showed that, in the context of bodyweight regulation (i.e. dieting and exercising), the frequency of past behaviour and the recency of past behaviour influences behaviour. Therefore,

Proposition 6.2. Higher frequency and greater recency of past behaviour lead to higher sustained behaviour (Perugini and Bagozzi 2001).

Proposition 6.3. Consumers who maintain high levels of perceived benefits, self-efficacy and response efficacy, while experiencing no or limited barriers to action and competing behaviours, are more likely to sustain their behaviour, if needed.

In addition,

Proposition 6.4. Consumers exposed to messages at the maintenance stage might process messages as arguments, and/or peripheral cues; may form emotional responses; health behaviour perceptions; attitudinal outcomes; and/or behavioural intentions to sustain the behaviour. Processes taking place at this stage resemble the contemplation, and preparation stages, in terms of the impacts of message processing on outcomes.

In addition, positive emotions are considered to broaden thoughts and action, and enhance physical, intellectual and social resources (see Fredrickson 1998), all of which might be required to sustain behaviour. A study about the anticipated affective consequences of physical activity adoption and maintenance (Dunton and Vaughan 2008) has found that anticipated positive emotions (but not negative emotions) predicted physical activity maintenance after 3 months. Competing behaviours or temptations can overturn consumers in the maintenance stage. According to Prochaska and Velicer (1997), some temptations might arise from negative affect or emotional distress and cravings. Thus, experienced emotions at the maintenance stage have a great influence on sustained behaviour.

Proposition 6.5. In the maintenance stage, positive experienced emotions are more likely to lead to sustained behaviour (Dunton and Vaughan 2008).

3.6.4. Factors exerting the greatest influence on this stage

HMC messages at the maintenance stage would be designed to reinforce sustained behaviour. This implies that these messages might serve as a reminder to take further action. Based on Proposition 5.5, action is influenced by executional and cues to action factors. Thus, repetition of message (at moderate levels) and cues to action (bodily or environmental) would exert the greatest influence on processing and subsequently sustained behaviour, after consumers become exposed to an HMC message at the maintenance stage.

Proposition 6.6. In the maintenance stage, cues to action (based on the HBM) and executional elements of a message (i.e. moderate repetition of message), rather than source, channel and message content factors, will have the greatest influence on behavioural change.

3.6.5. Possible outcomes and movement to other stages of change

Consumers exposed to messages at the maintenance stage may either become motivated to sustain their past behaviour and take action (indicating message success), or move to other stages of change (indicating message failure). Movement to other stages of change, without sustained action/behaviour, may include: the formation of positive prior processing outcomes regarding the sustained behaviour (contemplation and preparation stage) or the absence of sustained behaviour (termination stage).

Therefore,

Proposition 6.7. Consumers exposed to messages at the maintenance stage become motivated to sustain their behaviour and act on it, indicates message success for this stage. Movement to other stages of change, when sustained behaviour is needed, indicates message failure.

In conclusion, HMC messages at the maintenance act as a reminder to sustain behaviour. Propositions 6.4 and 6.6 require further examination and validation, within the context of this study, for this stage.

3.7. Termination stage

The termination stage might also not be relevant across all health/issues behaviours, as not all processes reach the termination stage, indicated by an absence of behaviour. Some health behaviours might require maintenance (sustained behaviour) indefinitely, such as healthy eating and exercising, or consumers might never make a decision in regards to the health issue/behaviour, and therefore stay indefinitely at the contemplation and/or preparation stage. In addition, consumers at the pre-contemplation stage may also never reach the termination stage, if they do not become even minimally aware of the existence of a health issue.

3.7.1. Conditions under which consumers may be exposed to HMC messages

Consumers who reach the termination stage have either no need for behaviour change, due to past behaviour change in conjunction with confidence of no relapse, or they failed to become encouraged by HMC messages at earlier stages, to become aware of the existence of a health issue or take action. Therefore,

Proposition 7.1. HMC messages at each stage of change, except the pre-contemplation stage, might lead some consumers to the termination stage (if termination stage is applicable).

3.7.2. HMC message goal(s) and definition of 'persuasion'

The ultimate goal of many HMC messages (except those encouraging behaviours that require indefinite maintenance) is to encourage consumers to move to the termination stage, with the condition of past behaviour (change) and confidence of no relapse. The absence of behaviour in conjunction with consumer's confidence of no relapse indicates message success, while the absence of behaviour for any other reason (except where termination stage is not relevant or appropriate) indicates failure. Therefore,

Proposition 7.2. At the termination stage (except where termination stage is not relevant or appropriate), the absence of behaviour in conjunction with consumer's confidence of no relapse indicates the success of the HMC message.

3.7.3. Ways of processing information and outcomes on this stage

During the termination stage, consumers do not process information, as it is unlikely that messages at this stage would be created just for the purpose of eliciting no behaviour (outcome of the termination stage). Rather the processing of HMC messages taking place at earlier stages may result in the termination stage. Also, the absence of behaviour (which is the outcome of the termination stage) does not imply that HMC marketing endeavours

would not continue to target these consumers. Constructs of 'lack of behaviour' and 'confidence of no relapse' can be used as proxy measures to ensure persuasion and goal achievement for consumers who reach the termination stage (where appropriate and relevant), indicating success.

3.7.4. Factors exerting the greatest influence on this stage

A reason for consumers never reaching the termination stage could be that consumers exposed to messages at the pre-contemplation stage might not become aware of the existence of a health issue, thus staying indefinitely in the pre-contemplation stage. In addition, HMC messages might fail and consumers may reach the termination stage even though they are not be motivated to elaborate on the message, thus, leading to no behaviour change. This is why repetition of the message via a passive communications channel (i.e. TV) is considered an effective technique in raising awareness about a health issue, as it requires minimum effort to do so (Tellis and Ambler 2008). Other reasons HMC messages might fail depending on each stage of change include, but are not limited to, limited knowledge, involvement, benefits, self and response efficacy, cues to action, negative prior processing outcomes (attitudinal outcomes, emotional responses, behavioural outcomes), high competing behaviours, and high distractions.

3.7.5. Possible outcomes and movement to other stages of change

Even when consumers find themselves in the termination stage because prior HMC messages have failed to motivate behaviour change, when needed, this does not necessarily imply that future HMC endeavours will not continue to target them. Therefore, these consumers might become exposed to HMC messages at earlier stages of change. Consumers will then follow the processes that are identified in the relevant stage of change.

The following section discusses the relationships among possible outcomes, across the stages of change, and advances two additional propositions for the integrated framework.

3.8. Possible outcomes across stages of change

The proposed framework acknowledges that behavioural intentions and change can be behaviour-initiated, affect-initiated, and cognitive-initiated (Petty and Cacioppo 1986). Cognitive-initiated behaviour implies that consumers are more likely to assess and effortfully think about the merits of arguments in the HMC message (high elaboration). Under these conditions, consumers may experience emotions at the same time or as an affective response to the cognitive elaboration of the information, which in turn may or may not lead to attitudinal and/or behavioural outcomes. Affect-initiated behaviour implies that consumers are more likely to base their decision-making on heuristics, classical conditioning, and mere exposure effects (low elaboration), which may or may not lead to cognitive elaboration of merits of arguments and/or attitudinal and/or behavioural outcomes. Prior literature also supports that basic emotions/feelings help organise and motivate rapid actions (Izard 2009). Therefore, positive affective-based attitudes and behavioural intentions can lead to behaviour change, sustained behaviour, and/or no behaviour. Negative affective-based attitudes can also lead to higher elaboration, if motivation and ability to process the message remain high (Batra and Stayman 1990). Behaviour-initiated change can be a result of heuristics, classical conditioning, and mere exposure effects; however, it requires some behaviour to have taken place before the

processing of information. Behaviour change does not necessarily require consumers to learn or effortfully process information of HMC messages, but sometimes HMC messages can have an automatic and implicit influence on behaviour. For example, regarding the flu, consumers might be motivated to wash their hands more frequently (one of the recommendations to avoid accumulation of germs), without necessarily knowing why they need to do so. This might be due to mere exposure effects to marketing communication messages that visually illustrate the act of washing hands.

As presented in the framework, behavioural outcomes include behaviour intentions, behaviour change, sustained behaviour, and the absence of behaviour (termination stage). It should be noted here that any attitudinal and/or behavioural outcome of information processing can lead to one another, based on the ELM and TTM, and in combination with findings of Foxall (1983), Ajzen and Fishbein (1980), Fazio and Zanna (1981), and Petty, Priester, and Brinol (2002). For example, positive attitudinal and behavioural outcomes (including the absence of behaviour during the termination stage) if accompanied by confidence of no relapse are considered to be possible outcomes of the contemplation stage, even though they might belong to subsequent stages of change. Thus, it is proposed that attitudinal and behavioural outcomes have multidirectional relationships (see legend of Figure 1), across the stages of contemplation, preparation, action, maintenance, and termination. Thus,

Proposition 8.1. Attitudinal and behavioural outcomes have multidirectional relationships across the contemplation, preparation, action, maintenance, and termination stages.

Relevant to this, the proposed integrative framework also recognises that 'processing of early information may affect the interpretation and use of subsequent information' (Bohner and Dickel 2011, 412). This implies that:

Proposition 8.2. Processing of information can take place from the contemplation to the maintenance stage, and can lead to emotional responses, health behaviour perceptions, attitudinal, and behavioural outcomes.

In summary, the proposed integrated framework has been summarised in the aforementioned propositions and four assumptions, and illustrated in Figure 1. It should be noted now that the integrated framework borrows constructs and concepts from marketing and psychology, and proposes relationships based on marketing communications literature and psychology literature, which may be not have been validated within a health-related context. Therefore, the adapted propositions stemming from marketing and psychology need to be empirically tested and validated. However, the proposed framework provides interesting future research directions and scope for the validation of the novel propositions advanced here.

4. Discussion and managerial implications

This paper proposes an integrated framework of how persuasion may occur at different stages of change after exposure to a health marketing communications message. More specifically, the framework integrates several distinct health behaviour theories (i.e. HBM, EPPM, TTM) with a common information-processing and attitude change theory from the field of marketing communications (i.e. ELM). By doing so, the proposed framework presents the key conditions for exposure to HMC messages at each stage of change,

identifies key determinants and antecedents of health behaviour and how these may impact consumers' information processing and decision-making. It also highlights the importance of considering the various stages of change that consumers go through in order to form/change attitudes and/or engage in health behaviours, but it does not assume linearity or the formation of attitudes. Another important aspect highlighted in the present framework is the variety of the processing of arguments and cues, as well as the complexity of the processing which is impacted by different constructs, i.e. related to the source, message content, consumer/recipient, and execution, at each stage of change.

This framework addresses limitations of prior literature which disregarded the interdependence of affect and cognition, the fact that health behaviour change takes time, the fact that consumers are not always rational decision-makers who assess every merit of an argument and that repeated health behaviours might be required. As the framework suggests, the processing of peripheral cues can also lead to favourable or unfavourable attitudes and/or behaviours. Emotional responses triggered by the HMC message (Moore and Harris 1996) can also elicit behaviour change contrary to prior health behaviour theories.

The proposed framework can have broad applications but it is not suggested as a 'one-size fits all' framework/model, given the numerous individual and environment-related differences, some of which have been captured in the current framework. This is why before the design of any HMC message, marketers need to first identify the health issue that they are addressing; what is occurring versus what should be occurring and the reasons behind it; whom does the issue affect and how; what role can HMC messages play in addressing the issue; who are the intended audiences and what are goals of the HMC message (National Institutes of Health National Cancer Institute 2008). Once the marketer has formed a holistic point of view of the health issue, situation, and environment, the marketer can determine the utility and applicability of the proposed integrated framework in specific contexts. Thus, the recommendations based on the proposed framework should not be considered as steps guaranteeing success of all HMC messages, but as a framework that classifies and groups important concepts and constructs that should be taken into account in the design of HMC messages.

According to the proposed integrated framework, HMC messages at each stage of change should not be treated the same, as the processing of information at each stage entails different considerations for health marketers. This is linked to the contributions of the four assumptions of the framework: recognising that consumers may become exposed to HMC messages at different stages, and that the cognitive and affective processes consumers go through when exposed to these messages may differ from stage to stage, from individual to individual, and according to specific health issues/behaviours, environmental and social contexts. Therefore, prior to the design of any HMC message, it is critical to identify the characteristics of the intended target audience beyond the traditional demographics (i.e. gender, age) as well as the conditions for exposure to an HMC message. This must be done before the application of the recommendations proposed here which are derived from the integrated framework.

To do so, marketers need to know the intended audience's knowledge of the health issue/behaviour; their involvement; need for cognition; personal responsibility for processing the message; and emotional proneness, which are all antecedents across all stages of change (Propositions 1.1–1.6). Marketers also need to research the targeted audience's prior exposure to other HMC messages about the health issue and whether or not the audience have elaborated on them; their health behaviour perceptions; prior attitudinal and/or behavioural outcomes of processing; emotional responses to past HMC

messages; past behaviours (if any); and personal goals (as an indicator of the existence of competing behaviours) – which are some conditions for exposure to HMC messages at some stages. Based on all these characteristics, marketers can examine the conditions for exposure to HMC messages across the stages of change (as indicated in Figure 1) to determine the stage that is relevant to the considered context and audience.

The communicators should also aim to determine when the HMC message will be deemed as persuasive. This means identifying the goal of the HMC message based on the stage of change during which the consumer will be exposed to the message. Even though most HMC messages are designed to increase the likelihood of behaviour change, as indicated by health behaviour theories and practices, the proposed integrated framework suggests that marketers should not target consumers across all stages with one message and one intended overall goal. They should rather create HMC messages that have specific intended outcomes, while also recognising that the same HMC message can also lead to other possible outcomes. For example, HMC messages that target consumers who are unaware of the existence of HPV (condition of pre-contemplation stage) should aim to make consumers aware of its existence and educate them about it (i.e. increase consumer knowledge of HPV), rather simultaneously encouraging them as well to get vaccinated against it (i.e. jump from the pre-contemplation to the action stage). In this way, marketers can better control the possible ways consumers may process messages, by manipulating elements of the HMC message (i.e. source, channel, message content, executional), which exert the greatest influence at each stage, and thus the outcomes of exposing consumers to an HMC message. The next few paragraphs note practical recommendations for the design of HMC messages at each stage of change:

4.1. Pre-contemplation

Given the conditions for exposure to HMC messages at the pre-contemplation stage, marketers should endeavour to raise awareness of the existence of a health issue/behaviour. To do so, the channel and source of the message should be carefully selected for the specific target audience, in order to attract the attention of the consumer. Consumers at this stage will have no motivation and limited ability to process HMC messages. If the HMC message is a public health campaign targeting the masses, TV channels should be used as the vehicle for communication of the HMC message. The TV provides many opportunities for grabbing the attention of the masses, through a multitude of sensory modes and does not require the recipient to actively seek information (Edell and Keller 1989). If the HMC message is targeting a smaller subset of the population with specific characteristics (i.e. consumers living in a specific location), local radio channels or specialised radio channels could be used for the dissemination of the HMC message at this stage. Even when distraction is high, these channels have better ability in raising awareness of a health issue, rather than the use of newspapers, leaflets, online media, billboards, etc. which require motivation and ability to process the information included. The source of the HMC message (i.e. endorser) may also be manipulated to grab the attention of consumers who are unaware. Health communication campaigns often use high expertise sources, such as doctors, to increase the likelihood of behaviour change. However, based on the ELM, the proposed framework notes that source attractiveness and trustworthiness are also important. Especially in the pre-contemplation stage, the source should grab the attention of consumers who have no interest in processing the HMC message. For example, in order to raise awareness of HPV among consumers, HMC messages might employ a doctor specialising in HPV or sexual health to encourage

behaviour change. However, when consumers are unaware of its existence, it is likely that the message will become part of the information clutter as consumers fail to pay attention to that specific message. On the other hand, if the source is, for example, Dr Christian Jessen from the popular TV show 'Embarassing Bodies' in the UK, who is better known as a specialty doctor and with whom consumers are familiar (which can be seen as trustworthiness), the HMC message might receive greater attention. Successful messages would imply that the target audience would be even minimally aware of the existence of the health issue. Thus, the use of appropriate channels and sources for the pre-contemplation stage is of high importance.

4.2. Contemplation

Messages in the contemplation stage should be designed to motivate processing of the HMC message, and the development of positive outcomes, such as positive emotional responses, and/or health behaviour perceptions, and/or attitudinal outcomes. In this stage, identifying the target audience's knowledge of the health issue, need for cognition, and personal responsibility of the message is of high importance. This is because consumers' level of ability and motivation will influence how they will process the message, which will subsequently result in different processing outcomes. Elements of the source, channel and message content are exerting the greatest influence on processing of the HMC message at this stage. Consumers with higher ability and motivation are more likely to scrutinise every merit of an argument in a message, implying effortful processing of information, in which case the message should be designed to have strong and high quality arguments (Petty and Cacioppo 1986). On the contrary, if consumers have lower motivation and ability to elaborate on the HMC message, novel stimuli should be used to classically condition consumers (Cacioppo et al. 1992). Mere exposure effects are more likely to emerge when a stimulus is perceived without awareness of message processing (Rucker, Petty, and Priester 2007), meaning that passive channels such as TV and radio could be used in this case. Buchholz and Smith (1991) also found that for less-involved consumers (i.e. low motivation to process), the visual stimuli in TV messages draw their attention more and lead to more learning (Lien 2001). Depending on the combination of the source, channel, message content elements, ELM-related research provides interesting recommendations, which could be applied in a health context (see examples and literature in Section 3.3.4).

In terms of emotional responses to HMC messages, often neglected in health behaviour theories (except EPPM which looks at the impact of fear appeals on health behaviour change), prior literature suggests that health marketing communication messages inducing positive emotions should be preferred to those eliciting negative emotions, since positive emotions lead to positive attitudes, and/or positive behavioural responses (Agrawal, Menon, and Aaker 2006; Snyder 2007). These positive emotions should be transmitted by various sentient and non-sentient cues. For example, the message could induce *happiness* about and *confidence* that the suggested treatment will have a positive outcome; *interest* in the message, as generated by the tone of the narrator; *curiosity* due to used imagery and sounds; and the feeling of *being pleased*, *reassured* or *relaxed* due to the confirmation of a successful treatment given by an authoritative or expert figure. The importance of using positive emotions in HMC messages is also emphasised by recent research into social marketing appeals, according to which negative emotions are becoming largely ineffective (Brennan and Binney 2010) as consumers develop some 'immunity' to negative appeals or make use of emotional regulation

strategies (Gross and Thompson 2007) and coping mechanisms (Lazarus 1991) when exposed to high intensity negative emotions. The proposed integrated framework allows for these issues to be considered in terms of how consumers process health-related information, and how they make decisions after being exposed to a HMC message at the contemplation stage. In addition, when consumers have limited time to process a message, they are more likely to make affect-based decisions, rather than cognitive ones (Heath 2007).

Health behaviour perceptions that may be formed during the contemplation stage should also be taken into account when designing HMC messages. For example, if consumers perceive a high threat, HMC messages should at the same time increase the benefits of taking action, self and response efficacies to encourage danger control processes, rather than fear control processes (Witte 1992). Messages at the contemplation stage which elicit positive processing outcomes, such as attitudes, health behaviour perceptions, and emotional responses, imply their success at this stage. According to the ELM, reinforcing attitudes is easier than changing them and the proposed framework thus acknowledges that the formation of appropriate and positive attitudinal outcomes is important at this stage.

4.3. Preparation

Consumers exposed to HMC messages at the preparation stage may have formed prior processing outcomes, but have not yet committed to a decision. The ultimate goal of a message at this stage is to encourage the formation of behavioural intentions to act, through motivating them to continue processing information. Message content at this stage is very important, and exerts the greatest influence on processing. Given that consumers have elaborated on the health topic prior to the exposure to this message, the HMC message should reinforce the benefits of taking action and diminish the barriers, as well as increase self-efficacy and response efficacy under high motivation/ability/elaboration conditions. Marketers should be aware that messages at the preparation stage may be processed similarly to the contemplation stage, but the goal of the message at this stage is a different one. At the preparation stage, the formation of behavioural intentions should be deemed a success. Similarly to the contemplation stage, strong arguments should be used, under high elaboration conditions to encourage the formation of positive behavioural outcomes. At which points in time, consumers form attitudinal and/or behavioural outcomes is not entirely clear. This is why according to Proposition 8.1, the attitudinal and behavioural outcomes of each stage have multidirectional relationships. Thus, HMC messages at the preparation stage may also aim to encourage behaviour change (outcome of the action stage).

4.4. Action

The action stage is where consumers who have formed high behavioural intentions to act become motivated to take action. HMC messages at this stage should increase the importance of taking action over other competing behaviours of the target audience, and should be moderately repeated in order to provide a reminder to take action for consumers who have formed positive prior processing outcomes. Bodily and environmental cues to action have a great influence on consumers at this stage. For example, a consumer who recently got sick (i.e. bodily cue to action) might be more inclined to get vaccinated against the flu, rather than someone who has not. In addition, doctors and the media can be

used as reminders for action. HMC messages at this stage should be short and focused as they are more likely to be processed by their peripheral cues (under low elaboration) given that the consumers have already made a decision to take action.

4.5. Maintenance

Since attitudes based on prior experiences are more predictive of behaviour (Fazio 1990), HMC messages at the maintenance stage should encourage consumers to remember positive prior experiences/behaviours. This will motivate repetition of behaviour in the case of health issues that require it. Moderate repetition of the message in conjunction with cues to action will also exert the greatest influence on this stage, given that they act as a reminder to consumers. In addition, given that self-related thoughts about past experiences enhance attitudes and intentions when messages contain little info (Lien 2001), messages in the maintenance stage should also be short and to the point. HMC messages at this stage should also ensure that they are timely, given that greater recency of past experience increases the likelihood of sustained behaviour. Lastly, according to Prochaska and Velicer (1997), some temptations might arise from negative affect or emotional distress and cravings. Thus, HMC messages at the maintenance stage should highlight experiences of positive emotions to encourage sustained behaviour.

4.6. Termination

Lastly, the termination stage is used in this framework to illustrate the success of an HMC message in motivating consumers to take action, assuming consumer's confidence of no relapse, or its failure in encouraging action, when is needed. Given that HMC messages at any stage, except the pre-contemplation stage, may result in the termination stage, even when action is needed, marketers need to understand the reasons behind this outcome. Understanding message failure is key to developing effective messages (MacKenzie, Lutz, and Belch 1986).

5. Conclusion

Even though not all propositions of the proposed integrated framework have been validated empirically within a health context, this paper offers many potential future research directions as indicated by the identified gaps related to the propositions (see Section 3), and suggests practical implications for the design of HMC messages across the stages of change (see Section 4). By exploring the proposed integrated framework across different health-related topics, future research could shed light on differences of information processing and decision-making process, which can have important practical implications. Consumers with different levels of knowledge and demographic characteristics are likely to behave differently, and therefore these factors should be explored empirically. An additional direction to be followed is the use of health messages that include both positive and negative emotions. Past research (e.g. Williams and Aaker 2002) has shown that mixed emotions (i.e. both happiness and sadness) can impact both positively and negatively on attitudes depending on the consumers' propensity to accept duality of emotions (i.e. high propensity versus low propensity), but this aspect has not been researched yet in the health literature. In addition, the framework presented here is integrating key components of various well-known health and marketing theories, but future research or conceptualisation of similar frameworks should consider integrating other relevant psychological constructs related to

the affective side of the message processing. For example, constructs such emotional complexity (Kang and Shaver 2004), emotional information management (Taute, McQuitty, and Sautter 2011), and need for affect (Maio and Esses 2001), among others could also impact how consumers process HMC messages and impact outcomes.

Overall, this paper provides new cross-disciplinary theoretical insights into consumers' processing of health marketing communication messages. Specifically, it advances an integrated theoretical framework, which identifies: (1) key determinants of health behaviour across the most commonly used health behaviour theories; (2) source, consumer/recipient, channel, and message characteristics, in addition to executional/situational factors and attitudinal variables, which may influence health behaviour (or the absence of behaviour); and lastly, (3) under which conditions (i.e. stage of change) these determinants and factors are likely to have an impact on health behaviour change and maintenance, by also taking into account how consumers may process health marketing communication messages. This breakdown by stage of change is important since it facilitates the development of powerful HMC messages that aim to manipulate only salient determinants (rather than a wide range) and thus target more efficiently consumers within a certain stage of change. Moreover, the proposed framework includes communication elements of HMC messages (e.g. emotions, cues to action) that can affect, directly or indirectly, consumers' attitude change and/or behavioural change/formation. Unlike other models, the framework takes a comprehensive view of the behavioural processes as it highlights the importance of not only changing a certain type of health behaviour but also maintaining that behaviour. Beyond the theoretical contribution, clear ways of designing HMC messages at each stage of change have been detailed in the present paper. Health marketing communication messages represent a timely subject of research and, given their complexity and wide applications, future research should engage in testing the propositions of the proposed integrated framework that require further support in appropriate contexts. There is also scope for developing further the conceptual framework proposed here and translating it into practical implications for the design of health marketing communication messages.

Notes

1. For consistency and simplification purposes, in this paper we use the term 'consumers' (instead of similar terms such as individuals, people, populations, segments, etc.) to describe the potential recipients of health marketing communication messages. This term has been used regularly in marketing and health literatures, and does not imply the purchase of health-related products.
2. See Section 3.3.4 for a review of literature related to this proposition and for evidence from prior empirical work in regards to the effects of these factors.

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