

Using food labels to evaluate the practice of nudging in a social marketing context

Clidna Soraghan, *Edinburgh Napier University, UK**
Elaine Thomson, *Edinburgh Napier University, UK*
John Ensor, *Edinburgh Napier University, UK*

ABSTRACT

Objectives

We use voluntary, front of pack (FoP) food labels to examine the practice of nudging in a social marketing context.

Background

With the explosion of social marketing, the goal of marketing has shifted from simply selling products, to 'selling' behaviours. Nudging is an approach used by social marketers to passively edge individuals into making certain choices.

Method

Thaler and Sunstein's (2008) guiding characteristics of a nudge are used in conjunction with FoP labels to critique the practice of nudging.

Results

In doing so, several practical lessons have been drawn for social marketers considering using a nudge technique. Specifically, it has been demonstrated that the use of nudging may necessitate new ethical considerations.

Keywords Social marketing, Behavioural economics, Nudge, Nutrition label, Front of pack (FoP) nutrition labels

*Correspondence details and biographies for the authors are located at the end of the article.

INTRODUCTION

Many countries are challenged by an overweight population and the burden of obesity. A plethora of alarming statistics illustrate the severity of this issue, such as a 30 per cent increase in the number of people having their feet and legs amputated by NHS Scotland as a result of obesity-induced diabetes (Turner, 2014). Increasingly, governments are turning to social marketers to help tackle public health issues such as obesity (Andreasen, 2002; Herrick, 2007). Social marketing is an approach in which the same tools and techniques used to sell products are instead used to promote desired behaviours which benefit society as a whole (NSMC, 2011).

Nudging is a tool used by social marketers (NSMC, 2011; Tapp & Spotswood, 2013). Originating from behavioural economics, nudging is a concept which argues that rather than applying force or legislation, the decisions made by individuals can be influenced by exploiting psychological insights into human behaviour. Popularised by Thaler and Sunstein's (2008) book *Nudge*, the concept argues that since individuals do not make decisions rationally, they can be influenced (or 'nudged') into making wiser choices simply by changing the way in which options are presented. For example, Ensaff et al. (2015) demonstrated that by altering the layout and labelling of food in a secondary school cafeteria in England, students were more than twice as likely to select healthier food options than prior to the intervention. Importantly, the overall menu had not been altered. Often referred to as libertarian (freedom of choice is upheld) paternalism (designed to help individuals make decisions which are in their best interest), a distinguishing characteristic of nudging is that it should be easy for individuals to passively accept or ignore.

Yet, nudging as it is understood today (Thaler & Sunstein, 2008) has not always been synonymous with social marketing. Originally defined as "*programs calculated to influence the acceptability of social ideas*" (Kotler & Zaltman, 1971, p. 5), social marketing was primarily concerned with beliefs and attitudes, rather than behaviour. It is only in more contemporary definitions (Kotler & Lee, 2008; NSMC, 2011) where behaviour change becomes key. As the focus of social marketers settled on behaviour change (Andreasen, 1995), the methods which were deemed appropriate shifted, most notably with Rothschild's (1999) proposed framework for managing social issue behaviours, which shares many parallels with Thaler and Sunstein's (2008) modern version of nudging. This may help to explain why Smith (2003) believes that social marketers have in fact, quietly been doing the job of behavioural economics for several decades. This paper explores the subtle but important alterations to our understanding of what constitutes nudging. Rather than rely on Thaler and Sunstein's (2008) validations for its use, we argue that social marketers should be reflexive in their own practices. To disregard the vast volume of insight which behavioural economics provides would be negligent, but to ensure some critical discourse around its offerings is rational, and may even enhance the contribution of social marketers in the future.

This paper will examine the practice of nudging using a 'real world' example of food labels. Front of pack (FoP) nutrition labelling is a form of nudging, ostensibly viewed as a harmless way to assist consumers in making healthier consumption choices (Cioffi, Levitsky, Pacanowski, & Bertz, 2015; Roberto & Kawachi, 2014; Scrinis & Parker, 2016; Sunstein, 2014). In conjunction with Thaler and Sunstein's (2008) guiding characteristics, nutrition labelling literature is used to form a critical lens through which nudging might be viewed. This is not a review of the effectiveness

of nudging, nor is it an overview of nudge-related campaigns. Instead, this paper contributes to the limited critique of nudging within a social marketing context in the hope of developing and improving the practice.

Within *Nudge*, Thaler and Sunstein (2008) dedicate a large proportion of time outlining why the image of man bestowed upon us by economists is wrong. Four decades of social science research has revealed that humans in fact often make irrational decisions, based largely on inertia. Several examples are provided of how this understanding of human decision making could be put to good use - from saving for pensions to saving the planet. These proposals are not under debate. Rather, Thaler and Sunstein's (2008) characteristics of nudging will be inspected. That is, nudges should tap into human illogicality, they should be transparent, they should be easy to avoid, and they should preserve freedom of choice. First, to provide context, the status of nudging as a social marketing technique is explored. Next, each characteristic of nudging will each be examined in relation to food labels with the aim of drawing some lessons for social markets.

A REVIEW OF NUDGING WITHIN SOCIAL MARKETING

Traditionally, social marketers sought to change behaviour by creating offers in which individuals valued the exchange and thus voluntarily decided to act (Andreasen, 1995; Bagozzi, 1975). Thus the behaviour change involved some form of cognitive engagement. For example, the Nirodh condom awareness project in India in 1967, often cited as the first nationwide social marketing campaign, primarily involved marketing techniques to promote awareness and use of contraception (Andreasen, 2003; Harvey, 1999; Lefebvre, 2011). In contrast, nudge campaigns today are encouraged to tap into the "*mindless choosing*" aspects of behaviour (Thaler & Sunstein, 2008, p. 46). Since decisions are often made in an 'autopilot mode', they can be manipulated by slight changes to the environment. For example, rather than persuading workers to sign up for a pension, they could simply be enrolled unless they opt out. In this sense, citizens may unknowingly concede to a social marketing aim without any cognitive engagement, and thus the 'valued exchange' and 'voluntary' aspects of the behaviour change come under question. Wymer (2015) goes further, supporting the use of nudging in cases where the 'valued exchange' and 'voluntary' aspects are completely eliminated. For example, by removing from the market creams that have a low sun protection factor (SPF), sunbathers can be nudged into choosing creams with a higher SPF.

The question of whether indeed nudging belongs to the field of social marketing has been raised, albeit in a more practical sense. Although nudging citizens into passively acting one way or another may help create a desired behaviour, French and Gordon (2015) contend that this is not at the heart of a social marketer's pursuit. Instead, discerning which specific messages will resonate with a specific target group is "*the essence of the contribution of social marketing processes*" (French & Gordon, 2015, p. 75). In other words, their goal is to glean an in-depth insight into the specific group of citizens whose behaviour is being targeted. Nudges, however, are less targeted, and behavioural economics provides the insight rather than an understanding of the needs and desires of a target group. Thus, the discussion focuses around what nudging lacks in terms of achieving the primary goals of social marketers. Similarly, in updating the social marketers' marketing mix (beyond the 4Ps), Tapp and Spotswood

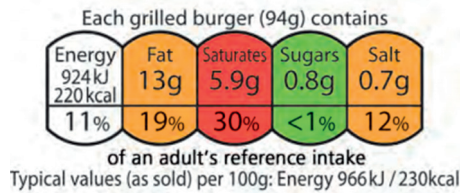
(2013) do not abolish nudges completely, but instead group them into a cluster of social marketing activity involving persuasion techniques. Nudging is positioned as a secondary concept, whereas consumer insight is deemed the core concept (Tapp & Spotswood, 2013). A growing number of authors (Dibb, 2014; Donovan, 2011; Lefebvre, 2011) call for the purview of social marketing to expand in line with the changing demands of the times, whether that be with the incorporation of nudging and involuntary behaviour change if necessary.

Others (Chriss, 2015; Rayner & Lang, 2011; Rebonato, 2014) take issue with social marketers' use of nudging, cautioning against government-citizen manipulation regardless of the well-intended outcomes. Due to their nature, nudges blend into the fabric of society and attract far less opposition or even critique than a legislative approach might do. Under this light, nudges are viewed simply as more palatable than heavy-handed, overt policies which can result in a reluctant nanny state. Another line of reasoning in opposition to nudges stems from the lack of clarity in assessing their impact. Huang and Baum (2012) fret about the unpredictable nature of responses to nudges, likening them to a game of billiards. Some people will naturally accept the nudge whilst others will be repelled, making them a risky concept to invest in. Nevertheless, the National Social Marketing Centre (NSMC, 2011) has approved the use of nudging, deeming it a satisfactory choice of method available to social marketers.

In deciding when nudging is appropriate, the position of social marketers begins to blend with that of politicians. The majority of social marketing campaigns are indeed funded by governments or international aid organisations (Lefebvre, 2011). Dibb and Carrigan (2013, p. 1393) underline that "*if you are in social marketing you are in politics*". As the discipline intertwines itself with politics in attempting to address social issues, it should engage with the corresponding literature. There appears to be a lack of social marketing practices critiqued under a political or sociological gaze. This paper contends that if nudging is to be so readily admitted by social marketers, it should receive far more scrutiny. To justify moving into this realm of covert operations, Spotswood, French, Tapp and Stead (2012) call for more explicit ethical guidance, suggesting the NICE (2007) guidance on behaviour change as a starting point.

Another starting point may be to engage with those who oppose nudging, and to examine an example of the practice in depth, bringing their criticisms to bear. Nutrition labelling is a form of nudging designed to help consumers make healthier food choices (Cioffi et al., 2015; Roberto & Kawachi, 2014; Scrinis & Parker, 2016). In 2011, the EU approved the 'provision of food information to consumers' (European Union, 2011) regulation, which makes it mandatory for certain nutritional information to be printed on the back of pack. This regulation (EU No 1169/2011) also includes a voluntary option to repeat some of the nutritional information on the front of the pack (FoP). The UK Government encourages the use of this FoP nudge, and has provided guidance on how these labels must appear (UK Government, 2013). As depicted in Figure 1, FoP nutrition labels in the UK must include the salt, fat, sugar and saturate levels of a product, as well as a colour counterpart indicating whether that corresponding quantity of nutrient is high, medium or low (UK Government, 2013).

Where the UK differs from other EU nations in regard to FoP nutrition labelling is with the controversial use of colour (EUFIC, 2015). The EU regulation does permit colour, yet currently only the UK and South Korea have opted for a colour coded system (EUFIC, 2015).

FIGURE 1 UK FoP nutrition label with traffic light code

Source: UK Government, 2013

Using Scotland's ban on smoking in public places initiative, Gordon and Gurrieri (2014) explored how reflexivity might be applied to social marketing campaigns. Being reflexive involves considering "to what extent it might be possible to think differently, instead of legitimating what is already known?" (Foucault, 1992, as cited in Tadajewski & Brownlie, 2008, p. 9). In a similar vein, the following section will use nutrition labels to examine the practice of nudging. By considering a nudge in practice and identifying the possible pitfalls, it is hoped social marketers will be in a better position to decide when such an intervention is appropriate and how it might be operated.

Nudges should tap into human illogicality

Thaler and Sunstein's (2008) validations for using nudges are based on an understanding of how people assess their environment and make decisions. Fundamental to this perspective is the growing evidence that people's judgement is often illogical and largely based on heuristics. It is by tapping into these 'fallibilities' or irrational human tendencies, where nudging can be so powerful. Thaler and Sunstein (2008) document several ways in which biases and heuristics colour our judgement. For example, the anchoring, availability, framing or representing of a question or situation can each shape how that question or situation is processed. Although this analysis may help to explain why humans predictably and consistently misjudge, for example, the length of a table in Shepard's (1990) 'Two Tables' experiment, Gigerenzer (2015) argues that characterising human reasoning in terms such as 'irrational' and 'flawed' is misleading, and grossly simplifies what is required to remedy social problems. Individuals make poor life choices for a whole host of reasons, not simply due to unconscious heuristics. Demoting behaviour to this simplistic form is treacherous in some circumstances, because it places the onus on the individual.

It could be argued that this simplistic representation of behaviour filters down into the way in which responses to nudges are understood. In terms of analysing FoP labels, Wahlich, Gardner and McGowan (2012) recommend that researchers refrain from using the conceptual distinction of 'users' and 'non-users', reminding us that label use is often circumstantial and product dependent. Grunert, Wills and Fernández-Celemín's (2010) systematic review of nutrition label research stresses that numerous studies analyse demographics as a determinant of nutrition label use, but "leave open the question whether, for example, a lower use of nutrition information in the lower classes is due to lower nutrition knowledge, lower interest in healthy

eating, or other factors” (p.177). In considering why these issues have been neglected, it appears that it could be a reflection on how the issue is represented in the first instance. As a health intervention, nudges may engender a limited analysis in terms of assessing which groups the nudge has worked *on*, and which groups failed to interpret the nudge ‘correctly’. This outlook runs contrary to the typical social marketing stance, whereby a failing intervention would be viewed as the fault of the designer for not understanding the target audience well enough (Macfadyen, Stead, & Hastings, 2002).

Hieke and Taylor (2012) call for studies to move beyond cataloguing who tends to use nutrition labels and who does not, and to begin to unpack *why* this is the case. Beginning from the vantage point that behaviour is irrational may restrict social marketers’ interpretation of the issue as well as the nudge.

Another concern in tackling health issues in this fashion is that it minimises the responsibility of external factors, such as the food industries’ excessive expenditure on ‘nudging’ people towards an unhealthy lifestyle. Many scholars (Goodwin, 2012; Marteau, Ogilvie, Roland, Suhrcke, & Kelly, 2011; Mullane & Sheffrin, 2012; Scrinis & Parker, 2016) are beginning to query the sense of ploughing resources into nudging techniques which are “*simultaneously neutralized by marketing strategies*” (Junghans, Cheung, & De Ridder, 2015, p. 3). A common defence to this line of argument is that a multifaceted approach is required, that nudging should work in conjunction with other measures, and that nudging should not be viewed as a ‘silver bullet’ (Dibb, 2014; French, 2011; Oliver, 2011). Yet, the very use of nudges alone may cause some damage in the long term. This is a concern which social marketers should be aware of and engage with.

It is often considered that food labelling and more information for consumers can only be a good thing. Mayes (2014) reflects that this commonly held ideal is simply a result of the current neoliberal culture of the West, which values free markets and liberties above all else. In tackling obesity, several countries have experienced failed attempts to introduce heavy-handed policies. Denmark’s tax on products that are high in fat (Nestle, 2011) or New York’s restrictions on large-sized sugary drinks (Grynbaum, 2014), for example, were both thwarted in part by protesters’ rejection of a nanny state. The food label pacifies such concerns. Drawing on Foucault, Mayes (2014) argues that because of this style of governance, food labels “*normalize subjects as responsible for health via consumer choice, while eliding the social determinants of health antecedent to choice*” (p. 3). This line of thought has found support elsewhere (Chriss, 2016; Gigerenzer, 2015). Even an inquiry into behaviour change by the House of Lords (2011), cautioned that the use of nudges may inevitably lead to inaction or divert attention from more effective solutions such as prohibiting TV advertising of products high in fat, salt, and sugar.

Before launching into a nudge campaign, attention should be paid to the existing evidence for alternative solutions. The case must be made as to why a nudging is more appropriate. Social marketers should consider if a nudge could inadvertently be directing attention away from alternative, perhaps more covert, solutions. Indeed, a vital role of social marketers is to assess the corrosive effect commercial marketing has on society, and build evidence to support the introduction of counter policies (ISM, 2016). Legislation evidently has the strongest impact on behaviour change, yet by nonchalantly supporting nudges, social marketers may be indirectly reducing the possibility of this occurring.

Nudges should be transparent

Rather than being coercive, nudges should be transparent (Thaler & Sunstein, 2008). On one hand Sunstein (2014) claims that “*The public should be able to review and scrutinize nudges*” (p. 584), whilst simultaneously proposing that nudges should operate on the automatic and unconscious aspects of behaviour. Consequently, Rebonato (2014) argues that in designing an effective nudge, one would strive to make it inconspicuous, and thus the transparency element of the nudge is lost. Since nudges tap into the unconscious ‘mindless choosing’ aspect of decision making, it seems unlikely that any scrutiny will follow. This might help to explain why Mullane and Sheffrin (2012) found a lack of transparency across nudges conducted within the UK.

In reviewing the nutrition label literature, it appears that the ability to adequately review and scrutinise nutrition labels largely depends on the individual. Research indicates that comprehension tends to be greatest in young, educated, white females (Campos, Doxey, & Hammond, 2011; Grunert et al., 2010), and that comprehension is significantly linked to prior nutritional knowledge (Miller et al., 2015), and attitudes towards health (Cooke & Papadaki, 2014). A major drawback in analysing consumers’ abilities to scrutinise nutrition labels is the fact that the majority of studies are conducted in experimental settings, over a short period of time (Scrinis & Parker, 2016). There is a lack of research concerning nutrition label scrutiny in real-world conditions (Cecchini & Warin, 2016).

In line with being transparent, “*nudging helps those who need help while imposing minimal costs on those who do not*” (Thaler & Sunstein, 2008, p. 241). This means that nudges *should* have the largest effect on those who would benefit from its intention, whilst having a minimal impact on those who are less in need. In fact, the complete opposite is typically found with FoP label use. FoP label use appears to be socially stratified, with consumers of higher socioeconomic status (SES) reportedly using FoP labels more frequently (Campos et al., 2011; Cowburn & Stockley, 2005), and interpreting them more accurately (Grunert et al., 2010; Sinclair, Hammond, & Goodman, 2013) than consumers with lower SES. It is possible then that FoP labels are inadvertently contributing to health inequalities.

High overweight and obesity rates are more prevalent amongst lower SES groups (Darmon & Drewnowski, 2008), and it is well documented that SES is linked to diet (Wardle, Waller, & Jarvis, 2002). Those from higher SES groups enjoy a higher quality diet and display a relative health advantage. Yet, it is lower SES groups who are not finding FoP nudges transparent and thus are not benefiting from them in the intended way. On the contrary, there is some evidence that FoP labels are actually having a paradoxical effect, with consumers of a higher SES over-consuming when confronted with labels which they deem to be ‘healthy’ (Crockett, Jebb, Hankins, & Marteau, 2014). We have yet to gain a clear understanding of the varying effects FoP labels have on different social groups, and importantly what causes these differences to occur (Scarborough et al., 2015).

In striving for more transparent nudges, social marketers should reflect upon their personal biases and expectations. Reflexivity is required in addressing who is designing the nudge, and what assumptions are made about the competencies of the target audience. In designing a traditional social marketing campaign, Andreasen’s (2006) six benchmark criteria have proved useful in outlining what constitutes best practice. Carins and Rundle-Thiele’s (2013) review of social marketing campaigns, over a ten year period, which targeted healthy eating behaviours found that the closer

Andreasen's (2002) criteria was followed, the higher the likelihood of achieving behaviour change. Yet, it is unclear how these criteria would map onto a nudge campaign. For example, the 'consumer research' criteria typically refers to gaining an understanding of the targeted group, yet when using nudges, it could refer to gaining an understanding of the relevant biases and heuristics which humans are prone to. Perhaps a completely new set of criteria is necessary for the use of nudges. The concept of co-creation may be fruitful in terms of designing a nudge alongside the target audience, rather than in a top-down fashion.

Nudges should be easy and cheap to avoid

According to Thaler and Sunstein (2008) nudges should be easy and cheap to avoid. Easy in the sense that nudges should require minimal effort to ignore. People should be able to simply avoid a nudge without much difficulty. As for being "*cheap to avoid*" (p.6) this somewhat ambiguous characteristic of a nudge receives little explanation. Assuming that 'cheap' refers to an economical capacity, it is implied that nudges should be inexpensive for citizens to engage with. When Thaler and Sunstein (2008) explain that nudges are innocuously added to the environment, allowing individuals to choose whether to act on them, they are indirectly purporting that individuals can equally *choose* to ignore them. While some suggest that the ability to avoid a nudge is made murky by the fact that nudges attend to our unconscious processing (Rebonato, 2014), Mills (2015) advocates that the ability to avoid a nudge need only be significant if the goal of the nudge runs contrary to an individual's aim. And since nudges are generally in sync with the goals of citizens, the need to 'opt out' is reduced. This argument, of course, assumes that those designing the nudges possess a somewhat chimera power in knowing what the goals of citizens are. It also creates concern that the technique of nudging could one day slip beyond health behaviours, and into edging citizens towards certain beliefs or values. Thaler and Sunstein's (2008) rebuttal to the "*slippery slope*" (p. 235) opposition relies strongly on the fact that nudges should be transparent, effective and avoidable.

Although some individuals may be able to fully avoid a nudge, others may suffer from its unintended consequences. Thaler and Sunstein (2008) devote limited attention to this aspect of nudging. Similarly, very few studies have examined the adverse effects of social marketing campaigns (Wymer, 2015). However some studies are surfacing which allude to the possibility that social marketing campaigns could inadvertently be widening social inequalities (Crockett, et al., 2014; Gurrieri, Previte, & Brace-Govan, 2013; Raftopoulou & Hogg, 2010). This backlash effect is recognised in some national UK public health strategy debates, for example, in the Scottish Government report by Donnelley (2010). Orbach (as cited in Budewig et al., 2004) talks of the vicious spiral that health promotions can create. By continuously reinforcing consumption ideals in conjunction with today's stereotypical ideal body shape, people may be left feeling incapable or ashamed, leading to more overeating, and so a downward spiral ensues.

Pechmann and Slater (2005) have identified a lack of published work in the field of unintended consequences of social marketing campaigns. Nevertheless, they count eight negative consequences or unintended behaviours which have been documented as a result of social marketing campaigns. For example "*reactance*" (p. 193) refers to a citizen feeling so pressured into behaving one way that they consequently rebel and act in the opposite way. Wymer (2015, p. 114) describes this aspect of social marketing as "*seriously neglected*", especially when considering that the goal of

these campaigns is often to shape social norms. It has been demonstrated that over time, nudge interventions do have the potential to change social norms (Mullane & Sheffrin, 2012). Therefore, it should be recognised that good intentions can produce inadvertent outcomes.

There is some evidence that the green colour on FoP labels can encourage consumers to perceive a product, which is relatively nutrient-poor, as healthier than they would have, had colour not been used (Schuldt, 2013). This ‘halo’ effect has received much attention in regard to health claims (Burton, Cook, Howlett, & Newman, 2014; Lähteenmäki et al., 2010; Orquin & Scholderer, 2015), but far less in response to FoP labels. Schuldt (2013) also reported that the effect of a green label heightening perceived healthiness was stronger amongst those who place a high emphasis on eating healthily. In this sense, an inherent motivation to select healthy products can act as a detriment to health behaviours, because of the indirect effects of this nudge.

Responses to FoP labels may also be unpredictable. Van Kleef and Dagevos (2013) caution that the colour red, as used on FoP labels, may generate a “*boomerang effect*” (p. 15), particularly for younger consumers who were shown to be attracted to rather than repelled by the warning signs on alcohol and tobacco packaging. Similarly, Hodgkins et al., (2012) warns that red labels may be interpreted as a warning to ‘avoid’ rather than ‘limit’ your intake, thus some consumers may be deterred from purchasing key food-group products that are required in a healthy balanced diet. In fact, there is very little research into how consumers actually make sense of the colours on FoP labels or how these influence purchases (Leek, Szmigin & Baker, 2015).

Avoiding unintended consequences is a challenge for any behaviour change intervention. However, using normative expectations of social groups as a starting point may yield insight in understanding the socially stratified responses to nudges, as seen with FoP label use. One way to gain a better grasp on normative expectations of social groups would be to examine the inferences or ‘lay knowledge’ that people transport onto a nudge. Lay knowledge does not originate from theory or research but instead arises as a result of local discourse, age, gender and SES (McTavish, 2015). The need to explore lay knowledge and inferences as a facet of health inequality has been raised (Coveney, 2005; Popay, Williams, Thomas, & Gatrell, 1998). Yet still little is known about what inferences people make when computing FoP label information (Grunert, 2016). Analysing such aspects could reveal disparities in how people of different social groups discuss, engage with or relate to nudges. Establishing this initial groundwork may allow the designers of a nudge to pre-empt various responses, and thus have preventative strategies in place.

Nudges should maintain freedom of choice

Thaler and Sunstein (2008) maintain that nudges emphatically preserve freedom of choice. Nudges do not restrict choice because the alternative options remain present. FoP labels do not force individuals into selecting a healthy diet because the unhealthy options remain available. Besides the uncertainty over the possibility of maintaining freedom of choice on nudges which influence our unconscious decision making, doubt is also cast over the ‘choice’ to be nudged in the first place. Indeed, the way in which consumers feel towards being nudged has received very scant attention (Junghans et al., 2015). Social marketing prides itself in being consumer centric (French & Gordon, 2015; NSMC, 2011), yet the consumer’s perspective appears to have been neglected in relation to nudges.

Junghans et al., (2015) claim to have conducted the first assessment of consumers' attitudes and concerns towards the practice of nudging. Their study revealed that participants believed nudging would be more effective on those who already possess an intention to act in accordance with that nudge. For example, FoP labels would help those who are already health conscious, and have less of an effect on those who are not. Using Junghans et al. (2015) as a springboard, Nørnberg, Skov, Houlby and Pérez-Cueto (2016) assessed attitudes towards nudging in Danish adolescents. Specifically, this study examined the response to various nudges used within a school setting to promote the consumption of healthy foods. A range of measures was presented, and the findings suggest that as the level of intrusiveness decreased, the favourability of the nudge increased.

These findings not only offer an additional explanation as to why certain groups respond differently to certain nudges but they also suggest that more overt interventions could result in more effective nudges. Clearly, more research is required into the effectiveness of overt versus covert nudge interventions. Again, involving citizens in the design of nudges may be beneficial. Unconscious mechanisms undoubtedly shape consumption choices, but there may be gains to be made by combining the consumer centric expertise of social marketers with the lessons of behavioural economics.

FoP labels were not designed with these lessons in mind. Instead, due to conditions where a variety of FoP labels were employed by the UK food industry and legislation was limited, there was a need to decipher which label format best informed consumers. Consequently, existing research on FoP nutrition labels has tended to focus on the label itself in terms of design and content (Van Kleef & Dagevos, 2013), and consumers' comprehension of labels (Hawkes, 2013). Although this proved valuable in improving the layout of FoP labels, it wholly lacked an enquiry into consumers' motivations to use them (Grunert et al., 2010). Motivations are essential in behaviour change (Prochaska, & DiClemente, 2005) and should therefore form the foundations of a nudge intervention, rather than being an afterthought. To ensure that the motivations of the target group have been reached, continuous evaluation of the consumer perspective is advised.

Baldwin (2015) worries that equipped with nudges and the pretence of free choice, governments are able to promote selected behaviours in an almost unchecked fashion. Although freedoms may appear preserved on the surface, Chriss (2016) is critical of governments essentially policing morality, since morality is fundamentally a consequence of normative expectations which are held within social groups. Behaviours, attitudes, and decisions are formed, shaped and repeated to become habits which represent meaning within social groups. Nudging essentially pits behaviours of social groups against each other, with one appearing good and another bad. So, even if freedom of choice is preserved, this could result in a feeling of good-citizenship by those that are able to act in accordance with the nudge, and a feeling of inadequacy by those who are not (Puhl, Peterson, & Luedicke, 2013). Rather than learning from experiences, an elite group who already know best decide what is 'good' and try to push this onto the masses. This critique may not be unique to nudging, but it does suggest that social marketers adopting a nudge technique should consider that stigmatisation may arise in preserving freedoms of choice.

CONCLUSIONS

Social marketers face an ever evolving array of issues. Nudging may be advantageous in some circumstances and thus may have a role in helping to tackle these. This paper does not consign nudging as 'not fit for purpose' under social marketing; rather, it attempts to unveil some potential drawbacks of this complex intervention for behaviour change. Rather than relying on behavioural economists' justifications, we argue that social marketers should examine their actions and take ownership of their campaigns. Some suggest that holding onto the roots of social marketing only serves to promulgate a restrictive view of the field (Dibb & Carrigan, 2013). In contrast, this paper contends that by continuously examining the origins of social marketing alongside the practices that are used today, practitioners are encouraged to consider the direction of the discipline and appropriateness of tools.

This paper has considered the practice of nudging in a social marketing context. To do this, the role of nudging within social marketing has been summarised. Voluntary, front of pack (FoP) food labels can be considered a nudge towards healthier consumption choices (Cioffi et al., 2015; Roberto & Kawachi, 2014; Sunstein, 2014). Using FoP labels and engaging Thaler and Sunstein's (2008) principles of nudging, this paper examines nudging as a social marketing technique. This discussion has illuminated some controversies that social marketers should consider. In doing so, the following lessons and areas in need of research were drawn.

Social marketers have an important role in society in assessing the damage caused by commercial marketing and suggesting counteractive legislation. Care should be taken to ensure that nudges do not detract from the possibility of legislation change being enacted. Thus, the case should be made by social marketers as to why a nudge is the best course of action as opposed to alternative solutions. If nudging is to be applied, social marketers should not abandon their typical position that understanding the target audience is paramount. Thaler and Sunstein (2008) begin from an alternative position, but social marketers should be apprehensive about contextualising behaviour as illogical since this may limit how the behaviour, and subsequent intervention, is interpreted.

More attention is required in respect to unintended consequences of nudges. These can stem from different groups simply responding differently to the nudge, or they may come about as a result of citizens feeling stigmatised after interacting with the nudge. To bolster the transparency of a nudge, reflexivity is required during the design stage, specifically around the competencies of those who will engage with the nudge. One possible way to achieve this may be to elicit co-creation of the nudge with the target audience. Additionally, the consumers' lay knowledge and inferences towards a nudge should be understood. Practicing in this manner may help to create pre-emptive strategies, and limit any damage caused by any inadvertent outcomes.

In conducting this literature review, several key areas in need of further research were recognised. Firstly at a general level, there is a need to identify what ethical considerations are required when applying a nudge technique. Since its inception, ethical concerns have been discussed in regard to social marketing (Andreasen, 2002; Murphy, Lacznik, & Lusch, 1978). Yet nudging, being a relatively new and somewhat peripheral aspect of social marketing, may require a unique set of ethical guidelines. In a similar vein, there is a need to establish what criteria constitute a nudge in a social marketing context. It would be useful for research to address if Andreasen's (2006) benchmark criteria fit a nudge campaign, and to draw up how

that might look. Perhaps nudges require their own criteria with specific tools to aid their design, such as co-creation. More research is also needed to establish the pros and cons of adopting a covert versus overt nudge intervention. The consumer perspective has been neglected in this arena and may prove valuable in increasing the effectiveness of nudge campaigns.

If social markers are to position nudging firmly within their remit, one might wish to investigate how the knowledge of social marketers can be explicitly intertwined with that of behavioural economists. Each approach clearly tackles health issues in contrasting ways, yet it may prove fruitful to blend the consumer centric insight of social marketing with an understanding of the unconscious processes which guide our decision making. Thus far, it appears that social marketers simply adopt, rather than adapt, nudging as a technique. Lastly, research is severely lacking in terms of assessing the unintended consequences of nudges or simply the varying effect they can have on varying subsets of the population.

In no respect do these lessons form a comprehensive overview of the guiding principles needed when implementing a nudge under social marketing. Nonetheless, it is hoped that this paper will ignite a conversation around when nudging is appropriate for social marketers, and what sort of ethical considerations may be required.

REFERENCES

- Andreasen, A.R. (1995). *Marketing social change : Changing behavior to promote health, social development, and the environment*. San Francisco: Jossey-Bass.
- Andreasen, A.R. (2002). Marketing Social Marketing in the Social Change Marketplace. *Journal of Public Policy & Marketing*, 21(1), 3-13. doi: 10.1509/jppm.21.1.3.17602
- Andreasen, A.R. (2003). The Life Trajectory of Social Marketing. *Marketing Theory*, 3(3), 293-303. doi: 10.1177/147059310333004
- Andreasen, A.R. (2006). *Social Marketing in the 21st Century*. Thousand Oaks, California: Sage Publications, Inc.
- Bagozzi, R.P. (1975). Social exchange in marketing. *Journal of the Academy of Marketing Science*, 3(3-4), 314-327. doi: 10.1007/BF02729292
- Baldwin, R. (2015). Nudge: Three Degrees of Concern. *LSE Law - Policy Briefing Paper* (7). doi: 10.2139/ssrn.2573334
- Budewig, K., Crawford, F., Hamlet, N., Hanlon, P., Muirie, J., & Ogilvie, D. (2004). *Obesity in Scotland: Why diets, doctors and denial won't work*. Retrieved January 7, 2016, from <http://www.ogilvie.fastmail.co.uk/healthyfuture/obesity.html#ref44>
- Burton, S., Cook, L.A., Howlett, E., & Newman, C.L. (2014). Broken halos and shattered horns: Overcoming the biasing effects of prior expectations through objective information disclosure. *Journal of the Academy of Marketing Science*, 43(2), 240-256. doi: 10.1007/s11747-014-0378-5
- Campos, S., Doxey, J., & Hammond, D. (2011). Nutrition labels on pre-packaged foods: A systematic review. *Public Health Nutrition*, 14(8), 1496-1506. doi: 10.1017/S1368980010003290
- Carins, J.E., & Rundle-Thiele, S.R. (2013). Eating for the better: a social marketing review (2000-2012). *Public Health Nutrition*, 17(7), 1628-1639. doi: 10.1017/S1368980013001365
- Cecchini, M., & Warin, L. (2016). Impact of food labelling systems on food choices and eating behaviours: A systematic review and meta-analysis of randomized studies. *Obesity Reviews*, 17(3), 201-210. doi: 10.1111/obr.12364
- Chriss, J. (2015). Nudging and Social Marketing. *Society*, 52(1), 54-61. doi: 10.1007/s12115-014-9858-y

- Chriss, J. (2016). Influence, Nudging, and Beyond. *Society*, 53(1), 89-96. doi: 10.1007/s12115-015-9975-2
- Cioffi, C.E., Levitsky, D.A., Pacanowski, C.R., & Bertz, F. (2015). A nudge in a healthy direction. The effect of nutrition labels on food purchasing behaviors in university dining facilities. *Appetite*, 92, 7-14. doi: 10.1016/j.appet.2015.04.053
- Cooke, R., & Papadaki, A. (2014). Nutrition label use mediates the positive relationship between nutrition knowledge and attitudes towards healthy eating with dietary quality among university students in the UK. *Appetite*, 83, 297-303. doi: 10.1016/j.appet.2014.08.039
- Coveney, J. (2005). A qualitative study exploring socio-economic differences in parental lay knowledge of food and health: implications for public health nutrition. *Public Health Nutrition*, 8(3), 290-297. doi: 10.1079/PHN2004682
- Cowburn, G., & Stockley, L. (2005). Consumer understanding and use of nutrition labelling: A systematic review. *Public Health Nutrition*, 8(1), 21-28. doi: 10.1079/PHN2005666
- Crockett, R.A., Jebb, S.A., Hankins, M., & Marteau, T.M. (2014). The impact of nutritional labels and socioeconomic status on energy intake. An experimental field study. *Appetite*, 81, 12-19. doi: 10.1016/j.appet.2014.05.024
- Darmon, N., & Drewnowski, A. (2008). Does social class predict diet quality? *American Journal of Clinical Nutrition*, 87(5), 1107-1117.
- Dibb, S. (2014). Up, up and away: social marketing breaks free. *Journal of Marketing Management*, 30(11-12), 1159-1185. doi: 10.1080/0267257X.2014.943264
- Dibb, S., & Carrigan, M. (2013). Social marketing transformed. *European Journal of Marketing*, 47(9), 1376-1398. doi: 10.1108/EJM-05-2013-0248
- Donnelley, R.R. (2010, February). Preventing Overweight and Obesity in Scotland, A Route Map Towards Healthy Weight [Report]. *The Scottish Government*. Retrieved from <http://www.gov.scot/Resource/Doc/302783/0094795.pdf>
- Donovan, R. (2011). Social marketing's mythunderstandings. *Journal of Social Marketing*, 1(1), 8-16. doi: 10.1108/20426761111104392
- Ensaif, H., Homer, M., Sahota, P., Braybrook, D., Coan, S., & McLeod, H. (2015). Food Choice Architecture: An Intervention in a Secondary School and its Impact on Students' Plant-based Food Choices. *Nutrients*, 7(6), 4426-4437. doi: 10.3390/nu7064426
- EUFIC (2015, January). *Global update on nutrition labelling: Executive summary*. European Food Information Council, Brussels, Belgium. Retrieved from <http://www.eufic.org/upl/1/default/doc/GlobalUpdateExecSumJan2015.pdf>
- European Union (2011, October 25). *EU (2011) Regulation (EU) No 1169/2011 of the European Parliament and of the Council on the provision of food information to consumers*. Retrieved May 21, 2015, from <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32011R1169>
- Foucault, M. (1992). *The Use of Pleasure: The History of Sexuality*. London: Penguin.
- French, J. (2011). Why nudging is not enough. *Journal of Social Marketing*, 1(2), 154-162. doi: 10.1108/20426761111141896
- French, J., & Gordon, R. (2015). *Strategic Social Marketing*. London: Sage Publications Ltd.
- Gigerenzer, G. (2015). On the Supposed Evidence for Libertarian Paternalism. *Review of Philosophy and Psychology*, 6(3), 361-383. doi: 10.1007/s13164-015-0248-1
- Goodwin, T. (2012). Why We Should Reject "Nudge". *Politics*, 32(2), 85-92. doi: 10.1111/j.1467-9256.2012.01430.x
- Gordon, R., & Gurrieri, L. (2014). Towards a reflexive turn: social marketing assemblages. *Journal of Social Marketing*, 4(3), 261-278. <http://doi.org/10.1108/JSOCM-02-2014-0015>
- Grunert, K.G. (2016). Consumer Reactions to On-Pack Educational Messages. In P. Burgess (Ed.), *Integrating the Packaging and Product Experience in Food and Beverages* (pp. 23-35). Elsevier Ltd. doi: 10.1016/B978-0-08-100356-5.00002-4
- Grunert, K., Wills, J., & Fernández-Celemín, L. (2010). Nutrition knowledge, and use and understanding of nutrition information on food labels among consumers in the UK. *Appetite*, 55(2), 177-189. doi: 10.1016/j.appet.2010.05.045

- Grynbaum, M.M. (2014, June 26). New York's Ban on Big Sodas Is Rejected by Final Court. *New York Times*, 26, 1776-1782. Retrieved from <http://www.nytimes.com/2014/06/27/nyregion/city-loses-final-appeal-on-limiting-sales-of-large-sodas.html>
- Gurrieri, L., Previte, J., & Brace-Govan, J. (2013). Women's Bodies as Sites of Control: Inadvertent Stigma and Exclusion in Social Marketing. *Journal of Macromarketing*, 33(2), 128-143. doi: 10.1177/0276146712469971
- Harvey, P.D. (1999). *Let Every Child be Wanted: How Social Marketing is Revolutionizing Contraceptive use Around the World*. Michigan, USA: Auburn House.
- Hawkes, C. (2013). *Promoting healthy diets through nutrition education and changes in the food environment: an international review of actions and their effectiveness*. Rome: Nutrition Education and Consumer Awareness Group, Food and Agriculture Organization of the United Nations. Retrieved from <http://www.fao.org/docrep/017/i3235e/i3235e.pdf>
- Herrick, C. (2007). Risky bodies: Public health, social marketing and the governance of obesity. *Geoforum*, 38(1), 90-102. doi: 10.1016/j.geoforum.2006.06.003
- Hieke, S., & Taylor, C.R. (2012). A Critical Review of the Literature on Nutritional Labeling. *Journal of Consumer Affairs*, 46(1), 120-156. doi: 10.1111/j.1745-6606.2011.01219.x
- Hodgkins, C., Barnett, J., Wasowicz-Kirylo, G., Stysko-Kunkowska, M., Gulcan, Y., Kustepeli, Y., ... Raats, M. (2012). Understanding how consumers categorise nutritional labels: A consumer derived typology for front-of-pack nutrition labelling. *Appetite*, 59(3), 806-817. doi: 10.1016/j.appet.2012.08.014
- House of Lords (2011). *Science and Technology Select Committee report. 2nd Report of Session 2010-12: Behaviour Change*. London: The Stationery Office Limited. Retrieved from <https://www.publications.parliament.uk/pa/ld201012/ldselect/ldsctech/179/179.pdf>
- Huang, C.J., & Baum, M.L. (2012). Nudge ethics: Just a game of billiards? *The American Journal of Bioethics*, 12(2), 22-24. doi: 10.1080/15265161.2011.634955
- ISM (2016). Institute for Social Marketing, University of Stirling. Retrieved from <http://www.stir.ac.uk/health-sciences/research/groups/social-marketing/>
- Junghans, A.F., Cheung, T.T.L., & De Ridder, D.D.T. (2015). Under consumers' scrutiny - An investigation into consumers' attitudes and concerns about nudging in the realm of health behavior. *BMC Public Health*, 15(1), 1-13. <http://doi.org/10.1186/s12889-015-1691-8>
- Kotler, P., & Lee, N. (2008). *Social Marketing: Influencing Behaviors for Good*. London: Sage Publications Ltd.
- Kotler, P., & Zaltman, G. (1971). Social marketing: an approach to planned social change. *The Journal of Marketing*, 35(3), 3-12. doi: /10.2307/1249783
- Lähteenmäki, L., Lampila, P., Grunert, K., Boztug, Y., Ueland, Ø., Åström, A., & Martinsdóttir, E. (2010). Impact of health-related claims on the perception of other product attributes. *Food Policy*, 35(3), 230-239. doi: 10.1016/j.foodpol.2009.12.007
- Leek, S., Szmigin, I., & Baker, E. (2015). Consumer confusion and front of pack (FoP) nutritional labels. *Journal of Customer Behaviour*, 14(1), 49-61. doi: 10.1362/147539215X14267608004087
- Lefebvre, R.C. (2011). An integrative model for social marketing. *Journal of Social Marketing*, 1(1), 54-72. doi: 10.1108/20426761111104437
- MacFadyen, L., Stead, M., & Hastings, G.B. (2002). Social marketing. In M.J. Baker (Ed.), *The Marketing Book*, 5th ed., Chapter 27, (pp. 694-725). Oxford: Butterworth-Heinemann.
- Marteau, T.M., Ogilvie, D., Roland, M., Suhrcke, M., & Kelly, M.P. (2011). Judging nudging: Can nudging improve population health? *BMJ (Clinical Research Ed.)*, 342(7791), d228. doi: 10.1136/bmj.d228
- Mayer, C. (2014). Governing through choice: Food labels and the confluence of food industry and public health discourse to create "healthy consumers". *Social Theory & Health*, 12(4), 376-395. doi: 10.1057/sth.2014.12
- McTavish, J. (2015). Everyday life classification practices and technologies: Applying domain-analysis to lay understandings of food, health, and eating. *Journal of Documentation*, 71(5), 957-975. doi: 10.1108/JD-08-2014-0105

- Miller, L.M.S., Cassady, D.L., Applegate, E.A., Beckett, L.A., Wilson, M.D., Gibson, T.N., & Ellwood, K. (2015). Relationships among food label use, motivation, and dietary quality. *Nutrients*, 7(2), 1068-1080. doi: 10.3390/nu7021068
- Mills, C. (2015). The Heteronomy of Choice Architecture. *Review of Philosophy and Psychology*, 6(3, March), 495-509. doi: 10.1007/s13164-015-0242-7
- Mullane, M., & Sheffrin, S. (2012). *White Paper: Regulatory Nudges in Practice, Prepared for the Conference on Responsible Regulation*. Retrieved from http://murphy.tulane.edu/files/events/Regulatory_Nudges_feb_24.pdf
- Murphy, P.E., Laczniak, G.R., & Lusch, R.F. (1978). Ethical guidelines for business and social marketing. *Journal of the Academy of Marketing Science*, 6(3), 195-205. doi: 10.1007/BF02729785
- Nestle, M. (2011, October 19). World's first fat tax: what will it achieve? *New Scientist*, 2385. Retrieved from <https://www.newscientist.com/article/mg21228356-600-worlds-first-fat-tax-what-will-it-achieve/>
- NICE (2007). *NICE Public Health Guidance 6: Behaviour change at population, community and individual levels*. London: National Institute for Health and Care Excellence. Retrieved from http://www.ncsct.co.uk/publication_behaviour-change-at-population-community-and-individual-levels.php
- Nørnberg, T.R., Skov, L.R., Houlby, L., & Pérez-Cueto, F.J.A. (2016). Attitudes and Acceptability of Behavior Change Techniques to Promote Healthy Food Choices Among Danish Adolescents. *Family and Consumer Sciences Research Journal*, 44(3), 264-279. doi: 10.1111/fcsr.12142
- NSMC (2011). Social Marketing Big Pocket Guide to using social marketing for behaviour change. *National Social Marketing Centre*. Retrieved from http://www.thensmc.com/sites/default/files/Big_pocket_guide_2011.pdf
- Oliver, A. (2011). Is nudge an effective public health strategy to tackle obesity? Yes. *BMJ*, 342(7803), d2168. doi: 10.1136/bmj.d2168
- Orquin, J.L., & Scholderer, J. (2015). Consumer judgments of explicit and implied health claims on foods: Misguided but not misled. *Food Policy*, 51, 144-157. doi: 10.1016/j.foodpol.2015.01.001
- Pechmann, C., & Slater, M.D. (2005). *Social marketing messages which may motivate irresponsible consumption behaviours. Inside Consumption*. London/New York: Routledge.
- Popay, J., Williams, G., Thomas, C., & Gatrell, T. (1998). Theorising Inequalities in Health: The Place of Lay Knowledge. *Sociology of Health & Illness*, 20(5), 619-644. doi: 10.1111/1467-9566.00122
- Prochaska, J.O., & DiClemente, C.C. (2005). The transtheoretical approach. In J.C. Norcross & M.R. Goldfried (Eds.), *Handbook of psychotherapy integration*. (2nd ed., pp. 147-171). New York: Oxford University Press.
- Puhl, R., Peterson, J.L., & Luedicke, J. (2013). Fighting obesity or obese persons? Public perceptions of obesity-related health messages. *International Journal of Obesity*, 37(6), 774-782. doi: 10.1038/ijo.2012.156
- Raftopoulou, E. & Hogg, M. K. (2010) The political role of government-sponsored social marketing campaigns. *European Journal of Marketing*, 44(7/8), 1206-1227. doi: 10.1108/03090561011047599
- Rayner, G., & Lang, T. (2011). Is nudge an effective public health strategy to tackle obesity? No. *BMJ*, 342(7803), d2177, 898-899. doi: 10.1136/bmj.d2177
- Rebonato, R. (2014). A Critical Assessment of Libertarian Paternalism. *Journal of Consumer Policy*, 37(3), 357-396. doi: 10.1007/s10603-014-9265-1
- Roberto, C.A., & Kawachi, I. (2014). Use of Psychology and Behavioral Economics to Promote Healthy Eating. *American Journal of Preventive Medicine*, 47(6), 832-837. doi: 10.1016/j.amepre.2014.08.002
- Rothschild, M.L. (1999). Carrots, Sticks, and Promises: A Conceptual Framework for the Management of Public Health and Social Issue Behaviors. *Journal of Marketing*, 63(4, October), 24-37. doi: 10.2307/1251972

- Scarborough, P., Matthews, A., Eyles, H., Kaur, A., Hodgkins, C., Raats, M.M., & Rayner, M. (2015). Reds are more important than greens: How UK supermarket shoppers use the different information on a traffic light nutrition label in a choice experiment. *International Journal of Behavioral Nutrition and Physical Activity*, 12(1), 151. doi: 10.1186/s12966-015-0319-9
- Schuldt, J.P. (2013). Does green mean healthy? Nutrition label color affects perceptions of healthfulness. *Health Communication*, 28(8), 814-821. doi: 10.1080/10410236.2012.725270
- Scrinis, G., & Parker, C. (2016). Front-of-Pack Food Labeling and the Politics of Nutritional Nudges. *Law & Policy*, 38(3), 234-249. doi: 10.1111/lapo.12058
- Shepard, R.N. (1990). *Mind Sights: Original Visual Illusions, Ambiguities, and Other Anomalies*. Basingstoke, UK: Palgrave Macmillan.
- Sinclair, S., Hammond, D., & Goodman, S. (2013). Sociodemographic differences in the comprehension of nutritional labels on food products. *Journal of Nutrition Education and Behavior*, 45(6), 767-772. doi: 10.1016/j.jneb.2013.04.262
- Smith, B. (2003). Notes from the field: Behavioral Economics and Social Marketing: New Allies in the War on Absent Behavior. *Social Marketing Quarterly*, 9(1), 67-70. doi: 10.1080/15245000309112
- Spotswood, F., French, J., Tapp, A., & Stead, M. (2012). Some reasonable but uncomfortable questions about social marketing. *Journal of Social Marketing*, 2(3), 163-175. doi: 10.1108/20426761211265168
- Sunstein, C.R. (2014). Nudging: A Very Short Guide. *Journal of Consumer Policy*, 37(4), 583-588. doi: 10.1007/s10603-014-9273-1
- Tadajewski, M., & Brownlie, D. (2008). Critical marketing: A limit attitude. In Tadajewski, M., & Brownlie, D. (Eds.), *Critical marketing: Issues in contemporary marketing* (Chapter 1, pp. 1-28). Chichester, UK: Wiley.
- Tapp, A., & Spotswood, F. (2013). From the 4Ps to COM-SM: reconfiguring the social marketing mix. *Journal of Social Marketing*, 3(3), 206-222. doi: 10.1108/JSOCM-01-2013-0011
- Thaler, R.H., & Sunstein, C.R. (2008). *Nudge: Improving Decisions about Health, Wealth, and Happiness*. London, UK: Yale University Press.
- Turner, J. (2014, July 11). More diabetics require limb amputations as obesity rises. *The Independent*. Retrieved January 5, 2016, from http://www.heraldsotland.com/news/13169435.More_diabetics_require_limb_amputations_as_obesity_rises/
- UK Government (2013, June). Guide to Creating a Front of Pack (FoP) Nutrition Label for Pre-packed Products Sold through Retail Outlets. *UK Government*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/300886/2902158_FoP_Nutrition_2014.pdf
- Van Kleef, E., & Dagevos, H. (2013). The growing role of front-of-pack nutrition profile labelling: A consumer perspective on key issues and controversies. *Critical Reviews in Food Science and Nutrition*, 55(3), 291-303. doi: 10.1080/10408398.2011.653018
- Wahlich, C., Gardner, B., & McGowan, L. (2012). How, when and why do young women use nutrition information on food labels? A qualitative analysis. *Psychology & Health*, 28(2), 202-216. doi: 10.1080/08870446.2012.716439
- Wardle, J., Waller, J., & Jarvis, M.J. (2002). Sex differences in the association of socioeconomic status with obesity. *American Journal of Public Health*, 92(8), 1299-1304. doi: 10.2105/AJPH.92.8.1299
- Wymer, W. (2015). *Innovations in Social Marketing and Public Health Communication: Improving the Quality of Life for Individuals and Communities*. Switzerland: Springer.

ABOUT THE AUTHORS AND CORRESPONDENCE

Clidna Soraghan is currently based at Edinburgh Napier University as a Graduate Teaching Assistant in the School of Marketing. Her doctoral thesis explores the use of social marketing as a tool for dietary behaviour change. More specifically, she is investigating the role of front of packet nutrition labels as a form of ‘nudging’ in relation to food consumption. Clidna is a Fellow of the Higher Education Academy and delivers both undergraduate and postgraduate lectures. Her main research interests lie in social marketing, behaviour change, and nutrition.

Corresponding author: Clidna Soraghan, Edinburgh Napier University, Craiglockhart Campus, 19 Colinton Road, Edinburgh, EH14 1DJ, UK

E c.soraghan@napier.ac.uk

Elaine Thomson graduated with an MA in History (1991), an MSc in Sociology (1992) and a PhD in the social history of medicine (1998), all from the University of Edinburgh. She won the British History of Science Society Singer Prize in 1997, and the Jeremiah Dalziel Prize for British History in 1997 and 1998. She has worked at Edinburgh University, and at the University of Otago in New Zealand. She has also worked as a freelance social researcher, focussing on the service experience of those caring for people with learning difficulties. Elaine has written journal articles and book chapters on the history of health services and medicine in Scotland; the work of women doctors in Scotland; the experience of female patients in Edinburgh; the history of health promotion in Scotland; and the history of advertising. Current research focusses on women and consumption and the history of advertising.

Dr Elaine Thomson, Edinburgh Napier University, Craiglockhart Campus, 19 Colinton Road, Edinburgh, EH14 1DJ, UK

John Ensor is a Professor in the Marketing, Tourism and Languages subject group within The Business School, Edinburgh Napier University. John is also a Visiting Professor of the Mudra Institute of Communications, Ahmedabad, India and Member of the Committee de Perfectionnement of IPAG Business School, Paris. John has a Doctorate in Business Administration from Nottingham Business School and an MBA from Cranfield School of Management. He is a Fellow of the Chartered Institute of Marketing and also holds Chartered Marketer status. John is a former member of the Board of Trustees of the Chartered Institute and is a former Senior Examiner for the Planning and Control paper on the Institute’s postgraduate diploma qualification. John’s main research lies in the areas of strategic marketing, tourism marketing and organisational creativity and innovation. He has published three books and a number of articles in these areas.

Professor John Ensor, Edinburgh Napier University, Craiglockhart Campus, 19 Colinton Road, Edinburgh, EH14 1DJ, UK

AUTHOR COPY