

**Social Marketing and social influences:
Using social ecology as a theoretical framework**

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Abstract

Social marketing has traditionally been dominated by an individualistic model of design. In this work the authors apply a social ecology model to the theory and practice of social marketing, demonstrating that a multi-level framework is required to fully expose and account for the complexity of socio-cultural and environmental effects. The authors have generated a diagnostic tool for this use. The paper then provides a detailed demonstration of the potential power of the tool by applying it to three illustrative case studies, one on encouraging safer driving, the second promoting sustainable travel and the third increasing early detection of lung cancer.

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Keywords

Social Marketing; Social Influence; Upstream; Social Ecological Framework; Case Study; Action Research

Introduction

'No man is an Island, entire of itself; every man is a piece of the Continent, a part of the main'

John Donne

The majority of theory and practice in social marketing has been driven by models of individual-level behaviour change (see for example Rothschild 1999). The philosophy of this 'mainstream' social marketing rests on the principle of self-interest and the conception of *homo-economicus* (Thaler and Sunstein's, 2008 book 'Nudge' offers a high profile reference to this concept), with social marketers utilising the exchange principle to create behaviour change. An alternative, upon which this paper rests, recognises humans as social creatures; *parts of the main*, consciously and subconsciously shaped by others (e.g. see Franzoi, 2000; Deutch and Gerard, 1955). The resulting social influences operate at both the micro-social and the macro-cultural levels. At the micro level, adolescents may behave anti-socially in response to peer pressure (for example, although it is generally considered undesirable for young women to become pregnant when they lack the social and economic resources to care for the baby effectively, teenage girls without such resources have been found to be more likely to get pregnant if they see others around them doing so (Chassin *et al.*, 2004; Simons-Morton *et al.*, 2005; Thaler and Sunstein, 2008)). At the macro level, the UK 'car culture' Edensor (2004) or 'binge drinking culture' (Plant and Plant, 2006) are examples of large-scale social influence. These socio-cultural forces can either be *positive* (favouring socially desired behaviours), such as the anti-litter culture of Switzerland; or *negative* (encouraging anti-social behaviours), such as teenage drug use.

The notion that social marketers should concern themselves with behaviour in context rather than in isolation is gaining momentum in the literature (Andreasen, 2006), with calls to adopt 'a broader perspective that encompasses not just individual behavioural influence, but also the social and physical determinants of that behaviour' (Hastings & Donovan, 2002, p. 4).

Valuable contributions have been made to this way of thinking, such as McKenzie-Mohr and Smith's (1999) work on community-based interventions, which addresses social norms and social influences. Their emphasis on community implies a tendency to group-level solutions, but the approach remains subordinate to the mainstream model (Lefebvre 2000): there seems to be clear potential to expand, and a number of attendant benefits.

Firstly, many of the challenges that we face (such as obesity, smoking and reliance on cars) are simply too complex to be solved by concentrating solely on the individual (Stokols, 1994); such behaviours are often influenced by contextual factors beyond the control of those whose behaviours we wish to affect (Goldberg, 1995; Hastings, Macfayden and Anderson, 2000). A fascinating study reported by Wansink (2006) found that sociality influences food consumption: those who eat with one other person eat 35% more, a group of seven or more people eating together will consume up to 96% more food than if they ate alone. Such factors can hamper change even when an individual is motivated to make it (Andreasen, 2006).

Secondly, an approach aimed solely at individuals may fail to win over some groups such as those from deprived areas, drug users and teenagers (McLeroy *et al.*, 1988), often the very groups social marketers want to reach. Thirdly, models of social influence (like Diffusion of Innovations (Rogers, 1962) or Niches (Smith, 2007), for example) may hold the key to a societal shift in the direction of the new behaviour, particularly when large-scale behaviour change is desirable, as with the case of sustainability. Finally, there is concern that taking a purely individual perspective on social problems is in danger of creating a counterproductive 'victim blaming' culture (Green, 1984) which is not only unrealistic, but hampers understanding of the link between behaviour and context.

In this paper we propose the use of ecological theory (Bronfenbrenner, 1974; 1976; 1977; 1979) to help set an appropriate framework for harnessing social and environmental influences. Using an established ecological model, we have developed and applied an

approach that we believe is appropriate and fit for purpose as a strategic planning tool for social marketers. In the section to follow we explain briefly the basis of this framework, before moving to in-depth illustrations of its application in the field. These illustrations rest upon case study work recently completed in our social marketing research centre.

Social Ecology

Bronfenbrenner's ecological paradigm (ibid) represented a reaction against the (at the time) prevailing approach to developmental science, with his assertion that 'much of developmental psychology is the science of the strange behaviour of children in strange situations with strange adults for the briefest periods of time' (1977, p. 513). We draw a parallel between the state of developmental science at that time and social marketing's emphasis of the economic model of individual behaviour. Bronfenbrenner's discomfort with this absorption with the individual in the absence of context led to the development of his ecology of human development, defined as the:

'...study of the progressive, mutual accommodation, throughout the life span, between the growing human organism and the changing immediate environments in which it lives, as this process is affected by relations obtaining within and between these immediate settings, as well as the larger social contexts, both formal and informal, in which settings are embedded'

Bronfenbrenner's interest was in child development, but we posit that lasting behaviour change is analogous: everyday behaviour like the choice of transport to work, what and how much to eat or whether to quit smoking can change over time and is just as subject to environmental and social factors.

Ecological models

Models founded on the ecological paradigm have been used primarily in the health promotion field as a systematic way of studying behaviour in context (McLeroy *et al.*, 1988), for example to develop a theory of integrated communication about healthy eating (Dresler-Hawke and Veer, 2007), halt the decline of physical activity in adolescent girls (Elder *et al.*, 2007) and for tobacco control (Elder & Stern, 1986). Bronfenbrenner envisioned the social environment as a set of four structures nested around the developing individual, like Russian dolls (1994). The innermost level, the *Microsystem*, consists of the activities, social roles and interpersonal relations that the individual experiences in a particular face-to-face setting. Examples include interactions with family, friends, peers and colleagues. The next, second level is the *Mesosystem*, which Bronfenbrenner characterises as the “systems of Microsystems” (1994). By this he means that the Mesosystem is comprised of the links and processes that occur between the settings containing the developing person. Examples include school, workplace, Church, club or neighbourhood.

The third level, *Exosystem*, consists of those systems which indirectly influence processes within the individual’s immediate settings, which McLeroy *et al.* (1988) describe as forces within the wider social system, and which Andreason (1997, p.190) would identify as ‘Upstream’ factors. There are many such forces; some examples include unemployment rates, the media, local government policy, transportation facilities and wider social networks.

Finally, the *Macrosystem* is described as the overarching configuration of a given culture (or subculture) incorporating “belief systems, bodies of knowledge, material resources, customs, lifestyles, opportunity structures, hazards and life course options” (Bronfenbrenner, 1994, p.40) that form the cultural blueprint for the structures and activities at the other levels. (There is a fifth level (the *Chronosystem*) that examines the impact of time, and though this level of analysis could have some potential for examining long-term issues such as energy consumption, the Chronosystem will not form a part of our approach here).

Social Ecological Framework

Building upon Gregson *et al.*'s (2001) work to categorise health promotion interventions using a social ecological model, upon guidelines developing community health promotions (Stokols, 1994), and upon a multi-attribute model to guide social marketing communication at different levels (Dresler-Hawke & Veer, 2006) we present an integrated Social Ecology Framework (SEF) to inform research and social marketing design. Figure 1 describes the framework:

Figure 1: The Social Ecology Framework for Social Marketing Design

Level	Information sought	Research Methods
Macrosystem	Belief systems, bodies of knowledge, material resources, customs, lifestyles, opportunity structures, hazards and life course options e.g. national cultures	Review of relevant sociological and cultural literature Engagement with and / or observation of target population
Exosystem	Forces within the wider social system, e.g. economic factors, the media, local government policy, transportation facilities and wider social networks	Analysis of local population statistics, census data, local government reports and papers, issues and content of local media Convergent / divergent interviewing (e.g. Carson, Gilmore, Perry, & Gronhaug, 2001) with relevant individuals (e.g. community leaders, local government personnel, special

		issue groups, youth workers)
Mesosystem	Links and processes that occur between the settings containing the developing person e.g. local schools; youth centres	Convergent / divergent interviewing with relevant individuals (e.g. community leaders, teachers, youth workers, workplace representatives)
Microsystem	Activities, social roles and interpersonal relations that the individual experiences in a particular face-to-face setting e.g. informal neighbourhood friendship groups	Engagement with and / or observation of target population
Individual	Knowledge, attitudes, motivations, beliefs, habits	Engagement with and / or observation of target population

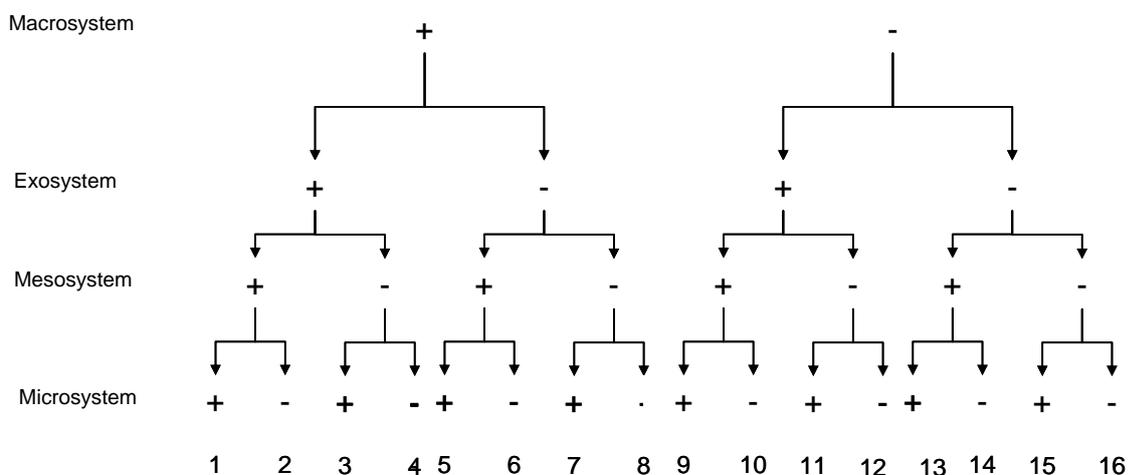
As Gregson *et al.*, (2001) suggest; a useful contribution to this area would be to attempt to understand the relationships and potential for synergy between the different social ecological levels. We have attempted to rise to this challenge in two ways. First, the SEF enables social marketing strategists to generate an overview of the opportunities and barriers to behaviour change at each level, facilitating the design of integrated interventions. Second, interventions can be designed to harness positive influences at one level of the model and bring them to bear upon barriers at other levels.

To apply the SEF to social marketing, we advocate a structured investigation of the social ecology of the target population to evaluate the effect of forces within the Micro, Meso, Exo

and Macrosystems on the problem and desired behaviour and the likelihood of change. This structured investigation is illustrated in Figure 2.

Figure 2 requires some explanation. The interlocking chain diagram arises as follows: faced with a particular behaviour change issue, the social marketer begins by diagnosing whether the *social forces acting at each level are positive or negative*; that is, are the prevailing social forces helping or hindering the desired behaviour change? The best available evidence is used to audit the problem and provide a + or – value to indicate a positive or negative influence. Depending on the + or – value for each of the four levels, a different set of issues and questions are prompted. Each of these scenarios is given a number from 1 to 16, and directs the social marketer to a specific set of considerations. It should be acknowledged that while the framework employs the simple device of an overall positive or negative value, arriving at that value may be anything but straightforward, relying as it does on individual judgement and the possibility of negotiating a consensus with stakeholders of differing perspectives. The philosophical and practical issues arising from this approach will require further elaboration, but will not be discussed further in this paper.

Figure 2: Theoretical Scenarios



The authors propose that following this framework in a structured manner enables the social marketer to create a thorough design from a social and environmental effects perspective.

We would hope that with refinement the SEF might be a strategic planning and diagnostic tool to provide the kind of analytical power for social marketers that, in a commercial context, models such as PESTs, SWOTs, and Ansoff Matrices provide.

The power of the framework is best seen through illustrations of its use. Appendix A contains a short commentary on each scenario from 1 – 16, but we would like to discuss SEF scenarios 13, 14 and 16 in more detail, partly because these look to be of particular importance in contemporary social marketing, and partly because they describe the context of case studies extremely well known to us. To this end the authors asked if the model may be applicable in their recent field work for three public sector partners. First, can the SEF help us diagnose solutions for reckless driving by young men; second, can the SEF help with travel mode shifts from solus car use towards sustainable travel through take up of cycling; and third, tackling early diagnosis of lung cancer, can the model help design a solution to encourage older men from deprived areas to visit their GP if they have a cough?

Application of the Social Ecological Framework

Case 1: Reduce reckless driving among young males

Young men (aged 17-24) from low income areas exhibit aggressive driving styles and have correspondingly much higher involvement in road traffic incidents. This audience is highly resistant to traditional road safety measures, and this led the UK government's Department for Transport to commission the authors to create a social marketing programme to encourage safer driving amongst young men. A field trial was created for a deprived area within a large city in the UK.

The authors collected substantial data to provide a platform for an ecologically designed programme. Formative data was collected during semi-structured interviews with young males and local residents. For example, at the *individual* level, Data was gathered from both legal ‘car-enthusiasts’ and also from those involved in frequent car-related anti-social behaviour and criminal activity. Exploratory research described a group of young men with a great deal of confidence in their own driving ability and with a fondness for thrill seeking. Because they see themselves as skilled, invincible drivers, they are extremely resistant to the traditional approach of road safety campaigners: fear based appeals.

The majority of these young men live outside of formal structures and many are unemployed. Therefore their *microsystem* is composed mainly of friends and family. The car is used as a tool for developing social links; exchanges that focus on recklessness or near-misses are commonplace and they achieve high levels of social status in accordance with perceived driving skill. Often these skills are developed during deviant or illegal activities, enhancing their credibility further with well known ‘players’ in the geographical area. These individuals become role models and exert a strong influence on those around them either through direct contact or through word of mouth. This results in the ‘handing down’ of skills that have both positive and negative effects on behaviour.

Overall, the negative aspects of the Microsystem are considered to be a significant barrier to the desired behaviour change, and this was given a minus in our SEF analysis. Observations of this trial suggest that these microsystem effects are very powerful. The young men have a highly developed sense of competition and rivalry that coalesces into a social system where ‘positions’ within a hierarchy are jostled for. These social effects may be explained by Bourdieu’s Field-Capital theories. Bourdieu (1984) defined a Field as an arena within which a social group competes; while Capital represents the assets used to compete (Anheier,

Gerhards, & Romo, 1995). Here, stories about reckless or aggressive driving may form part of the cultural capital attached to an individual, with notoriety gained from extreme behaviour.

Analysis of the *Mesosystem* in which these young males are embedded revealed a number of interesting factors. Firstly, there is a strong “neighbourhood” identity, with subtle differences in taste and behaviours between areas. As the majority of young men in our target area are classified as “NEETS” (not in employment, education or training), interventions targeted via, say, education channels, are likely to pass them by. However, the local youth centre was well resourced, and the neighbourhood youth worker was a local person who had high levels of trust in the neighbourhood and hence provided a ‘channel’ that looked promising. A strong community spirit based on a sub-culture of ‘us against the world’ generated a powerful local identity, with particularly strong bonding social capital of the type often found in traditional working class communities. Volunteer led projects like a local BMX cycling track had been very successful.

In the *exosystem*, a number of forces were identified as relevant to our goals. Economic and social deprivation was considered significant. The area was typical of its type in suffering from negative reports in the media (with reckless driving being a common theme). A local street was known to attract reckless drivers and was a recognised accident hotspot. Typically, this community “have things done to them”: for example, adjustments in road engineering and the installation of monitoring devices. Consultation was minimal and the local community felt excluded from the debate. Part of this exclusion seemed to arise from the remnants of social class and education barriers that made communication between the community and the council sometimes difficult. Bourdieu explained these barriers in terms of cultural capital – a lack of commonality about rules of behaviour, about having social tastes in common (Bourdieu 1984). We considered many of these Exosystemic factors to be barriers to our

desired behaviour change, and hence given a minus in our SEF analysis. However, at the programme level, analysis of the exosystem directed us to communicate our offer in such a way as to distance it from authority structures such as local government.

Two broad themes in the *macrosystem* were identified as relevant: the constraints and attitudes of deprived communities (see for example Tapp and Warren 2010), and the culture of the car. People in low income areas typically ‘live for today’, and tend towards instant rewards for behaviour change. Individualistic behaviour can result in social penalties – at worst, being ostracised from the community. Strong ‘bonding’ social capital is countered by weak ‘bridging’ social capital, resulting in strong social support but a lack of new ideas or new horizons.

Dant (2004) has argued that the way cars are used within a culture has implications for those wishing to influence the way people drive. Car consumption can be as much about patterns of kinship, sociability (Sheller 2004), sexuality, freedom, adventure and rebellion (Ednesor, 2004) as it is about rational economic or practical choice. The ultimate expression of these emotions by young male drivers may be the customising and displaying of their cars in public spaces. This phenomenon has most resonance in developed western societies (Bast, 2006) and is particularly relevant to our target audience and their community. Lumsden (2009) describes how the ‘boy racer’ culture has been the subject of considerable media attention focusing on the detrimental effects this group had on the environment and the lives of local residents. The implication of these influences in the macrosystem is that we are attempting to change the driving behaviour of these young men in a way that runs counter to the car-inspired subculture to which they subscribe. Hence, this level was given a minus in our SEF analysis.

This completes the SEF analysis, and results in us pinpointing **scenario 14** (refer to Figure 2) as accurate for this behaviour change problem. The most significant *barriers* are Microsystemic. These have the most influence on the audience and the resulting undesirable

behaviours are strongly integrated into the social system. Individually targeted approaches are unlikely to make a difference to this situation: for example, fear based appeals have been unsuccessful, and these young males are much more influenced by their peers than by any message from those in authority.

The above analysis suggested that the key to behaviour change could lie with a meso-level intervention with the ultimate aim of effecting behaviour change in the Microsystem.

Although the young men were not involved significantly in any *traditional* Mesosystems (schools, church, etc), the strong neighbourhood identity, the role of the Youth Centre and the success of community projects like a local BMX track were factors that led to the design described below.

A youth worker, well known to and trusted by the target audience was enlisted to be our conduit into the area. He, in turn, recruited four “team leaders” and 20 participants. The pilot intervention is comprised of three main components: bespoke driver coaching delivered by the Institute of Advanced Motorists (IAM), off-road driving (Karting) and In Vehicle Data Recording (IVDR). The language used in the intervention was given careful consideration with all mentions of “safety” replaced by a theme of “driving skill”. No direct reference to the project sponsors (Department of Transport and the City Council) was made. As an incentive, free Karting sessions were provided, which took place after “feedback sessions” where the statistics from the IVDR were discussed in the context of the “skill” demonstrated by each driver. Appendix B gives an illustration of the recruitment material used for the trial.

Desai (2009) advises social marketers to involve consumers in co-creating the offer, experience, behaviour change and benefits. We engaged with “the people formerly known as the audience” (Lefebvre, 2007, p.38) to co-create the intervention in several ways. Firstly, safe driving parameters needed to be defined; requiring an understanding of the range of tastes that would need to be considered. This was achieved via a number of familiarisation

drives with members of the target group and the Institute of Advanced Motorists (IAM). Using this insight, we developed a series of relevant parameters to represent a middle ground between contrasting styles of driving, ensuring that participants had achievable behaviour change goals, but crucially for this audience, goals that were relevant to their style of driving. Based on the observations of the IAM a ‘mini-course’ was developed in collaboration with the target audience. A consideration of the breath of ‘Advanced Driving’ techniques available led to the co-creation of a syllabus focusing on the principles of advanced driving most relevant to the target audience. Finally, the design of a brand identity and communication materials was co-created with participants (illustrated once again in Appendix B).

The ultimate aim will be to embed a new definition of “driving skill”, one that is based less around risky driving behaviour and more around the development and expression of driving skill in a way that does not put these specific drivers or the general public in danger.

Case 2: Increase cycling

One of the authors was asked to help on the roll out of cycling programmes funded by Cycling England across the UK between 2008 and 2011. In this short case we present some key issues that arose from applying the SEF to the promotion of travel ‘mode shift’ from the use of cars to cycling.

There were a number of contrasts between the promotion of cycling and the reduction of reckless driving which led us to identify **SEF scenario 16** as most relevant in this case. Problems were perhaps identified most significantly at the *macrosystem* level of British society. The dominant macro effect is the British ‘car culture’, discussed in Case 1 above, presents a formidable barrier to the kind of large scale cycle commuting seen in, say, The Netherlands or Denmark (Pucher and Buehler 2007). In the UK, using the car is the default for even short trips. Public transport is disliked, and cyclists are sometimes seen as strange,

odd, and counter to the norm. (A UK citizen visiting, say, Amsterdam would be culturally shocked at the dominance of cycling as a way of getting around). The entrenched UK car based norms suggest that short-term, downstream interventions are unlikely to succeed. Social marketing strategies may rest on the principles of minority influence or Diffusion of Innovations: deliberately seeking influential people who can spread ideas through the rest of society. The evidence base within the travel mode shift sector suggests that cycling is sensitive to vicious and virtuous circles of social influence: people are more likely to cycle if they see lots of other cyclists on the road, and vice versa (Jacobsen 2003; Pucher and Buehler 2007). At the macrosystem level, upstream social marketing would seek to create environmental conditions that would generate a critical mass / tipping point effect (Gladwell, 2000). Interestingly, Macrosystems could provide a basis for developing protest or 'social movements' that may be appropriate in the case of cycling: groups such as the Cycle Touring Club take the view that cycling would benefit from a political movement of change. Social marketing's role here may be to interface with more critical approaches in, for example, highlighting how the UK's 'car culture' is damaging the promotion of cycling. Nearly 90% of all trips are made by car in the UK, but there are increasing pressures from carbon usage, congestion and health lobbies for this car reliance to be challenged. An example of a macro-level intervention in this instance may be a radical version of road pricing – charging motorists according to their mileage. Other ideas include the rolling out of the London Congestion Charge to towns and cities across the UK. However, there are strong in-group and out-group effects (Gatersleben and Uzzell 2007), with current cyclists exhibiting strong in-group social identities, and non-cyclists often holding negative attitudes towards cyclists.

There are a number of *Exosystemic* barriers to cycling: the possibility of having to cycle on fast, busy roads, concerns over safety, the weather, the fact that cycling may take longer than

driving and the absence of secure cycle parking and washing facilities (Tapp, 2009). Strategic social marketing interventions could include cycle to school or work schemes (taking advantage of safety in numbers), or initiatives to capitalise on the fun and joy of cycling: for example, group rides, outdoor summer events, or free “bike doctor” advice with the aim of shifting people from occasional leisure rider to trial commuter (DfT 2008; Cairns et al 2004). The Exosystemic insight here is that successful marketing of commuter cycling depends on a credible chain of support for a behaviour change (cycling into work for the first time) that the contemplator sees as quite complex. If anything in this chain is ‘broken’ or not satisfactory, for example if there are no change/wash facilities in work, then the chain is broken and the behaviour does not change. Social marketers could borrow from services marketing approaches in developing support services that help people through the behaviour change pathway.

At the *Mesosystemic* level marketers could take advantage of formalised structures. For example, within schools there may well be strong support for any initiative that would reduce the number of cars being driven in the area. Mesosystems offer potential for designing interventions, such as cycling training offered by schools or community organisations, or improvement of workplace facilities (see for example Jensen 2008). Social marketing strategies could encourage and provide support to groups at this level to overcome barriers in the *exosystem* by campaigning for changes or perhaps even creating solutions such as organised group cycling (Ming et al 2005).

The *Microsystem* is of considerable importance in the social marketing of cycling. At this level a typical strategy could be Personalised Travel Planning (PTP) (Brog et al 2002). This service is commissioned by the sector to offer detailed local information at a family/individual level by directly contacting people in-home and discussing their own unique local travel habits and offering possible alternatives (group walks or cycling children to school using safe

routes for example). The evidence base of PTP suggests that such approaches may lead to around 8% travel mode shift from car travel to sustainable transport (Tapp 2009). Viral marketing that taps into friendship networks may also be successful. In fields such as smoking cessation and obesity, friendship Microsystems have proven to be powerful in starting a cycle of social behaviour change that extends from one group to another, for example (Christakis and Fowler 2007). Their fascinating studies found a ‘contagion’ effect for smoking and obesity such that, for example, people whose close network was obese were themselves more likely to develop obesity, and then to ‘pass on’ this to others. Workplace based cycling schemes have suggested that a ‘viral’ effect may influence greater cycling take up: the contention is that family/friendship Microsystems should work in the same way.

Case 3: Early diagnosis of lung cancer

Lung cancer is the second most common cancer diagnosed within the UK. Often, people present late for investigation, and survival rates in the UK are significantly worse than elsewhere in Europe (Cancer Research UK, 2007). Deprivation, social class, limited educational and other opportunities are associated with both a higher risk of developing lung cancer and reduced likelihood of survival (Corner, Hopkinson & Roffe, 2006; Tod, Craven, & Allmark, 2008) Explanations for this difference include greater barriers to accessing health services (Tod, Read, Lacey & Abbott, 2001) and higher levels of smoking (Cancer Research UK, 2007). While the obvious answer to lung cancer prevention is to target smoking, recent attention has also focused on the value of increasing symptom awareness with a view to early detection (Corner *et al.*, 2006; Eadie & MacAskill, 2007). With this aim, a regional Cancer Network commissioned the Bristol Social Marketing Centre (UWE) to develop a field trial to determine the most effective method for increasing early detection of lung cancer among men in deprived areas.

The first step involved a review of extant social marketing, behaviour change and cancer literature. Significant psychological barriers to early diagnosis were identified, including fear of cancer, lack of knowledge about symptoms and treatment possibilities, previous experience with doctors, existing medical conditions, attitudes typical of smokers, and opinions on the role of Government health messages. This led to a series of depth interviews with husband and wife pairs and all male mini-groups from two of the target locations. A social ecological analysis was then conducted, which we summarise below.

In the Macrosystem, allied to the attitudes and constraints often found within deprived communities (discussed earlier) cultural factors like *stoicism* were found to diminish the likelihood of people visiting their doctor. Stoicism was found to be prevalent in older male participants, particularly those who had worked in traditional industrial occupations. Fatalistic beliefs, fear of diagnosis and subsequent death, feelings of stigma and blame and not wanting to waste the doctor's time prevail (Alcalay & Bell, 2000; Eadie & MacAskill, 2007; Tod *et al.*, 2008). Lifelong patterns and habits also contributed to a reluctance to use primary care services; older people often recalled pre-NHS healthcare (Tod *et al.*, 2008). However, the benefits of detecting cancer early were familiar, particularly among women. As well as cultural and attitudinal reasons, this gender difference could be due to the fact that women tended to participate more in screening programmes and tended to be responsible for their children's healthcare (Eadie & MacAskill, 2007).

We also found a number of factors within the Exosystem that increased delay in diagnosing lung cancer. Firstly, there are practical barriers, like the difficulties faced by those on low incomes taking time off work to see the doctor, proximity to services and difficulty making an appointment (Burgess, Ramirez, Richards, & Love, 1998; French, 2010).

Delay in referral by the doctor and hold-ups in the system through factors like waiting times contributed as well. A number of authors have referred to the problem of 'medical nihilism'

(Corner *et al.*, 2006, P. 1382) about a disease regarded as incurable (Bleehan, 1990) and for which the only rational solution is prevention through not smoking. Some care providers may also believe that late diagnosis, when the disease is inoperable, is inevitable due to biomedical difficulties in detecting it at an early stage (Corner *et al.*, 2006).

The intangibility and ambiguity of lung cancer symptoms was identified as a significant Exosystemic problem. Unlike breast cancer for example, there is no “lump” to find; early symptoms often appear minor and unspecific and can be attributed to other conditions or simply getting older (Ramirez *et al.*, 1999); a tendency exaggerated among non-smokers (Tod *et al.*, 2008).

The mass media are a recognised source of information about cancer (Signorielli, 1990) and are thought to influence public attitudes in a number of ways, including: providing legitimacy, a framework for discussion, or simply by drawing cancer to the public’s attention. (Eadie & MacAskill, 2007; Wallack & Sciandra, 1990-91). However, when compared with, say, breast or skin cancer, lung cancer receives little positive mention in the media. Conversely, existing health education campaigns, particularly those related to smoking, may contain powerful ‘moral messages’ (Corner *et al.*, 2006, P. 1388) contributing to fatalistic attitudes or a sense of stigma, in turn presenting barriers to early detection. Anti-smoking campaigns often stress the threat of lung cancer as a persuasive means to stop young people from taking up smoking or to encourage smoking cessation (Tod *et al.*, 2008). Such campaigns generally do not provide information on the signs and symptoms and as a result may have negative consequences for concerned smokers (Corner *et al.*, 2006). Further, recent health education campaigns (such as Swine Flu) have recommended self-management of minor cold/flu symptoms. This may reinforce the tendency to delay by encouraging the self-management of possible lung cancer symptoms (Tod *et al.*, 2008).

Studies have found that deprived areas tend to be characterised by strong local community ties, particularly among older people (Eadie & MacAskill, 2007). However, though both areas chosen for the pilot study are considered economically and socially deprived, our investigation of the Mesosystem described two very different sorts of community.

As predicted by the literature, one of our areas was found to have a strong local identity and well-established social networks. Residents told us of several 'families' that have lived in the area for three or more generations and which provide a deep-seated sense of identity and belonging. As with the road safety case outlined above, the neighbourhood was characterised by strong internal bonding social capital and weak bridging social capital with other groups such as the City Council who, while ostensibly involving residents in consultations, were believed to deliberately place barriers in the way of real dialogue with the community. In response to forces in their exosystem such as the lack of a youth club and licensed pubs, residents have formed committees that run social clubs for young people and adults. These committees are strictly self-regulated, with tacit codes of acceptable behaviour, and any transgressions (such as becoming overly drunk or abusive) are 'dealt with' by the committee. Residents told us that word-of-mouth was the most powerful way to spread a message around their community.

Conversely, the other area selected for the pilot was found to have weaker than expected bonding social capital, despite members of the community stating that their community spirit was strong. Social networks were less likely to be based around family ties. Community groups were present, but they struggled to find volunteers and often the same people held things together. Such groups and associated community initiatives and events tended to be based around particular issues (like young offenders or Veterans), rather than the underlying sociality present in the first community.

The Microsystem emerged as a significant source of health related information and support for women. Perhaps unsurprisingly, wives emerged as the primary influence on the target audience of men aged 50-75, and were particularly important in encouraging these men to confront their symptoms and make an appointment with the GP (Corner *et al.*, 2006; Eadie & MacAskill, 2007). This positive social influence from female family members countered the unhelpful norm that going to the doctor is not ‘manly’, with the belief that health is a personal, private matter, and not a topic of conversation (unless in jest) with their male friends. These men were not interested in others’ health unless close family is involved.

As our research progressed, we became increasingly aware of the complex challenge we faced. At Macrosystem level, we were dealing with a culture of traditional masculinity: independence, toughness and stoicism allied to an aversion to any issue perceived as feminine, such as health. In the Exosystem, barriers to accessing health services, ambiguity of lung cancer symptoms, referral delays, and negative perceptions of lung cancer among health professionals and in the media reinforced by the effect of anti-smoking campaigns all presented a negative influence. However, we considered the strong community ties and positive influence of females in the Meso- and Microsystems to be helpful to our cause, leading us to identify **SEF scenario 13** as the most applicable.

The resulting intervention was comprised of two elements: firstly, a co-created, community organised initiative to increase awareness of the clearest and most simple symptom (having a cough that lasts 3 weeks or more) and prompt men to visit their GP if this happens. Secondly, a programme of engagement with local GPs and other primary care professionals like Health Visitors and Health Trainers to increase their awareness of lung cancer symptoms and encourage them to refer for chest x-ray.

The community co-created element of the intervention is very different in each of the two locations. In the first area, where strong social networks and family ties create powerful bonds within the community, a series of social events were planned. The majority of these events tied in with existing plans, such as creating a ‘Men’s Health’ table at the local BBQ and sponsoring a ‘Healthy Lungs’ trophy for the skittles league. A Family Fun Day was created specifically for the intervention where a health professional would provide GP referral letters to anyone concerned about a lung cancer symptom. It is worthy of note that the idea of bringing a health professional to the target audience (because they won’t go to the doctor) was that of the community co-creation volunteers rather than the social marketing strategists, suggesting that grassroots initiatives can be an effective way to tackle barriers in the Exosystem, as scenario 13 advocates.

In the other area, where social links appear weaker, a multi-media communications programme is planned. The co-creation team is much smaller, and have decided to adopt the role of ‘generals’ in designing the strategy and materials for the ‘troops’ to distribute. In keeping with the military metaphor adopted by the group, 30 Naval Cadets and the local Territorial Army have volunteered to help distribute the communication materials to the target audience.

Conclusions

The authors contend that the Social Ecology Framework contributes to the development of social marketing strategic planning. We advocate that the boundaries of the field can be expanded beyond an individual model of behaviour change to encompass an individual’s context, conceptualised using the ecological framework. The diagnostic tool identifies the need to address barriers and triggers at four distinct levels of effect. The value of this lies in the clarity with which the complexity of social and cultural influences can be classified into a structure, and possible solutions pre-defined into a strategic model.

The methodology identified in this paper is still in the preliminary stages of development. We have identified theoretical scenarios and suggested possible solutions to these, and made a limited assessment about the way in which the framework may apply to specific scenarios. Considerable further work will be needed to test the SEF against a wider variety of available social marketing case studies, in particular to identify whether there are any differences between scenarios such as whether some are more likely to occur than others, or whether certain scenarios are 'easier' to tackle than others.

The ultimate test of this framework would be its successful use as a design template for 'ecologically designed' activities. New skills would be required for social marketers in the application of such a framework, not least in diagnosing the different levels of influence and identifying the most urgent issues amongst multiple priorities. There are also practical issues such as whether social marketers will be able to access the resources and time needed to effect change at multiple levels, whether the right stakeholders are involved to enable multi-level interventions to take place (for example, an ecological intervention might call for change to transport facilities, engagement with schools and health professionals) and whether social marketers themselves possess the range of skills required to manage such multi faceted programmes (such as engagement with local government, community organisation etc).

Given the wide scope of the framework, the most effective way forward may be for social marketers to create a kind of 'value chain' of delivery in partnership with other specialisms including ecologists, service designers, community developers and local and national government. Partnership working based on an ecological model of behaviour change provides an alternative future for social marketing, and would mark a move away from an individualistic, citizen-as-consumer view of the world.

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Appendix A: SEF Scenarios

Scenarios	Mac	Ex	Mes	Mic	Comments
1	+	+	+	+	Is the behaviour conscious or unconscious? Cognitive or emotional? How can the positive forces in the environment be harnessed, e.g. peer pressure, small group influences, community led initiatives?
2	+	+	+	-	Look at micro influences. Which setting? Peer pressure, family influences etc. Options would include harnessing the positive forces in the environment, e.g. via the community, school or work.
3	+	+	-	+	Can the problems in the Mesosystem be solved? How can the other positive forces in the environment be harnessed to improve the Mesosystem e.g. grassroots initiatives, community organisation?
4	+	+	-	-	Are the problems in the Meso and Microsystems linked? Where best to solve them (school, work, home, community)? How can the other positive forces in the environment be harnessed?
5	+	-	+	+	Can the negative influences in the Exosystem be mitigated or changed? Options would include harnessing the positive influences in the Meso and / or Microsystems, e.g. community or grassroots campaigns?
6	+	-	+	-	Can the negative influences in the Exosystem be mitigated or changed? Can the positive influences in the Mesosystem be used to tackle the problems in the Micro and / or

					Exosystem, e.g. community organisation?
7	+	-	-	+	Can the negative influences in the Exo and / or Mesosystems be mitigated or influenced? Can the positive influences in the Mesosystem be used to tackle the problems in the Micro and / or Exosystem?
8	+	-	-	-	Can the negative influences at the lower levels be mitigated or influenced? Which presents the best opportunity for change or to influence the other levels?
9	-	+	+	+	This scenario is considered unlikely as it seems implausible that the Macrosystem would exert a negative influence if all other levels were positive.
10	-	+	+	-	Strategic options would include tackling negative influences in the Microsystem, either directly or via the Meso or Exosystem, ultimately affecting the Macrosystem.
11	-	+	-	+	Options could include harnessing the Microsystem in grassroots initiatives to tackle negative influences in the Meso and Macrosystems.
12	-	+	-	-	This scenario suggests that the behavioural issues are all socio-cultural, so strategic options could include attempts to tackle problems in the Meso and / or Microsystems, ultimately affecting the Macrosystem.
13	-	-	+	+	This scenario closely fits our lung cancer diagnosis case study. Strategic options could include grassroots initiatives and / or community organisation to tackle the barriers in the Exosystem, ultimately affecting the Macrosystem.

14	-	-	+	-	<p>This scenario best fits our reckless driving case study.</p> <p>There is a strong sense of local community that can be harnessed, but significant negative influences in the Microsystem, barriers in the Exosystem, and a Macrosystem characterised by economic deprivation allied to a subculture of rebellion and thrill-seeking behaviour.</p>
15	-	-	-	+	<p>This scenario would call for either a grassroots led initiative, community organisation (if possible) or a “tipping point” style identification of influential individuals to stimulate change.</p>
16	-	-	-	-	<p>This scenario would present a significant challenge. Which level presents the best opportunity for change or to influence the other levels? This may be the scenario that best represents the challenge of encouraging people to cycle instead of drive. Strategy would be directed by an assessment of which level is most receptive to change.</p>

Appendix B: 'Co-created' communications material

check THIS OUT!

ARE YOU INTERESTED IN –

- FREE GO-KARTING SESSIONS IN [REDACTED]**
- A FREE TRACKING DEVICE FOR YOUR CAR?**
- GAINING ADVANCED DRIVING SKILLS?**

IS THIS YOU?

A male driver aged between 17-25 living in [REDACTED]

CALL OR TEXT [REDACTED] FOR MORE INFO ON [REDACTED]

We need you and your driving skills to help develop a new electronic in-car gadget to improve the driving skills of other young men.