Krzysztof Kubacki
Sharyn Rundle-Thiele *Editors*

Formative Research in Social Marketing

Innovative Methods to Gain Consumer Insights

Springer

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ISBN 978-981-10-1827-5 ISBN 978-981-10-1829-9 (eBook)
DOI 10.1007/978-981-10-1829-9

Library of Congress Control Number: 2016948625

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer Nature Singapore Pte Ltd.
The registered company address is: 152 Beach Road, #22-06/08 Gateway East, Singapore 189721, Singapore

Acknowledgements

This book was conceived early in 2015 and over the past 18 months many people have been involved assisting us to deliver a resource which we hope will help social marketers to extend the methods used to focus more comprehensively on our target audiences and understanding their lives.

First, we thank staff at Springer for placing faith in us to deliver a manuscript and for assisting us so quickly and efficiently throughout the project. We have enjoyed working with you to deliver this book and are happy to say we would willingly do so again. Krzysztof and I wish to thank the reviewers who assisted throughout the process. Your comments and guidance significantly improved the final manuscript and we are indebted to you all for the service you have given. We also wish to thank the authors who have worked with us over the past twelve months to deliver resources which we know many researchers and practitioners alike will learn from in the years to come. Thank you for your energy, commitment and enthusiasm to see the project through. We could not have achieved this book without you! Our thanks go to Penelope Ralph who is a professional through and through; delivering edits on all chapters so efficiently. Her editing work enhanced the work of all involved in delivering the manuscript.

Of special note, we would both like to thank Taylor Willmott who has spent many hours helping to assist us to deliver the manuscript to Springer in the first half of 2016. You work quickly and to the highest level and we were lucky to have your involvement in the project. Finally, Krzysztof and I would like to thank those closest to our hearts for their ongoing support and understanding. We love and cherish you and would not achieve anywhere near as much without you.

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Expanding the Formative Research Toolkit

Krzysztof Kubacki and Sharyn Rundle-Thiele

Abstract This chapter introduces the *Formative Research in Social Marketing* book. First, we reflect on the role and importance of formative research which is recommended in social marketing within different frameworks to guide social marketing practice. We then highlight several systematic literature reviews indicating incomplete use of formative research in social marketing, and programs relying on surveys and focus groups as a means to understand what consumers think. However, arguing that programs designed and implemented with no or limited formative research are the anti-thesis of social marketing, we complete this introduction with an overview of each of the chapters included in this book.

The Importance of Formative Research in Social Marketing

The main focus of social marketing is on the application of well-known marketing tools and techniques to foster positive social change (Wymer 2011). Frameworks have been suggested to guide social marketing practice and all acknowledge the importance of formative research (for examples see Lefebvre and Flora 1988; Walsh et al. 1993; Andreasen 2002; French and Blair-Stevens 2005; Robinson-Maynard 2013). For example, Andreasen (2002) explains that *formative research* helps to ensure an understanding of the consumer and orientation of the intervention toward them. This is expanded further in the French and Blair-Stevens (2005) framework which defines two benchmarks (customer orientation and insight) to extend understanding and application of formative research. According to the French and Blair-Stevens (2005) framework customer orientation refers to a focus on the audience to fully understand their lives and behaviour with the use of a

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_1

mix of data sources and research methods recommended. Considering that the insight criterion states that "customer research identifies 'actionable insights'—pieces of understanding that will lead intervention development" (French and Blair-Stevens 2005), the addition of a second criterion, i.e. customer orientation, orients practice to the target audience.

While social marketing has been used to combat problem behaviours for over 40 years (Lefebvre 2011) and effectiveness of the approach is widely documented (Stead et al. 2007), recent systematic literature reviews (Carins and Rundle-Thiele 2014; Kubacki et al. 2015a, b, c; Fujihira et al. 2015) indicate room for improvement in the application of social marketing remains; social marketing interventions rarely report use of all six of Andreasen's (2002) benchmark criteria. Given that behaviour change and positive outcomes are more likely when more of the social marketing benchmarks are used (Carins and Rundle-Thiele 2014), full use of all six social marketing benchmarks is recommended. Closer examination of those systematic literature reviews indicates incomplete use of formative research in social marketing programs. According to the Kubacki et al. (2015b) review, for example, seven out of the twenty-three programs targeting children under the age of 12 years did not incorporate formative research into their study design.

As noted in Rundle-Thiele et al. (2013), critical reflection on the last 40 years of social marketing provides a platform for consolidation of valuable principles and practices, and issues a challenge to further enhance practice. The last 40 years shows widespread use of surveys and focus groups as means to understand what consumers think. Consider the Kubacki et al. (2015b) review that assessed social marketing interventions targeting children under the age of 12 years—focus groups ($n = 9$), interviews ($n = 8$) and surveys ($n = 8$) were the most popular methods of formative research reported in the 23 interventions assessed. A critical assessment of formative research methods indicates continued dominant use of surveys and focus groups despite calls to extend methods used being made more than 10 years ago (Grier and Bryant 2005). The reliance on self-report methods such as interviews and focus groups limits findings owing to social desirability, memory and other biases (see Baumgartner and Steenkamp 2006). Further, the methods employed continue to limit insights to a downstream or individual view (Wymer 2011).

Social marketing has more recently begun to take a more ecological view of behaviour, and this requires examining multiple levels of influence—personal, social and environmental (Brennan et al. 2016). In order to understand how the individual is influenced by their surrounding social and built environments, alternate research methods are needed. Social marketing researchers and practitioners must heed long-standing calls to ensure that formative research is embedded into practice, that methods used are reported in all cases and perhaps most importantly, the methods used extend beyond surveys and focus groups. As stated by Andreasen (2002), application of *formative research* helps to instil an understanding of the consumer and surrounding influences (social and environmental) and subsequent orientation of the intervention toward them.

Customer Orientation: A Philosophical Approach

Since Theodore Levitt (1960) proposed a link between a market orientation and business survival in a paper called '*Marketing Myopia,*' marketing has, indeed, become the driving force in many successful organisations. According to Narver and Slater (1990) firms with a market or external orientation (also termed a bottom-up approach) perform better than firms without a market orientation (typically characterised by a top-down approach or internal focus).

When practised to its full extent social marketing is a philosophical approach that puts the target audience at the heart of all decisions and is framed by competition (which can be direct and indirect). Rather than asking which idea should we communicate, marketers who adopt best practice social marketing thinking ask *'what would our target audience value or like us to offer?'* Marketing is a learning process, an art form and, importantly, a science. Marketers need to learn what the target audience wants and needs and solutions should be delivered accordingly. This is an ongoing process, as target audience preferences are continually evolving, and satisfaction with the offering needs to be monitored to ensure that audience expectations are met and adjustments continue over time in response to market changes. Target audience needs and wants change with each product purchased, service consumed, magazine read, competitor action and reaction, conversation had or television program watched. Social marketers therefore use information to understand and later monitor consumer preferences, desires and actions. Social marketers must be creative, responsive, adaptive, fast, and able to develop new ideas ensuring that the offering is superior to competing alternatives. Markets are cluttered and there are many options available to the target audience. The best social marketers are able to attract attention and deliver something over time that is more highly valued than competing alternatives for the target audience.

Taking the Other Side

Mill (1989, p. 38) was once quoted as saying, "He who knows only his own side of the case knows little." Mill's words succinctly capture the importance of an external or customer orientation as a philosophical approach that places the customer at the centre of design, planning and evaluation. In order to know the other side social marketers must employ marketing formative research—to be immersed in the other side of the social issues we are attempting to solve—the side that is perceived, lived and experienced by the target audiences, sponsors, partners and other stakeholders that we work with and, most crucially, the society at large. Formative research is the process used by social marketers to gain insights and understanding about the very issue(s) they are seeking to influence and change, and as most social issues are complex problems, a single-perspective and one-method approach will rarely provide us with a sufficient understanding. For an example of a case study that

demonstrates how mixed methods were used in a formative research study to generate a broader understanding of the consumer and the context in which they behave, and to inform the development of a social marketing program designed to change eating behaviour, please see Carins et al. (forthcoming).

Top-down, expert-driven programs designed and implemented with no or limited formative research are the antithesis of social marketing. As Lefebvre and Flora argued in 1988, "Social marketing principles are especially well-suited for the task of translating necessarily complex educational messages and behaviour change techniques into concepts and products that will be received and acted upon by a large segment of the population" (pp. 300–301). Therefore consumer-focused formative research that goes beyond relying only on traditional epidemiological data should drive the process of identifying, translating and adapting social marketing solutions to the challenges of everyday life.

As proposed by Andreasen (2002) in his six social marketing benchmark criteria, audience research that attempts to unpack multiple dimensions and complexities of social problems should be an important part of any social marketing program. Extending further, we consider all research carried out before, during and after a social marketing program to have some formative dimensions. Formative research can be used in social marketing to understand audiences before the program is designed and executed, during the program to monitor and inform the ongoing delivery of the program, and following the completion of the program (referred to by Walsh et al. (1993) as the *formative evaluation process*) to inform future program planning and design.

Some of the methods discussed in this book may be more commonly used in research aiming to inform future social marketing programs (e.g. interviews, focus groups and projective techniques), while others are more suited to research aiming to monitor ongoing programs and to evaluate completed programs (e.g. surveys, observations and diaries). Yet, all formative research methods outlined in this book help us develop and implement programs that are designed with and for the other side. By focusing on the other side social marketers are able to reduce the number of costly mistakes due to their comprehensive understanding of people's everyday lives and the needs, values, motivations and the surrounding environments that drive them.

Structure of the Book

For us, there is no doubt that formative research is an integral element of social marketing, and we contend that formative research should be an important part of every social marketing program. Employment of a wide variety of formative research methods arms us with an understanding of current best practice in social marketing and challenges conventional thinking to generate unique and new consumer insights that are capable of delivering sustained behaviour change. *Formative Research in Social Marketing* aims to provide a resource for social marketing

academics, research students and practitioners by serving as a handbook detailing the current state of knowledge of the many innovative formative research methods that are currently underreported in the social marketing literature.

In the next chapter, Heather Skinner starts with an informative exploration of action research, a method that goes beyond generating knowledge, employing knowledge during the research process. With its emphasis on empowerment of participants, collaboration through participation, acquisition of knowledge and social change, action research appears to have much in common with social marketing. To conclude this chapter, Heather provides a real-world action research project which attempted to test whether allowing residents to drink on the premises of a hostel would lead to more stability of accommodation for chronic homeless.

"Approaching Big Data: Harnessing App Information in Social Marketing" looks into one of the most passionately debated approaches to research, which nevertheless has not attracted sufficient attention among social marketing researchers—the use of big data to inform and develop social marketing interventions. Felix Acker and Sarah Saunders, using the example of VicHealth's TeamUp app, show us how something as complex as big data can be used without expensive specialist expertise. Reflecting on their work with a database containing more than three million entries, the authors discuss their analytical approach and some of the key insights they managed to achieve.

In Chapter "The Consumer Diaries Research Method", Dariusz Siemieniako focuses on a research method that can be used independently or in combination with other research methods—the diary method. Exploring different types and formats of diaries the author highlights the key advantages as well as drawbacks of consumer diaries. The chapter concludes with a case study reflecting on a multi-method project involving consumer diaries and focus groups interviews. The case study provides a detailed description of the data collection process, and reflects on some of the key benefits of using the diary method in the research project.

In Chapter "Depth Interviews and Focus Groups", Micael-Lee Johnstone presents an overview of the most commonly used qualitative research methods in social marketing—depth interviews and focus groups interviews. The author provides us with a clear set of steps that need to be followed in conducting formative research using both methods, from problem identification to data analysis. Interwoven in this chapter are two case studies detailing important stages of a research project: (1) exploring pro-environmental attitudes and behaviours and (2) the role of social environment in shaping consumers' green practices. The chapter includes a moderator's guide that can be used by social marketing researchers as an example when planning their own data collection.

Jane McKay-Nesbitt and Namita Bhatnagar discuss in Chapter "Experimental Methods" the use of experimental research in social marketing to uncover cause-effect relationships. This chapter presents a wealth of examples illustrating the use of experiments in social marketing. Starting with an explanation of the concept of causality, the authors explain how to structure both lab and field

experiments. The discussion then focuses on three commonly used experimental designs: pre-experimental, true experimental and quasi-experimental designs. The chapter concludes with an overview of key challenges in using experimental methods in formative research and identifies several opportunities for experimental research in social marketing.

"Visual Observation Techniques" and "Mechanical Observation Research in Social Marketing and Beyond" explore the world of observational techniques. While most of the frequently used methods in social marketing formative research methods rely on self-reports of behaviour, an important advantage of observational research is the focus on the actual behaviours as they happen in their natural contexts. First, Julia Carins introduces us to the process of carrying out visual observations of behaviour. In Chapter "Visual Observation Techniques", she explores the six dimensions of behaviour that can be measured by direct visual observation—*presence*, *frequency*, *time*, *pattern*, *process* and *interaction*—providing practical examples of how each of them can be used in social marketing. The chapter ends with a description of an observational study focusing on the food selections made by military personnel within a buffet-style dining room.

In Chapter "Social Marketing Research and Cognitive Neuroscience", Svetlana Bogomolova continues with the discussion on observational techniques, turning her attention to mechanical observation research, i.e. observations that use some form of technology for data collection and recording. Some of the mechanical observation techniques discussed in this chapter include loyalty card schemes, scanner research panels, observations using CCTV, mechanical people counters, Bluetooth and Wifi trackers, TV and internet usage trackers, eye-tracking and field-of-vision cameras, physical activity trackers and last but not least, virtual reality tools. Although the cost of many of these technologies is still prohibitive to social marketers, the chapter concludes with a recommendation for more collaborative work between social marketing researchers and industry partners who own the equipment or collect the data on an ongoing basis.

In Chapter "Social Marketing Research and Cognitive Neuroscience" readers can find a fascinating overview of another approach that is rarely used in social marketing research—cognitive neuroscience. Ross Gordon and Joseph Ciorciari provide a brief overview of four techniques: *Electroencephalography* (EEG), *Functional Magnetic Resonance Imaging* (fMRI), *Magnetoencephalography* (MEG), and *eye tracking* methods. Later a review of some of the most important marketing studies employing cognitive neuroscience is provided along with implications for social marketing. The chapter concludes with a case study using EEG to pre-test videos about energy efficiency before concluding with key considerations for the use of cognitive neuroscience in social marketing.

Projective techniques are discussed in the following chapter. Chapter "Projective Techniques" provides an overview of the pros and cons of projective techniques and includes a brief description of the five main categories of projective techniques: *association*, *completion*, *construction*, *expressive* and *choice ordering*. After reviewing five formative studies using different projective techniques, the authors

offer a case study of a multi-method project using one of the most popular projective techniques—*collages*—to investigate a sensitive topic of university students' associations between alcohol consumption and sexual behaviours.

The importance of learning from past studies conducted by other social marketing brings us to our next chapter—Dao Truong and Nam Dang's example of a systematic literature review in social marketing. The authors show us how a systematic literature review can be used to identify and review large quantities of data and information from sources in a public domain, such as journal articles and research reports, to answer a research question. In their case study, they introduce us to the process of a systematic literature review and describe the results of their analysis of 166 social marketing health interventions. The chapter concludes with an informative review of the objectives of formative research as well as theories and methods used in formative research reported in the 166 interventions.

Chapter "Survey for Formative Research" takes us on a journey through one of the most commonly used formative research methods in social marketing—*surveys*. The popularity of surveys is not a coincidence, and as Michael Basil argues, they permit information to be gathered on a large number of people for a relatively low cost, making them the most obvious choice for many social marketers. Taking as an example the Porter Novelli HealthStyles survey, the chapter shows how, by focusing on a growing range of health behaviours, the survey has been used to study different health styles, food choices, and alcohol consumption, attitudes toward breastfeeding and multiple other health-related attitudes and behaviours.

The following chapter explores another two research methods that remain underutilised in social marketing: *Videography* and *Netnography*. Originating from the practice of participant observation, videography uses audio-visual images while Netnography relies on online data. Two leading researchers in these respective fields, Russell Belk and Robert Kozinets, use several examples of past research to introduce us to various aspects of conducting videographic and Netnographic research to gain insights. The chapter includes general advice and more technical tips for social marketing researchers who are considering using these methods.

Chapter "Case Studies in Formative Research" completes our book, with Rowena Merritt and Michelle Vogel introducing us to six case studies describing the use of focus groups, individual interviews, text messaging, observations, video booth and photo diaries in formative research to gain insights into behaviours as diverse as reducing drink driving, decreasing the prevalence of STIs and HIV through changing gender norms, breastfeeding, reducing new-born mortality, preventing graffiti vandalism and youth alcohol consumption. The authors provide us with fascinating examples of how much social marketers can learn from reviewing past case studies of formative research. Formative research does not always need to involve costly primary data collection—as this chapter shows, desk research can start with learning from other social marketers.

Conclusion

In 2005 Grier and Bryant asserted that social marketing would benefit from rigorous formative research, improved research methodologies and a greater reliance on mixed methods to pursue evidence-based social marketing programs. We hope that by bringing together a wide range of different formative research methods—those commonly used by social marketing researchers as well as methods that remain on the outskirts of social marketing—in this book, we can encourage social marketing practitioners, academics and students to consider what each of the methods presented here can add to their projects. We believe that for social marketing to be truly faithful to its focus on the audiences and understanding their lives, methodological plurality is the only way to move forward.

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Action Research

Heather Skinner

Abstract Action research is applied, problem-based research, which usually involves the researcher as an active participant in an interactive, collaborative, and iterative process. The action research process is usually designed not only to *generate* knowledge, but also to *employ* that knowledge. In this context, the knowledge that is generated through the research process would be applied to design, adapt, re-design or improve social marketing initiatives. Action research is one of the formative research methods that tends to require and demonstrate one of the highest levels of researcher involvement. Thus, this chapter will include a consideration of the role of the researcher involved in formative action research, along with a consideration of the uses of this method in social marketing settings. The case study included in this chapter will highlight a real-world action research project that was used to design and deliver changes to a UK-based program offering supported housing to homeless street drinkers. Other examples provided in this chapter will be drawn from real-world social marketing experiences across a range of health, fitness, and social care settings.

Action Research and the Work of Kurt Lewin

The term 'action research' was coined by Kurt Lewin in the 1940s. Lewin, often referred to as 'the father of social psychology' (Coghlan and Brannick 2003), is also credited as devising 'field theory' which considers the various driving forces in decision making processes, and made significant contributions to other now well-known and well-established concepts in the area of organisational behaviour (Adelman 1993), particularly as they relate to group behaviour, group psychology, group decision-making, and group relations. The dominant paradigm at that time was that of 'scientific management' as expounded by Frederick Winslow Taylor.

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_2

Critics perceive that scientific management pursuits aiming for economic efficiency are underpinned by inherent inequalities of power and control between various inter-organisational groups, and that such 'non-behavioural institutional economics approaches organisational behaviour as conflict laden interaction processes' (Wagner-Tsukamoto 2007, p. 105). Indeed, Taylor himself was summoned to appear before US Congress to answer for the implementation problems of the widespread scientific management that, at least when perceived on solely 'institutional economic grounds… ran into implementation problems in 1911, which led to strikes' (Wagner-Tsukamoto 2007, p. 105). Lewin's aim was therefore to consider alternative approaches to organisational and group behaviour that would be more equitable for all members of the organisation. In contrast to Taylor's 'scientific management', the action research paradigm proposed by Lewin is participatory, and those who participate not only generate, but also action the knowledge gained through the research process. Action research is therefore also considered a democratic process, and thus can also help democratise those involved in its implementation not only as proposed by Lewin in the workplace, but indeed as a means of basically renewing society (Hansen et al. 2016).

Lewin based his ideas about action research on a range of practical experiences where he could be seen to be using quasi-experimental methods. He was also a very firm believer in applied rather than pure research, and also that decision making should be underpinned with appropriate research. Hence, in Lewin's perception, there should be 'no action without research' and 'no research without action' (Adelman 1993, p. 8).

Before considering more contemporary approaches to action research, it is worth going back to one of Lewin's first successful action research projects to better understand not only the way action is used in the research process, but also the way experimentation can be enacted towards addressing social issues in natural settings away from the laboratory. That this action research project was based not only on a quasi-experimental approach, but also used a control group, helps explain some of the underpinnings of Lewin's approach that are consistent with a positivist paradigm. This early experiment of Lewin's focused on the real-world organisational problem of the low productivity of trainee factory workers compared with skilled workers, which could also be seen as a social issue involving industrial relations. His action research project in this factory focused on a training program for these new unskilled workers. One group (the control group) was subjected to traditional didactic training methods.

> The second group was encouraged to discuss and decide on the division of tasks and comment on the training that was given. Over several months the productivity of the second group was consistently higher than that of the first. The staff of the second group learnt the tasks faster and their morale remained high, whereas in the first group morale remained low (Adelman 1993, pp. 8–9).

Despite this seeming to present Lewin as a positivist, it has rather been claimed that he should be considered a 'scientific pragmatist', with his work to best be

considered interpretive and inductive, even though he based his research on the formulation of hypotheses (Adelman 1993), and his scientific approach of systematic enquiry stressing the need for any action research process to identify 'objective standards of achievement':

> if we cannot judge whether an action has led forward or backward, if we have no criteria for evaluating the relation between effort and achievement, there is nothing to prevent us from making the wrong conclusions and to encourage the wrong work habits (Lewin 1946, p. 35).

Although some of Lewin's ideas behind the use of action research were first outlined in the mid-1930s (Adelman 1993), his first paper based on the action research paradigm was published in 1946 and focused on the way minority ethnic groups could raise their levels of self-esteem, and achieve higher levels of independence and equality. The focus of this work was therefore to consider inter-group relations in order to tackle 'economic and social discrimination' (Lewin 1946, p. 34). In this paper, Lewin defines action research as 'a comparative research on the conditions and effects of various forms of social action and research leading to social action', because, in his firmly held belief, when it comes to alleviating social problems, pure research, i.e. 'research that produces nothing but books will not suffice' (Lewin 1946, p. 35).

Contemporary Approaches to Action Research

In her 'History of Action Research' Masters (1995) outlines a categorisation of three different types of action research (see Table 1, based on the works of Grundy 1982; Holter and Schwartz-Barcott 1993; McKernan 1991).

With Type 1 action research, the problem may be so complex that it may often require an outside 'expert' to facilitate the process, and in this type of action research the driving force is the power of the idea at the heart of the process; Type 2 action research may involve a facilitator, but would be undertaken by 'a group of equal participants, but the emphasis is upon individual power for action', whereas with Type 3 action research all 'power… resides wholly within the group, not with the facilitator and not with the individuals within the group' (Grundy 1982, p. 363). Regardless of the categorisation, all types of action research are seen to be

Table 1 Three different types of action research

Type 1	Technical (Grundy 1982); Technical Collaborative (Holter and Schwartz-Barcott 1993); Scientific-Technical (McKernan 1991)
Type 2	Practical (Grundy 1982); Mutual Collaborative (Holter and Schwartz-Barcott 1993); Practical-deliberative (McKernan 1991)
Type 3	Emancipatory (Grundy 1982); Enhancement (Holter and Schwartz-Barcott 1993); Critical emancipatory (McKernan 1991)

underpinned by 'four basic themes: empowerment of participants; collaboration through participation; acquisition of knowledge; and social change' (Masters 1995).

By involving those affected by the problem, either as service users, service deliverers or service managers, more workable solutions can often be found that are suitable for all parties concerned – which, to some extent evidences a parallel between action research and notions of customer co-creation which we have seen arise in the service marketing literature since Vargo and Lusch (2004) outlined their ideas on a move towards a more service-dominant logic for all marketing. As many social marketing initiatives tend to involve the provision of services, it may be useful for those involved in leading action research initiatives to also read some of this body of literature before embarking on their projects. Indeed, when considering the issue of co-creation of social marketing solutions, Lefebvre (2012, pp. 119–120) believes that new answers to programs aimed at changing behaviours can be better established 'if we focused on what our customers or users of social marketing want, rather than what we as social marketers produce'. He also identified that all those affected by these social issues need to be engaged when considering a co-creation approach and 'that our focus should not just be about people we might call customers or participants, but also stakeholders and partners (people critical to success) with whom we must also actively engage with in developing customised, competitively compelling value propositions' (Lefebvre 2012, p. 123)—thus leading to the co-created generation of knowledge from all parties involved in the social problem or in implementing its solutions.

The application of knowledge that is both gained through the action research process and which is a part of the action research process is also something that remains central to definitions of contemporary action research, as is its status as a quasi-experimental research method, and one that is often employed in mixed methods approaches to pragmatic research (Mukherjee and Kamarulzaman 2016). For example, Gill and Johnson (2010, p. 17) describe action research as a research approach that borrows 'the logic of experimentation but this methodology applies that logic to natural settings outside the laboratory… the solution of the problem… is both an outcome of the research and a part of the research process.' However, these authors also note that while action research may have originally been rooted in 'positivism and experimental logic' (p. 17), contemporary approaches to action research perceive it to be a much more qualitative method, that has therefore become distanced both methodologically and philosophically from its origins. It is worth noting that Lewin himself categorised four different types of action research, not all of which rely upon experimentation or the use of control groups (Marrow 1969):

- *Diagnostic Action Research*: To diagnose a problem and help generate proposed solutions that would be acceptable to those involved in an existing problem situation. Those involved in the diagnostic action research may not themselves be directly affected by the problem.
- *Participant Action Research*: In which those affected by a problem are involved from the outset in finding a solution. This type of action research, however, tends to have only limited local application and limited generalisability.

- *Empirical Action Research*: No test controls would be employed in this type of action research. Instead, empirical action research involves accumulating and recording day-to-day lived experiences within groups. In order to build generalisable knowledge, it is better to undertake this research with a succession of different (but similar) groups.
- *Experimental Action Research*: Using controls to test hypotheses in quasi-experimental conditions. Not only is this the most complex form of action research, it is the most difficult to undertake.

More recent scholarly debate suggests parallels between action research and the concept of 'praxis' as found in Marxist theory, with the ensuing proposal that action researchers revisit even further back to Marxian praxis 'particularly in a context where problems associated with the capitalist political economy continue to profoundly affect people's lives' (Cunningham 2016), as may be found in many action research projects that may underpin social marketing initiatives designed to effect social change.

However, as well as looking back to its theoretical underpinnings, action research is also very relevant to a technologically enabled future, and has been proposed as being a suitable method to research aspects of citizen engagement mediated through technology in smart cities (Foth and Brynskov 2016).

There has also been a recent call for the entire service research community to use action research to improve our understanding of the billions of people at the base of the economic pyramid. Thus in this respect it would be 'community action research' that would be used to help underpin research agendas that will be able to make a real difference

> by 2020, to help improve the lives of the world's impoverished people in an unrelenting, collaborative, and caring effort by applying our resources (intellectual, financial, and time), social networks (globally via the Internet and locally via physical presence), and professional infrastructures (universities, organizations, and conferences) and become a role model for how an academic research community can make a difference in the world (Fisk et al. 2016).

Ethical Issues in Action Research

One definition of action research explicitly includes an ethical dimension: 'action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework' (Rapoport 1970, p. 499). The key features of action research as a participatory and democratising process of gaining and applying knowledge for positive social change can therefore translate into a set of basic principles to inform and help guide participants' actions throughout the research process. These basic principles, that should be applied at all key stages of the process through developing the partnerships and seeking funding for the action

research, gathering and storing data, right through to the dissemination of the results have been identified by Brydon-Miller (2012, p. 158) as:

- Autonomy
- Sovereignty
- Beneficence
- Justice
- Caring
- Respect
- Commitment
- Transparency
- Democratic Practice

Brydon-Miller (2012) also identifies three specific issues of ethical relevance within the action research process: that of human subjects as participants; digital data collection and dissemination; and the action researcher as a responsible member of society.

Human Subjects as Participants

Within action research, human subjects are often participants who are not only involved in, but may also be in control of, the action research process. There are many ethical concerns when considering action research undertaken involving human subjects in social settings, not least being the effect of the research on the control group, if positive change is brought to other participants in the project and not to the control group, at least during the timescale of the project. In the earlier example given above of one of Lewin's action research projects, having provided an experiment group of unskilled factory workers with a highly participatory type of training program, the workers in the same factory who were in the control group who had received the more traditional didactic training program were less productive and experienced much lower morale. Other ethical issues surround community members being willing and able to actively participate in the research process, which may be of particular concern if action research is used formatively to inform the design or adaptation of certain social marketing initiatives, especially those targeting vulnerable groups.

Ethical issues within any proposed project of scholarly research are usually reviewed in advance by internal university-based panels. Other types of organisations, especially schools, or health-related bodies, may also undertake ethical reviews in advance of any research being undertaken. It is suggested that in the case of action research in community settings, Citizen Advisory Boards be established to oversee similar ethical reviews of participatory action research involving its own community members.

Digital Data Collection and Dissemination

This also raises ethical concerns, especially when digital voice recorders or cameras are used by participants to gather data within an action research project. Some attention must be paid at the outset of the research process as to whether data subjects' voices or images will be recognisable, attributable, and also how and in what format these sounds and images may be used to effect change.

The Action Researcher as a Responsible Member of Society

The key issue raised by Brydon-Miller (2012, p. 161) regarding the action researcher as a responsible member of society, is centred on the need to move away from a 'system of knowledge feudalism', and to do so through dissemination of the results of action research via 'open source publishing, sharing knowledge through electronic media sites like blogs and wikis, creating reports and presentations with a view toward increased accessibility of information' in order to make 'the results of research more broadly available and useful'.

However, considering the high level of researcher involvement in action research projects, and particularly in the context of action research for social marketing, there are other ethical issues that are also worth exploring in a little more detail because they can impact on the researcher and the research process in practice: issues of permanence of any solution for positive social change; issues of power and control; and cross-cultural ethics.

Permanence

Lewin did indeed consider the issue of 'permanence' in relation to enacting social change. His (1946) paper also explains how the design of a group-based action research project could help group members deliver more permanent solutions than, for example, one enthusiastic individual might be able to, especially when that individual may be faced with a whole range of obstacles to initiating and maintaining the desired social change.

Power and Control

There remain many settings where action research may not be wholly controlled and led by a group in a participatory fashion, even when such projects are undertaken in order to effect positive social change. This may be especially so, for

example, if the action research is of the diagnostic type, where those involved in proposing solutions to a problem may not be personally or directly affected by that problem. Lewin believed that the researcher should consider 'groups in power', and thus the need for action research to be a democratising process that takes into account the people involved with and affected by the social change, not only those in positions of leadership. In his work on minorities, Lewin (1946) also proposed that any social change also affects the majority. This insight can, and should, be considered in the context of contemporary social problems. Thus, for example, a social marketing program aimed at smoking cessation, or addressing obesity, or raising levels of physical activity, will have positive effects not only on those targeted, but also on society at large through not only having a healthier population, but also one that is less draining of limited public health resources.

Cross-Cultural Ethics

Action research remains in use in organisational management contexts, as well as in those of effecting positive social change. However, it must be remembered that many social marketing initiatives to enact social change will be led by organisations, whether those are in the public, private, or not-for-profit sector. Moreover, organisations and communities are becoming increasingly multicultural, and many social marketing initiatives are targeted across cultures and sub-cultures. Here, it is therefore pertinent to consider what can be learned from organisational management and be applied to social and community settings in the context of action research for social marketing. In management situations, key factors seen to contribute to successful organisational exchanges are the shared values between parties to any exchange process (Maignan and McAlister 2003), the importance of which encompasses the 'extent to which partners have beliefs in common about what behaviours, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong' (Morgan and Hunt 1994, p. 25). Thus, within democratising participatory action research that can be seen to take a 'stakeholder community' approach, there is an assumption that there is *a* 'common set of rules and behavioural expectations shared by the majority of members of a stakeholder community' (Maignan and McAlister 2003, p. 83). However, it is becoming increasingly difficult to ascertain shared stakeholder values and norms when dealing with cross-cultural norms and values across heterogeneous cultural groups, and increasingly difficult to rely on 'universally accepted ethical norms' (Nill 2003, p. 90). One proposed solution to dealing with the complexities in the various perspectives on business ethics is dialogic idealism (akin to a moral philosophy approach). This approach, which aligns well with the philosophical underpinnings of action research, is based upon communication between stakeholders who may come from various cultural backgrounds, and is seen to be particularly useful when 'confronted with fundamental questions that have a substantial impact on stakeholders' interests' (Nill 2003, p. 102).

Action Research and Action Learning

Within an organisational setting you may also come across the term 'action learning'. This is defined as 'a continued process of learning and reflection with the support of a group of colleagues, working on real issues' (Raelin and Coghlan 2006, p. 671). Thus, action learning takes place when undertaken in conjunction with others, who contribute to an individual's learning process through 'working and reflecting together on real-time problems occurring in their own work setting' (Raelin and Coghlan 2006, p. 674), stressing the interactive nature of action learning at the group, and inter-organisational level (Argote 2013), particularly through engagement with 'learning sets'. The concept of action research is focused not only on a learner *gaining* knowledge and understanding, but on that learner *employing* this knowledge and understanding 'wherein learners participate in studies both as subjects and objects with the explicit intention of bringing about change in the setting under study' (Raelin and Coghlan 2006, p. 671). However, there is a perspective that considers it less important to make such explicit distinctions between action learning and action research. Both activities (which are underpinned by action science, identified by Putnam (1999, p. 177) as being 'based on an epistemology of practice as reflecting-in-action and [which] has developed largely within the framework of the theory of action approach') could be better perceived as being at either end of a continuum of problem-based learning where, at one end, there is more emphasis on the acquisition of knowledge and understanding (*action learning*—although this may be gained through research, and may well effect change in the learner's environment), and at the other, there is more emphasis on research and effecting change (*action research*—although knowledge and understanding may be gained by the learner throughout the research process).

Key Features of Action Research

Methodological

Action research is problem-based, applied research that both generates *and* applies knowledge. While action research can be seen to be undertaken from three differing perspectives (positivism; interpretivism; and critical science), Masters (1995) stresses that *it is not in the methodologies that the three modes of action research differ, but rather in the underlying assumptions and world views of the participants that cause the variations in the application of the methodology.* Thus, while action research is based on systematic enquiry, and is often seen as quasi-experimental, with success based on objective standards of achievement, methodologically action research is usually considered to be qualitative, inductive and interpretive.

Philosophical

Philosophically, the key features of action research are that it is democratic and democratising. It is participatory, collaborative and equitable.

Practical

In practice, the key features of action research are that it is an iterative reflexive process, one that requires high levels of researcher involvement, and one that is highly relevant to practitioners. Based on his understanding of Lewin's approach, Adelman (1993, p. 15) outlines five steps in the action research process:

1. Discussion
2. Decision
3. Action
4. Evaluation
5. Revision

These five steps compress the nine activities outlined in Lewin's original (1946) paper, where he identified the first step in the action research process as comprising all of the following:

- General idea (objective setting)
- Examination of idea in light of available means
- Fact-finding
- Decision for action
- Execution
- Reconnaissance—more fact-finding—to evaluate action
- Evaluating achievement of objectives
- Deciding what next steps should be
- Revising overall plan

Lewin also notes that once this first step has been completed:

> The next step again is composed of a circle of planning, executing, and reconnaissance or fact-finding for the purpose of evaluating the results of the second step, for preparing the rational basis for planning the third step, and for perhaps modifying again the overall plan. Rational social management, therefore, proceeds in a spiral of steps, each of which is composed of a circle of planning, action, and fact-finding about the result of the action (Lewin 1946, p. 38).

This stage of evaluation or reflection on the initial action research and knowledge gained from it is therefore an important stage in the process as the action research cycle continues. How this works in practice can be understood from the case study detailed later in this chapter.

Action Research and Social Marketing

Social marketing is designed to achieve behaviour change for individual and/or social good through the use of a range of methods more akin to commercial marketing practices, including being based on and informed by theory, and an understanding of the 'customer' who is being targeted by the social marketing initiative (Andreasen 2002; Lefebvre and Flora 1988). However, the 'medicalised' nature of many social marketing initiatives, particularly those designed to address health behaviour change, brings about some interesting methodological paradoxes where we are expected to consider 'service users as "customers"… yet the context of the services under investigation are often more akin to medical models of the doctor-patient relationship' (James and Skinner 2009, pp 54–55). Moreover, it has also been suggested that those who design and deliver social marketing campaigns are not themselves affected by the problem the initiative is designed to solve, and indeed they themselves have little insight into or real understanding of the complexities of the problem (Fridinger and Kirby 2002; Williams and Kumanyika 2002). When action research is used formatively in the design, adaptation, re-design or improvement of social marketing initiatives, its empowering, democratising, participatory, and collaborative nature can be seen to make it a very useful method to engage those affected by a problem at a grass-roots level, thus 'drawing on the knowledge of the target audience, relevant health professionals and other bodies connected to the social issue' (Williams-Burnett and Skinner 2015, p. 3).

Formatively using a participant action research approach may also help reduce the risk of an 'othering' response to social marketing messages. This can happen particularly when individuals who have a fear response to social marketing messages deflect the message onto 'others' who they judge to be at risk rather than themselves. Thus, for example, men who encounter social marketing messages for HIV prevention specifically designed to change potential high risk behaviour in men who have sex with men (MSM) may consider that 'this message is meant for older/younger/more promiscuous men' (Bourne 2010, pp. 2–3).

It has also been found that public health messages tend to have more impact if they are seen to come from a well-known and respected source, and school has been identified as an early source of messages informing public health behaviour. The literature recognises two main approaches in schools that deliver public health messages: adult-led and peer-led. Peer-led approaches tend to be more effective in utilising established social networks which can be both more accessible by, and more acceptable to young people and adolescents; their messages are perceived as more credible and have more impact than approaches led by formally trained adults. Moreover, the use of social media amongst young people and adolescents is also seen to offer opportunities to encourage positive health behaviours through developing these as norms within these groups, thus addressing the socio-environmental context within which such behaviours are practised and developed. Peer-led approaches have also been found to be effective in dealing with the coping strategy of denial, a belief that is seen to be especially prevalent among young people that it

will not happen to them (Department of Health 2011). Messages disseminated among peers can often be seen to have more credibility, immediacy and impact than more formal and distant channels (Valente and Fosados 2006), and may better aid the adoption of positive health behaviours. Action research can be used within peer groups and networks to both understand the norms within them, and then target the network with positive health messages to change these norms. So, for example, a media campaign designed to increase condom use may be effective if targeted at groups of young people who had previously had less safe sex norms (Romocki et al. 1996).

The knowledge that may then be gained through and applied by an action research approach in this respect can be far more wide-reaching than ever before through the use of social media and other interactive digital platforms (Department of Health 2011). One such community-based participatory research partnership (Cyber-Based Education and Referral/Men for Men—CyBER/M4 M) made use of a digital platform in order to implement a chat room-based intervention to facilitate in-person social and sexual networking among MSM in north-western North Carolina. Members of the partnership were already aware of many local resources and could therefore offer advice to other chat room users on, for example, where to get tested for HIV and AIDS, and where to obtain free condoms in the local area. The partnership's 'CyBER educators' would also announce their presence in public chat rooms, stating they could also provide information to other chat room users in answer to questions about HIV and AIDS. This pilot study not only concluded that 'chat room-based interventions hold promise to systematically reach internet communities of MSM, a group that is particularly at risk for infection with HIV and other sexually transmitted diseases', but also led to more insights into how chat room interventions could be best delivered in future (Rhodes et al. 2010).

However, not all networks are digitally enabled, and it must be acknowledged that peers can be found in a wide range of social, cultural and professional institutions and informal groups (Romocki et al. 1996). The shared knowledge that could be gained and employed using an action research approach of any of the three types recognised by Grundy (1982) either wholly led by the group, or facilitated by an 'expert' is also recognised as being highly influential, particularly in effecting changes in risk behaviours (Romocki et al.1996; Valente and Fosados 2006).

It has been found that while 'many publicly funded social marketing campaigns continue to have little effect on levels of participation in physical activity, especially among key target groups such as women and those from lower socio-economic groups, there is evidence to suggest that independent fitness instructors are attracting, retaining and motivating these harder to reach demographic groups' (Williams-Burnett and Skinner 2015, p. 1). Both researchers are qualified fitness instructors, and in their study an action research approach found that not only were higher levels of participation in physical activity found for this particular key target market group 'in a non-traditional fitness setting of a local community centre or school and led by independent fitness instructors' (p. 2), but that independent fitness instructors could better engage their target market, through the use of social media, than the more formal public sector-led social marketing initiatives such as

'Change4Life'. Specifically, while, for example, the official Facebook page of Change4Life had far more followers, 'likes' to posts, and 'shares', the Change4Life page was more didactic, and less engaging and participatory compared to the Facebook pages of independent fitness instructors. Independent fitness instructors tended to post more frequently, provide more information regarding new and existing classes, and also to provide more motivational posts to class members. Their pages were also much more engaging of the class participants, who also posted personal success stories and positive feedback on classes. These insights, gained through what can be categorised as 'empirical action research' allowed the lead author to then improve her own Facebook presence in her fitness instructor role.

Another good example of action research can be found in the Dutch Health Council's campaign aimed at informing the general public and motivating people at risk of Hepatitis C Virus (HCV) to seek medical advice. This action research involved the development and distribution of educational materials regarding HCV. The development was undertaken in collaboration with 'experts' from the Dutch College of General Practitioners and materials were distributed among all primary care practices. In addition, educational sessions on HCV management were also run for GPs along with in-practice support for HCV risk assessment that was provided throughout the entire 4 months of the public campaign's intervention period. During this period there were substantially higher numbers of tests in the region covered by the social marketing campaign, and this was seen to be a result of the increased awareness of HCV testing by primary healthcare practitioners. However, another finding from the project was the recommendation that in-practice support should be provided for any such future interventions, since it was this that was seen to 'improve diagnostic uptake and optimize case finding' (Helsper et al. 2010).

Case Study

This case study outlines a real-world action research project initiated by the director of the charitable organisation that housed homeless street drinkers. This group, defined as 'chronic homeless' are seen to be 'the most disadvantaged and under-served groups among the homeless population' (Levine and Huebner 1991, p. 1113). The chronic homeless tend to have multiple needs; in addition to their problem drinking they may also misuse substances, and have significant physical and mental health issues. The chronic homeless are therefore less likely to seek out service provision, and may be less likely to engage with service provision (Bennett and Barkensjo 2005). Such service provision also tends to be provided from within the medicalised doctor–patient model, and often not only assumes, but to some extent perpetuates, low levels of self-efficacy among service users.

General Idea (Objective Setting)

At the time this action research project was initiated most, if not all, hostels offering shelter to the chronic homeless provided their services on the condition of total abstinence from alcohol, basing their intervention on the 12-step program. The city's hostel accommodation was at the time provided by a range of organisations, including the local council, religious groups, local charities and housing associations. The main aim of this provision was to offer 'transitional housing… with the emphasis of moving people on to permanent housing, and supported housing became more readily available' (James and Skinner 2009, p. 56). Although all hostel service providers expressly forbade residents to drink on the premises, some did allow residents to drink off the premises without facing eviction. Thus many individuals who could not comply with the hostel rules ended up back on the street and back to their chaotic drinking, with little chance of ever being able to gain stable accommodation.

The action research project was initiated by the director of a charitable organisation housing these chronic homeless. The initial idea came to him while working as a project manager for one of the local council's hostels. His practical experience had led him to believe that these very rules regarding alcohol consumption not only had a negative effect on the service users, but were also the cause of conflict arising between hostel staff, who were required to enforce and 'police' these rules, and residents, who would often break them, leading to them being evicted, another situation of friction and conflict. The general idea was to test whether allowing residents to drink on the premises of a hostel would actually be a positive move, perhaps leading to more stability of accommodation for this group of chronic homeless. This service design was untried, and the idea was initially met with a great deal of resistance from funders, staff and service users themselves.

Examination of Idea in Light of Available Means

The idea was to allow residents in one hostel to drink on the premises for a test period only. The hostels already housed residents, and staff were already in place. Thus no additional resources were required to make the action research project feasible. However, one issue regarding the feasibility of undertaking the project arose because of the nature of the service users who would be expected to participate in this experiment. Homeless street drinkers tend to 'exhibit high levels of perceived risk… low levels of self-efficacy… are often not only less willing participants than customers of commercial service providers who enter into exchange relationships voluntarily, but… are often less able to judge which service offerings may be most appropriate to meet their needs' (James and Skinner 2009, p. 52). Moreover, hostel staff were also reticent to collaboratively participate in the project,

believing that allowing hostel residents to drink on the premises would lead to even more friction and conflict between staff and residents.

Fact-Finding

Qualitative research, employing a narrative method, asking street drinkers to tell their stories, and to find out their life experiences had already been undertaken by the project manager. It was this prior knowledge that led to the idea for the project. From this research he knew that street drinkers often expected to be evicted from dry hostel accommodation because they knew they would not be able to sustain abstinence from alcohol, and so viewed such accommodation as only a temporary solution. Moreover, there were issues of loneliness experienced by hostel residents who had no real say in who would be sharing their accommodation. One feature of the chronic homeless is the camaraderie found in their 'drinking gangs' on the streets, and so it often became only a matter of time before their need for company overtook their need to avoid alcohol.

Decision for Action

The project manager therefore wanted to test an experiment where those housed could choose their co-tenants, have little if no on-site supervision (although crisis intervention was always available), and could drink on the premises. While, as noted above, all stakeholders were initially against the whole idea of any new service design, it was implemented 'against the express wishes of both staff and service users and was driven by one person's belief that applying yesterday's solutions to today's problems was only making things worse, not better for service users' (James and Skinner 2009, p. 63).

Execution

The project was initiated for a 3 month trial period. Hostel residents were to be allowed to drink on the premises, but only in their own rooms, not in any communal areas, and this mitigated advance staff and service user worries of the potential for wild parties. 'The result was that Tresillian House became the first direct-access hostel in Wales that allowed people to drink on the premises' (James and Skinner 2009, p. 57).

Reconnaissance: More Fact-Finding—to Evaluate Action

The project was evaluated through weekly staff meetings, and regular hostel meetings where residents could also feedback on their experiences. While occasional parties were held by residents initially, their novelty soon wore off, and there arose only limited incidents of violence, which were also seen to decrease over the term of the pilot. There was however one unintended consequence that did need to be addressed in any future design of such hostel provision. Because residents could not drink on the premises, they had less contact with their former street drinking gang, and they made new acquaintances from around the local area, many of whom preyed on their vulnerability and even entered the hostel to steal. Although staff were aware of what was happening, they could only intervene if residents cooperated, which they were reticent to do. Thus discussions took place with collaborative participants in the action research process, and as a result of the knowledge gained, interventions were designed to help residents deal with this problem, for example by encouraging residents to see the hostel as their 'home' and to get to know people much better before inviting them in.

Evaluating Achievement of Objectives

The pilot was evaluated as a success by the project manager, staff, residents and funders.

> Staff members agreed that their jobs were easier as they did not have to police the impossible, evictions had dropped a little, and confrontations had diminished. Therefore it was agreed that drinking would continue to be allowed in all the flats but not in the main communal areas. These were seen as public areas and also used a space for individuals to sleep overnight in emergencies so were not seen as part of the accommodation (James and Skinner 2009, pp. 57–58).

Deciding What Next Steps Should Be

Based upon the initial experimental action research, the next step was to establish two hostels where, from the outset, residents would be allowed to drink on the premises. The action research was of a formative nature as it allowed insights to be gained that informed the design of this innovative service provision. Bids had been invited by the relevant local government department to fund innovative solutions in supported housing, and thus funding was available to establish these hostels in partnership with a local charitable organisation. The project manager was also seconded to lead the initiative, and so all financial and time investments in the project were allocated. The two properties were sourced, fitted out, and ready to

take in residents within two years. While the original funding bid presumed these hostels would accommodate between 8 and 10 people, by the time the premises were ready, they were instead able to accommodate 19 individuals at no extra cost to the government's funds.

Revising Overall Plan

The knowledge gained from implementing the pilot project provided key insights into the way this initiative went forward. In particular, residents were involved in deciding who would share their house when a vacancy arose, and staff learned that the group dynamics of the street drinking gangs persisted in the house, so, for example, each house would have a 'leader' who was recognised as such by the other residents, and to whom other residents would often turn to discuss problem issues. Thus staff had to respect this hierarchy, while also encouraging and enabling other residents to have their say in matters relating to the house.

The charitable organisation that provided the partnership to the project then also later allowed drinking on their other hostel premises.

The project was a resounding success, and is now seen as a model for supported housing for the chronic homeless where drink may be allowed on the premises.

> After the first two years, contrary to previous experience of dry accommodation, the biggest number of vacancies was created by deaths rather than eviction of residents, in part explained by the generally poor health of the tenants. Arrests and criminal justice interventions also dropped… flats were usually immaculately kept and the number of hours spent drinking diminished… Tenants would often decide not to drink for a period and could frequently do this without medical intervention (James and Skinner 2009, p. 62).

In summary, the key to the success of this particular action research project was that by involving the service users completely as research participants in the experiment, new insights were gained from the process that enabled better solutions to the problem to be implemented. Once the initial reticence of both residents and staff to actually allow drinking on the premises had been overcome, not without some problems caused by challenging behaviours in the early stages of the process, things in the hostel calmed down relatively quickly. The staff were not having to deal with as many problems as they had anticipated, and the residents weren't holding wild parties and wrecking the hostel (as both residents and staff feared would happen when the project was first proposed). One of the key insights generated from the process was that chronic homeless street drinkers often relapsed when in dry accommodation because they were separated from the support system they had previously received from their 'drinking gangs'. Once residents were also then involved in making decisions about who else came into the hostel as either a visitor or resident, they were empowered to make choices that suited them best. Another feature of this process was that the residents' lifestyles became less chaotic —no longer were they in a cycle of finding accommodation in a dry hostel, falling

off the wagon, and then being evicted back onto the streets; they could now, with the support of the service delivery staff, learn to control their drinking, and because their drinking did not lead to eviction, other of their social problems were also alleviated – for example, having an address and not being classed as homeless led to more consistent provision of other services.

> Some tenants have now lived at Shoreline properties for nearly ten years. Some are able to maintain regular periods when they do not drink, some are accepted in local pubs, and all drink in a more healthy manner. When crises occur they are dealt with quickly by very experienced staff members who know their tenants and their culture (James and Skinner 2009, p. 62).

Summary

Key Issues for the Use of Action Research for Social Marketing

Action research is a method that is often applied to solving real-world social problems, and that is where it originated in the approach developed by Lewin in the 1930s and 1940s. Whether the type of action research is expert-driven, facilitated in a collaborative manner, or totally emancipatory and led by the participants in the process, what remains key is that this empowering and collaborative approach leads to the acquisition of knowledge that can address social problems, and that this knowledge is then *applied* to effect social change. One other benefit of adopting an action research approach to social marketing issues is that, unlike in methods, once the knowledge that has been generated is applied to the problem, a period of reflection and evaluation takes place as part of the research process itself. Hence adaptations can be made in the next cycle of the process to change or improve upon the solutions that are being implemented.

By involving research participants who are affected directly or indirectly by the social problem as *active* participants in the research process, the use of action research can help generate solutions that, in a quasi-experimental manner, can be applied as solutions to social problems. Once the knowledge generated from the research is enacted upon and applied to the problem, a period of evaluation or reflection takes place to decide on the next steps. Thus, this is an iterative process, and not one that hands down a solution from an expert on high. As Lefebvre (2012, p. 124) insists, we must be more collaborative in our attempts to address social issues through social marketing initiatives, and 'not just become like a surgeon who walks into an operating room and starts a procedure without even knowing the patient's name.'

Key Internet Sources

Action Research: provides research and behaviour change solutions based upon social marketing principles to a range of public agencies, non-profit organizations, and private companies who are seeking to promote positive behaviours in their communities, workplaces, and environments: http://action3630.com/

infed: this is a free-to-access not-for-profit site provided by the YMCA George Williams College: http://infed.org/mobi/action-research/

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Approaching Big Data: Harnessing App Information in Social Marketing

Felix Acker and Sarah Saunders

Abstract Social marketing campaigns frequently incorporate digital components and interactively engage with vast numbers of people. Data from these interactions are multifaceted, multichannel, continuous, and amount to hundreds of thousand or even millions of data points. While dealing with Big Data may require specialist teams and specialist software, large data sets can frequently be managed by researchers without specialist IT expertise but with suitable planning and analytic steps. Digital apps and websites are typical examples of this situation. Setting up front-end (i.e. the user interface), back-end (i.e. the data access layer), and supplementary data collection mechanisms enables the continuous monitoring of trends and can predicate an agile and targeted response to the observed patterns. In order to address these situations, this chapter explores the notion of Big Data with particular emphasis on more easily manageable data sets. The VicHealth TeamUp app serves as a case study to showcase the steps taken to obtain meaningful information and the analytic procedure employed.

Big Data: What Is It and Why Should Social Marketers Care?

We live in a time in which personal data can be classified as a new asset class; a valuable and abundant commodity that is, at present, mostly limited by the effectiveness of its mining. Current statistics put mobile phone penetration at 96 % and internet connectivity at 40 % of the world's population, with 82 % of the world's online population using social media (Vayena et al. 2015). The value of these data both for research and profit cannot be underestimated, and rises and falls with a data set's size and interconnectedness between different sources of data (Wyber et al. 2015). A frequently mentioned term in this context is *Big Data*. In comparison with

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_3

traditional methods of enquiry, analysing Big Data has the significant advantage of generating large quantities of searchable data; however reflexive, critical and flexible use of theories, as well as new learning mechanisms are required to make sense of vast numbers of data points (Calvard 2015).

At present data volume is thought to double roughly every 2 years (Lohr 2012). Collectible and analysable data are generated through online data streams, through new technologies, and digital senses in mobile devices, household appliances, automobiles, shipping containers and public spaces. Currently Big Data is generated through routine online interactions, the creation of digital content, sensors and smart devices and facilitated by cloud computing in regards to production, storage and exchange, creating a growing digital economy (Lupton 2014). The means with which to gather data have never been so extensive and so diverse. There is now real time access to human behaviour, thoughts and communications collected through social platforms like Facebook and Twitter with in-built analysis capability, and dedicated analysis platforms such as Google Analytics.

These developments provide new opportunities for social marketers. The large number of individuals for whom data is available will allow for more fine-grained segmentation. Continuous monitoring of campaigns and interventions allows for timely adjustments to a program and removes some of the current uncertainty about intervention effectiveness in pre/post comparison evaluations.

Definition of Big Data

Common approaches to defining the term Big Data look at either the volume or the complexity of the data set. A typical indication of volume is that it should exceed the memory capacity of a single machine, either in terms of storage or in terms of processing capacity (Madden 2012). This suggests that 'Big' is a changing yardstick as computing power and architecture changes (Jagadish 2015). While the single matching definition is conventionally agreed upon, the field of application for the term has expanded and become fuzzier: frequently large data sets with records in the hundreds of thousands or millions that continuously increase in size, for instance when generated by web applications, are referred to as Big Data. Jagadish (2015) prefers a psychological definition, suggesting that Big Data is a term to describe more and more complex data than the analyst immediately knows how to handle.

Big Data are described in terms of three core attributes: volume, variety and velocity, and a number of subsidiary attributes such as veracity and value (Vorhies 2014). Volume refers to the size of the data set; volume increases with the number of records or the amount of information within a given record. Variety is the level of difference in complex data sets, for instance the combination of time and data, geolocation, and qualitative information as opposed to a data set only comprised of quantitative survey data. Velocity refers to the processing and storage of data, and

as much to the bandwidth available for transmission as to the efficiency of the underlying data architecture (Laney 2012). Veracity is closely linked to the inherent uncertainty in Big Data. Veracity is primarily concerned with generating a composite index of the following three dimensions objectivity/subjectivity, truthfulness/deception and credibility/implausibility and the verification of data to manage uncertainty (Lukoianova and Rubin 2014). Value refers to the perceived importance or worth of the data to those collecting it and is most relevant to organisations. For example, value may encompass the perceived social value of health data to preventative health in the broader population (Vorhies 2014).

Veracity, variety and value have no well-accepted measure (Jagadish 2015), so their description varies in the literature, and the extent to which these attributes are emphasised within data sets varies between disciplines. For example, supercomputing focuses on the volume dimension, while health and social sciences emphasise value and veracity (Hitzler and Janowicz 2013).

Big Data in Social Marketing and Public Health

One of the most common uses of the internet is seeking health-related data. Data from the US suggested that eight in ten users have used the internet for this purpose (Fox 2011). Australian data showed that even among those engaging in face-to-face treatment, 50 % still search for additional information online (Wong et al. 2014). Currently there are over 40,000 health apps (Vayena et al. 2015) which can be used to provide better insights and services to the community (Barrett et al. 2013). Every app continuously produces a stream of data that can be logged in as much detail as the app developer wishes. Information is available about the number of downloads, the number of unique users, the number of concurrent users, the type of interactions with the app and more. Additionally, each of these records is time stamped and, depending on the device and permissions of the user, geo-tagged, to reveal the user's location. The interaction of the different types of data, some qualitative, some quantitative, makes comprehensive analysis complex and, depending on the popularity of the app, the number of records quickly reaches hundreds of thousands and grows steadily.

Apps such as HealthMap and Sickweather track and geolocate data about outbreaks and warn others of potential exposure to infectious diseases (Lupton 2015), whereas apps like Mybehavior connects smart phones and Fitbit devices to continuously monitor physiological indicators and share with social networks or medical professionals (Lupton 2014). Similarly, Hill et al. (2013) describe an app that tracks physical and nutritional inputs and offers low-effort, contextualised suggestions based on previous behaviour patterns (Rabbi et al. 2015). The app appeared to have preliminary efficacy with users stating that suggestions were highly actionable and users showing a significant increase in walking activities compared to a control group. For a comprehensive overview of current apps, see the Healthy Living Apps guide (https://www.vichealth.vic.gov.au/media-and-

resources/vichealth-apps) which provides expert-reviewed scores of apps in terms of their efficacy as a social marketing tool in health promotion.

Actionable Insights

Big Data in social marketing can be effectively used to monitor the reach and impact of social marketing campaigns and interventions, which can be challenging to determine using traditional evaluations. Analysing data for the Great American Smokeout between 2009 and 2014, Ayers et al. (2016) demonstrated the efficacy of the campaign using data sets generated from news reports, twitter postings and queries to Google, Wikipedia and government quitlines to map spikes related to smoking cessation. With results showing clear spikes in queries around the November date, markedly higher than for January 1—generally considered the most common date for smoking cessation—they concluded that the use of Big Data provided a cost-effective and efficient means to assess the reach of the campaign. More efficient than an evaluation done only at the end of a campaign or intervention, when data are obtained continuously (e.g. in the case of user data from an app), fine adjustments can also be made continuously. For example, in a campaign that is targeted at the general population, app registration data shows that only young people take up the app; campaign promotion can now be directed at the underperforming segments, or the app can be reviewed to ascertain whether there are barriers for other groups that limit uptake.

As this example shows, a particular benefit of working with large data sets is the finer grade of segmentation it affords. In the health context it may be possible to identify health issues and opportunities that exist within sub-groups of the population and may provide information on how to best reach these groups, which is equally important. A segmentation approach is necessary as sub-groups exist within most target behaviours, and these react very differently to health promotion efforts (Lavalle et al. 2011). Ideally, Big Data insights lead to tailored interventions or marketing approaches based on particular groups' needs, preferences, habits and attitudes. This can lead to significant efficiency gains in resource allocation. Since it also reduces the alienation some individuals may feel when confronted with health promotion messages that simply do not work for them, the benefits of Big Data are substantial. Segmentation is also important from an evaluation perspective as programs that may have great effect on some parts of the population and not others, but are nevertheless population-wide applied and assessed, may be found to have far less efficacy than would be the case with more effective targeting.

In our experience, both the ability to continuously monitor a campaign's success and to be able to segment the user base have been great assets of dealing with Big Data. We will return to this in more detail in the case study presented later in the chapter.

Obtaining Big Data for Social Marketing

Digital health promotion has in many ways been led by access to data of self-tracking enthusiasts seeking new ways to further pursue the quantified self (Lupton 2015). However, with some medical insurers now offering discounts and incentives linked to the use of health tracking devices such as the Fitbit (Olson and Tilley 2014), data from larger portions of the population are becoming accessible. Governments are investing in better data structures too. For example, the Indian Aadhaar program, which commenced in 2010, aims to issue identity cards and unique identity number to all of India's 1.2 billion citizens which include biometric data and health insurance details, and offers the opportunity to map disease clusters and health behaviours (Wyber et al. 2015).

This does not mean, however, that enormous quantities of personal health behaviour data is freely and easily accessible. Access to corporation owned data can be purchased, but the process is onerous and expensive. Depending on the volume and veracity of the data, costs can be tens to hundreds of thousands of dollars. Also, not all user data collected by corporations can be accessed as terms and conditions set out when collecting the data, and privacy legislation limits what can be shared. The biggest impediments to accessing government held data, on the other hand, is knowing which information is available, and the government agency's procedure in collecting data, which often precludes sharing of information (Lagos and Polonetsky 2013). Fortunately, government bodies have gained some impetus to making more of their collected information available through clearinghouses such as the Australian Data Archive (https://www.ada.edu.au). Access to some government data sets is free, while access to other, such as fine-grained Australian Census data must be purchased, at a fee that is noticeably below private sector data (Australian Bureau of Statistics data set access costs around AUD$1400).

The other prominent way researchers and practitioners come into contact with Big Data is by collecting it themselves through apps, websites or recording devices. Setting up systems to collect Big Data is a complex process that requires much planning to obtain the desired results (Jagadish 2015). It starts with the decision of which data is of interest. The eventual interpretation of data analytic results is something that cannot be delegated to algorithms and, given the analytical process, interpretation can be a daunting task. Imagine an algorithm produced the interaction between 200 variables—knowing which variables are of interest on the basis of theory becomes crucially important.

Unless data are specifically collected for research purposes and the researcher thus has total control, planning should account for data that are collected opportunistically and in forms that are less than ideal. For example, while we might wish to know the characteristics of people sharing a link on Facebook, we might only find out about those who have public profiles. Next, data will have to be in a format that is analysable and as unambiguous as possible. In order to properly process geospatial information, knowing which coordinate reference system was used by the recording application is essential to make sense of the results. We recommend

creating a data management and analysis plan prior to collection. The plan should outline the sources of data. For each source there should be a comprehensive data dictionary that includes all names and formats of pieces of data (typically the variables), as well as notes on which data are problematic or likely to be incomplete. It should also outline the rules that govern data processing. For example, missing data can be either treated by excluding the cases or through multiple imputation approaches. Since Big Data typically does not suffer from a shortage of cases, multiple imputation is only necessary if the cases with missing data appear to be a specific segment of the population.

Getting a Handle on Big Data

Big Data research places new and different demands on the researcher, including the knowledge of how to capture, store, and manipulate digital data; seeking correlations in massive databases, for example, requires technical expertise on the part of the researcher. Such skills are not typically part of traditional social science syllabi (Cowls and Schroeder 2015). Conversely, people who have those skills are typically not trained in social science research methods and avenues of enquiry. Hence effective analysis of complex data sets typically necessitates a multidisciplinary team. However, data capture aside, much of the work can be accomplished by most practitioners even without specialist technical skills.

Data capture is the most technical part. If the app or website is already built or a web developer is available, then this step is reduced to specifying which data ought to be collected of users and in which format they ought to be stored. If the website or app has to be built by the researcher, it requires some efforts to build the appropriate application programming interfaces (APIs) (Lomborg and Bechmann 2014), although content management systems (CMS) such as Joomla (https://www.joomla.org) make things easier for beginners. Batrinca and Treleaven (2014) provide a very useful introduction to a range of tools for online data collection.

Web and app data will typically end up stored in SQL Server databases (or similar) with a number of tables for different interactions (e.g. one table for signing in, one table for messages sent). The most important lesson we have learned is that all tables need to have shared ID variables for users. Database data can be queried and analysed in software like Microsoft Access or Crystal Report, or be exported in CSV format to Microsoft Excel or statistical analysis software. Data are more efficiently structured in database than in spreadsheet format, however, and recreating and working off a database in Excel increases file size, decreases processing speed and places stricter limits on the total volume of the data (the maximum row count per worksheet is 1,048,576). Having said this, working within Excel is feasible, and it is easy for simple data management and basic reporting.

Nevertheless, as we and others (e.g. Wax et al. 2015) have found out, programming skills are a boon to data manipulation on the scale of Big Data. At hundreds of new records every month and updates to existing records, writing code

to automate this process saves days of tedious work and prevents errors creeping in. Also, interesting research questions often arise in the process of data mining.

When using Microsoft products, most of the data cleaning and processing work can be completed using Virtual Basic for Applications (VBA), a low level programming language. Learning its core syntax structure takes at least two weeks and programming the syntax for complex projects will take a non-expert a few days. VBA is a good way to start, since it relates directly to familiar functions in Excel and Access. More complex programming languages such as C++ or statistical syntax for environments such R or STATA are also suitable, though considerably more complex to learn. R (https://www.r-project.org/) has the benefits of being free, open source, and has a very active user community and lots of tutorials. It takes some effort to learn, but is well worth it.

Integrating Data from Different Sources

One of the often touted benefits of Big Data is the promise of linking data sets and thereby increasing the inherent value of a given record. However, data linkage presents problems in terms of privacy and accuracy. If the data has not been collected through the researcher's design, then suitable linkage depends on the availability of good meta-data. This does not only pertain to the availability of identifiers that allow linkage (transitory: e-mail address, telephone number; stable: passport number, Medicare number) or clear methods used for interpolation, but also to a thorough description of how the data were obtained that will be indicative if the data are suitable for integration (Jagadish 2015). From our experience, it is advisable to be clear about what the data will be used for. If data linkage, for example app data linked with medical data, is an eventual goal then strong identifiers should be collected. Full names and exact date of birth work reasonably well for 60–70 % of cases, but additional information such as address or mobile number (both of which change on average every few years) might be necessary. Once the information is collected mediator agencies such as the Population Health Research Network (http://www.phrn.org.au) can assist in organising data linkage in a way that protects individuals' privacy. Note that this process typically takes a number of months, and costs may apply. Also, users understandably typically do not like to disclose very identifiable personal information—we found that names are much more acceptable than addresses—and might decide to opt out of the campaign or intervention for this reason.

When data do not need to be linked at the level of the individual person, more and easier options are available. Already platforms have been generated that facilitate analysis of deeply interlinked data and often are replete with analysis tools. One example is the Australian Urban Research Infrastructure Network (AURIN) (http://aurin.org.au), which links vast quantities of data sets from very diverse sources crossing government, research and academia (for instance, VicHealth, Department of Health, Department of Transport, commercial real-estate

data, the definitive geospatial information for Australia), all of which can be accessed and analysed in a single environment. AURIN offers secure, federated access to data in situ and allows the investigation of complex research questions, such as the growing problem of obesity in a local government area, by combing information, such as the location of fast food outlets, bike paths and local playgrounds, and correlating this with area-level family car ownership. These types of exposure studies are already routinely conducted, but platforms like AURIN facilitate much more complex analyses across a much wider span of variables than is currently possible. Members of Australian Universities have access to the AURIN portal by default and government employees can apply for free access. AURIN has a number of scenario-based tutorials that help with the first steps and the user interface is continually being improved.

Preparation and Analysis of Data Sets

Big Data in the context of public health and social marketing typically is derived from either trace sources (such as your internet browsing meta-data or app usage), tracking data (such as your credit card information or traffic monitoring information) or physiological sensor data (hospital or Fitbit records). As Braun and Kuljanin (2015) point out, all three sources of data require extensive processing to form meaningful constructs that emerge from the data stream.

Large data sets abound with impurities such as multiple people using the same social media account, or individuals having multiple ones. Such errors are not always possible to detect in the routinely collected data. The first step in the cleaning process is data normalisation, which in this context means that data entries should be consistent. This is primarily a problem if users are allowed to enter custom text, such as a field 'cost' that can be filled as '10', 'ten', or '$10'. In this case all data need to be brought back to a common format, but it is best to avoid such situations by limiting the data entry format of users to one data type (numeric vs alphanumeric) if possible.

The second step should be 'de-duping', the deletion of duplicate entries. The data management plan should identify how this is to be done. It depends on whether duplicate records contain independent information, such as the person who, after some time of using a website, has created a second account because of a forgotten password. In this case it might be best to amalgamate the records. De-duping can become complex when duplicates can only be identified by looking at two or three attributes in conjunction. Basic de-duping functionality is available in Excel and Access, but good VBA code has been written for it as well. R has a dedicated function for de-duplication.

The third step is standard data cleaning for all numeric fields—identifying outliers and dealing with missing data. Again, the data management plan should cover these aspects. Even after all of these steps there is a high likelihood that errors are still in the data set. If time, data, and budget allow, a small validation study can

be run. The purpose of such a study is to connect with a sample of users and check whether values were recorded correctly and whether account use equates one user with one account. This procedure can identify the likely proportion of problematic data. Unfortunately there are no formal guidelines on what constitutes a critical proportion of faulty entries, but we have adopted a benchmark of 10 % as an acceptable amount of error.

Privacy

Data and privacy is controversial. While the sheer quantity of available information from myriad sources is exciting for researchers, it may be broader and more invasive than they require. For individuals, they may be less likely to consent to the gathering of private information if they are consciously aware of the extent to which a portrait of them as an individual can be generated when data sources are linked (Mittelstadt and Floridi 2015).

Hence researchers must rigorously clean the data not just of errors, but also of unnecessary information, such as mobile phone numbers in a study of travel behaviour. While projects such as the United Nations Global Pulse have established clear codes of conduct and rules concerning privacy in the utilisation of large data sets, such standards have not yet become common, and laws pertaining to use of data from online sources are often outdated, ambiguous or pertain to obsolete technologies (Vayena et al. 2015). Without firm guidance, it is important to remember that there may be a disparity in how the organisation undertaking the data collection, and the individual whose data is being collected, views privacy.

One example of such a disparity is readily available in the use of social media data. At present it is not altogether clear to what extent social networks constitute the public domain and are thereby a legitimate source for research. Even if it were clear, it is unlikely that individual users understand the degree to which their data can be used and accessed (Vayena et al. 2015). Cowls and Schroeder (2015) highlight the user backlash against Facebook's experiments with their user base to show that people are sensitive to unwanted intrusions and use of their information for the purpose of pattern detection and behavioural nudges. Hence there is additional responsibility for the researcher to consider ethical risks before mining data.

Risks, Errors, Misdirection

For all its promise, there remain substantial concerns over the use of Big Data and much discussion about persuasive computing and its conceptual and ethical limits. For example, Purpura et al. (2011) discussed the benefits and dangers of tapping into this source of data using the example of the hypothetical Fit4Life tracking device for weight, calories, and metabolic rates in order to provoke discussion about

persuasive computing and its conceptual and ethical limits. The study was a thought experiment aimed at drawing attention to the need for designers to question whether their research design oversteps the boundary of encouragement and enters the realms of coercion; and questions whether users' option of soliciting help from social networks is beneficial or whether, by signalling a lack of conformity to expected norms, the users will experience shame—a means of behaviour change the authors argue is always coercive.

One of the big conceptual questions during project development ought to be whether the population of app users is representative of the general population or a distinct subgroup. While this questions forms part of a significantly larger debate around ethics and norms, it is important for researchers in their initial forays into working with Big Data to consider that if users represent a subgroup, then the use of insights derived from restricted Big Data to nudge and persuade can create a normative identity image that does not fit with the diversity found in the population (Richards and King 2013).

Data Mining Without Hypotheses

A frequently articulated concern with the use of Big Data is whether correlational research is supplanting causal research, with the implication that social science may lose its traditional explanatory focus in favour of research questions that are driven by readily available data (Cowls and Schroeder 2015). Given current computing power and the abundance of data available to social science researchers, it has become a distinct possibility that a principal way of pattern detection is through algorithm searches without prior theories or hypotheses about what might result. In a sense, an inductive process of knowledge generation, aka 'pattern detection' or 'data mining', is not too dissimilar to traditional research practices where observation of the world provides the basis for development of theory (for a discussion of this perspective, see Apgar 2015). However, limiting the extent to which they relay data driven knowledge creation is an important strategy for researchers wishing to avoid the need to develop complex theories post-data mining; while humans have an intuitive grasp of what relationships might be meaningful, data-driven 'mining' is entirely unconstrained and is likely to uncover spurious relationships too strong to be ignored.

A second related problem of data mining is that outcome indicators of particular constructs of interest are not necessarily well represented by the data at hand (Ruths and Pfeffer 2014). For example, does frequent opening of an app represent deep engagement, or is it purely habitual without taking in any information? And does it matter? As the onus rests upon researchers to justify measures (Braun and Kuljanin 2015), best practice to justify an outcome involves linking measures to established theory, and demonstrating construct validity through correlation with more established measures, or to consult with subject matter experts on the construct validity of a particular data source.

False Conclusions

Even in cases where construct validity can be established, coming to false conclusions is a substantial risk when working with a very large data set. Clarke (2016) noted that unconscious biases exist in researchers leading to an inflated belief in the veracity of findings derived from large data sets given the supposed increase in statistical power. However, as sample size increases, most statistical tests become overpowered and spurious correlations frequently reach statistical significance (Braun and Kuljanin 2015; Whelan and DuVemet 2015). Conversely, in some cases, discovering statistical significance may be more difficult when dealing with Big Data due to a higher degree of heterogeneity in the sample, which researchers have little control over, and, depending on the degree of missing data or omitted data fields required for segmentation, will have difficulty gauging. Hence, whether an observed difference is actually practically meaningful becomes a more important question and hence the focus ought to shift from significance test parameters to effect sizes, and to hypothesis-driven investigation in favour of raw data mining (for a more in-depth discussion of this point, see Cumming et al. 2012; Kline 2004).

While sample heterogeneity can be a risk, the bigger limitation of internet generated Big Data is that it omits a number of demographic groups (Lupton 2015). In addition to those in remote or rural communities that may not have internet access, those with low income, poor language and literacy skills, or low levels of technological literacy are at risk of being overlooked or not included in data sets drawn entirely from internet-based technologies. At the other end of the spectrum are technology-savvy individuals who have means and motivation to alter or withhold their data and are thus similarly not represented in analytical results. The generalisability of results to these groups, which often are the target of social marketing, is questionable. Thus, it is important for researchers to be aware and address sample limitations within their methodology, be cautious about broad application of their results to the wider population, and reconsider this means of data generation if their research question depends on information from these demographic groups.

The remainder of this chapter presents a case study showcasing the type of insights that can be derived from Big Data, with even only basic analytic methods. We illustrate the data preparation steps and the use of tools such as AURIN to present results.

Case Study: VicHealth TeamUp Data

Brief Introduction to TeamUp

The TeamUp campaign was an integrated social marketing campaign run by VicHealth promoting physical activity and social inclusion through the TeamUp

website, mobile phone and online applications. The campaign positioned TeamUp as a 'physical activity marketplace', offering an innovative way for people to connect around and participate in physical activity on a social, casual or membership basis.

It aimed to increase participation in physical activity among Victorian adults, particularly those who are inactive or somewhat active, although over the course of the campaign the focus narrowed to specifically reach women aged 25–44. TeamUp featured a free app and community hub that enabled people to connect with organisations and individuals locally to get physically active. It provided opportunities across hundreds of sports and activities for people to get active when and where they want. It is the app component of the campaign that most of the following discussion centres on.

As part of the larger campaign VicHealth partnered with select organisations such as football clubs or sporting events in order to increase awareness and uptake of the app, while increasing supply of relevant activity listings to the app. Hence, it became important to continuously gain insights about user demand and activity in order to flexibly cater for and grow the user community.

Sources of Data

The TeamUp app collected a large amount of information on user interaction with the app (see Table 1). Through work with our digital provider we had instantaneous access to high level results—the current number of registered users and the number of activities that had been posted on the app. More comprehensive information could be extracted from the app back end on demand. This included user registration information, information about listed activities, messages between users regarding listed activities, alerts about certain types of activities that had been set up by users, and flags for users that had been reported. The data were kept in Microsoft SQL 2012 Server database. At the time of writing this chapter, the database contained more than three million entries, 890,000 in searches alone.

Data Preparation and Analysis

Other than the email address or Facebook details at the point of registration, none of the data fields were compulsory to complete. This meant that registration entries frequently had missing gender or location data, activities had or did not have the target gender specified, and searches may have only focused on a particular date without specifying either the activity type or location. This lack of restrictions enabled us to make the user experience as easy and flexible as possible, and to allow users to keep as much of their personal information private as they wished. On the downside, it created difficulties in validating the data and preparing it for

Table 1 Main data types generated by the TeamUp App

Data type	Data source	Queried information	System generated information
Registration data	Anyone using TeamUp, whether they are looking for activities or offering activities	Name E-mail contact[a] Mobile contact Gender Date of birth Geolocation Type of activity interested in Agreement to receive[a] notification if activity of interest is listed	Date and time of registration Access platform (website, Facebook)
Activity data	People offering activities	Date of activity[a] Frequency of activity[a] Type of activity (e.g. netball)[a] Geolocation Target skill level Target age group[a] Target gender[a] Cost[a]	Date and time the activity was listed
Search data	People searching for activities	Date Day of the week Time of day Geolocation Type of activity Keyword	Date and time of search

[a]Marks mandatory information

analysis as the percentage of fully complete records sat below 10 %. In the case of TeamUp, user ease of use was of paramount importance. Also, we were able to afford incomplete data as we supplemented our app data with a dedicated validation study. For work with a stronger research than marketing focus, we would recommend that a higher proportion of data fields be compulsory. Curiously, sometimes asking for more information can lead to higher engagement in a campaign (VicHealth 2016).

Data validation and the removal of duplicate records became a major problem. Duplicate records, for instance two identical search entries by users as a result of user interface problems, had to be identified and eliminated to give an accurate representation of user search behaviour. We designed algorithms to identify duplicate records by matching as many variable fields as possible. For example, if two searches contained the same list of activities and the same location with the same perimeter of acceptable distance around the search location and sent within five seconds of each other, then this most likely constituted a duplicate entry, but uncertainty substantially decreased with the omission of any one of these attributes.

IP addresses or user IDs would have helped significantly in cleaning the data, but neither were collected for privacy (IP addresses) and usability (user IDs, which would have necessitated logging in just to search for activities) reasons. In the absence of such strong matching attributes, we designed a heuristic search that coded entries on the likelihood of their veracity (i.e. being a duplicate entry or not). Using this additional data field, we carried out a sensitivity analysis by modelling our analytic results with or without the suspected duplicate entries and examined whether exclusion would lead to substantially different results. If it did, we decided to remove a suspected duplicate entry if an activity or time was specified and was identical to another entry within a 10 s window. As such, this bespoke approach yielded results that could be quite different from an analysis without these constraints, which emphasises the importance of documenting the data cleaning process.

Data integrity issues also arise over time and it is imperative to establish clear data records management rules for your data set—for example, how does the database treat users that change some of their user details such as their address? Does this now become a second record thus creating more duplicates, does it replace the previous record, or is there a separate sheet within the database just to list changes to the record? In our experience it is best to try and preserve all records. Although this will lead to more duplicate entries (multiple entries per user), this can be addressed by adding additional coding variables where every entry of the same user is assigned the same ID. In this way most information is preserved and records can be amalgamated easily if required.

We also encountered challenges that highlight the importance of careful selection of data formats for variables. To accommodate different pricing structures the TeamUp app allowed users to detail the cost of an activity any way they wished. This resulted in thousands of unique values, including more than 200 different variations of ‘free’ embedded in more than 10,000 records. Every time we sought an update on the average cost per activity type in different regions, we had to manually go through hundreds of records and convert the qualitative statements into numbers. We developed a list of all variations encountered and ran a macro at the beginning of each data update that converted all variations we had previously encountered. However, new variations kept appearing (our favourite was ‘free like the wind’) and checking new data had to be part of the data integration routine. Unless there is a compelling usability reason, we recommend that data fields whose input is to be treated as numbers should be designed as only taking numerical input. If the data field needs to accommodate a lot of different circumstances, it might be better to split it into several fields.

The analysis of qualitative data from free response fields represents a challenge in the case of Big Data. Software packages like NVIVO have basic functionality for automated content analysis, but this is limited to identifying how often a specific word or combination of words appears in the qualitative records, and automatically providing hyperlinks to those places. Context is important, however, and therefore human interpretation of the text is necessary. One approach that we found to be

beneficial is to sample 50 records (e.g. messages sent between users) for each segment that we were interested in and manually code them.

The analytical approach we adopted called for segmentation of the app's user population. As such, basic cross tabulations were the main strategy to discover noticeable differences. Due to the large number of variables—the database contains more than 320 different types of activities—algorithms were designed to find the most salient contrasts in the data. For instance, we filtered out any activities that were not searched for, which was an important insight on its own. Next, we up-weighted the importance of activity types for which users and activity organisers had exchanged messages via an app, as a proxy for deeper engagement. Each user interaction for an activity led to an increment of 1 in the importance weight. Activities with high weights were interpreted as popular activities with a high level of commitment, which we were then able to compare with less popular activities by location, characteristic of the person conducting the search, or activity type.

Insights Gained

Tracking our key sources of information—user registrations, activity listings, and searches using the app—gave insight into performance of the app in the community and the overall interest of users. At this broad level we were able to check whether the impact of partnership activity, paid advertising and other promotions had notable effects. Looking at Fig. 1 shows that investments made in December January 2013 and again in April/March 2015 led to increases in all elements of user interaction with the app.

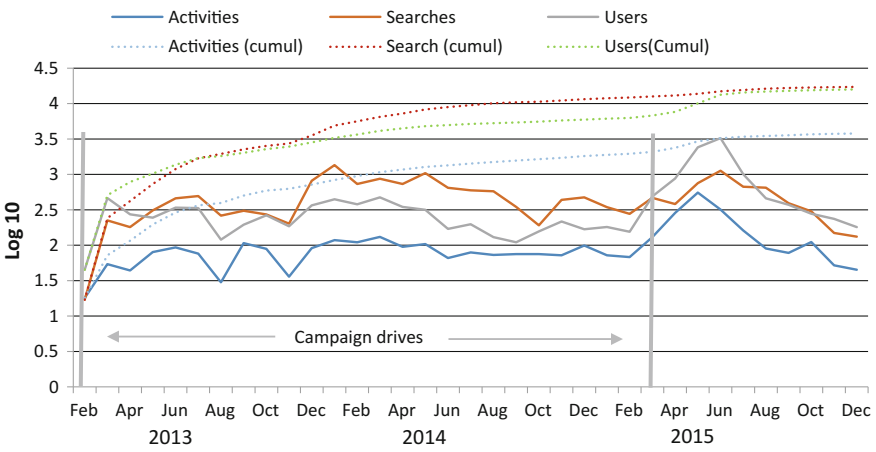

Fig. 1 Log 10 transformed data for TeamUp new monthly searches, new monthly activities and new monthly user registrations and cumulative frequencies (2013–2015). *Note* only searches for identified activities are plotted

This basic type of monitoring is a useful global indicator, but, by necessity, obscures the trends of particular subgroups. Subgroup analysis constituted the bulk of our work as it allowed us to fine-tune the TeamUp campaign to accommodate user demand. Since we had comprehensive data about user behaviour with the app within our database, we were able to meaningfully combine data from different tables linked by a shared user ID.

Activities that TeamUp Users are Searching for Versus Activities that are Listed

One question of high interest was which type of user group showed the highest level of discrepancy between demand and the activities that are offered. The answer could be used to direct investment into more opportunities for these users and, as a result, a more engaged user base. Given the variety of data in the TeamUp database, the first path of analysis focused on the activity types as it is easier to partner with specific activity providers than it is to market selectively to a particular user base. The computational approach to Big Data comes to the fore in scenarios as this, since we were able to identify the activity type with the largest ratio of searches to activities. It turned out to be Yoga. Figure 2 shows the trajectory of new searches and new activities for Yoga and Netball—also in the top ten of activities for search volume and with about ten new activity listings each month. Both types of activity were of great interest to users following a marketing campaign in early 2014. However, while TeamUp had, and continued to gain listings for Netball activities, no new opportunities emerged for potential Yoga participants.

In early 2015 a partnership with a Victorian provider of Yoga classes resulted in a large number of new activities. An effective response to public demand relied on a

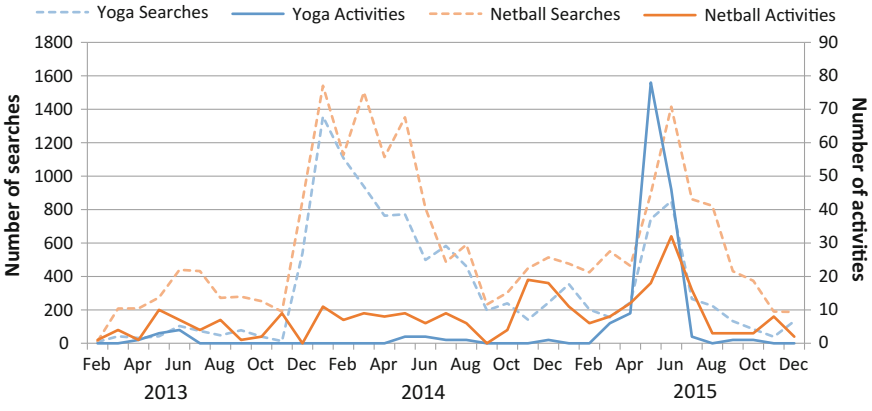

Fig. 2 Monthly new searches and new listed activities for yoga and netball

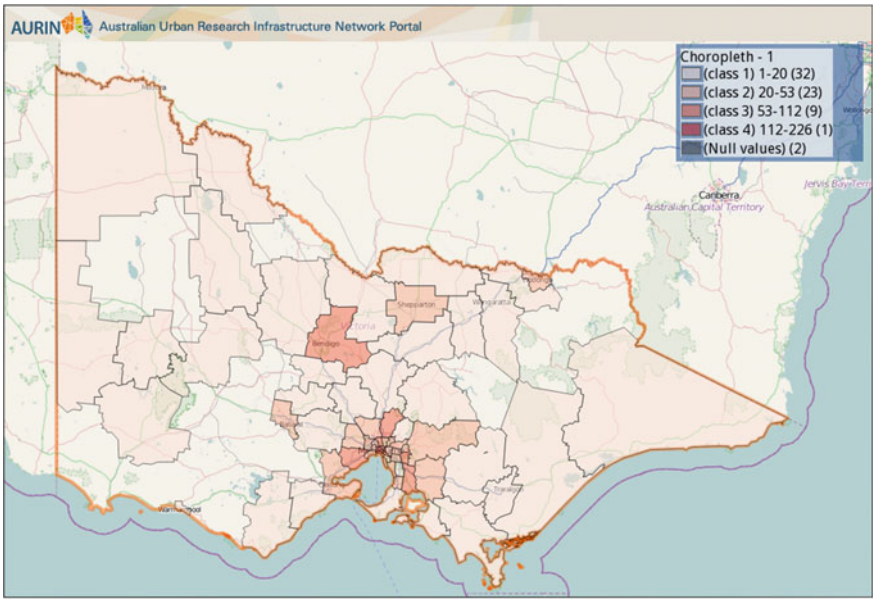

Fig. 3 Choropleth of the discrepancy between supply and demand in yoga activities in Victorian local government areas (*darker colours* indicate greater discrepancy)

more detailed understanding of the discrepancy of supply and demand, so we converted the geographic coordinate system data in both the searches and the listings of activities into a visual representation of the likely demand in each local government area using the AURIN platform and its in-built tools (see Fig. 3).

Charting data this way showed that the greatest demand relative to supply was in the inner Victorian areas, although here, too, were distinct differences. Further segmentation showed that the greatest demand seemed to come from women 25–35 years old, both in terms of absolute numbers and relative to the segment's overall representation in the data set. This finding was encouraging, aligning as it did with the campaign's focus on target audience of women, 25–44 years of age. Our earlier analysis (in mid-2014) helped us to hone in on our target audience and preferred activities. These insights then shaped the strategy for 2014–2015, which was why we saw traction with our audience of women 25–44 as we sought to supply activities to meet their needs, while targeting them with messaging that resonated.

Note that while this strategy was designed to address an identified need of the current user base, it is not necessarily representative of current non-users. If the aim of analysis of Big Data is to gather knowledge about the population of users contributing to the data set, then methods such as users are suitable. When trying to anticipate the need of other population groups, traditional methods of information gathering, such as targeted surveys, interviews and focus groups, have not yet lost their place.

Summary

Big Data, in some areas of social research, is likely to change the way we operate. The future holds more need for specialist expertise in data modelling and developing model training data. While Big Data implies a great volume of information, contextualisation remains important. Asking the right questions and operationalising them in a meaningful, parsimonious way will greatly enhance efficiency in juggling enormous amounts of data in search of new insights. Researchers need the capacity to carry out appropriate methodological steps. These includes the documentation and execution of efficient data cleaning procedures and, to begin with, the identification and selection of the right data. However, as this chapter has shown, working with large amounts of complex data need not intimidate. Platforms and methods to draw out interesting insights are readily available and can be learned within days (AURIN or similar) or a few short weeks (basic programming). Beyond that, it is important to recall that Big Data analysis does not represent a panacea for all social marketing issues, but rather a tool to supplement current analytical practises.

Key Internet Sources

Australian National Data Service (ANDS): http://www.ands.org.au/
Australian Urban Research Infrastructure Network (AURIN): http://aurin.org.au/
Australian Government data repository: http://data.gov.au/

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The Consumer Diaries Research Method

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Abstract The objective of this chapter is to explore the characteristics of the diary research method and its use in a social marketing context. First, the diary research method is discussed and presented, including justification for use, definitions, classifications, typologies, methods of recording data, and contexts for use. The chapter presents one case study featuring use of paper-and-pencil consumer diaries combined with focus group interviews, in the context of alcohol consumption. The advantages and disadvantages of using the consumer diary research method in social marketing are also presented. The practical case study identifies key benefits for using consumer diaries in social marketing research including information gathering and reflexivity of diarists.

Introduction

The use of diaries is well documented in different fields of science and diaries have been employed in a broad range of research designs. Diaries have been applied in historical methods, political research, social and anthropological research and medical research. Dairies have been utilised in naturalistic research including ethnographic designs, offering an additional source of information to gain insights and understanding about the lives of individuals. Diaries have been used independently of, as well as in combination with, other research methods.

Within social research, diaries can be treated as an established approach, around which a wide range of researchers have built the methodology (Robinson and Godbey 1997). An example might be diary use in the 1920s and 1930s to create daily time records for homemakers in the United States (Stinson 1999). Burman (1995) indicated that the solicited diary, with highly structured templates proposed

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_4

by the researcher, in which diarists wrote their thoughts, has been used in health research since the 1930s.

Although social marketing studies have been extensively concerned with trying to understand and explain people's behaviour, to date, use of the consumer diaries method has been rare. In the few studies employing a consumer diary, quantitative methods of data collection have dominated a qualitative method. Yet authors such as Arnould (1998) argue that qualitative diaries could add previously unexplored dimensions to consumer research.

The objective of this chapter on consumer diaries is to present characteristics of the diary research method and examine its use in social marketing. The chapter is divided into two parts. The first part considers aspects of the consumer diary research method such as justification for use, definitions, classifications, typologies, methods of data recording, and contexts of use. The second part provides a case study employing a paper-and-pencil consumer diaries method combined with focus group interviews in the context of alcohol consumption to showcase application of the diary method.

Characteristics of the Consumer Diaries Research Method

Defining Consumer Diaries: Types and Characteristics

A wide range of authors have explained the benefits of diaries in overcoming recall problems. Recall is a common cause of bias in many popular research methods, such as surveys where systematic information on human behaviour is collected. According to Burton and Nesbit (2015) there is evidence that consumers' retrospective reports of the causes of behaviour are often inaccurate in interviews, questionnaires or experimental methods. Data collection based on recall has been criticised because of recall bias, memory lapses, expectancy effects, or underreporting socially undesirable or unacceptable behaviour (Bernard et al. 1984; Robinson and Godbey 1997; Alaszewski 2006; Paolisso and Hames 2010; Burton and Nesbit 2015).

The diary research method offers an alternative approach. The diary method focuses on collecting data in the present/proximate time, therefore overcoming recall problems which often exist in retrospective research methods. Keleher and Verrinder (2003, p. 440) state the advantage of diaries is that the data are recorded using short-term memory. Time diaries offer an alternative to retrospective self-report methods of researching behaviour (Paolisso and Hames 2010). According to Robinson and Godbey (1997, p. 66), 'The time diary is a micro-behavioural technique for collecting self-reports of an individual's behaviour in an open-ended fashion on an activity-by-activity basis.'

In defining a diary as a document created by an individual, Alaszewski (2006) indicated characteristics of diaries, such us regularity, personal record,

contemporary, and categories of record and ways of recording. In terms of regularity, records in diaries are undertaken in a sequence of regular intervals of time or may be linked to specific events. Dated entries are provided over a period of time during which the diarist keeps the diary. The most often used recall period is the previous 24 h but longer periods are also permissible. Paolisso and Hames (2010) note the more distant the recall period, the less specific the recall would be, suggesting that care needs to be taken in research design. Keeping a diary is a personal act and is conducted by an identifiable individual who controls access to the diary. Through internet and web technologies, the researcher managing the process can also have access to daily diary entries (Jones and Woolley 2014), and diary entrants can remain anonymous, which improves data entry quality because social desirability responding can be avoided. The contemporary nature of diaries is a crucial element given that diary entries are recorded at the present time of a particular event or in very close proximity to the event. In diaries a wide range of categories might be recorded, including facts, thoughts, feelings, opinions, activities or interactions. Recording may have a variety of forms with usage of different technologies.

Based on the literature (Duck 1991; Bell 1998; Hufford et al. 2002; Cohen et al. 2006; Jones 2000; Jones and Woolley 2014) there are several characteristics of using diary methods:

- structured or unstructured nature
- solicited and unsolicited
- quantitative or qualitative
- collecting real-time data or data that fosters the recall of events
- variance in the extent to which they foster feedback and interaction between the diary keepers and investigators who analyse the diary data

The most often used diaries in social sciences are solicited diaries with highly structured templates created by researchers, based on a quantitative approach and with information collected in real time. Bell (1998, p. 72) understands solicited diaries as 'those where an account is produced specifically at the researchers' request by an informant or informants.' While many solicited diaries follow a structured approach, a qualitative approach can be applied (Cohen et al. 2006). An example of using solicited, qualitative diaries with limited structure in social marketing research is reported in Siemieniako and Kubacki's (2013) study using paper-and-pencil diaries (the case featured later in this chapter). Another example is Burton and Nesbit's (2015) social marketing research study exploring smokers' and attempting quitters' attributions for smoking and cigarette purchase using voice recording diaries. In Burton and Nesbit's (2015) study, diarists received general instructions to record what they thought had tempted them to smoke or buy cigarettes. Several other authors agree that unstructured diaries can provide rich and meaningful qualitative data (Elliott 1997; Milligan et al. 2005). Unsolicited diaries (written without any interference by investigators) are the most unstructured.

Quantitative diary studies conducted in the context of smoking and based on electronic diaries were undertaken by Chandra et al. (2007) and Gwaltney et al. (2001). Other social marketing contexts are available as a guide, including a study conducted by Fuligni et al. (2009) that used quantitative diaries to investigate daily variations in stress. Burton and Nesbit (2015) acknowledge disadvantages relating to quantitative diary studies, outlined by Sutton (1993) as:

> … they often report on correlational associations between situational events and actions. As with any study, correlation (or, for diary studies, a temporal association) does not establish causation. Thus, without knowledge of the frequency of a particular environmental feature (or what has been called the "base rate"), it is impossible to determine from quantitative data if an environmental feature causes a behaviour, or is merely temporally associated.

Further, Burton and Nesbit (2015) argue that in-depth qualitative diary research allows access to the participants' own interpretations of the causes of events. Paper-and-pencil qualitative diary studies have previously been used for health intervention and support (Levine and Calvanio 2007), and to investigate individuals' lived daily experiences (Travers 2011). An advantage of the qualitative diary method is that diarists can make entries on their thoughts and feelings in their own way and in any place and time they like (Markham and Couldry 2007).

The extent of interaction between the diary keepers and the researchers depends on the research design and the technology used to record the diary. Internet technologies offer a means to increase interactions in comparison to non-internet based diaries such us paper-and-pencil or voice recording diaries.

According to the recording method, diaries studies may be categorised into three different types of temporal periods—*interval*, *signal* and *event* (Wheeler and Reis 1991; Burton and Nesbit 2015). In the first type, diarists make entries at defined time intervals. In the signal type, entries are performed in reaction to a signal delivered by the researcher managing the diaries data collection process. In the third type, event diary studies, entries are made when a particular event occurs.

The diary research method allows researching of events in their natural context, and in doing so offers several advantages over more traditional research methods of researching human behaviour in the social marketing context. Alaszewski (2006) emphasised that 'diaries can be used not only to identify patterns of behaviour but also to provide greater insight into how individuals interpret situations and ascribe meanings to actions and events and therefore how actions that may appear irrational to outsiders are rational to the diarist.' Bolger et al. (2003) identified research goals, which may be achieved using diaries—apart from gathering the information on a personal level, diaries have the potential to gain details of 'within person' changes over time permitting these changes to be analysed.

Cohen et al. (2006) recognised diary methods as a common data collection strategy, and he distinguished particular contexts within social marketing suitable for applying diary methods: evaluation of health behaviours, people's use of time, children's development of language, educational program evaluation, and for understanding the teaching and learning process.

Forms and Methods of Diary Recording

The most traditional way of conducting a diary is in written form as a paper-and-pencil diary (Cohen et al. 2006; Bartlett 2012). When deploying paper-and-pencil diaries, researchers may contact diarists during the process, most often in defined periods of time, to request further details, clarify entries, and to receive missing information. In paper-and-pencil diaries real-time interactions between diarists and researchers are impossible. The criteria for correctly completing diaries are collecting accurate and complete data. Bolger et al. (2003) indicated some potential problems with paper-and-pencil diaries, such us being left elsewhere or lost, and retrospective entries. Using signal devices such as pagers, programmed wristwatches or telephone calls increases the effectiveness of paper-and-pencil diaries, for which the time of making entries is an important criterion (Dabbs et al. 1997; Litt et al. 1998; Morrison et al. 1999). Bolger et al. (2003) refer to this as augmented paper-and-pencil diaries. The scope of written diaries might be also extended through photographic diaries. An example is Latham's (2003) research of everyday life that encompasses both written and photographic forms. Latham (2003) recognised diaries as a promising research method, everyday life and everyday culture being two of the great frontiers of contemporary human geography. Specifically, Latham (2003) was analysing 'how reframing research as a creative, performative practice allows the researcher to address some novel questions about the cultures of everyday urban experience that more conventional, representationally oriented, methods fail to address adequately.' Photographic diaries were also used in studies involving marginalised groups or communities (Carlson et al. 2006) and pictorial diaries were used in the context of individuals and groups with low literacy levels (Wiseman et al. 2005).

It is increasingly common to employ easy-to-use technologies for recording diary entries, such as digital cameras and dictaphones (Gibbs et al. 2002) or smart phones with a recording function. Using these and other methods extends diary possibilities to other ways of knowing. Audio diaries or voice recording diaries, in comparison with paper-and-pencil diaries, 'offer the potential for decreasing participant burden (as most people can talk much faster than they can write or type), and also allows data collection from participants who may not have sufficient written language ability to adequately record their observations in writing' (Burton and Nesbit 2015). Voice recording diaries have been used for research involving elderly people (Hislop et al. 2005) and those with visual impairments (Worth 2009), and also to explore diarists' daily lives (Mehl and Robbins 2012). In the context of elderly people with dementia, Bartlett (2012) proposed using photo or video diaries to research people's experience of care, and audio diaries to increase understandings of language difficulties. According to Bartlett (2012), digital technologies increase ease of use as well as the usefulness of data collected from diaries, especially when researching people with some form of impairment or disability. As an alternative to daily voice recording diaries, Palen and Salzman (2002) proposed telephone calls from participants to a voice-mail number.

The accessibility of the internet and mobile technologies have paved the way for new possibilities for diary research method development. Jones and Woolley (2014) presented a comprehensive overview of the electronic diary data collection method in their study which sought to examine the effectiveness of a solicited email-diary developed to investigate the impact on commuters of London hosting the 2012 Olympic Games. The authors highlight the benefits of using email diaries as:

- the relatively short time required to make a daily entry;
- because responses are typed, the need for transcription or transferring responses to digital data format is removed;
- a more equal relationship between researcher and participant—an important element in the engagement of the diarists—is facilitated, and the possibility of a greater degree of control over the research process is provided, by, for example asking daily questions;
- email-diary entries can be made in a variety of locations using different technologies;
- the simplicity of the email-diary gained approval from many of the diarists.

The positive effect of the email-diary was also the motivation for participants to participate in their research, divided into three areas: (1) *obligation*, (2) *interest in the process itself*, and (3) *interest in the topic area*. In general, the email-diaries in Jones and Woolley's (2014) research produced the benefits of traditional paper-and-pencil diaries without placing significant demands on the diarist.

Another possibility of using the internet for diary research is blogging (Hookway 2008; Chenail 2011). As Chenail (2011) explains, 'Weblogs or blogs for short can be personal diaries shared by individuals giving us as readers a sometimes voyeuristic view into the lives and minds of these virtual authors.' The researchers may use specialised blogging search engines to find the bloggers or blog categories which they are interested in. Poynter (2010) discussed a wide spectrum of new techniques for researchers in the online environment, such as online research communities, community panels, blog mining, social networks, mobile research, e-ethnography, predictive markets, and DIY research.

Cohen et al. (2006) proposed interactive online diaries, based on a special internet platform with diary 'rooms' for evaluating project implementation and delivering real-time communication between diarists and those implementing a program. The specific characteristic of online diaries is that contributions are collected at regular intervals, and this creates the opportunity for interaction between diarists and researchers. The ability to control the process, motivate diary keepers and also to foster learning and behaviour change from a social marketing perspective are important features. In comparison, paper-and-pencil diaries do not allow for real-time interaction between researchers and diarists, unless coupled with another method.

Practical Application of a Paper and Pencil Consumer Diary Method in Alcohol Consumption Research

Design of the Diary and Focus Group Interview Research Method

Diaries as a research method can be used as an autonomous research method in social marketing with several different methods for recording the data using both qualitative and quantitative approaches. Diaries can also be used in a wide variety of research designs. Alaszewski (2006) considered the use of diaries in experimental research methods and surveys (interviews or questionnaires). Researchers also commonly use the diary interview method in ethnographic research to integrate participant observations with those of diarists (Denzin and Lincoln 1998; Alaszewski 2006).

Practical application of the consumer solicited diary method is shown in this example which employed a mixed-method qualitative research design to gain insights into alcohol consumption. For this type of qualitative research, knowledge is produced through interactions between the researcher and informants as well as through collective discussion amongst informants. However, the immediacy of more traditional research situations, such as focus groups, rarely creates an opportunity for reflection, a process central to ethnographic research (Brannick and Coghlan 2006). Thus, by combining the diary method and focus groups, opportunity for reflection was provided (Alaszewski 2006; Piacentini and Banister 2006, 2009; Elliott 1997). A mixed-methods qualitative research design has also been employed previously by Piacentini and Banister (2006, 2009) in their research exploring students' coping strategies in alcohol-dominated situations, which used short essays followed by in-depth interviews.

Use of diaries in the current study permitted data to be triangulated, and aimed to encourage insights which may not be revealed in other research methods. In the context of alcohol, for example, individuals may wish to conceal behaviour perceived as discrediting or sensitive, but which the researcher wishes to access (Corti 1993). Below is a discussion of the multi-method research project investigating alcohol consumption for a sample of university students living in Poland, using diaries and focus groups. In particular, the contributions these diary entries made to the focus group discussions are highlighted.

Data Collecting Process

Respondents were randomly selected from a group of fourth year business students studying at a university in a large Polish city. The research was conducted in three phases involving Polish language focus groups and diaries. The methods for each phase are detailed below.

Phase 1: First Round of Focus Group Interviews

To facilitate the data collection process respondents were divided into two groups, one consisting of four males (aged 23) and one group of six females (aged 22). During the first phase two focus groups were conducted on the same day. The moderator began the first round of focus group interviews by introducing the respondents to the subject of this study. The respondents were given the opportunity to ask any questions they may have had at that stage. After the introduction, the researcher led a discussion of the role of alcohol consumption in the respondents' lives.

Phase 2: Qualitative Paper-and-Pencil Diaries

To capture within-person processes (Bolger et al. 2003), after the first series of focus groups the informants were asked to keep individual written diaries for a period of 2 weeks. One of the main problems experienced by researchers using the diary research method face is a trade-off between sample size, study duration and frequency and depth of details recorded (Smith et al. 2003). Previous studies ranged from 5 days to 4 months (Smith et al. 2003). So that the number of observations recorded in dairies was reduced to a more manageable level, it was decided to limit the sample to ten respondents, and the study to a 2 week period. To avoid an over-prescriptive design, earlier described by Patterson (2005) as a 'straightjacket' that stifled informants' creativity and commitment to the research, the diarists were instructed to keep a daily record of every occurrence that was, in their opinion, related to alcohol consumption. The diaries were anonymous; the respondents were asked only to write, on the first page, a short paragraph explaining their consumption patterns (e.g. how much they normally drink, how often), and then to always indicate the date and time of each entry. The participants were informed that they should behave as usual and change nothing in their everyday consumption habits. Other than this instruction, diarists were given no other template or format to follow. Thematic content analysis of diary data (Braun and Clarke 2006) was employed. Themes were identified based on the significance of the topic to the research, which is characteristic of the diary as a research method and examination of students' alcohol consumption attitudes and behaviour formed the focus of this investigation.

Phase 3: Second Round of Focus Group Interview

The final phase of the research was conducted a week after the diaries were delivered to the researcher by the diarists. The same focus groups were repeated. This time, the discussions sought to gain an understanding of any changes in the

respondents' perceptions of consumption of alcohol which may have occurred as a result of keeping the dairies and thinking about their everyday alcohol-related behaviour. The researcher decided against referring to the data collected in the dairies at this phase, as it may have intimidated the respondents, and instead focused the discussion on describing the diaries rather than any changes which may have occurred during and after the process. All focus groups were approximately 90 min in duration and were conducted using a digital voice recorder. The recorded material was then transcribed and content analysed. The research was not intended to discover the viewpoints and feelings of the majority, but to explore their diversity; therefore focus groups were dominated by open-ended questions in order to stimulate free expression.

Key Insights from Diaries as a Research Method

Opportunity for Reflection

It has been indicated earlier that the diary as a research method allows a researcher to achieve a particular quality of data that would not be possible using other, more traditional qualitative data collection methods such as interviews or focus groups. Diarists have time to think about and reflect on sensitive or complicated issues before they make an entry, which does not happen during interviews, where participants are required to answer the researcher's questions promptly. Throughout the process of writing their diaries the respondents not only *were* anonymous; above all they *felt* anonymous and free to express sometimes very intimate and personal opinions, which they would not be confident to put forward for discussion in focus groups. This concern was exhibited by most participants, particularly females. One of the female informants emphasised during the second round of focus group discussions her honesty and engagement in writing her diary:

> I was surprised when I realised what I was writing about in my diary, I was really honest and wrote about everything exactly as it looked like. I mean, talking about my emotions and thoughts is quite complicated and a difficult thing. (Female respondent of second focus group interview)

Reflexivity of Diarists

The analysis of data showed that diaries contributed to increased reflexivity amongst informants. They became aware of their own experience with alcohol, but also more attentive observers of other people's attitudes and behaviours. Another female diarist revealed the influence of religion on her approach to alcohol

consumption. In the following fragments from her diary she described her very intimate experience:

> After 3 pints some of your social inhibitors relax. I went dancing though I always stick to the rule that I never go out to nightclubs on Friday because of religious reasons. That evening one of the people I just met made me realise the radicalism of that rule. Yet I go out to rock gigs, dance there, and they are always on Friday. (Female diarist)

> I'm really sad when I think that he showed some interest in me only at the end of the evening, and that we only get close when he already had a few drinks… and at the end I feel guilty about that anyway. (Female diarist)

Detailed and Precise Information in Diary Entries

The data found in diaries appeared to be much more detailed and precise than the focus group interview data. The following fragment is an example of how respondents who had trouble in the focus groups indicating the amounts of alcohol they consume gave very informative descriptions of those amounts in their diaries:

> My boyfriend had 8-9 pints, I had about 6-7 pints, and also everybody had a glass of champagne after midnight… One bloke mixed absolutely everything – he had a bottle of wine, about 2-3 pints of beer, glass of champagne, and at the end two shots of vodka with my brother. We stayed from 7 pm till about 6 o'clock in the morning, a lot of alcohol, far too much. (Female diarist)

Limitation of Harmful Drinking As An Effect of Diary Usage

By using diaries it was possible to identify the real amount of alcohol consumed by the diarists during the 2 week period, but also they themselves realised through the process of reflection that there was a significant difference between what they thought they consumed and what they actually consumed. Surprised by their own inaccurate assessments, many informants made lengthy comments about the discrepancy during the second round of focus groups:

> After writing my diary for a couple of days I looked at everything I wrote earlier and thought: wow, too much, you need to slow down. (Male respondent of second focus group)

> Writing my diary I was surprised, as X described it, I thought I drink twice a week, but then when I read it… there was more and more of those days and I was surprised… I really thought I drink twice a week, maybe three times, but in my diary there is this occasion and that, a birthday, trip somewhere, night out with friends… I was really surprised. (Female respondent of second focus group)

One of the direct consequences of the increased awareness amongst the respondents were many resolutions, in diaries as well as in the second-round focus groups, whereby they declared limiting their alcohol consumption:

> I need to slow down, that's it, I think I'm gonna do it. I'm already trying to do it, slow down a little. (Male respondent of second focus group)

> I think I realised that I can relax, have fun with my friends and still with beer, but maybe alcohol-free beer, that's what changed in my consumption. Now if I drink I usually have alcohol-free beer, I mean, I drink beer with alcohol as well, but it's more fifty-fifty now, or something like that. (Male respondent of second focus group)

Sensitisation effect of diarists

The process of writing diaries increased the diarists' attention to the way other people consume alcohol, and its consequences. The change was influenced by much more attentive observation of other people. Experience of keeping the diaries sensitised the diarists to various negative consequences of alcohol consumption faced by them and others. One female informant saw the negative impact of alcohol not only on those drinking, but also the after-effects on others when it was consumed in excess.

> I think I started paying more attention to how people behave after alcohol. I started noticing things like when somebody is being dragged out of a club because they fell asleep on a table or things like that. (Female respondent of second focus group)

> My brother's friend is coming over because my brother didn't show up for a meeting… he was so drunk after the party that he fell asleep and didn't hear his mobile. When he saw his friend he got up, took a shower and they went somewhere – too much alcohol, not enough responsibility and imagination. And what's even worse, my brother doesn't feel sorry at all – quite the opposite, he seems 'proud' and laughs about his behaviour. (Female diarist)

Conclusions

The main objective of this chapter was to present the consumer diary research method in social marketing for consideration. The justification of using the diary research method, definitions of the method, classifications, and typologies, methods for recording data, and contexts for using the diary research method were discussed. A practical example of using diaries and focus group interview methods was presented, and insights from the study's consumer diary entries were presented. By comparing the data that was collected through each method, it can be concluded that while focus groups provided interesting insights into the social aspects of alcohol consumption, diaries offered rich material that explored the phenomenon at a much more personal, often intimate level. In this study three important aspects of using diaries as a data collection method emerged. The major findings focused on the relationship between the diaries and the informants, the potential contribution of this method to multi-method research, and the personal change that the method can deliver for respondents.

Consistent with prior research (Corti 1993; Alaszewski 2006), the case study presented in this chapter identified important features and advantages of using diaries, such as the disclosure of sensitive information to researchers, and the opportunities afforded for reflection by respondents. It can be stated generally that social marketing problems typically relate to the barrier of revealing sensitive information, and therefore, diaries should be considered as a means to overcome this barrier. Writing diaries encouraged respondents to think about the subject of this research in a more organised and rigorous way and, at the same time, helped the researchers to achieve higher quality data. The presented results of the diaries showed that the diarists used the opportunity, and anonymity, offered by this research method for deep critical reflection. In the presented case study diary data, compared to focus group interview data, were more detailed and precise because diaries entries were made in real time, which overcame the problems of recall, reported in previous studies (e.g. Bernard et al. 1984; Robinson and Godbey 1997; Paolisso and Hames 2010).

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Depth Interviews and Focus Groups

Micael-Lee Johnstone

Abstract Interviews are still one of the most widely used methods today because they enable us to document multiple perspectives of reality; they extend our understanding of people's motivations, perceptions, and experiences; and they enable us to study ordinary and extraordinary events that happen in 'real life settings'. This chapter will be looking at two qualitative methods, the focus group interview, and the depth interview. The purpose is to provide an overview of the process that a researcher undertakes when using these research methods, from identifying the problem to analysing the data. While each method can be used on its own, they can also be used to complement each other in order to gain a greater understanding of the research problem, and they can be used to support other methods (e.g. survey based research). Two case studies are referred to throughout the chapter to illustrate how these methods can be used.

Introduction

Interviews are still one of the most widely used methods today because they enable us to document multiple perspectives of reality; they extend our understanding of people's motivations, perceptions, and experiences; and they enable us to study ordinary and extraordinary events that happen in 'real life settings'—with an emphasis on the 'lived experience' (Miles and Huberman 1994). In this chapter, I will be looking at two types of interviews: the focus group interview, and the depth interview. The purpose is to provide an overview of the process that researchers go through when using these research methods, from identifying the problem to analysing the data. While each method can be used on its own, they can also be used together to gain a greater understanding of a phenomenon or research problem, and

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_5

they can be used to support other methods (e.g. survey based research). At times, issues pertaining to both methods will be discussed jointly. Two case studies will be referred to throughout this chapter to illustrate how these methods can be used.

Focus Groups

Focus groups are an ideal method to use when you want to gain insights about a research problem that has been underexplored, or when you are investigating attitudes, motivations and behaviours that are complex. They are also useful when there is a gap between professionals' perceptions of an issue and their target audience's perceptions of the same issue (e.g. social marketers and the public), and when you want to understand the degree of consensus on an issue (Morgan and Krueger 1993); when you want to test new ideas and product concepts; and when you want to explore a phenomenon before developing a quantitative study (e.g. survey design).

What makes focus group interviews unique from depth interviews are the ideas that are generated from group interactions. As Lederman (1990, p. 119) contends, focus groups 'generate more than the sum of individual inputs'. While there are many benefits to using this method, one must also be aware of its limitations. One should not use focus groups if the objective of the study is to make generalisations, as this is not the purpose of a focus group. Another criticism of focus groups is that participants might make up answers if they have limited knowledge (Krueger and Casey 2009), or be less honest due to intimidating or 'pushy' group members. Both of these problems can be managed and minimised with a skilful moderator. Lastly, some sensitive topics may not be suitable for group discussions, e.g. it may be difficult for individuals to talk about certain issues in front of other people.

What Are the Steps in Designing and Conducting Focus Groups?

Good planning is the key to conducting successful focus groups (refer to Table 1). Throughout this section a small case study will be used to illustrate some of the steps.

Problem identification Before you begin any study, you need to identify what the research problem is, what the purpose of the study is, what the research questions are, what type of information is needed, and what methods should be used. Once you have established that the focus group interview is the best method to use, you need to think about your sample, i.e. who you want to talk to, as this will also help you to identify the scope of your study. Throughout this chapter, examples based on existing research will be referred to.

Table 1 Steps in designing and conducting focus group and depth interviews

Problem identification for focus groups and depth interviews	
What is the purpose of your study? Key research questions? What method/s will you use? Why is this an appropriate method? Who will your participants be?	
Developing the moderator's guide/depth interview guide	
Moderator's guide You need to identify the topics and develop the questions. Will you include activities? How long should you spend on each topic? Each activity? Are you being realistic? How long should your focus group interview be? Pre-test the moderator's guide. Conduct a pilot focus group interview.	*Depth interview guide* Will the interview be structured, semi-structured or unstructured? Identify what interview topics will be covered. Develop questions. Consider different techniques. How long should the interview be? Will there be follow up interviews? Pre-test the interview guide. Do the participants need to perform an activity before the interview takes place or during the interview?
Data collection decisions for focus groups and depth interviews	
What are the participant selection criteria? Where will the interviews take place? Will there be incentives for the participants? How will you recruit your participants? (e.g. online, newspaper advertisements, public notice boards, snowballing strategy, etc.)	
Focus groups How many focus groups are needed? How many participants are needed in each focus group? What will the group composition be?	*Depth interviews* How many participants are needed? What is the sampling strategy?
Conducting focus group and depth interviews	
Make sure you are organised before the interview begins, e.g. recording equipment, spare batteries, information sheets, consent forms, pens and paper, refreshments, activity packs (if required), incentives, name tags for focus groups. Brief the participants before you begin the interview. Let them know what your expectations are. Informed consent is required. Things to consider from a transcription perspective: for a clear sound recording there needs to be minimal background noise; pre-test the recording to hear how clear the recording is, position the microphone in the direction of the participant, ask the participant to speak louder if their voice becomes too soft; in a focus group situation, ask people to speak one at a time; provide key words to the transcriber if unique or unfamiliar terms are frequently used.	
Focus groups Have strategies in place to cater for different types of people (e.g. ramblers, shy individuals, etc.). How you end the interview is just as important as how you start it.	*Depth interviews* Establish what interviewing style you will use.
Analysing the data	
Before you begin the data collection phase, establish what analytical methods you will use. Are your analytical methods consistent with your methodology? When analysing your data, do not forget what the purpose of the study is, or what your research questions are. How will you ensure your interpretations are trustworthy and credible?	

Case Study One: The Purpose and Context (Johnstone and Tan 2015a, pp. 311–312)

Concern for the environment is unquestionably an important issue for both marketers and policy makers today. Not only are there concerns about the impact that consumers' consumption habits are having on the environment, businesses are also facing increased pressure to include sustainable marketing practices into their business models. However, the adoption of green practices has not kept pace with consumers' rising concerns about the environment. Despite consumers' pro-environmental attitudes (e.g. Eurobarometer 2011), research has revealed inconsistencies between green attitudes and green behaviours. As research has shown, many consumers are not walking their talk (Carrington et al. 2010). So the purpose of our study was to gain further insights into why there is a green attitude-behaviour gap. (1) Why do consumers who claim they are concerned about the environment choose not to participate in greener consumption practices? (2) What are consumers' perceptions of green consumption behaviours, and what shapes these perceptions?

Developing the Moderator's Guide The next step is to develop a moderator's guide (refer to Table 2) which outlines what topics and/or questions will be discussed in the focus groups. Researchers need to establish what the key interview questions will be before they develop the moderator's guide because more time needs to be allocated to these questions during the focus group interview. Often a funnel approach is used when developing the guide. General questions are asked at the start of the discussion to introduce the participants to the topic. So the questions are very broad at the start, before narrowing down to more specific questions. This approach eases the participants into the topic, and also provides opportunities for focus group members to identify key points before being prompted by the moderator. You also need to think about the question order, and how you phrase your questions, as this can influence a participant's response, i.e. it might bias the answer or prime participants to respond in a particular way.

The moderator's guide is often quite structured but since the benefit of using focus groups is its ability to generate new insights, it should not be too rigid. So it is advisable to allow for some flexibility, i.e. ask different questions if the opportunity presents itself. The moderator guide should also be pre-tested during the development phase (e.g. with colleagues, and individuals who reflect the selection criteria). Likewise, it is good practice to treat the first focus group as a pilot interview, since this will enable you to fine-tune the moderator's guide for subsequent interviews.

Often, researchers will ask *how many topics or questions should be included in the moderator's guide*. As Stewart et al. (2007) state, this is difficult to determine because different groups may spend more time on a particular topic compared to other topics, e.g. depending on how homogeneous the groups are, the group's level of knowledge, and how experienced the moderator is. However, most moderator guides tend to have less than six key questions as 10–20 minutes is needed for

Table 2 Developing an interview guide and tips

Open-ended questions
These include "when", "what", "who", "where", "how" type questions Be cautious of using the word "why" because participants may try to rationalise their experiences or views in order to meet the interviewer's expectations. Examples of alternative why-related questions include: "What made you choose…?" "What factors/features influence…?" "What caused you to…?" "What makes you say that?"
Probing type questions
"Could you elaborate on that?" "What do you mean by that?" "How does that make you feel?" "Tell me more" "Can you explain what you mean?" "Do you have any examples?" "Does anyone share the same view? Have a different view?"
Projective techniques
"Who do you think uses this product?" "What type of person might agree with this statement?" "If this [object] was a person, what type of person would they be?" "If you were a manager, how would you encourage other people to…?"
Closed-ended questions
These are direct questions that can be used to obtain specific information about a participant, and they tend to generate short answers. For example: How long have you worked there? Do you have children? Are you in favour of …? They are useful when you want to collect specific information but they can also provide a starting point for a topic. For example, "are you in favour of…" can be followed up with an open-ended question.
Other tips
Avoid asking several questions at once as this may cause confusion, and dilute the answer. Throughout the interview, you might ask the same question in different ways to check for consistency and understanding. Think about the question order. Is it logical? Does it flow well? Will it influence how people will answer the next question (priming effect)? Think about how the questions are worded. Would the phrasing bias or influence the answer?

each key question (Krueger and Casey 2009). Depending on how many focus groups you choose to run, a *rolling interview* approach is another option whereby the moderator makes modifications to the guide after each focus group. The main problem with this approach is that it can be very difficult to make comparisons between focus groups if each group is asked a different set of questions. However, this might be suitable if the purpose of the focus group is to provide more depth about the topic (Stewart et al. 2007).

The time frame for each focus group will depend on the number of topics you want to address. 60 minutes to 2 hours is the norm. In my experience, 90 minutes to 2 hours is ideal as it provides time for introductions and time to wrap up the focus group. Allocating a time limit for each topic to ensure you cover everything within the allocated time frame is also good practice. Lastly, how you end the focus group is just as important as how you begin it, e.g. the final question could be used to summarise the key points.

Writing activities Including writing activities in a focus group can be an effective technique for uncovering individuals' opinions on a particular issue. Plus, it minimises the influence of others. For example, you might ask the participants to circle the number that best reflects their views on an issue, using a seven-point smiley-face scale (refer to Fig. 1) before discussing a topic. You would then go around the room and ask each individual to share what they have written; people will generally read what they have written rather than state what is popular (Greenbaum 2000).

Rating activities (e.g. Fig. 1) are useful because they can help you to identify issues that should be discussed in more depth (Krueger and Casey 2009). Other

Fig. 1 Smiley-face Scale activity (Adapted from Greenbaum 2000, p.136)

activities that a moderator might use include having the participants write down key words or a short paragraph that sums up their views on an issue, asking members to put together a collage using images from magazines, or using projective techniques, e.g. 'if this product were a person, what would their characteristics be?' Projective techniques are useful because they enable participants to project their thoughts onto another person or object, which can make answering the question easier, and it enables participants to articulate thoughts which may have been difficult to express. A variety of activities were used in case study one (refer to Example One). The main purpose of an activity is to generate discussion, so if you choose to use one, you must ensure it does not take up too much time.

Example One (Johnstone and Tan 2015a)	
Our study used a structured moderator's guide which included discussion-based questions, writing activities, and exercises (see below). The aims of the activities were to investigate consumers' perceptions of environmentally-friendly (EF) products and green consumption behaviours. The focus group was scheduled for 2 hours.	
Case Study One: The Moderator's Guide (Johnstone and Tan 2015a, p. 325)	
Introduction ***(10 min)***	***(120 min to go)***
Welcome participants	
Brief the participants	
Ask the participants to read the information sheet, sign the consent form & confidentiality form if they are happy to participate in the interview.	
Ground rules, e.g. switch off mobile phones, participants need to talk one at a time	
Introduction/Warm-Up/Ice-Breaker Exercise *(10 min)*	***(110 min)***
Activity #1	
'Provide product samples of environmentally-friendly (EF) and conventional (non-EF) laundry detergents, and stacks of cards with brand names	
Group introductions	
Which of these products do you usually purchase?"	
Part 1: What encourages or discourages consumers from purchasing environmentally-friendly household products? *(25 min)*	***(100 min)***
What factors influenced you to purchase these brands (Activity #1)?	
Probe: experiences, perceptions.	
Why do you think other people use/do not use these products? *[projective technique]*	
What would encourage you/other people to buy environmentally-friendly household products? *[projective technique]*	
Part 2: What are consumers' perceptions of being green/of the terms "green"/environmentally-friendly? *(35 min)*	***(75 min)***
Activity #2 *[writing activity and projective technique]*	
Hand out soap samples (EF and non-EF) and answer sheets. If this brand was a person, what type of person would he/she be?	

(continued)

(continued)	
What type of characteristics would they have?	
Probe: What makes you think this?	
Focus on EF products:	
Explore current perceptions, and why. Their experiences.	
Explore how EF products are currently promoted/packaged?	
What does being "environmentally-friendly" mean?	
Does it mean the same thing as "green"?	
Being environmentally-friendly/green	
How easy/difficult?	
What makes it easy/difficult?	
Probe: Look at past experiences/perceptions	
Green consumers: [draw person on whiteboard] *[whiteboard activity]*	
Describe characteristics, traits, consumption behaviour	
What would encourage people/you to become more environmentally-friendly? *[projective technique]*	
Part 3: Perceptions of product packaging? *(25 min)*	***(40 min)***
Activity #3	
Pass around the table a variety of household dishwashing detergents.	
On answer sheets: Write some key factors alongside each product. *[writing activity]*	
Which ones do you consider to be environmentally-friendly?	
What factors helped you to decide this?	
Why do you think these are more/less environmentally friendly?	
Probe: What factors make these more/less EF?	
What are your impressions of these products?	
What factors make household products environmentally-friendly?'	
Debriefing & Closing *(15 min)*	***(15 min)***
Final question: To encourage people to adopt greener consumption practices, what advice would you give to marketers and policy makers?	
Wrap up	***(0 min)***

Data Collection Decisions

How Many Focus Groups Should You Have? When it comes to deciding how many focus groups you should have, there is no hard rule because this will depend on the purpose of the study. Some researchers may need only two to four focus groups because the purpose of the focus group interview is to provide some initial insights before developing a quantitative study. For others, depending on how complex the research problem is, or how diverse the participants are, more may be needed, so a researcher might run six to ten-plus focus groups (Stewart et al. 2007). Another accepted rule of thumb is to keep adding more focus groups until you reach saturation, i.e. no new ideas emerge (Krueger and Casey 2009).

The number of participants in each focus group is also important. Although having between six and twelve participants per group is generally acceptable, in my experience, six to eight participants is the ideal range because problems can occur if you have too few or too many participants. For instance, if a focus group has less than six participants, it can generate fewer insights, especially if the group includes shy and quiet individuals. Conversely, when there are more than ten people in a group, the discussion can become more challenging to manage. However, it is always advisable to recruit more people than you need in case you experience one or two 'no-shows'. For example, you should aim to recruit nine to ten participants for each focus group on the basis that one or two people may not turn up.

Selection Criteria and Group Composition During the planning phase, it is important to decide on your selection criteria at the start of your study as this will shape your moderator's guide, and will be used to screen potential participants during the recruitment phase.

To encourage group rapport, similar people should be grouped together because participants are more likely to open up among individuals they identify with. So the more homogeneous the group, the more comfortable people will be. But while, for example, you might group people together based on age, education, values, or lifestyle, this does not mean that participants cannot be heterogeneous in terms of their opinions because the purpose of a focus group is to generate new insights. At the same time, you must be mindful of the nature of the topic—is it a contentious topic that would generate too much disharmony in a group of individuals whose values are too different from each other?

Lastly, you need to consider when and where the focus groups will take place, and whether there will be incentives for the participants. Example Two illustrates the selection criteria used in case study one.

Example Two
Case Study One: Selection Criteria and Group Characteristics (Johnstone and Tan 2015a, p. 315)

We had one main selection criterion; we were interested in recruiting consumers who were not overly "green" in terms of their consumption practices but they also needed to be concerned about the environment. Potential participants were screened over the telephone using established behavioural and attitudinal-based questions which measured ecological concern (Bohlen et al. 1993). Some of the screening questions we used included: "The media focuses too much on the environment" and "Personally, I cannot help to slow down environmental deterioration", as well as "Do you recycle?", "What types of household cleaning brands do you purchase/use?", "What kinds of environmentally-friendly products do you buy?", and "How often do you take your own reusable bags to the store when you shop?". Since participants also needed to be household shoppers, a qualifying question, "Do you participate in the household shopping activities?" was asked. Demographic information was collected because respondent homogeneity was important to us. So we used age and occupation as a starting point when forming our groups

Recruitment process Recruitment is another important task. This involves scouting for participants, screening potential participants, and scheduling interview times. When screening participants, it is important to know what type of person you are looking for, and how to find them. Examples Two and Three highlight the approach we used when recruiting people for case study one.

Example Three
Case Study One: Recruitment Process (Johnstone and Tan 2015a, p. 314)

We placed advertisements in the local newspaper, and distributed posters around a university for the seventh focus group. We clearly communicated at the beginning of the screening process that we were seeking consumers who purchased eco-friendly household products as well as those who *did not*. This was to minimise self-reporting bias because previous research has revealed that 'consumers may over report their attitudinal preferences and purchase intentions (i.e. towards more socially responsible behaviour) when responding to environmental issues'. Seven focus groups were conducted, and a total of 57 individuals were recruited.

Conducting Focus Group Interviews Refer to Table 1 for a list of planning steps and details that need to be considered prior to conducting a focus group.

The moderator needs to set the right tone at the outset to encourage good group participation. At the start of the interview, the moderator should assure everyone that their names will remain anonymous and hand out name tags (so people can refer to each other by name); and set the ground rules, for example, by stating the purpose of the focus group and that everyone's views are of interest, explaining why it is important for individuals to speak one at a time, and reiterating that everyone will have a chance to contribute. Most importantly, the moderator needs to emphasise the equal value of everyone's views and that participants should not worry about what others might think. It is also useful at this stage to ask everyone to briefly introduce themselves, by answering a simple ice-breaker question—this will get everyone used to speaking in the group.

Interviewing Techniques for Focus Groups and Depth Interviews When discussing issues and probing for further insights, open-ended questions are critical to the success of an interview. Probing questions should be used to help tease out ideas. Refer to Table 2 for additional tips.

As an interviewer, it is important to allow your participants to voice their opinions without any judgement from you, so comments like "that's interesting", "great", "good", "really?" should be avoided when you respond to an individual's answer. Pausing for up to five seconds before moving on to the next question or asking a follow-up question will also help to elicit further insights.

From time to time, moderators may find themselves faced with a group of people who are shy, or domineering, or overly talkative. Greenbaum (2000), Krueger and Casey (2009), and Stewart et al. (2007) provide some useful strategies to help new

and inexperienced moderators overcome these particular challenges. Refer to the reading list.

Analysing the Data for Focus Group and Depth Interviews Transcribing each interview is an important part of the research process. You should know in advance what analytical methods you will use to analyse the data, which will be guided by the purpose of the study and resources available. For example, if time and money are limited, analysing 50 interviews, each 2 hours long, post-transcription may not be realistic, particularly if you are looking for deep and meaningful insights (Kvale 1996). If you have decided to use discourse analysis, a large sample is, likewise, not feasible. Since the purpose of this chapter is to provide an overview of the focus group and interview process, a discussion of the different types of analytical tools available to researchers is beyond its scope (refer to the key readings list); instead, a commonly used approach to analysis is discussed.

When analysing your data, it is important to do this in relation to the research problem, objectives, and research questions. It is always a good idea to have your objectives and research questions at hand to avoid spending too much time identifying (and interpreting at depth) any themes that may be interesting but unrelated to your study. You can always return to these themes at a later time, but your present objectives must remain the focus. However, as Kvale (1996, p. 187) notes, 'a continuum exists between description and interpretation,' so your analysis will also be influenced by the study's methodology.

When dealing with a large data set, using a qualitative computer-based program such as NVivo to store your transcripts is strongly recommended. NVivo can be used in a number of ways but I prefer to use it—because of my methodological preferences—as a means to store and access the data rather than for analysis; for example, I do not use the key word function to identify themes. Key words are meaningless without context. For example, identical words used by two or more participants may have different meanings, whereas different words may be used by participants to express similar meanings.

A commonly used method is thematic analysis, whereby the text is systematically analysed, coded and re-coded, to discover patterns and commonalities within the text. This is an iterative approach which involves changing and moving texts in relation to others during the analysis phase as concepts and interpretations become more refined (Spiggle 1994). Using 'theoretical thematic analysis' means the analysis is driven by an existing theoretical framework, or uses an 'inductive approach' whereby the themes are driven by the data itself (Braun and Clarke 2006; Thomas 2006). Alternatively, a 'deductive-inductive' approach may be adopted to generate new insights (Johnstone and Tan 2015b).

Depending on the scope of the study, several steps may be required in the coding and re-coding process. Stage one involves reading each individual transcript and identifying themes within each interview. The second stage compares each interview and looks for commonalities and differences between the interviews, and categorising each theme accordingly. Similar themes from different interviews, for example, might be categorised as one theme and renamed. After these themes have been established, in the third stage

further similarities and/or differences are sought, themes are re-coded as necessary, and the number of categories reduced. When you write up your study, it is important to check that your analysis consistently addresses the purpose of the study and your research questions. Refer to Example Four.

Example Four
Case Study One: Coding and Analysis (Johnstone and Tan 2015a, p. 321)

In this example (Fig. 2), we can see how two patterns emerge (e.g. "Price" and "Other people") based on participants' quotes (initial codes). (For the purpose of this case study, only four quotes were used for this exercise). Sub-themes are identified before being categorised under the main theme, "It is too hard to be green". The findings from the study were divided into three main themes (Fig. 3): (1) "It is too hard to be green", i.e. consumers' perceptions of external factors make it difficult for some consumers to adopt greener consumption practices; (2) "Green stigma", i.e. some consumers have less than favourable perceptions of "green" consumers and "green" messages, which shapes their green perceptions; and (3) "Green reservations" revealed that some consumers are uncertain or ambivalent that greener consumption practices will make a difference to the environment, which shapes their perceptions.

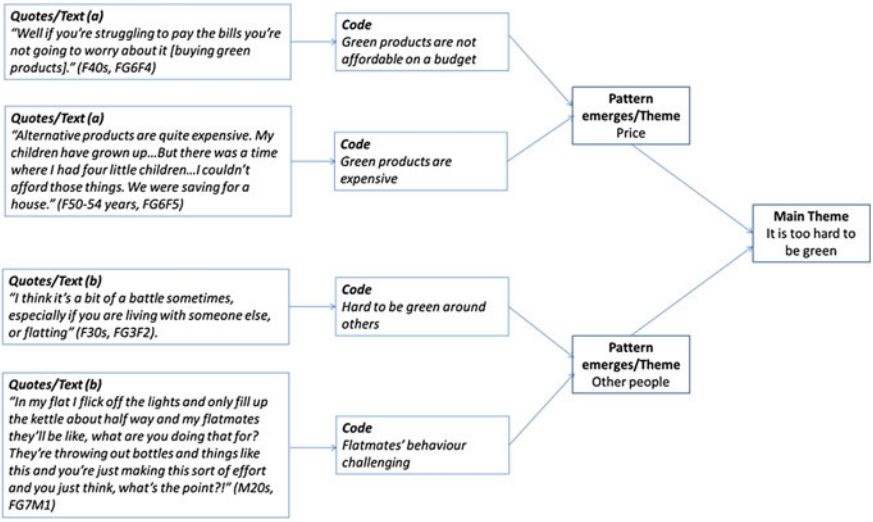


Fig. 2 Coding example **a** Johnstone and Tan (2015a, p. 317); **b** Johnstone and Tan (2015a, p. 318)

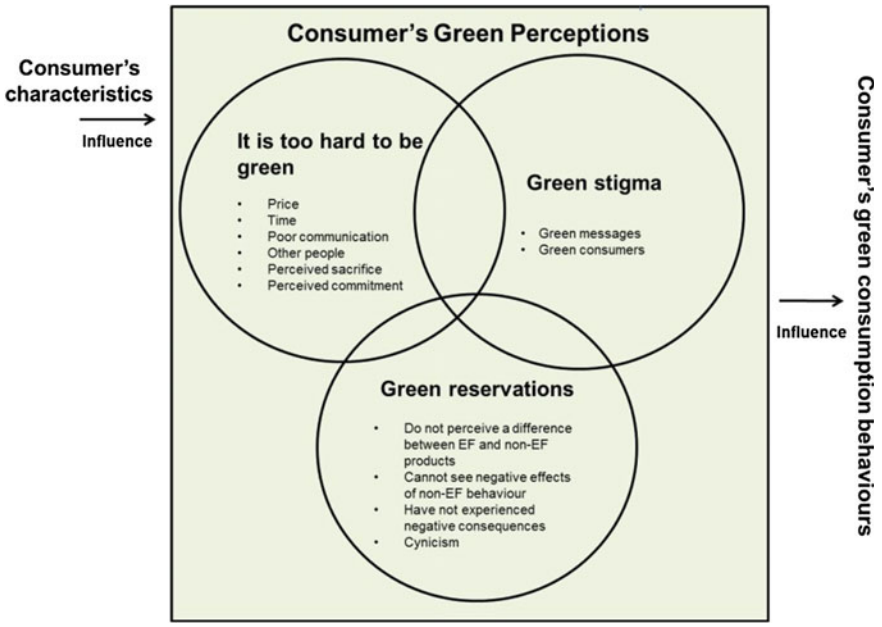


Fig. 3 Summary of key findings (Johnstone and Tan 2015a, p. 322)

Depth Interviews

The depth interview continues to play an important role in qualitative research because it allows researchers to document multiple perspectives of reality and obtain 'thick descriptions'. Essentially, a depth interview is a conversation between two people, which can be conducted face-to-face, online, or on the phone. It is a flexible, dynamic method that enables researchers to learn about the social world through individuals' spoken accounts (Taylor and Bogdan 1998, p. 87). The terms 'depth interview' and 'in-depth interview' are encountered often. Depth interviews tend to be one-off interviews with individuals, typically between 45 minutes and 2 hours in length whereas the in-depth interview suggests that the individual was either interviewed more than once, or the interview was several hours long.

Depth interviews enable us to gain a greater understanding of what motivates people, and helps us to identify individuals' perceptions, attitudes, feelings, and experiences. However, researchers need to remember that each interview reflects only one person's experiences and perceptions. Thus the depth interview cannot be

used to draw generalisations—but this is not the purpose of the method. Rather, the depth interview is about gaining rich insights into the participant's 'lived experience'.

Different Methodological Approaches to Interviews

The different approaches to interviewing are not discussed in detail in this chapter, except to point out that researchers must be aware that different research paradigms will influence how they use and conduct interviews because this will determine *how* they seek knowledge. Within the marketing discipline, the dominant paradigms have been *interpretivism* and *positivism* (Carson et al. 2001; Hudson and Ozanne 1988). Accordingly, a study's epistemological perspective will have a huge bearing on how one views knowledge and what one deems to be true (Morgan and Smircich 1980). So a researcher adopting an interpretivist perspective will reject the notion of an objective truth, believing it is via our engagement with the world that meaning is made, i.e. 'meaning is not discovered, but constructed' (Crotty 1998, p. 9). In other words, meaning is socially constructed within the boundaries of the social, cultural, economic, and political norms and rules of society. Within the interpretivist paradigm there are different perspectives that will determine which methods should be used to collect and analyse data. Two interpretivist perspectives that are often used in qualitative research are phenomenology and hermeneutics (refer to Table 3).

What are the Steps When Conducting Depth Interviews?

Problem Identification Once again, before beginning any research project you need to determine the purpose and importance of the study, i.e. why is this worth exploring? This step is the same regardless of what method you use. Case study

Table 3 Two interpretivist perspectives

Phenomenology	Hermeneutics
Phenomenology 'seeks the meaning of events, not their causes' (Seamon 1982, p. 123). Subsequently, the overall objective of phenomenology is to understand the lived experience (Sanders 1982). However, while one acknowledges that individuals construct their own meanings, these meanings are not created entirely autonomously, due to one's social interactions with the world	A fundamental assumption of hermeneutics is that texts 'are a means of transmitting meaning—experience, beliefs, values—from one person or community to another' (Crotty 1998, p. 91). The objective of a hermeneutical framework is to explore the cultural viewpoints which underlie the meanings as expressed by the consumer (Arnold and Fischer 1994). It is through language that we experience the world

two highlights how depth interviews can follow on from focus group interviews. Although focus group interviews can generate many insights, they do not provide the depth that depth interviews can yield. Refer to Case Study Two.

Case Study Two (Johnstone and Hooper 2016)

As highlighted by previous studies (e.g. Case Study One), many factors influence consumers' green consumption behaviours. However, as noted by other authors, very little research has looked at the role of social influence on green consumption behaviours (e.g. Peattie 2010). The main objective of this study was to advance our understanding of how consumers' green consumption practices are influenced by the social environment, and whether this encouraged people to adopt greener consumption practices. In the focus group study (Case study one), other people were identified as one of the factors that influenced consumers' green perceptions and behaviour.

Twenty participants from ten households (two from each household) were recruited using a purposeful sampling strategy. We were interested in individuals who were not overly "green" in their consumption practices. Each participant was interviewed once individually, which was immediately followed by a joint interview. There were 20 individual interviews and 10 joint interviews in total. The length of interviews ranged from 1 to 2 hours.

Developing the Interview Guide There are three main approaches to developing an interview guide. The *structured interview* involves asking identical questions in each interview, i.e. there is no deviation from the script. This is useful when conducting very short interviews with a very large sample size, where obtaining depth is not the objective but rather making generalisations is (although this is not usually the goal of most qualitative research). Then there is the *unstructured interview* (also known as the informal conversation interview), which has no set questions. In this approach, the interview flow is based on the participant's answer —the interviewee guides the interview. This can be a useful method if you plan on having multiple interviews with the same person (Patton 2002). While the unstructured interview may appear to lack focus, it is nonetheless guided by the purpose of the study. Lastly, in the *semi-structured* approach, a combination of the first two approaches, there are set questions but also room for deviation in order to glean new insights as directed by the interviewee. All three approaches, though, benefit from using open-ended questions to gain rich insights. Once again, a funnel approach is useful when developing your interview guide, i.e. start with broad questions and narrow down to specific questions.

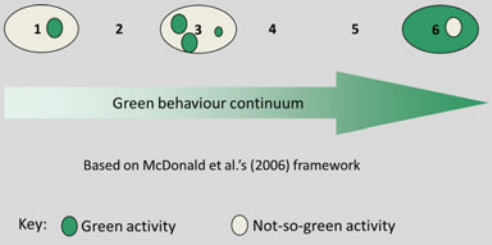
It is important to realise that the depth interview will be guided by methodological and philosophical assumptions. This has important implications given that an ethnographic interview, for example, will be quite different from either a therapist's interview or an investigative journalist's interview (van Manen 1997). Likewise, the interviewing techniques used in a study will be influenced by the methodological perspective and research discipline—the techniques used by a psychologist to interview a subject will differ from a marketer's.

Depending on the purpose of the interview, you may require the participant to do something before they attend the interview. For example, you may want them to

bring certain items to the interview. In one study I conducted, I asked participants in advance of the interview to take photographs of retail locations that they regularly patronised, because my interest was in exploring issues around place attachment and place identity. Using photo-elicitation techniques, I referred to these photographs throughout the interview. This is a useful tool because deeper meanings can often emerge when participants are prompted by photographs and other images as they able to more easily articulate their thoughts (Heisley and Levy 1991). Example Five demonstrates how other activities can also be incorporated into a depth interview.

Example Five
Case study two: Interview Activity (Johnstone and Hooper 2016)

Participants were asked to rate their level of "greenness" using the "Green Behaviour Continuum" below (adapted from McDonald et al. 2006). This was based on their perceptions of what it means to be environmentally-responsible/green. The participants were asked to provide an "actual" score (e.g. how they currently behave) and an "ideal" score (e.g. whether they would like to change). This ranged from one (not-so-green) to six (very green). This ice-breaker exercise helped us to identify what green consumption activities the interviewees participated in, as well as their perceptions of various green consumption practices.



Data Collection Decisions There are many things that one needs to consider when planning a depth interview, one being deciding on the length of the interview—will it be a 45 minute or a 2 hour interview? Similarly, how many times will you interview a person? It is very common to interview a person only once, but this will again depend on your study's purpose, your methodology, and your time constraints. In reality, time may allow only one interview per participant; or perhaps your participants may only be willing to be interviewed once. Another consideration is the number of people required for your study.

Sample Size: How Many Interviews are Enough? There are no set rules in qualitative research for determining sample size—the purpose of the study is your guide. More important considerations are whether the data will be useful in terms of achieving the study's objectives, and its credibility, i.e. are the number of participants sufficient to draw conclusions about the phenomenon in question (Patton 2002). The methodology you adopt will also play a role in this decision. For example, in phenomenology the sample size can vary from one to ten individuals

(e.g. Thompson et al. 1989), and in grounded theory it can vary from 20 to 30 individuals (Cresswell 2013). It may also depend on the sampling strategy you adopt. For example, one might continue to interview people until the 'point of redundancy' is reached, i.e. no new information emerges from the sample pool (Patton 2002). However, as Patton (2002, p. 246) points out, 'sampling to the point of redundancy is an ideal, one that works best for basic research, unlimited timelines, and unconstrained resources'—not the case for many studies. Ultimately, the decision of sample size should be based on what is adequate, whether meaningful and useful data will result, and also on peer affirmation. Academics need to take into account the journals they are targeting for publication—some editors are very explicit in their expectations whereas in other journals, expectations are implicitly demonstrated in the types of qualitative articles they publish.

Sampling Strategy There are different sampling strategies available to researchers. A common one is purposeful sampling, whereby the sample is selected according to purpose, and information-rich cases are selected (Patton 2002). In this approach, one strategy is *theoretical sampling*, a 'method of data collection based on concepts derived from the data' (Corbin and Strauss 2008, p. 145). The researcher keeps collecting data until the point of saturation, at which no new insights about the concepts are obtained. Another strategy is *extreme or deviant case sampling* wherein unusual cases are selected in order to learn from phenomena such as crises and success stories/failures, etc. (Patton 2002). Refer to Creswell (2013) and Patton (2002) for a detailed list of sampling strategies. Following sampling strategy, selection criteria need to be decided as these will be required during the recruitment phase.

Conducting the Interview Logistical decisions, such as the location and its suitability, i.e. will there be any interruptions, is it a noisy environment that will affect the quality of the recording, will the participants be comfortable (as this may have an impact on how open and relaxed they are) need to be made in advance of the interviews.

As for interview style, the adapted phenomenological interview is commonly used (although, again, this will depend on your methodology). This technique places the participant, rather than the researcher's expectations, at the heart of the study (Stern 1995). While phenomenological interviews are by nature unstructured, which allows the participant to guide the interview (Thompson et al. 1989), an adapted phenomenological interview is frequently preferred because it enables a semi-structured approach to explore the 'lived experience'. Table 2 provides additional detail. There are also some excellent resources for novice interviewers (refer to the key readings list). The last phase of the interview process is analysing the data, as discussed earlier.

Quality Issues with Depth Interviews and Focus Groups

In seeking to establish the trustworthiness of a qualitative study, a number of techniques can be used. For example, *descriptive validity* ensures the researcher accurately records what is seen or heard before they begin their analysis (Wolcott 1990). *Interpretive validity* is concerned with whether the researcher has interpreted the transcripts accurately (Maxwell 2005). Likewise, *confirmability* ensures the findings and conclusions drawn from the study support the texts, i.e. are they logical, reasonable, and lacking prejudice? (Hirschman 1986). One way to address this is to employ an auditor. The role of an auditor is to review the documentation and to decide if the researcher is justified in making the conclusions. Applying the hermeneutic circle principle is another approach—interpretation occurring via an iterative back-and-forth process whereby parts of the text are related back to the whole text (Arnold and Fischer 1994). *Dependability* questions whether the study itself and the research process were stable over time and consistent (Miles and Huberman 1994, p. 278). This is important because people's perceptions and experiences can be influenced by occurrences in the socio-cultural environment, and it is desirable to eliminate any potential historical effects. Approaching each interview in the same manner when there are multiple focus groups, participants, and interviewers is also important, hence the need for moderator and interview guides. *Transferability* tests whether the conclusions from this study can be transferred to other contexts, or more appropriately, has the researcher provided the thickness of description 'necessary to enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility' (Lincoln and Guba 1985, p. 316)? Patton (2002) also refers to *credibility*, that the integrity of the study's findings depends on three elements—rigorous methods, the credibility of the researcher, and the researcher's understanding of qualitative research.

Ethical Issues to Consider When Conducting Depth Interviews and Focus Group Interviews

When conducting research, there are always ethical issues that need to be countenanced to protect participants and researchers, as well as the integrity of the study. Issues of privacy, confidentiality and informed consent need to be dealt with before a study begins. Participants need to know how the data will be used and stored; they also need assurance that their names and any identifying characteristics will remain confidential, and that pseudonyms will be used to protect their identity. In focus groups, confidentiality can be problematic, but participants can be asked to sign confidentiality forms before the interviews commence (it is also good practice to ask the transcriber to sign a confidentiality form). *Consent Forms* should be signed

before the interviews begin, but only after the participants have been fully informed about the study and given the opportunity to ask questions and have them answered.

Acknowledgments I would like to acknowledge Dr. Lay Peng Tan from Macquarie University (Sydney, Australia) and Stephanie Hooper (Wellington, New Zealand). Case study one is based on the research I conducted with Lay Peng Tan. The material I used for case study two is based on my collaborative work with Stephanie Hooper.

Key Internet Sources

Michigan Sate University Ph.D. Digital advisor: Provides useful tips on interviewing. https://msu.edu/user/mkennedy/digitaladvisor/Research/interviewing.htm.

Richard Krueger's Moderating a Focus Group, published on July 28 2015. https://www.youtube.com/watch?v=xjHZsEcSqwo.

The Qualitative Report provides useful links to other qualitative research sites. http://tqr.nova.edu/websites/.

Key Readings

There are some excellent resources available for those who want to extend their understanding of these methods. Listed below are some examples.

Focus Groups

Krueger, R. A., & Casey, M. A. (2009). *Focus groups: A practical guide for applied research* (4th ed.). Thousand Oaks, CA: Sage Publications.

Morgan, D. L. (1997). *Focus groups as qualitative research*. Thousand Oaks, CA: Sage Publications.

Stewart, D. W., Shamdasani, P. N., & Rook, D. W. (2007a). *Focus groups: Theory and practice*. Thousand Oaks, CA: Sage Publications.

Interviews

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Kvale, S. (1996a). *Interviews: An introduction to qualitative research writing*. Thousand Oaks, CA: Sage Publications.

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Experimental Methods

Jane McKay-Nesbitt and Namita Bhatnagar

Abstract Although experimental research is not as frequently employed in formative research as focus groups, it is uniquely suited to formative research. Experimental research (also labelled as causal research) seeks to uncover cause-effect relationships and is particularly suitable for assessing causality. An experiment consists of one or more independent variables (also called experimental/treatment variables), one or more dependent variables, participants (who are exposed to the independent variable(s) and whose responses on the dependent variables of interest are measured), and an experimental protocol. The researcher manipulates the independent variable and then measures the effects on the dependent variable. This chapter explores (1) the concept of causality, (2) different types of experimental research (i.e. field vs. laboratory), (3) main concerns when using experimental methodologies (i.e. internal and external validity), (4) experimental designs deemed most suitable for formative research (i.e. pre-experimental, true, quasi experimental designs), (5) challenges inherent in using experimental methods (e.g. cost, time, control, external generalisability), and (6) opportunities associated with this process (e.g. programs aimed downstream at consumers, and others aimed upstream at policy makers). Numerous examples from the marketing literature to illustrate the experimental methods are discussed within this chapter.

Introduction

Social marketing is rife with questions that would benefit from experimental research. As an example, do people behave more responsibly when public service announcements employ descriptive social norms (i.e. that pro-environmental

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_6

behaviours are engaged in by the majority) as opposed to injunctive ones (i.e. that pro-environmental behaviours are generally approved of; Aronson et al. 2010)? And, are people's pro-environmental responses more intense upon exposure to promotion-focused ads (i.e. those that emphasise aspirations and idealism) as compared to prevention-focused ads (i.e. those that emphasise cautions and obligations; Higgins 1998)? Although focus groups are currently the most popular formative research method (Kubacki et al. 2015), experimental research also has an important role in formative research because it is uniquely suited to answering questions such as those above.

The 'Road Crew' social marketing ride program in rural Wisconsin (Rothschild et al. 2006) is a good example of how experimental formative research can contribute to the success of a social marketing program. Building on insights generated via focus groups, field experiments were conducted to test the effectiveness of the Road Crew program in which old luxury cars were used to transport patrons at the start of the evening from their home to the bar, between bars as the evening progressed, and back home at the end of the night. The results of pre- and post-test field experiments conducted over a one-year period showed that alcohol-impaired driving behaviours amongst the target 21–34 year old bar-going male demographic declined following the institution of the ride program. These formative field experiments thus provided evidence of the success of the ride program and contributed to the sustained implementation of the social marketing program within the test communities.

As opposed to correlational analyses that investigate the co-occurrence of phenomena (e.g. pro-environmental attitudes and chronic promotion focus; Bhatnagar and McKay-Nesbitt 2016), experimental research (also labelled as causal research) seeks to uncover cause-effect relationships (e.g. that exposure to promotion vs. prevention-focused pro-environmental advertising increases the likelihood favourable attitudes toward the ad and intentions to follow its recommendations). The mere fact that two variables occur at the same time (i.e. are correlated with each other) does not allow us to infer that one variable causes another to take place or vice versa.

Experimental research however, is particularly suitable for assessing causality. An experiment consists of one or more independent variables (also called experimental/treatment variables), one or more dependent variables, participants (who are exposed to the independent variable(s) and whose responses on the dependent variables of interest are measured), and an experimental protocol. The researcher manipulates the independent variable and then measures the effects on the dependent variable.

In this chapter, we use established conversations in the marketing literature (e.g. Churchill and Iacobucci 2010; Burns and Bush 2010; McDaniel and Gates 2012) to expand upon (1) the concept of causality, (2) different types of experimental research (i.e. field vs. laboratory), (3) main concerns when using experimental methodologies (i.e. internal and external validity), (4) experimental designs deemed most suitable for formative research (i.e. pre-experimental, true, quasi experimental designs), (5) challenges inherent in using experimental methods (e.g. cost, time,

control, external generalisability), and (6) opportunities associated with this process (e.g. programs aimed downstream at consumers, and others aimed upstream at policy makers).

We provide numerous examples from the marketing literature to illustrate the experimental methods discussed within this chapter. While we draw upon literature that is appropriate for illustrating our discussion, it is not our goal to provide an exhaustive review of relevant literature. Indeed, because social marketing most often addresses issues pertaining to the wellbeing of individuals, the environment, and the community (Kotler and Lee 2008), literature from a number of disciplines (e.g. public health, medicine, environmental science) could have been drawn upon to illustrate the experimental methods discussed herein. We trust however, that the examples we have selected contribute to the understanding and application of experimental methods in formative research on social marketing issues.

The Concept of Causality

Would a social marketing intervention (e.g. a particular type of public service ad) result in desirable attitudinal and behavioural shifts within a target audience? The notion of causality tests for the inference that the presence (vs. absence) of the intervention, or one format of the intervention as compared to a different format, leads to a greater or lesser probability of the change sought (Churchill and Iacobucci 2010). These insights are significant within the social marketing formative research paradigm as different approaches are compared and contrasted within a sample of individuals prior to adopting the approach most likely to engender desired change on a larger scale.

Correlational analyses might demonstrate that multiple phenomena occur at the same time. Such analyses are unable, however, to support the claim that one or more of these phenomena cause the others, the directionality of causal effects, or whether alternative underlying factors are the root cause of phenomena under examination. Causality, on the other hand, denotes relational linkages where one or more causal phenomena bring about one or more effects. Take, for instance, the example alluded to earlier of building effective social marketing campaigns to bring about pro-environmentalism. Bhatnagar and McKay-Nesbitt (2016) first demonstrated a positive correlation between individuals' chronic promotion focus (i.e. a focus toward achieving ideal states) and overall environmental concern in a sample of undergraduate students. While these two traits were found to be associated with each other, it wasn't possible to determine whether individuals' promotion focus resulted in environmental concern or, conversely, whether environmental concern made people more promotion-focused, or if it was some other underlying variable (such as a concern for the future consequences of current behaviours) that resulted in heightened promotion focus as well as environmental concern. In order to parse the relationship between these two characteristics, a follow-up study experimentally primed participants to take on a promotion focus or remain not primed. Results

showed that promotion-primed participants had more favourable attitudes toward recommendations contained in a subsequent pro-environmental ad, greater intentions to adopt the advocated behaviours, and more positive affect toward others who engaged in these behaviours. These findings allow social marketers to infer that adopting a promotion focus has beneficial effects on environmental responsibility—an insight that can be used to prepare copy for pro-environmental campaigns. Experiments thus aid in causality inference-making in a manner that correlational analyses are unable to do, and therefore make a unique and important contribution to formative research.

Structuring Experiments

At its simplest level, the structure of an experiment consists of: (1) randomly sampling research participants from the target population; followed by (2) randomly allocating participants to separate experimental conditions where they receive different experimental treatments; and finally (3) measuring and contrasting participants' responses across conditions in order to make judgments about the impact of varying treatment types.

Experiments differ in terms of their setting—lab experiments take place in controlled settings staged by the researchers, and field experiments take place in environments where the phenomena under examination naturally occur. Experimentation in the lab is commonplace because lab studies are less costly, require less effort and are more convenient than field studies. At the same time, there is heightened control over participant assignment, the environment, and activities that take place, all of which leads to greater confidence in the experiment's internal validity (Singleton et al. 1993). *Internal validity* is the notion that participant responses are indeed attributable to the manipulated treatments rather than alternative factors. Alternative explanations rooted in individual differences are mitigated via random assignment of participants across experimental conditions. In addition, the standardised treatment of all participants, other than with respect to the experimental manipulation, mitigates the attribution of participant responses to rival factors. The greater the internal validity of an experiment, the greater the confidence that the cause-effect relationship identified in the experiment, does indeed exist.

Some gains accrued in the lab, however, are offset due to its contrived nature, limited participant profiles (oftentimes students), and heightened participant awareness of being studied in some fashion—thereby calling into question the *external validity* of results obtained. Given the artificiality of lab settings, participant responses do not necessarily generalise to contexts outside the specific one that is created by the researchers. Researchers attempt to overcome this issue by conducting investigations in the field (for instance, in naturalistic settings such as grocery stores, retail settings, organisations, etc.). A field experiment is staged with minimal disruption, within settings familiar to a broad range of participants who do not suspect that they are being studied. What field experimentation gains in terms of

enhanced external validity is however undermined by reduced internal validity given the difficulty of controlling for alternative confounding factors within the free-flowing field environment.

There are abundant examples of lab and field studies in the domain of social marketing. For example, the research on individuals' chronic promotion focus and pro-environmental responsibility discussed earlier (Bhatnagar and McKay-Nesbitt 2016) was conducted in a *lab* with US undergraduate university students as participants. Conversely, Wansink and Van Ittersum (2003) conducted a *field* experiment to demonstrate that the shape of containers influences the amount that both children and adults consume. Across two experiments in cafeterias, the authors found that greater quantities of a beverage were poured and consumed out of short and wide glasses as compared to tall and narrow ones. A third field experiment revealed that these effects also held amongst people deemed as experts (bartenders).

Internal and external validity considerations are seen in work by McKay-Nesbitt and Yoon (2015) where work- versus fun-framed message effects on physical activity attitudes are investigated. The authors designed print ads similar in every respect (length, format, phrases, font style, size, and colour) with the exception of the independent variable of interest (i.e. an emphasis on work or fun). By controlling as many extraneous variables as possible through the creation of specially designed print ads, the researchers ensured the experiment's internal validity and increased the confidence that it was the work versus fun ad-framing that caused the effects on physical activity attitudes. This careful control, however, negatively impacted the experiment's external validity. The specially developed ads are not the kind that people would view in real life. Therefore, one cannot be confident that the same effects would be observed in the real world as were observed in the closely controlled laboratory environment. Therefore, the authors conducted another study in which they used real television ads to examine the same phenomenon. Because results from both studies were the same, the robustness of the overall findings was enhanced.

Experimental Designs and Formative Research

Experimental design is the means by which a researcher creates a setting where the relationship between the independent and dependent variables can be tested. Three commonly used experimental designs—pre-experimental, true experimental and quasi-experimental designs (Churchill and Iacobucci 2010) are discussed below.

Pre-experimental Designs When employing a pre-experimental design, researchers do not control for the effects of extraneous variables on dependent variables, nor do researchers control the treatment timing or random participant assignment to control groups.

One-shot case study designs are a type of pre-experimental design in which researchers expose participants to independent variables/stimuli for a period of time and then simply measure the dependent variable(s). This design lacks internal

validity (no attempt is made to control extraneous variables), control groups, and observations prior to exposure to experimental stimuli. This design is therefore appropriate only for exploratory research. This design may yield results that *suggest* causal relationships relevant for social marketing programs, but it is not appropriate for *testing* them.

Madill et al.'s (2013) case study in which they explored the impact of sponsorship financing of social marketing initiatives on the evaluation of those same initiatives is a good example of a one-shot case study design. The researchers interviewed stakeholders (i.e. private and public sector sponsors and the organisation to which the sponsorship dollars were provided) and reviewed written documents to better understand the extent to which the stakeholders believed that the social marketing initiative's objectives (a mental health promotional campaign) had been met. The results revealed differences in stakeholders' objectives for the social marketing initiative. Madill et al. (2013) suggest that differences in stakeholder objectives require different metrics for evaluating the achievement of these objectives. The authors acknowledge, however, that the results from this case study cannot be generalised, and encourage others to design and test specific evaluation metrics and measures. This case study therefore is an example of how exploratory research in social marketing may contribute to the development and testing of hypotheses with a true experimental design.

Pretest-posttest, one-group designs are often used to test the effects of existing marketing strategies. A single group is exposed to the experimental treatment and a pretest and posttest measure of dependent variables is taken to assess the treatment's effectiveness.[1] While this type of design is widely used to argue for the effectiveness of a particular marketing strategy, it is impossible to conclude that the effects on the dependent variable are a result of the independent variable. Any number of factors could have caused the change in the dependent variable that occurred from the time the pretest and posttest measures were taken. As with the one-shot case study, this type of design is more appropriate for suggesting causal relationships than for testing them.

Because the same participants complete the dependent variable measures both before and after the treatment, this study design is also referred to as a *within-subjects design*. For example, Collins et al. (2012, p. 211) report on a "2-year, within-subjects study" conducted among a non-random sample of 95 chronically homeless individuals with alcohol problems. These individuals participated in a Housing First project and received housing in a place that did not require them to abstain from alcohol use. Participants completed measures that assessed alcohol use and alcohol related problems (the pretest) when they first entered the housing

[1]A *pretest–posttest, two-group design* is similar to the *pretest–posttest, one-group design* with an additional group added. A pretest measure of the dependent variable is taken for both groups but the second group does not receive the experimental treatment. Because assignment to the two groups is not random, there is no way to ensure that the groups were not different prior to being exposed to the experimental treatment.

provided by the Housing First Project. After a period of time (up to 2 years), the participants completed the alcohol use and problems measures again (the posttest). Comparison of responses to the pretest and posttest revealed that participants decreased their alcohol use and experienced fewer alcohol-related problems (dependent variables) as a function of time and living in the housing provided by the Housing First program (independent variables). While the results of this pretest-posttest one-group study suggest that the changes in the dependent variables were a result of changes in the independent variables, it is not possible to be confident that this causal relationship does indeed exist because the study design was not a true experimental one.

True Experimental Designs A true experimental design attempts to isolate the independent variable's effects on the dependent variable while controlling for the effects of extraneous variables. This design requires the researcher's active involvement. The researcher generally creates an artificial environment in which he or she determines *when* and *to whom* the experimental stimulus will be administered. The researcher also determines *what* will be measured and *where* the measurement will occur. The researcher randomly assigns the experimental treatment to participants as randomisation—a key feature of a true experimental design used to increase the internal validity of research results. Through this process of actively designing the artificial experimental environment and randomly assigning participants to experimental conditions, the researcher increases the internal validity and can therefore be reasonably confident that the change in the dependent variable is due to the change that was made in the independent variable.

Pretest–posttest design When employing a *pretest-posttest design* the researcher randomly assigns subjects to a control group and an experimental treatment group and pretest and posttest measurements are taken for members of both groups. Because participants are randomly assigned to the two groups, the two groups' members are assumed to be influenced by the same extraneous variables and assumed to be similar in every respect except the independent variable. This design however may be afflicted with problems due to participants dropping out of the study between the time the first and second measures are taken (*mortality* effects; McDaniel and Gates 2012). If this occurs, the results' validity is weakened, since the researcher cannot be assured that the participants who dropped out of the study are the same as those that remain. Furthermore, because the pretest sensitises participants to both the stimulus and dependent measures, it is also possible that responses to the posttest are influenced by this sensitisation.

A pretest-posttest (within-subjects) laboratory design with an experimental and control group was used to explore the effects of exercise on smoking cessation (Kurti and Dallery 2014). All participants in this study smoked half a cigarette and then abstained from smoking for 1 h. Following that, participants completed a questionnaire to assess their craving for tobacco (i.e. pretest). Participants in the

experimental group exercised moderately for 20 min and participants in the control group were inactive for 20 min. All participants completed the questionnaire about tobacco craving a second time (i.e. posttest). After completing the questionnaire participants were given access to health-related magazines, TV, and a laptop for two hours during which time they were able to smoke whenever they wanted to. The results revealed that those participants who had exercised for 20 min delayed smoking for significantly longer than those who were inactive for 20 min. Further analysis showed that the influence of exercise on delaying smoking was mediated through the reward component of craving. Because a true experimental design was used for this study, social marketers may be reasonably confident that exercise-based cessation programs may contribute substantially to smoking cessation and improving public health.

After-only control group designs After-only control group designs (between-subjects designs) are frequently used in experimental research because they are more cost effective than a pretest-posttest experimental design. The *after-only control group design* requires a smaller sample (participants are less likely to drop out) and fewer measurements (posttest only) than the pretest-posttest experimental design. Because participants are randomly assigned to the control and experimental groups, the two groups are assumed to be equivalent prior to the experimental stimuli's administration and extraneous variables are assumed to similarly influence the two groups. In practice, it may also be beneficial to control for variables (e.g. age, gender, nationality) that do not necessarily attain the equivalence hoped for across the control and experimental groups via the randomisation process. Although results can be generalised to the population from which the samples are drawn—because subjects have been randomly assigned to the experimental and control groups—this design does not allow the researcher to compare changes in individual cases.

An after-only control group design was used to explore the effects of formatting information about investment choices in a 401(k) plan on participation rates (Morrin et al. 2012). The researchers created two experimental conditions: investment funds were either listed alphabetically or listed by asset class. Participants were then randomly assigned to one of the two fund categorisation conditions. After viewing the experimental stimuli (i.e. information about the funds in the 401(k) plan), participants in each group were asked about their willingness to participate in the 401(k) plan. The researchers then assessed differences between participants in the two groups (i.e. between subjects) with respect to willingness to participate in the 401(k) plan. The results showed that participants with low investor knowledge are more likely to participate in a 401(k) plan if the funds offered for investment are grouped by asset class (i.e. stock funds or bond funds) rather than listed alphabetically. Although these results suggest that low-investor-knowledge 401(k) participants' decisions to participate in a 401(k) plan can be influenced by the manner in which fund information is presented, the researchers pointed out that the generalisability of their findings is limited by their study design. The results are based on simulated decisions rather than real decisions made in real plans. Further,

although participants were randomly assigned to the experimental conditions, the design did not control for extraneous variables such as dollars invested or degree of investment diversification in other investments.

Mixed factorial designs incorporate both between-subjects designs (e.g. before-and-after or after-only control group designs) and within-subjects designs (e.g. pretest-posttest design) in the same study (Lander 1998). Smith et al. (2012) employed a mixed factorial design to test the effects of a social enterprise (an enterprise wherein a *non-profit* organisation initiates *for-profit*, revenue generating strategies) on donations to non-profit organisations. Participants in the study were asked to read about a fictional non-profit organisation and imagine that they had been asked to donate to that organisation. They were then asked about their donation intentions (i.e. how likely it was that they would contribute to the organisation and how much they would donate [$0–$100]). After being exposed to the experimental stimuli (specially prepared statements about a fictional non-profit that had set up a social enterprise), each participant was asked about their donation intentions a second time (a pretest-posttest within-subjects design). An after-only control group (between-subjects) design was also used as participants were randomly assigned to one of four experimental treatment groups. Some participants read about a social enterprise that was either (1) consistent or (2) inconsistent with the non-profit organisation's mission, and others read about a non-profit organisation that was either (3) competent or (4) incompetent with respect to running a business.

Quasi-experimental Designs Quasi-experimental designs address the lack of external validity experienced by studies conducted in an artificial laboratory setting. A quasi-experimental design however, means that the researcher may not be able to control when the experimental stimuli is administered nor randomly assign participants to the treatment conditions. In spite of these limitations, this design is often used in market research studies where the researcher is unable able to randomly assign subjects to treatment conditions or control when the stimulus is administered.

Interrupted time-series designs are similar to pretest-posttest one-group designs except that in this instance, several pretest and several posttest measurements are taken over a period of time. Taking many measurements over time allows the researcher to observe patterns in the data that emerge from multiple observations rather than relying only on a single observation as is the case in a pretest-posttest one-group design. Because several measurements are taken over time, the researcher can be reasonably sure that the observed changes are not simply a result of maturation (i.e. changes that result simply because time has passed). A *multiple time series design* is similar to the interrupted time-series design with the addition of a control group. Both designs suffer from difficulties in controlling for the effects of extraneous variables on the dependent measures during the time over which the dependent variables are measured.

An interrupted time-series design was employed to investigate the effects of lack of public transit on the use of a public bicycle share program when two 24-h labour union strikes limited service on the London Underground in 2010 (Fuller et al. 2012). Fuller and his colleagues collected data about the number and length of bicycle trips made on each day between July 30 and November 1. One-day labour strikes occurred on September 6 and October 4. Regression analysis revealed a pattern of bicycle usage that showed significant increases in daily bicycle trip counts following both strikes. While caution must be taken in generalising the results of this quasi-experiment, social marketers concerned with the health of individuals and/or the environment, may want to consider ways to encourage policy makers and consumers to limit access to motorised modes of transportation.

Market Testing is commonly used when developing new products and ideas for commercial distribution. It is a means of providing a real-world test of proposed products and marketing programs by conducting experiments or quasi-experiments in the field. Market testing involves testing some aspect of a marketing strategy (e.g. product or promotional strategies) in a single or a group of markets, often in a specific geographic region, prior to making changes for a broader market. For example, if a fast food chain wanted to introduce a new menu item in its US restaurants, it might introduce the new menu item first in a city which it considered to be representative of the broader US population. The fast food chain would then evaluate the new menu item's impact in the test market and contrast this with its performance in markets in which the new menu item was not introduced. The knowledge and experience gained from testing the menu item in the smaller market would then be drawn upon to introduce the new menu item across the US.

McKenzie-Mohr (2011) suggests that a similar strategy is effective when considering a social marketing program aimed at encouraging sustainable behaviour. McKenzie-Mohr (2011) recommends setting up a 'pilot' or a 'test run' of social marketing programs prior to rolling them out to the community for which they are intended. This would allow the social marketer to evaluate the program's impact on a subset of stakeholders and to correct any problems prior to implementing the program in the whole community. For example, a city that was considering changing from a source-separated recycling program to a single-stream recycling program, might test the single-stream recycling program in one neighbourhood. The results of using the source-separated recycling program in one neighbourhood could then be compared with the results of using a single-stream recycling program in a similar neighbourhood. This would allow city administrators to compare the two programs' effectiveness and would allow them to identify and correct problems before implementing a city-wide change. While it is clear that the results of market testing a consumer product or conducting a test run of a social marketing program could be very beneficial, it is recognised that conducting this research is both expensive and time consuming.

Challenges in Employing Experimental Methods in Formative Research

Time and Money While the benefits of conducting experimental research are many, the costs of experimental research can also be significant. Wages may have to be paid to collect the data and the data collection process may take a significant amount of time. A large field study conducted by Baca-Motes et al. (2013) is a good example of a costly, time-consuming field experiment.

To explore the relationship between a guest's commitment to sustainable behaviour and their subsequent environmentally friendly behaviour, Baca-Motes et al. (2013) trained hotel front desk staff to ask guests during the check-in process to sign a pledge to practise sustainable behaviour. The researchers also trained data collectors to count towels in hotel guest rooms prior to housekeeping services being provided. Over a period of 31 days, data collectors counted hotel guests' towels that were either used, unused, or hung-for-reuse. Data collectors also recorded whether the lights, television and air conditioning had been turned off. Once the housekeeping staff had serviced a room, the data collectors re-entered it to see if the housekeeping staff had left the towels for reuse or replaced them with new towels. Sufficient cases were needed for the results to be valid and reliable so data from 2416 cases (i.e. hotel guests) were collected and analysed. Thus, while this elegant study revealed that hotel guests who pledge to practise sustainable behaviour are more likely to do so, conducting this study was no doubt a costly and time-consuming endeavour.

Control As discussed previously, one of experimental research's challenges is controlling extraneous variables sufficiently to be confident that the changes observed in the dependent variable are indeed a result of changes in the independent variable. While field experiments in the real world increase the external validity of experimental research, controlling for extraneous variables is especially difficult in a field study. For example, while Baca-Motes et al. (2013) contend that the results of their study demonstrate that increased commitment enhances pro-environmental behaviour, it is also possible that factors other than commitment may have contributed to a guest's eco-friendly behaviour (i.e. the guest intended to put the towel on the floor for replacement but forgot to do so before leaving the room). Alternatively, while the authors suggest that commitment influences behaviour, it is also possible that a third factor positively impacts both commitment and behaviour. For example, a person may be staying at the hotel because they are attending a conference on the environment or they may work for an organisation mandated to protect the environment. In other words, their pre-existing commitment to the environment may have positively influenced both their commitment and their behaviour.

Controlling effects of extraneous variables also presents a challenge in laboratory experiments. Sometimes these variables are controlled through the creation of an artificial setting wherein the variable's influence is eliminated. For example, participants in two groups may read specially designed messages that differ with

respect to a key variable (e.g. pasta vs. salad; Irmak et al. 2011) but are identical with respect to extraneous variables such as number of words, message layout on the screen, graphics used, etc. In other cases the influence of an extraneous variable is controlled by measuring it and including it in the statistical analysis. Bhatnagar and McKay-Nesbitt (2016) controlled for the effects of gender (i.e. an extraneous variable) by measuring it and including it as a covariate in the analyses. Including extraneous variables in the data analysis allows researchers to assess the extent to which these variables contributed to the changes that are observed in the dependent variables.

Lack of Generalisability While experimental tests are important for establishing causal relationships and for identifying processes underlying the phenomena of interest to social marketers (e.g. Sar and Anghelcev 2013), one must be careful about generalising the findings to populations and situations that are different than the ones used in the experiment. For example, if a carefully designed and executed laboratory study (i.e. it is internally valid) is conducted using a sample of undergraduate college students (as many social marketing studies do), it is possible that the results may hold for the broader population of undergraduate college students. It would be a mistake however, to generalise the findings to populations that are very different than undergraduate college students (e.g. poorly educated, older adults) or to circumstances that are very different from ones in which the carefully controlled laboratory experiment was conducted. A single laboratory experiment can demonstrate that the hypothesised relationships have emerged in the specific conditions in which the experiment took place. Results can only be generalised with confidence however, once many more experiments are conducted and the expected effects are observed across different populations and conditions. That is why studies such as the one conducted by De Pelsmacker et al. (2011) in Belgium are so important.

Caution in generalising from the sample to the population is also important when conducting a market test or pilot of a social marketing program. If the small market in which the social marketing program is 'test-run' is not representative of the broader market, the test-run's results will have limited value. Fortunately, researchers are increasingly using online participant panels (e.g. Amazon's Mechanical Turk (https://www.mturk.com/mturk/welcome) in an effort to get responses from people who are more representative of the general population and increase the generalisability of their findings.

Opportunities for Using Experimental Methods in Formative Research

Over the past several decades, a great deal of experimental research on social marketing topics has been published in relevant, peer-reviewed, academic journals (e.g. the *Journal of Social Marketing*, the *Journal of Marketing and Public Policy*,

and the *Journal of Consumer Research*). When seeking experimental research to inform social marketing programs, however, it is important to consider the intended focus and purpose of the research being reported.

Downstream-focused Research Downstream social marketing research focuses on consumers who are likely to perform problematic behaviour or not to perform desired behaviour (Andreasen 2006). Downstream-focused research addresses issues such as the health of consumers, the environment, or the community. Thus, social marketers who create and implement marketing programs designed to influence consumers' behaviour would be particularly interested in the findings of downstream-focused research.

Winterich and Haws' (2011) work is an example of downstream-focused research concerned with encouraging consumers to eat healthy foods. Winterich and Haws (2011) demonstrated that consumers who want to control their consumption of unhealthy snacks may benefit from experiencing positive, future-oriented emotions (e.g. hope) versus past- or present-oriented positive emotions (e.g. pride or happiness) or negative emotions (e.g. unhappiness).

Similarly, Sussman and Alter's (2012) work offers guidance to social marketers concerned with assisting consumers to control their spending. Across seven experiments, the authors demonstrated that consumers make errors when making exceptional purchases that they do not make when making ordinary purchases. Specifically, consumers (1) underestimated the costs of exceptional purchases, (2) were willing to pay more for exceptional items presented one at a time rather than all at once, and (3) were willing to pay more when an exceptional item was part of a smaller versus larger group. These researchers also showed that when consumers are reminded that items under consideration are not exceptional (i.e. they are similar to frequently purchased items), consumers reduced spending on exceptional goods.

Increasing physical activity levels of consumers is another topic to which downstream-focused experimental research has been addressed. McKay-Nesbitt et al.'s (2013) experimental work explored the impact of messages with a promotion focus (i.e. focus on the benefits of being physically activity) versus those with a prevention focus (i.e. focus on the problems of that can be avoided by being physically active) on consumers intentions to be active. The results revealed that males report higher physical activity intentions relative to females after reading a promotion-focused message but that females do not report significantly higher intentions that males after reading a prevention-focused message.

Upstream-focused Research Social marketers concerned with the wellbeing of consumers and society also need to consider upstream-focused research that examines the "structures and processes that contribute to the problem in the first place" (Andreasen 2006, p. 7). Upstream-focused research is needed if social marketers are to play a role in influencing the institutions and organisations that develop programs and policies which impact consumer wellbeing.

The United States Food and Drug Administration (FDA), which establishes food labelling policies for the United States, is an example of an organisation whose policies have been the subject of upstream-focused experimental research. Andrews et al. (2011) conducted a between-subjects experiment to test the effectiveness of simpler versus more complex front-of-package nutrition symbols on consumers' evaluations of food healthiness. The simple symbol consisted of a checkmark beside the words 'Smart Choices Program', 'calories per serving' and 'servings per package' were placed below the checkmark and the words. The more complex symbol consisted of more specific information about key nutrients (e.g. calories, sugar, and fat) displayed using traffic light colours to indicate the percentage of an individual's daily requirement for each nutrient that was contributed by the food within the package. A package with no nutrition symbol on the front of the package was included as a control condition. Andrews et al. (2011) found that consumers exposed to the more complex, traffic light based symbol had more accurate nutrition scores than those exposed to either the simple symbol or to a package without symbol. They also found that the simple symbol led to more positive (and potentially misleading) evaluations of food healthiness than either the complex or no symbol conditions. Thus, while the results of this study have implications for consumers' health, they are particularly relevant upstream for policy makers (i.e. FDA) and for food manufacturers who have the wherewithal to implement food labelling processes.

Experimental Research Applicable to Specific Contexts Some experimental research is most helpful for understanding specific social marketing issues and/or their impact on specific groups of people. For example, McAlister and Cornwell's (2012) examination of the impact of pairing collectable toys with unhealthy or healthy foods on preschool children's food choices is useful for social marketers concerned with promoting the nutritional health of children. Social marketers whose concerns centre on the financial health of US adults however, will find Besharat et al.'s (2014) study of interest. These researchers conducted several experiments to investigate how thinking about the progress one is making toward a goal influences decisions to make credit card payments. Alternatively, social marketers concerned with the financial wellbeing of college students would find Siemens and Kopp's (2011) work of interest. Using a sample of college students, these researchers explored how time lapses between playing online gambling games, and the form of currency used to gamble online, interact to influence individual spending decisions and gambling experiences. Similarly, social marketers concerned with how information can be used to encourage college students to control alcohol consumption may be interested in Fazzino et al.'s (2016) work. These researchers conducted an experiment to assess how conducting web-based research on alcohol use and participating in a brief, web-based alcohol intervention would interact to influence American and Canadian college students' alcohol use, alcohol related problems, and self-control behaviours. The aforementioned examples are indicative of the vast array of social marketing topics which have been addressed with experimental research.

Experimental Research Contributes to Theory Development A great deal of experimental research in social marketing has very practical implications. The primary purpose of some experimental social marketing research however, is to contribute to theory. Such research seeks not just to understand factors that influence human behaviour. It also seeks to understand the behaviour's underlying mechanisms and processes. As discussed below, some researchers contend that understanding the underlying processes is important because this increases the ability to generalise findings from one context to another.

Anghelcev and Sar's (2014) goal, when investigating how a social marketing message about recycling interacts with a message recipient's mood to influence attitudes and intentions about recycling, was not just to find out if the message frame and mood interacted to influence recycling attitudes and intentions. It was also to explore the psychological processes that underlie the effect of this interaction on attitudes and intentions. To gain an understanding of these underlying processes, the researchers conducted an experiment in which they first manipulated participants' moods by exposing participants to positive or negative mood-inducing instrumental music. Participants then read print messages that either emphasised avoiding negative consequences or attaining positive benefits of recycling paper. The experiment showed that people in a negative mood reported greater recycling intentions when exposed to the negative consequence frame (vs. a desired benefit frame), and people in a positive mood reported greater recycling intentions when exposed to a positive benefit frame (vs. a negative consequence frame). The authors conducted further analysis to understand the cognitive processes underlying these differences. This analysis revealed that the thoughts of participants in the positive (vs. negative) mood condition were more abstract. Anghelcev and Sar (2014) contend that this is because positive mood induces global information processing while negative mood induces more local information processing. The researchers further assert that this evidence of underlying mechanisms enhances the ability to generalise the findings to other social marketing contexts, and that 'there is no theoretical reason to assume that the effects will not be noted… in the context of exposure to other types of social marketing messages (health, charity, volunteering etc.)' (p. 51).

Thomas et al.'s (2011) research on using cash versus credit cards to pay for unhealthy food purchases also provides some insight into the processes underlying consumer behaviour. After conducting a field study and finding that consumers purchase more unhealthy foods when paying with a credit card than when paying with cash, Thomas et al. (2011) conducted three lab experiments to explore the mechanisms underlying this behaviour. Results of three studies showed that consumers reduce purchases of unhealthy foods when paying with cash, and that the effect of cash payment is a not a result of thoughtful reasoning. Rather, their results suggest that consumers find it more painful to part with their cash than to make a credit card payment and that it is this 'pain of payment' that inhibits purchases of unhealthy foods. Furthermore, the researchers found that the more sensitive a consumer is to the pain of payment, the less likely they are to purchase unhealthy

foods when paying with cash. Thus, Thomas et al. (2011, p. 137) contend that 'together these studies implicate pain of payment as the mechanism that underlies the vice-regulation effect of cash payments.'

Conclusion

Social marketers strive to make a better world; they employ marketing strategies and techniques to encourage activities that yield healthier consumers, a healthier environment, and a healthier community (Kotler and Lee 2008). But the question remains, which strategies and techniques are most effective for achieving these goals? For example, under what conditions are consumers more apt to eat appropriate portions of food (Aydinoglu and Krishna 2010), follow recommendations of pro-environment advertising messages (Bhatnagar and McKay-Nesbitt 2016), or benefit from community-based housing programs (Collins et al. 2012)? Experimental research can assist in answering questions such as these because it is uniquely able to identify cause-and-effect relationships. Experimental research therefore is critically important to formative research in social marketing.

A cursory review of academic journals reveals that there is an abundance of research to inform the efforts of social marketers as they seek to enhance the wellbeing of consumers, the environment, and the community. All that is required is for social marketers to avail themselves of this vast body of research.

Key Internet Sources

Experimental Turk: A blog on social science experiments on Amazon Mechanical Turk: https://experimentalturk.wordpress.com/.

The National Social Marketing Centre: http://www.thensmc.com/. The National Social Marketing Centre provides research and evaluation services for social marketers.

Tools of Change: http://www.toolsofchange.com/en/case-studies/detail/181. Resources and case studies in social marketing, some of which have successfully used experimental research in their formative stages, can be found on this site.

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Visual Observation Techniques

Julia Carins

Abstract Most scholars agree that social marketing aims to understand individuals, groups and/or communities in order the devise strategies to change *behaviour*. Yet often the research underpinning this process fails to directly observe behaviour, instead relying on self-reports of behaviour. Visual observation techniques aim to do just this—observe behaviour as it happens, thereby providing a more accurate account of behaviour rather than one that is reliant on participant awareness of behaviour and behavioural influences; and also on participant ability to recall information in sufficient detail. Visual observation is used in many different ways as part of number of research traditions. This chapter focuses on techniques that provide data that is predominately quantitative in nature, via structured observation or systematic observation. In this process, observers capture details of behaviour(s) as they occur, as well as features of the surrounding physical or social environment, and interactions between individuals and these environments. This chapter profiles manual visual observation techniques from a number of disciplines, focusing on a variety of behaviours. These examples and the accompanying discussion demonstrate the value of visual observation, and indicate how visual observation may be used in social marketing formative research.

Introduction

> What you do is what matters, not what you think, or say or plan
> (Fried and Hansson 2010, p. 38).

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Social marketing is, ultimately, concerned with behaviour. Depending on the issue being addressed, programs may aim to induce new behaviour, encourage adaptation of behaviour, promote substitution behaviour, cease existing behaviour, or prevent the uptake of certain behaviour. Individuals who are the focus of these efforts may learn (increase knowledge), may positively view behaving differently (change attitude), may make plans to behave in another way (change intentions), but unless individuals *behave* differently the social issue does not lessen, and the positive individual or societal benefits do not result.

There is nothing earthshattering about this concept—early definitions of social marketing referred to influencing behaviours or practices for individual or societal benefit (Kotler and Roberto 1989; Andreasen 1994) and consensus has been reached within the social marketing community that 'social marketing seeks to… influence behaviour that benefits individuals and communities for the greater social good' (iSMA et al. 2013). Yet concerns have been expressed that social marketing efforts are often not assessed in terms of behavioural change, but rather in terms of perceptions and attitudes (Geller 2002; Truong 2014), and most often through self-reports rather than direct observations of behaviour (Truong 2014). When social marketing programs are evaluated via this approach, positive changes to knowledge, perceptions and/or and attitudes may be detected—which may not have manifested as behaviour change; or self-reports may indicate behaviour change—which are not reflective of actual behaviour change.

What about formative research then? If social marketers are ultimately concerned with changing behaviour, how should they approach formative research? One of the features that distinguishes social marketing from many other approaches to social change is the strong focus on developing consumer orientation, or a robust understanding of the people involved and why they engage in certain behaviours (Grier and Bryant 2005; French et al. 2010) prior to the development of change strategies. Formative research (or audience research, or consumer research) is the mechanism by which this consumer understanding is developed and pursues knowledge of what moves and motivates consumers to behave, and of what influences behaviour (Grier and Bryant 2005; French et al. 2010; Lefebvre 2013). It seems logical then, that a social marketer would want to examine the behaviour relevant to the issue being addressed alongside the gathering of knowledge about all of the likely factors that lead to that behaviour. Visual observations of behaviour provide an opportunity to examine behaviour directly, and while they do not shed light on the reasons for the behaviour, they allow for a more accurate account of behaviour as it occurs in a natural setting. Surprisingly, social marketing formative research does not often include observations of behaviour, instead relying on self-reports of behaviour, and introspection (by the individuals being surveyed or questioned) as to what drives their behaviour. For example, recent reviews of social marketing show behavioural observation is rare—in the context of problem alcohol use, only two of 23 studies observed behaviour during the formative research stage (Kubacki et al. 2015), and in the nutrition space, only one of the 27 studies included observation (Carins and Rundle-Thiele 2014). So, should social marketers be observing behaviour?

Not so long ago an article with a provocative title (*Psychology as the Science of Self-Reports and Finger Movements: Whatever Happened to Actual Behavior?*) lamented the absence of direct observation of behaviour in the psychology domain (Baumeister et al. 2007). The authors observed that although psychology is considered a scientific study of *behaviour*, which aims to describe and explain what people *do*, reviews show most studies use self-report questionnaires, or measure individual reaction times of individuals sitting in front of a laboratory computer rather than directly observing behaviour (Baumeister et al. 2007). The same can be said for many subfields of psychology (Patterson 2008; Furr 2009; Patterson et al. 2011), and indeed for social marketing (Geller 2002; Truong 2014). These methods may be appropriate for some situations, and do yield interesting and important findings; the concern, however, is that the findings are limited to what behavioural influences the individual is aware of and can articulate; and what behaviours individuals can recall or are willing to report. When researchers expect more than this from questionnaires, interviews, focus groups or other self-report techniques, in essence they are asking participants to 'tell more than they can know' (Nisbett and Wilson 1977). Individuals may be aware of and able to articulate their internal motivation to behave, but not their automatic responses to environmental stimuli; and while they may be able to articulate an account of their past behaviour, this account may be distorted by inability to recall, or a tendency to portray a positive self-image. Perhaps we should be paying attention to the call from psychology (Lewandowski and Strohmetz 2009), and also from social marketing (Truong 2014), to include direct observations of behaviour, combined with other methods, in order to form a richer understanding of the behaviour under examination. This richer understanding then helps to develop consumer orientation during formative research.

What Is Meant by 'Observation' of Behaviour?

Behavioural observation encompasses a very diverse set of methods emanating from a variety of research perspectives. If we consider data collection in its simplest form, we can break it down into two types—communication and observation. Communication is when researchers ask participants to provide the data, for example during interviews or with surveys; alternatively, observation does not require researchers to ask participants, rather the data is gathered by researchers through visual or technological means (Lee and Broderick 2007). This could be a researcher sitting and watching and taking notes, or using a camera to take photographs or video footage, or a computer recording behaviour (such as purchases in a supermarket, or journeys on public transport). The key distinction is that observational methods allow behaviour to be observed *directly*, whereas methods that rely on communication only allow behaviour to be *inferred* from what participants say or write (Bryman and Bell 2015).

The advantage of observation is that it eliminates biases common to all self-report methods—misinterpretation of question meaning; problems of omission

or the inability to recall; effects of social desirability or distortion of responses to ensure the self is viewed favourably; reaction to questions or reaction to the interviewer; and a gap between what the respondent claims he/she has done, and their actual behaviour (Bryman and Bell 2015). Observing, or watching what individuals do removes many of these issues, and can give a more accurate assessment of, for example, how common a particular behaviour is, where and when it is likely to occur, and which contextual factors coincide with the behaviour. Much of human behaviour occurs subconsciously, or automatically (Bargh and Chartrand 1999), with individuals either unaware of the influence that the environment has on behaviour, or overconfident of their immunity to such influences (Bargh 2002). Self-report methods ask participants to report behaviours that may have occurred automatically—in other words to consciously report subconscious behaviour—and in many cases individuals will provide a report they believe is correct when it may not be (Carvalho and Mazzon 2013). Therefore, observing behaviour in natural settings helps to capture a more accurate version of events.

As acknowledged above, observation techniques emanate from a wide variety of research perspectives, from the immersed researcher conducting observations as part of a qualitative ethnographic study to explore the symbolic meanings a group may ascribe to their experiences, through to the covert observer conducting a quantitative study counting the incidence of a particular action in a public space. For the purposes of this chapter, the focus is visual observational techniques that provide data which is predominately quantitative in nature, via techniques that are commonly known as structured observation or systematic observation. Mechanical observation techniques also capture a more objective account of behaviour, alleviating the issues common to self-report methods, and are quantitative, structured or systematic in nature. During mechanical observation, data is often collected via technological means, without the need for a human observer to be present; these techniques are covered in detail in Chapter "Mechanical Observation Research in Social Marketing and Beyond" of this book.

In some research, it may be very obvious what needs to be observed; for example, when developing messages to encourage people to use stairs rather than escalators to increase incidental activity, it seems logical to consider direct observation of the incidence of stair and escalator use in settings of interest (Kerr et al. 2001). But depending on the behaviour of interest, there are many aspects of behaviour that can be observed and quantified in a reliable and meaningful manner. Most advocate conducting unstructured observation sessions to determine what elements are important and relevant, and what feasibly can be captured, to assist with the development of templates for structured observation (Crowther and Lancaster 2012). During an unstructured session, the researcher spends time observing and records or makes notes on all aspects of the behaviour, including relevant details of the setting, the participants (or individuals) and any interactions. The data from one of more unstructured sessions is then used to design a structured template to systematically capture data in a series of structured observation sessions. The template, or protocol, specifies in detail how the observation will be approached, and what will be observed, so the researcher can be confident the data is being collected in a consistent

way across multiple observation sessions conducted by one or more researchers. Therefore the protocol will stipulate how long each observation session will last (e.g. 1 h), what behaviours are to be recorded (e.g. stair use and escalator use), what qualifies as a particular behaviour (e.g. one count of stair use is when an individual goes up or down the stairs; one count of escalator use is when an individual goes up or down the escalator), and who will be observed (e.g. at the beginning of the session the first individual entering southern door of the shopping centre will be watched until they go up the stairs [count 1 stairs], up the escalator [count 1 escalator] or remain on the same level but move out of view [count 1 neither]).

Recording the incidence of behaviour (as in the stair/escalator example) is just one example of what may be captured during a structured observation session. Depending on the social issue being researched, there are a number of dimensions of behaviour that can be observed, and could be considered worthy of measurement (Lewandowski and Strohmetz 2009; Yoder and Symons 2010; Suen and Ary 2014). Table 1 gives six dimensions of behaviour—presence, frequency, duration, pattern, process and interaction—and provides examples demonstrating the measurement of that behavioural dimension within the context of a health or social issue. Reflecting on each of these dimensions of behaviour with the research objectives in mind may help social marketers determine what to capture during a structured observation study.

The first dimension—presence—records whether an individual engages in a behaviour, observing a number of individuals over a period of time. This type of observation essentially records whether an individual displays a behaviour (or not) during an observation session and helps to establish how prevalent a particular behaviour may be within a population or context. For example, Monaghan et al. (2012) used this type of observation to record how many citrus harvesters wore protective eye glasses during spontaneous visits to fruit groves. By visiting different groves at different times the researchers simply recorded whether each individual worker was using glasses or not. The findings were that few workers (<2 %) wore glasses even though most employers provided them. Other analyses explored some of the reasons why glasses were not used before designing and implementing a

Table 1 Dimensions of behaviour measurable by direct visual observation

Dimension	Type	Examples
Presence	Occurrence	Eye protection worn or not
Frequency	Repetition	Number of alcoholic drinks purchased in a drinking session
Time	Duration	Time spent washing hand
Pattern	Related behaviours	Number and type of food options selected
Process	Path/sequence	Pedestrian route and activities when walking from station to home
Interaction	Human/environment	Physical activity types occurring in a variety of outdoor spaces
	Human/human	Aggressive acts occurring in varying crowded conditions in nightclubs

program to increase usage of protective eyewear in order to decrease eye injuries during citrus harvesting.

The next dimension—frequency—is concerned with repetition of a behaviour by an individual during an observation session, and is instrumental when the repetition of a behaviour cumulatively creates a health or social issue, rather than a single instance of a behaviour. Rundle-Thiele (2009) used this approach to observe alcohol consumption in licenced premises. Using a detailed protocol observers manually recorded details of the setting (a diagram or photo), and then recorded details of each drinking episode. Guidance was given to observers on what constitutes an episode—individuals were visually tracked from the time they entered an establishment until the time they left, with observers recording each time they ordered a drink, what type of drink they ordered, and a number of other contextual factors (e.g. whether the individual was alone or in a group, whether they also drank water or ate a meal). This data was then used to calculate the number of standard drinks consumed during the session, enabling comparison with guidelines for safe alcohol consumption. The study found one third of people consumed alcohol at risky levels, considerably more than had been found through survey techniques; and also uncovered factors that were associated with increased consumption (buying drinks in rounds or shouts).

Another dimension of behaviour—time—can be an important aspect to measure, particularly the length of time an individual engages in the behaviour (duration). Duration of behaviour is of interest to researchers when the beneficial or detrimental effect is only realised when the behaviour is performed for a length of time. Garus-Pakowska et al. (2013) observed hand washing behaviours in a hospital context to determine whether physicians and nurses adhered to hand washing recommendations for the prevention of disease transmission. The protocol for this study involved accompanying a member of the medical staff and recording all tasks performed by the personnel during 1 h. Staff members were not informed of the purpose of the study. A definition of hand washing was provided, and researchers had a stopwatch to enable the duration of events to be noted. Researchers observed whether or not hand washing occurred, the length of time spent washing hands, and if alternatives (for example surgical gloves) were employed when hand washing was not performed. They found medical personnel adhered to procedures on only 5.2 % of occasions, and that the average time spent washing hands, by physicians (8.5 s), and by nurses (6.6 s), was well below the 30 s recommended by World Health Organization and Centers for Disease Control and Prevention.

Patterns of behaviour can also be of interest to social marketing researchers, in particular when a number of related behaviours indicates a pattern that may contribute to a social issue. A pertinent example of this is dietary behaviour, where discrete food choice decisions by an individual combine to create patterns, which over time may contribute to health issues. Bernardo et al. (2015) used observation to explore dietary diversity, which is associated with nutritional adequacy and diet quality. Dietary diversity is not indicated in many dietary studies which examine individual macro- and micro-nutrient intake and then compare those to dietary guidelines. The Bernardo et al. (2015) study took place in a buffet-by-weight self-service restaurant, where diners choose from a large number of dishes, weigh

their plate at the end of selection, and pay according to the weight of the food they have chosen. Bernardo et al. collected data from 678 diners after they had finished making selections, approaching diners systematically after a random start, at the moment they finished weighing their plate of food. One researcher would photograph the food, while another administered a brief socio-demographic questionnaire. Researchers then identified the dishes on each plate, classifying them into groups according to WHO and national government criteria, and applying a healthy dietary diversity scoring system devised by consensus group prior to the study. This allowed them to determine which meals contained selections covering more (or less) of the recommended food types. Their study found that although the buffet provided a great variety of healthy dishes, many diners obtained a low score indicating one or more of the recommended food groups was missing.

For some research projects, the path taken to reach a particular outcome, or the sequence of activities involved in an undertaking are important aspects to investigate, and are particularly suited to behavioural observation. Increasing the walkability of urban neighbourhoods increases the liveability of suburbs, can reduce traffic and provide more opportunities for physical activity. Kim (2015) observed 139 pedestrian journeys from train station to final destination to explore walking behaviour. The protocol for this study involved following pedestrians (at a distance so as not to be noticed) from the train station until their final destination—which was defined as a home, or a location in which they stayed for longer than 20 min (at which time the observation ended). Kim mapped the route taken, walking speed, distance and activities engaged in during the journey. Current design guidelines focus on a maximum walking distance to and from transit stations (400 m), and the provision of adequate footpaths to encourage walking; Kim's observations, however, show that pedestrians often walk much further, often not taking the shortest or fastest route even when going directly home. Rather they take main streets, or they stop at shops or cafes, engage with others socially (stop and chat) or utilise street furniture (sit on a park bench for a period of time). These observations present an alternative view of walking behaviour to and from transit stations, providing urban planners with ideas how they might further support walking as a part of public transit strategy.

Ecological models of health behaviour illustrate the multiple levels of influence on behaviour, many of which are found in the social and physical environments that surround individuals (Sallis et al. 2008). Individuals are often not aware of these influences and consequently, cannot articulate them (Berkman and Lieberman 2011). Therefore the interaction between individuals and these contextual elements is another dimension of behaviour that can be captured during visual observation. Firstly, by capturing the features of physical environment, and the behaviour that occurs in proximity to those features, researchers can examine patterns of association between the two. Child et al. (2014) visually observed over 16,000 San Diego public park patrons, noting both the level of physical activity patrons were engaged in (low, medium or high), the type of park area (e.g. paths, courts, playing fields, pools) and other environmental features of those areas including whether the areas were open, in good working order, were supervised and offered organised activities. Their protocol used momentary time sampling where observers scanned a target

area and recorded data on each individual present, and the area context. Each target area was visited on four occasions during an observation day, with observers making systematic scans, recording gender, age group, and physical activity level of each person present; as well as characteristics of both the target area and the activities being performed in that area. They found patrons had higher average physical activity levels in pools and fitness rooms—those areas that were least accessible due to set opening hours; and lower physical activity in leisure areas, soccer and baseball fields—the areas that occupied the most space. These findings are important in the context of managing and staffing public facilities, and may be useful to determine which facilities to develop in neighbourhoods where public parks provide the majority of opportunities for physical activity.

Secondly, the interaction between people (human to human interaction) can be an important research focus for some social issues—for example, when the question is not solely whether the behaviour occurs or not, but rather what are some of the social factors that may trigger that type of behaviour. Townsley and Grimshaw (2013) used visual observation techniques in nightclubs to investigate aggression and violence. Their protocol involved pairs of trained observers conducting observations for 2 h at a time in various nightclubs, with each site being visited numerous times. Observers did not carry recording equipment, but made discrete notes of some details in their mobile phones. Immediately following the session, they completed the observation instrument separately, recording all measures of aggression or violence; as well as measures of crowding, queueing and other social variables such as the level of noise from music and voices, sexual activity, contact, competition and permissiveness. Individual accounts from each pair were compared, finding high inter-rater reliability between pairs. The results of their study indicated that crowding has an impact on the frequency of aggression, even after taking into account other major variables (such as the level of noise from music and voices, intoxication, sexual activity, contact, competition and permissiveness).

Case Study (Carins et al. 2016)

This observational study focuses on the food selections made by military personnel within a buffet-style dining room. The study was part of a formative research study ahead of a social marketing intervention to encourage healthy food choices by personnel, to reduce the likelihood of deterioration of health or performance due to regular consumption of a poor diet.

Background

Military personnel have good reasons to consume a healthful diet—it enables them to develop and maintain a high level of physical and mental performance (Deuster et al. 2009; Montain et al. 2010), and it reduces the risk of health problems such as

(but not limited to) diabetes, cardiovascular diseases, hypertension, stroke and some types of cancer (World Health Organization 2003). Despite strong incentives to eat well, studies show many military personnel eat poorly (Skiller et al. 2005; Forbes-Ewan et al. 2008; Barlas et al. 2013). As a result, obesity levels within the military mirror those of the general population in many countries (Fear et al. 2011; Cawley and Maclean 2012; Peake et al. 2012).

The main focus of eating behaviour research conducted with military populations has focused on other areas—for example, investigating why personnel do not consume the packaged food items they are provided during field situations such as training exercises and combat situations (Marriott 1995; Hirsch et al. 2005; Jaeger and Cardello 2007; Carins and Tennant 2011) which, in turn, lead to energy deficits or critical nutrient shortages. Little is known about why military personnel make the food choices they do when able to freely access an array of foods, for example when based at home (Jallinoja et al. 2011). Therefore, in order to improve the healthfulness of food choices by military personnel it is important to investigate food selection or food choice behaviour in this context.

Rationale for Observations

Visual observation of behaviour was considered to be a worthy addition to the methods used to explore this context. Self-reporting of food consumption is subject to social desirability issues—especially when participants are aware of the importance of eating healthfully or the consequences (Barros et al. 2003; Hebert et al. 2008). Therefore self-reporting of dietary behaviour may not have produced an accurate portrayal of actual behaviour. Also eating behaviour is also known to be highly automated (Cohen and Farley 2008), and there is a risk that self-report methods may be asking participants to articulate behaviours that they are not fully aware of, or to nominate causes for their behaviour that do not reach the level of full consciousness (Boote and Mathews 1999). So, in addition to interviewing participants to discuss eating behaviour, and examining the food environment for opportunities and barriers to healthful eating, this study observed military personnel selecting foods to comprise their midday or evening meals.

Methods

The aim of this observational study was to examine patterns of food selection by military personnel dining at the military dining facility. Initial visits to the facility enabled researchers to familiarise themselves with the layout and devise a strategy to systematically capture data that was meaningful and feasible given the features and dynamics of that particular environment. The dining room operated a buffet, where diners paid upon entry, and then selected from a range of dishes to compose

a meal. Reflecting on the goals of the project, the behaviour of interest was *selection of healthful food items* (or not). So this study was concerned with recording the presence or absence of a particular behaviour, in particular, the number of healthful choices made by individuals dining in that facility; as well as pattern of dish choices that make a meal.

Two visual observation techniques were used collect data on food selection: a photographic method, and a manual data collection method. The photographic method involved a researcher intercepting diners when they had finished their food selection, and asking whether a photograph could be taken of their meal. The protocol for this process was quite straightforward—at the beginning of the session, the photographer would position themselves close to end of the food selection area, and choose a diner at random to approach and request a photograph of their meal. A photograph of the plate was then taken from above to capture as much of the food as possible, and once taken, the photographer would return to their starting position and repeat the process until the observation session was complete (1 h). This method allowed quantification of *individual food selections*.

The manual method involved up to eight observers positioned around the dining room, near to each of the food counters. This method required a more detailed protocol to ensure all eight observers approached the task in a consistent manner, and to allow for the often fast-paced tempo of the dining room. A recording sheet with a schematic diagram of a food counter was given to each observer, who, prior to the commencement of the meal noted all of the dishes that were available in the food counter they were viewing. Observers were instructed to note the dishes on the schematic in the same order (left to right) as they appeared from the observers viewing position, to facilitate the process of data collection. Once the meal commenced, observers recorded each time a diner made a selection from any of those dishes in the space provided below the schematic in simple count form—one count for each selection made. This method allowed quantification of *aggregate selections from each food dish*.

After the meal, a list of items available for that meal were compiled allowing each photograph to be examined, and each selection on the plate identified using the list of items available for that meal. The list of available items was also assessed against a classification scheme derived from the Australian Dietary Guidelines, which classifies each food as *most healthful (green)*, *moderately healthful (orange)* and *least healthful (red)*. Once all individual selections were identified from the photographs, the selections were matched to the item classifications resulting in a data set containing the number of *most healthful (green)*, *moderately healthful (orange)* and *least healthful (red)* selections made by each diner.

Whilst the primary data source was the individual plate photographs which enabled quantification of individual food selection; the manual recording of aggregate food selections provided a complimentary data set to verify that the patterns observed on individual plates were reflective of those occurring in the entire dining room during any given meal. To do this, the aggregate data set (the number of selections from each dish as recorded by observers in the room) was compared with the individual data set (the sum of individual selections for that dish

as captured in the plate photography). The relationship between the two data sets was assessed using Spearman's rank-order correlation, with strong positive correlations seen between the two data sets.

Dual Insights

Analysis of the data provided insights into the food selection behaviour of military personnel within the dining facility. The photographic data allowed analysis of what foods individual diners choose to combine on a plate to make up a meal. The data indicated that, on average, half of the selections made by diners were *most healthful* (green) and the other half were a combination of *moderately healthful* (orange) and *least healthful* (red) dishes. Further examination revealed that main dish selections tended to be red whereas side dishes were mainly green, with some orange and red selections. The choices made available to diners were not balanced across the categories—this was a real world environment, not one constructed to examine food selection under neutral or balanced conditions. During each meal a mix of dishes from the three categories of healthfulness was presented, but main dishes were predominantly red and side dishes were predominantly green. When individual selections were compared to the options available, main dish selections were found to be closely aligned with that made available by the catering staff. Whereas for side dishes, diners chose significantly more red and green dishes than the proportions made available by the caterers, indicating a preference for those dishes.

While quantification of behaviour was the focus of this study, some descriptive or qualitative data was also obtained. Traffic flow through the dining room was observed and found to be predictable and fast moving. Diners would pay on entry, walk directly to the hot food counters, select one main dish, and then move to the hot vegetable, salad, sandwich, or fruit counters, where they would select as many side dishes as they desired. After filling their plate, each diner would choose somewhere to sit and consume their meal, often very quickly (for example, one diner was observed to enter, select a meal, consume it, and leave in less than 15 min). At times, small groups would sit and chat after eating, remaining in the dining room for a longer period of time. Observers noted that fruit and dessert items were often selected after consuming what was on the plate, and were often taken with diners as they left the dining facility.

How This Extended Research Practice

This observation study was just one part of a larger research project investigating military eating behaviour. Findings from qualitative analysis of interviews had indicated that military personnel were motivated to eat healthfully, and that they need to eat well to perform their roles (Carins and Rundle-Thiele 2013). Therefore,

this study provided an objective assessment of food selection behaviour, rather than a subjective account of food selection that may have been biased by a desire to report behaviour that matched personal intentions, or the expectations of others. This study also provided an opportunity to examine the process of food selection within the dining room layout, indicating that the time spent making food selections was very short, and that diners were conditioned to follow a particular path, habitualising the meal selection process. These findings suggested that food selection behaviour involved very little mental effort; and that the way personnel interacted with elements of the dining room could influence food selection. Self-report methods cannot tap into processes that individuals are not aware of, and people are generally not aware of the impact their surroundings have on their behaviour (Berkman and Lieberman 2011).

Key Considerations

Direct observation of behaviour offers a number of advantages over self-report methods, as outlined in the early part of this chapter, however every method presents its own challenges, and as such, there are a number of key things to consider when planning observations. These will ensure the method is rigorous, and that it produces valid and reliable data to inform the objectives of the research project, bearing in mind any limitations of the technique.

There are four main issues—validity, reliability, feasibility and potential biases—to bear in mind when planning and conducting structured observations. Many of these issues are addressed during the preparation of an observation schedule or protocol, which tightly defines where the observation will take place; who will be observed; what actions and features are to be recorded; and for how long each observation will run (Suen and Ary 2014). In any observational setting there will be many things happening at any given time—many individual actions, amongst many contextual elements, not all of which will represent the behaviour in focus or may be relevant to the research at hand.

By creating definitions of each behavioural act to be recorded and reflecting on each to ensure they represent, the behaviour in focus ensures that the observation technique measures what it claims to measure—and helps to establish validity. For example, in a study of active travel to school observers may record ‘walking’, ‘cycling’, or ‘scootering’ (examples of active travel) and ‘arrival by car’ (not active travel).

The technique must also be reliable—the same type of events must be recorded in the same way by the same observer over time, or by different observers at different times. In essence, observers must agree on what a particular behaviour is, be able to recognise it, and record it consistently (Zikmund et al. 2012). This also applies to social and environmental features, for example in an alcohol consumption study, definitions of ‘alone’, ‘in a group’, or ‘low lighting’ and ‘crowded’ need to be defined and consistently recognised and recorded. The approach to conducting

observations must also be detailed in the protocol: will each individual entering a setting be observed and tracked until they leave, or will all activities within a zone be recorded for a set period of time?

Conducting observations in some settings can be quite challenging, and protocols need to take this into account. Parts of a setting may be obscured by people or obstacles, or the pace of actions may endanger the accurate recording of details. Pilot testing of an observation schedule will test the feasibility, and allow for redesign to ensure accuracy. In a busy quick service restaurant, for example, it may not be possible to capture the actions of every diner; instead observers may choose the third person who walks in the door, recording all of their actions until they have finished making selections, and then switch focus back to the door to identify the next individual and repeat the process. Vantage points may need to be carefully selected to ensure all actions and details can be viewed and recorded. Even when a protocol has been developed and tested to ensure the possibility of recording all of the important aspects relevant to the study, visual observation can be very time consuming and labour intensive; therefore solid preparation and planning is required to ensure the available resources are used effectively and efficiently.

Finally, although direct observation removes biases inherent to self-report methods, there are potential biases associated with direct observation techniques. Firstly there is the issue of subjectivity, or interpretation of events on the part of the observer(s). This can be minimised through the creation of strong definitions and protocols for implementing the observation sessions, removing any doubt as to what is a recordable event. The second is reactivity on the part of the persons being observed—where those being observed modify their behaviour because they know they are being watched. In some studies the potential for reactivity is low, as observers can record events without being noticed, but in other studies the observer is quite obvious, and there is the chance that in response, subjects may modify their behaviour.

Conclusion

Social marketing aims to influence the behaviour of particular groups of people in order to make a positive difference for individuals or society. Formative research is the process by which social marketers gain a deep understanding of the people they are working with, using this understanding to inform the development of strategies to initiate behaviour change. Visual observation of behaviour in the formative research stages provides the opportunity to examine behaviour directly, thereby removing the effect of biases inherent to self-report methods. Observation of behaviour is suited to situations where the behaviour is easily observable, for behaviours that occur subconsciously, for behaviour that participants are reluctant to admit to, or for behaviour that is heavily influenced by the surroundings (Boote and Mathews 1999; Bargh 2002). Careful planning and preparation for observations ensures that issues of validity, reliability, feasibility are addressed, and potential

biases mitigated as far as possible. Observations can provide a very accurate portrayal of behaviour, and capture important aspects of behaviour not accessed through other methods. However, it cannot provide a motive for behaviour, or an account of the thought processes or emotions involved during the enactment of behaviour (Baumeister et al. 2007), which would require the triangulation of observation with other methods (Lewandowski and Strohmetz 2009). Conducting visual observations places researchers in the box seat to examine behaviour and is a valuable contribution to the social marketer's toolbox, assisting to form a deeper understanding of consumers during the formative research stage.

Key Internet Sources

https://www.sheffield.ac.uk/lets/strategy/resources/evaluate/general/methods-collection/observation.

https://www.oupcanada.com/higher_education/companion/psychology/9780199005598/student_resources/ssg_chapter_07.html.

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Mechanical Observation Research in Social Marketing and Beyond

Svetlana Bogomolova

Abstract Observation is a unique method of collecting factual information about consumer behaviours and behaviour change in the real world. The objective and unobtrusive nature of observation makes it perfect for a social marketing enquiry because it overcomes problems common to other techniques, such as memory lapse and social desirability bias in self-reports. Observations can play a part at a formative stage or be the core outcome measure in an evaluation with pre- and post-data collections. Observation data can be collected, coded, and analysed both qualitatively and quantitatively. Both traditions have been successfully used in social marketing studies and other disciplines. This chapter focuses on mechanical observations, which tend to produce quantitative data, offering researchers the ability to develop numerical benchmarks and observe trends in consumer behaviour and changes over time. In mechanical observations, data collection takes advantage of technological innovations in audio, video, biometric, item, and digital signature recording, allowing for even more objective, precise, and potentially less labour intensive and costly observations. These advancements should help to increase popularity of mechanical observation techniques among social marketers. This chapter summarises the main types of mechanical observation techniques and offers illustrations from prior studies in social marketing, commercial marketing, and allied disciplines, including nutrition, human movement, urban design, and transportation. Innovations in mechanical observations across these contexts are a useful source of research techniques for social marketing and cross-disciplinary studies aimed at improving the wellbeing of individual consumers and society as a whole.

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_8

Why Observation Research is Critical for Social Marketing

In the last decade, observation research finally began receiving the attention it deserves in the academic literature. *Qualitative Market Research: An International Journal* devoted two special issues to observation research in 2007 and 2011. In the 2007 issue, the guest editors, Lee and Broderick (2007), expanded the traditional scope and definition of observation research to include 'any research which collects empirical data not by questioning respondents, but by observing behaviour and/or other forms of activity' (p. 125). The new definition promoted wider use of observation techniques across multiple applications in marketing and its satellite disciplines, such as social marketing.

The proposed definition highlighted the particularly unique quality of observation research compared to any other method of data collection: its non-reliance on respondents' self-reporting their behaviours. This quality has been deemed critical for bridging the gap between claimed and actual behaviour (Rundle-Thiele 2009), an issue in current social marketing research (Rundle-Thiele et al. 2013).

To explore the importance of social marketing research not relying on respondents' self-reports, it is easier to look at problems that other methods of data collection bring to social marketing data. Echoing a discussion in Chapter "Visual Observation Techniques", we bring reader's attention to some areas of concern that could reduce reliability of self-reported data. Firstly, many of the behaviours social marketing is trying to change are very habitual, for example, food choices, daily physical activity and smoking. The mundane nature of these behaviours makes it very hard for consumers to notice, and then recall the details of those behaviours. Then, a common problem in consumer responses to questionnaires and surveys is social desirability bias (Lee and Sargeant 2011; Norwood and Lusk 2011). This bias is particularly relevant to social marketing studies, in which most behaviours of interest are either socially approved or socially undesirable. It is important to note that the mode of data collection (face-to-face, telephone, or self-completion of an online or mail survey will affect the degree of the social desirability bias, with face-to-face being the most biased (Duffy et al. 2005). However, regardless of the data collection method, social desirability bias will affect data collection for reporting socially desirable or undesirable behaviours.

Using observation techniques can overcome all the problems of self-reports by not relying on consumer participation in the data collection. Another unique aspect of observation research is that it allows documentation and description of the behaviour, the actors and influencers, the skills used or lacking, and the behaviour sequence (McKenzie-Mohr 2000). This level of detail particularly suits research of habitual behaviours. Observation is also useful for evaluating behavioural compliance, particularly of interventions in which people are asked to learn and maintain new skills. A good example is a food safety and food-handling skills study that observed consumers cooking with raw chicken (Redmond et al. 2006).

Finally, observations allow for capturing non-verbal data (such as through photo and video). This is an advantage because not all phenomena of interest to social

marketers can be articulated in words. Similarly, not all target groups are able to put into words their feelings. A good example is observation of how preschool children learn about, interact with, and try new foods (Johnson et al. 2007).

Mechanical Observation Research

The rest of the chapter is devoted to research on mechanical observation. We define *mechanical observation* as any observation that uses some form of technology for data collection and recording. This scope includes two broad categories of projects:

- Collection and analysis of primary data, when collection is initiated for research purposes;
- Re-analysis of secondary data usually collected on an ongoing basis for other than research purposes.

Examples of the first type include using audio, video, and IP-tracking equipment to record specific behaviours at a point in time, such as biometric and psycho-physiological measures. The second group could include using ongoing data collection techniques, such as supermarket check-out transaction data, Bluetooth tracking of unique IP addresses, and internet IP addresses logs collected by organisations usually for other purposes than the research.

There are several main advantages of mechanical observation. Firstly, the data are collected with no ongoing involvement or presence of a human observer. This aspect of data collection reduces researcher bias (when the mere presence of a researcher can alter the behaviour), removes possible human error, selective attention, and subjectivity in interpreting the behaviour. The lack of need for human observers makes the data collection much more affordable, being less labour intensive. And, higher affordability and less human errors potentially deliver more data spanning multiple sites, even countries, multiple days, months, and years, delivering large samples. Large scope and volume of data improve the external validity of observations. That is, more conditions and circumstances can be captured in the data than would be possible if the data were collected manually—usually limited to capturing a one-off event or a very short period of time. Such a large amount of data allows for developing new knowledge about how the phenomenon of study changes over a lengthy period and across different conditions. A good example is road-traffic observation research, which pioneered many observation techniques later adopted by other disciplines. Traffic movement, congestions, jams, incidents at peak as opposed to off-peak hours, or during week days as opposed to weekends or public holidays are examples of information gathered through mechanical observation research.

Advancements in the field of big data science have made it possible for researchers to aggregate, analyse, visualise, and make sense of a great volume of data collected by mechanical observations. Even purposefully designed primary

data observation techniques, such as during a functional magnetic resonance imaging (fMRI) or an eye tracking study, on a reasonably small sample of research participants, would still deliver a huge volume of second-by-second or even frame-by-frame observations. These data sets would also need strong big-data analysis or advanced analytical software designed for the specific purpose.

Mechanical Observation Tools

This section offers an overview of the modern mechanical observation techniques currently available for researching behaviours of interest to social marketers. We focus on three key behaviours: (1) *food choices and diet*, (2) *physical activity* and (3) *exposure to, awareness of, or interest in a mass social-marketing or advertising campaign*.

Owing to the nature of these behaviours, the chapter goes beyond the boundaries of social marketing discipline and provides examples of studies from other disciplines. The purpose of the chapter is to inform social marketers of a portfolio of techniques and applications that could be useful in a social marketing enquiry. The reader is directed to the original studies for more details of how each method was used and applied in a particular context. Other disciplines do not necessarily refer to these methods as *observation*, yet their nature and non-reliance on participant reporting is in line with the Lee and Broderick (2007) definition adopted in this chapter.

The observation techniques described can be collected on a population or an organisational level (e.g. when a hospital or a cafeteria is the unit of analysis) or on an individual level (when the unit of analysis is a study participant or a consumer). The section below addresses both levels of reporting because they offer different perspectives on the same phenomenon.

Population-Level Observations

Table 1 shows possible use of mechanical observations on a population level, that is, data that describes overall population trends and statistics rather than choices of individual consumers. Although the data collection often can be traced to a single household in these metrics, the large representative coverage of data is of particular importance. Most of these techniques use ongoing or large syndicated data collection processes or secondary data sources.

Table 1 Summary of population measures using mechanical observations

		Food choices and diet	Physical activity	SM campaign exposure, awareness, interest
Purchase	Loyalty card data, scanner research panel	Food purchases over time	Equipment purchases over time	–
	Retail transaction logs	Food demand	Equipment demand	–
	Health fund, insurance claims records	Food purchases	Equipment and services purchase	–
Traffic and movement	CCTV	Choice and process	Activity participation	–
	People counters	Retailer and facilities patronage	Facilities use, traffic, direction	Traffic as a metric for exposure; traffic direction (eye-balls on bill boards)
	Bluetooth and Wifi tracking	Attendance, activity duration, traffic as metric for exposure		
Media consumption	TV viewing, radio	Exposure, interests		
	Web-site visitations, keywords search	Web-site visitation, search		

Purchase Observations

The first group of mechanical observation techniques represents various ongoing records of real-life purchases. Studies in commercial marketing have been using two types of data. The first is loyalty card data, which are collected when consumers or households join reward programs by signing up with retailers or a group of retailers. Each time a consumer swipes the loyalty card during a transaction, a record is made concerning that household or consumer ID. The more businesses and retailers involved in such a loyalty network, the richer the data coverage of cross-retailer purchases. The particular advantage of this data source is that it objectively records what was purchased (including such details as item description, price, place of purchase, quantity, other items purchased in the same transaction, and trends in purchases over time). This information could be of great value for social marketers in projects about food choices and dietary changes, purchase of fitness equipment, and sporting gear. Another positive element of this data source is that it requires limited effort on behalf of consumers to create the data, hence avoiding all memory and self-report bias problems noted earlier.

The known limitation of this data source is that compliance rate (swiping the card each time) tends to be quite low (informally estimated at 20 % by the supermarket industry) and the data only indicate purchases at retailers participating in a particular loyalty scheme. Purchases made at other non-participating retailers

are not captured in the data. This limitation could be a problem for studies aimed at describing the whole diet or lifestyle of a consumer. Similarly, concerning food choices, such data do not capture choices made when eating out, an important part of calorie intake. Another issue is that the data usually apply to a household, so it is unclear which member of the family purchased which item. The industry is currently working on launching individual cards for each family member. A study in Australia used a loyalty card scheme to run a randomised controlled trial with real purchases as outcomes testing the effect of skill-building, price discount, and a combination of both on fruit and vegetable purchases (Ball et al. 2015).

To overcome the issue of limited retailer coverage in loyalty card schemes, another ongoing purchase recording technique—scanner research panel—in theory, should cover all retailers patronised by a household. A research panel consists of a pre-recruited group of consumers who are reimbursed on an ongoing basis for scanning (with a hand-held device at home, similar to that at supermarket checkout) all their purchases. Panel members also submit store receipts and regularly fill in extensive questionnaires. These panels are large, hence, expensive to maintain, and so could only be managed by large syndicated research companies, such as TNS or IRI. While the intent of these panels is to be representative of the population based on core demographic characteristics, the self-selection bias of households who do join could raise concerns regarding their true representativeness of normal consumers. Importantly, the data are collected for the paying commercial clients and their products, so social marketing research questions might not fit the secondary data collected by such syndicates or the sample size of people captured in the panel might not display the behaviour of interest to social marketers. The most likely use of panel data for social marketing projects would be analysis of food choices, especially in terms of decisions made in supermarkets. A good example of such a study is an analysis of consumer loyalty concerning regular as opposed to 'lite' (as claimed by manufacturers) brands (Sjostrom et al. 2014). The researchers used UK panel data to compare consumer purchases in such categories as colas, flavoured carbonated beverages, and margarines over a period of time. They found that 'lite' options had slightly higher repeat purchase loyalty. Another study using later data from the same panel found the same loyalty patterns even when researchers used the nutrient profiling model, a more objective categorisation of healthier as opposed to unhealthier alternatives (Anesbury et al. 2015).

To overcome the potentially limited sample size when using syndicated panels for specific social marketing projects, analysis of retail transaction logs (also known as *tilt data* or *supermarket checkout scanner data*) can offer a very large volume of real purchase records, effectively representing a census of purchases within a retailer. Without a link to some sort of household identifiers (as with loyalty card data), the transaction log data can only be used on the population level to describe changes in the aggregated demand for certain products or groups of products, for example, healthy as opposed to unhealthy foods, or sporting equipment. This approach falls into a natural experiment category but could also be considered under mechanical observations of real behaviours.

The use of supermarket sales data is becoming increasingly popular with health researchers. One systematic review identified 17 studies that used store sales records or customer receipts to test the effectiveness of product health information for products at the point of sale (van't Riet 2013). Two other reviews summarised the results of 32 and 58 studies, respectively, that assessed the effectiveness of point-of-sale intervention to encourage healthier purchases using sales data (among other outcomes) (Escaron et al. 2013; Liberato et al. 2014).

Extending further the idea of using real records of financial transactions, some health funds have started to analyse their ongoing records from the perspective of the nature and frequency of claims by their members. This rather extensive health-related information collected on individual and household levels could offer insights into which health providers are being used, how often, which allied health services (including gyms and massages) are being patronised, and so on. For example, a longitudinal study in South Africa showed that AIA Insurance, through its 'Vitality' health program, offered members discounted rates for allied health services tailored to their needs and bonus points for healthier behaviours. The discounted rates resulted in increase in gym usage among one third of participants, increase in spending on healthy foods, and decrease in spending on less desirable foods (Tez 2014). Indeed, some funds, especially those focused on life insurance, have vested financial interest in extending the life spans of their members. This is the new era of health-related collaborations with new players and strong data collection and analysis potential that social marketers should be aware of.

Traffic and Movement Observations

Continuing with the observations of real-life environments and behaviours, one of the gold standards for capturing exactly what happens is CCTV (closed circuit TV monitoring, e.g. security cameras). Such cameras capture exactly how the behaviour is occurring, and video footage can be coded for any behaviour of interest to researchers. For social marketers, this could be coding food choices or interactions before food choices occur, participation in physical activities capturing group interaction, demographic profiles and party composition, duration of activity, and the order of behaviours and events. This is the gold mine in terms of richness of data.

The disadvantage of CCTV data is the often very limited availability of CCTV cameras; access to CCTV, which is, primarily, collected by a private entity for security purposes; and, especially, ethical concerns regarding using the data without the consent of consumers being observed. In terms of analysis, the data are highly unstructured, allowing researchers to code whatever aspect of the behaviour they want (food choices, human interaction, etc.), but until visual recognition and coding improve, most existing CCTV coding is done manually by research assistants reviewing each tape, an extremely labour-intensive process. Human coding is also prone to human error unless very detailed research protocols, coding schemes, coder triangulations, and other quality control measures are in place. From a

practical standpoint, most private entities (partly because of the concerns noted) do not keep CCTV recordings for any lengthy period of time, rendering their ongoing data collection unusable for a social marketing project unless a prior agreement is achieved. It is our belief that social marketing researchers can do much more in partnering with private entities collecting CCTV data and IT specialists for technological advancement in auto-coding to achieve access to very detailed records of real-life behaviours and behaviour change.

An example of using CCTV observation in a health study appears in Redmond et al. (2006), which evaluated the effectiveness of a small-scale consumer food safety initiative in South Wales, UK, based on the social marketing approach. The researchers used CCTV to document food-handling behaviours, including washing and drying hands after handling raw chicken and using separate chopping boards and knives. A similar technique was used in people's homes to assess food safety, including washing hands with soap, cross-contaminating uncooked meat and vegetables, and undercooking chicken (Anderson et al. 2004). CCTVs were also used to understand recreational activity participation in urban forests in Europe, allowing count and descriptions of visitors (i.e. walkers or dog walkers, joggers, and cyclists; (Arnberger and Eder 2007; Janowsky and Becker 2003). In a recent study, traffic cameras were used to assess the rate of adoption of new bike lanes in Brazil (Kienteka et al. 2015).

People counters are another mechanical observation tool that primarily count the number of people who pass by a particular point, the direction they travel, and time and date of the recording (in more advanced systems). Such data can describe patronage of particular facilities, for example, public transport usage; (Albiol et al. 2001; Sidla et al. 2006), eating venues (García et al. 2013), and movement through a retail store (Bescós et al. 2003). Social marketing could use this technique to track usage of designated smoke rooms in airports, new sport and recreational facilities, bike storage or, a prayer room. The disadvantage of this measurement is its small range (3–6 m), so people counters cannot count larger objects, such as cars.

A technology that could capture wider areas and larger objects is mobile IP trackers, such as Bluetooth or Wi-Fi trackers. Each discoverable Bluetooth or Wi-Fi device (such as a mobile phone) transmits a unique identifier, known as a media access control (MAC) address. The tracker can connect and communicate with other discoverable Bluetooth devices within a radius of 1–10 m. A Bluetooth detector device can detect Bluetooth/Wi-Fi discoverable devices, their MACs, and the Bluetooth device names and record a timestamp of their detection (Versichele et al. 2012). Bluetooth data can describe pedestrian flow, such as at outdoor public events and major festivals (Stange et al. 2011), as well as vehicle traffic, with signals captured at successive points providing a measurement of traveling time for effective management of traffic conditions (Haghani et al. 2010). A recent validation study (Phua et al. 2015) has, while being non-probabilistic, confirmed Bluetooth tracked samples still provide shopping duration data similar to those obtained through manual observations and the profile of observed populations is similar in demographic and behaviour characteristics for manual and Bluetooth observations. This finding indicates Bluetooth is a valid mechanical observation

technique, at least in the shopping context. More recently, researchers have used Bluetooth signals to estimate exposure to an outdoor poster (Page et al., working paper); such signals could be used to track the reach of social marketing ads on outdoor billboards, for example, at bus stops, and media of particular interest to social marketing in smoking and physical activity spaces, since those behaviours tend to occur at bus stops.

Media Usage Observations

The last type of population-level observations addresses consumer consumption of various media channels and media content. Media consumption behaviour is routinely being tracked through syndicated audience measurement panels (such as that of Nielsen) using tracking devices installed in people's homes (Smith and Krugman 2009). TV remains the highest reaching media, with an average consumer spending about 3 h per day watching TV (Screen Australia 2016). Such data capture population-level exposure to a program (to estimate its reach and subsequent rating) or to an advertisement (to correlate to ad recall and for future scheduling and pricing of ad time). For social marketing research, these data could indicate the level of reach of a social marketing ad or an educational program to be used as an outcome measure or a benchmark for formative research.

To complement the TV data, internet statistics could be used by social marketers to observe consumer exposure to specific web pages (such as those devoted to social marketing issues), exposure to online ads (by a social marketing entity), or exposure to competing content (such as ads for unhealthful choices). Increased prevalence of internet usage (comScore Oct 2011; Zenith Optimedia 2015) indicates it is a valuable information resource for many consumers. Analysis of trends in consumer search and key words, particularly when linked through time to a social marketing campaign, could be used as a measure of effect and increased awareness and interest in the issue. For example, November 13, 2015 saw the highest search interest for 'Paris' in Google history (in response to news about a terrorist attack) (Google Trends 2015).

Individual-Level Observations

This section addresses observations of individual consumers and the details of their behaviours (see Table 2). Data collection using this group of techniques tends to be purposefully designed as opposed to ongoing or secondary data collection. However, these techniques still employ the advantage of mechanical observations, including the ability to collect very precise data for each case (e.g. second-by-second

Table 2 Summary of individual measures using mechanical observations

	Food choices and diet	Physical activity	SM campaign exposure, awareness, interest
Wearable eye tracking and field-of-vision cameras	Choices and processes	Detail of activities	–
Wearable physical activity trackers (Fitbit)	Proxy for calories expenditures	Levels and nature of activities	_
BMI, DEXA, waist circumference	Aggregated measure	Aggregated measure	_
Biomarkers (blood, urine)	Intake of groups of foods	Effect of intensity of physical activities	–
Brain (fMRI, others)	Emotional processing of food choices	_	Attention, processing, emotional response to ads
Virtual reality	Modeled choice and interaction	Choice and interaction	–

or even frame-by-frame visual observations) and a great volume of data for each study participant. Doing so allows for analysing relations between aspects of behaviour or multiple ways of observing the same event, offering very rich insight.

Eye Tracking and Field of Vision Observations

Over the past ten years, advancements in eye tracking and field-of-vision observation techniques have allowed researchers to gain unprecedented insights into the process of how consumers notice, attend to, and process visual information. Given that about 80 % of sensory information humans take from the environment comes through vision (Wedel and Pieters 2008), advancements in eye technologies are of paramount importance to researchers in a great number of disciplines.

There are two types of eye tracking technology. The first is a stationary eye tracker mounted on a computer screen, which could be used to observe how consumers react to shelf displays (Chandon et al. 2009; Russo and Leclerc 1994) or price signage (Bogomolova et al. 2015) or how consumers attend to advertisements (Pieters and Wedel 2004).

The second type is a mobile eye tracker, which looks like a pair of glasses and is worn by a consumer during a normal real-life activity to capture what consumers see, as well as where they gaze. Mobile eye trackers are gaining popularity among researchers who study shopper behaviour in a supermarket, including studies of the influence of packaging or shopping goals on consumer decisions (i.e. Clement 2007; Gidlöf et al. 2013; Wästlund et al. 2014). One case study uses a mobile eye tracker to observe consumer attention to and usage of nutrition information during grocery shopping. A less expensive version of this technology is field-of-vision glasses, also referred to as a *mindcam* (Starr and Fernandez 2007), that captures

only what consumers see yet still offers a wealth of objective information about consumers' actual behaviours and details of those behaviours. All three technologies—stationary and mobile eye trackers and field-of-vision glasses—could be of great value to social marketers in gaining insight into such decisions as food choices or food preparation or to improve understanding of how consumers attend to social advertisements and ways to improve such advertisements.

Physical Activity Observations

Physical activity research has greatly advanced towards recording objectively and unobtrusively information about consumers' levels of physical activities. A review by Freedson and Miller (2000) offers a good summary of personal physical activity monitoring systems. The simplest devices are pedometers, which count the number of steps people take. These can be very cheap and are easy to use, with participants wearing pedometers on their hips. The disadvantage of their simplicity is the lack of a time and date stamp and data storage, so in the long run, a participant has to remember to record in a diary and re-start the pedometer, making this monitoring system a potential source of errors, memory lapses, and data omissions. In addition, pedometers may lack accuracy when not worn correctly. More advanced systems of tracking personal physical activity are accelerometers. These usually have larger memory capacity, allowing for monitoring and storage of temporal patterns of activity over a period of days or weeks. Additionally, the accelerometer measures both the amount and intensity of movement with greater accuracy than pedometers. These advancements come with higher costs. Heart rate monitors offer another valid way of assessing the levels of physical activity. These could be more obtrusive (a band worn around the chest), so usually they are used in laboratories rather than under free living conditions.

Most recently, a new device called the *Fitbit*, a wireless electronic sensor worn on a participant's wrist, has begun to dominate among personal activity monitors. Numerous articles have reported their reliability in measuring physical activity and other physiological data, such as sleep quality (Diaz et al. 2015; Montgomery-Downs et al. 2012; Sasaki et al. 2014; Takacs et al. 2014). While the price of each device is still high, the *Fitbit* is becoming a widely used field observation measure of physical activity. Many social marketing interventions aim to increase levels of physical activity, so the above technologies could be of great use to social marketers.

BMI, Physiological Observations and Biomarkers

Many advances have occurred in the health sciences for observing and measuring individuals' health status and biomarkers. This section address just a few examples, to encourage social marketing researchers interested in this field to partner directly

with respective health researchers. In the health sciences, the term *observation* is not used for these measures.

Body mass index (BMI) is becoming a more common outcome measure for many health-related projects because it is relatively easy to observe (Savva et al. 2013). The measure takes into account an individual's height and weight. Some social marketing surveys use BMI as a self-reported measure; however, consumers' truthfulness in providing such information is a concern (Krul et al. 2011). A more precise measure would be using scales and other more precise metrics, such as waist circumference (measured using a specific protocol with a measuring tape) or a DEXA scan, which provides an accurate measurement of body mass and composition (lean as opposed to fat mass). Further, analysis of blood and urine samples could capture objective changes in diet and lifestyle. For example, blood tests (specifically, sodium/potassium ratio) could reflect changes in fruit and vegetables intake in relation to processed and takeout foods (Bogomolova et al. under print) while urinanalysis can indicate drug use (Harrison 1995). These measurements are, of course, quite intrusive, so while they offer objective observations, consumer participation and compliance is a big issue in studies that use such techniques. It is also important to note that these measures provide a rather crude measure reflecting a combination of life-style factors, rather than a specific behaviour change.

Psycho-Physiological Measures

A new generation of observation techniques has emerged with the development and expansion of various techniques traditionally used for medical diagnostics into consumer studies. These psychophysiological measures assess cognitive and emotional processing of experiences as they occur rather than relying on later memory. These measures assess physical (e.g. neural) processes in the body to provide insight into the human mind. A review by Kenning and colleagues describes a range of neuro-imaging methods to explore the central nervous system, with a particular focus on fMRI (Kenning et al. 2007). The authors suggest a wide range of potential application for such technology, including the now rapidly expanding work in measuring emotions in advertising (Chamberlain and Broderick 2007). Senior et al. (2007) echo the suggestion that neuroscience techniques have a bright future in discovering underlying consumer preferences without subjective perception. A more recent review of functional neuro-imaging applications (Mostafa 2014) builds on the discussion of the benefits of neuro-imaging technologies but also cautions against potential difficulties with interpreting the results of fMRI data.

Other techniques for measuring emotion and attention through the autonomic nervous system are well established, incorporating the 'fight or flight' mechanism. Berntson et al. make recommendations for measuring attention using changes in heart rate. Aspects of emotion can be measured with electrodermal activity to assess arousal (Dawson et al. 2007) and using the movement of facial muscles (electromyography) to assess valence, ranging from pleasure to displeasure.

Psychophysiological measures overcome a number of the limitations of such techniques as self-report surveys. Through their independence of language and memory centres of the brain and continuous measure of processing, they are valid measures of lower order emotions (e.g. arousal) and do not interrupt a participant's experience (Potter and Bolls 2012; Ravaja 2004). It must be noted that obtaining these measures requires specialised equipment and specific skills in both data collection and analysis (Potter and Bolls 2012; Ravaja 2004).

Virtual Reality Observations

Moving from a real to a simulated world, but still in a very realistic environment, virtual reality tools are beginning to take centre stage in some research applications. They are particularly valuable tools for research observations in the following situations:

- Where a high level of control over the environment and stimuli, not possible in real-world environments, is needed to reproduce and record exactly how consumers notice, consider, and choose products;
- When effects of strategies, such as new product labelling and shelf design and arrangement, are tested in a manner that would be difficult in real environments.

To date, virtual reality tools are rare, even in commercial marketing research. However, the few examples of health research applications of virtual reality include, in the Netherlands and New Zealand, a virtual supermarket application to study food choices (Waterlander et al. 2011, 2014, 2015) and Alzheimer's Australia Virtual Dementia Experience (Alzeimer's Australia 2014), the world's first use of game technology to educate caregivers about what it is like to live with dementia.

Challenges in Mechanical Observation Research

The major challenge for social marketing researchers is to gain the opportunity for access to data to observe consumers mechanically in their natural 'habitat', such as a supermarket. In such cases, partnerships with entities controlling the environment or data collection could be invaluable. Otherwise, the cost of equipment and data collection could be prohibitive for academic researchers.

Using highly advanced and specialised technologies, which produce great amounts of data, also presents challenges. Social marketers are encouraged to partner with specialists in respective technologies to gain access to the necessary skills to manage and interpret the data correctly. Challenges in coding and interpreting the data are also common across all types of observations. Mechanical observations present the challenge of offering too much data, which must be coded and transcribed in a valid and reliable way. Pending advancements in IT, some of

the free-form observations, such as in-store eye tracking or CCTV footage, still are commonly coded manually, a very labour-intensive task.

An important consideration in conducting observation research is its ethical implications, and protecting the privacy of study participants. In primary data collection, such as eye tracking, a formal written consent is sought from all participants, following a common research practice. Less clear is the use of secondary data collection or ongoing observations, such as CCTV or Bluetooth, which collects the data about consumers who have not explicitly agreed to being observed. Although such data are often analysed and reported only on the aggregated level, the issue of participants being observed and not being able to opt out still must be carefully considered by researchers. Therefore, when using secondary data, researchers must be aware of potential conflicts of interest and the need to be sure that the data owners—clients for whom the data were originally collected, in the case of a syndicated marketing research panel—agree to the data being re-used for academic purposes.

An issue relevant to any type of observation, whether mechanical or manual, is that only public behaviour can be observed. In some examples, researchers have recruited participants to install CCTV cameras in their homes, yet most behaviours are still public. Another caution is the innate limitation of secondary data to what was originally observed and included in the supporting questionnaire or the priming task. Very often, when using secondary data researchers are left needing additional information that might not be available because the data were collected for a different purpose. In such instances, combining multiple data sets and techniques in the same study could be of great value.

Finally, mechanical observations present challenges in interpreting the observed behaviour. Researchers can accurately describe the behaviour and the order of actions; however, observation alone does not offer insight into the reasons for observed actions. In these cases, a combination of observations and some questioning techniques could offer both the breadth and depth that the research requires. Such methods as ‘think out loud’, gaze-cued retrospective verbal protocols, commonly used in combination with eye tracking when participants are prompted by their own visual field recordings (Bojko 2011; Gidlöf et al. 2012), could be very useful in documenting the unbiased real-life behaviours complemented by explanations from the participants themselves.

Conclusions

In this chapter, we presented an overview of various mechanical observation techniques and their potential use for social marketing research in the formative or evaluation stages. Observations offer researchers unique abilities to document a behaviour of interest precisely, without the many biases occurring in self-reported data—until recently, the more commonly used technique in social marketing. Mechanical observations, as opposed to manual or researcher-administered

observations, offer the further advantage of capturing a very large volume of data with a great amount of detail, often on an ongoing basis.

However, the costs could still be high for conducting primary observations and purchasing and maintaining equipment, especially novel technologies like neuro-imaging, high-resolution mobile eye tracking, or health-related measures. Observations on population-level often require special permissions from private owners (for example for supermarkets or dining venues) or authorities (for observations in parks or bike lanes). For academic researchers, these attributes could be prohibitive barriers to using mechanical observations.

Solutions lie in collaborative opportunities among social marketing researchers, researchers from other disciplines (e.g. nutrition, physical activity, IT, psychology, and neuroscience), and industry partners who own the equipment or collect the data on an ongoing basis. Social marketing researchers bring to the collaboration the knowledge of consumer behaviour—how to influence behaviour change, and how to design, and rigorously evaluate, an intervention. Other discipline researchers and industry practitioners could offer access to the equipment and skills for collecting and manipulating the data. Studies that combine the resources and expertise of multi-disciplinary teams in partnerships with industry end-users have the potential to render a greater breadth and depth of understanding of phenomena, possibly resulting in more powerful solutions for behaviour change.

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Social Marketing Research and Cognitive Neuroscience

Ross Gordon and Joseph Ciorciari

Abstract This chapter considers the potential of cognitive neuroscience (mapping brain wave activity and associated physiological and cognitive responses) as a formative and pretesting research approach in social marketing. The chapter begins by considering traditional research approaches in social marketing, discussing some of their limitations and identifying an imperative for the field to embrace newer and alternative methodologies such as cognitive neuroscience to provide a broader research toolkit. A brief synopsis of key cognitive neuroscience methodologies including Electroencephalography (EEG), functional magnetic resonance imaging (fMRI), Magnetoencephalography (MEG), and eye tracking methods are then presented. The chapter then considers the potential role and utility that cognitive neuroscience could have for social marketing formative and pretesting research, illustrated by a case study of using EEG to pretest social marketing videos on energy efficiency. Some of the strengths and limitations of cognitive neuroscience are also considered. The chapter concludes by identifying some implications and important considerations for the use of cognitive neuroscience in social marketing research, and identifies some ideas for future research and practice.

Introduction

This chapter considers the potential of cognitive neuroscience (mapping brain-wave activity and associated physiological and cognitive responses) as a research approach for social marketing. Although some people may use the term neuromarketing (see Lee et al. 2007), in this chapter we use the term cognitive neuroscience and consider its use in a marketing context. Our preference is due to some of the controversies surrounding neuromarketing, such as the perception that it

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involves manipulating consumers to buy things (Fortunato et al. 2014), and to a preference among some neuroscientists to use the term cognitive neuroscience to keep a distance from a commercially oriented field of study (The Lancet Neurology 2004; Page and Raymond 2006; Lee et al. 2007).

Traditionally, formative research and pretesting research in social marketing has used well-established methods and follows somewhat of a formula. While this range of techniques may seem expansive, some social marketing scholars have critiqued the formulaic nature of doing formative and pretesting research, and identify some important limitations of these methods (French and Gordon 2015; Spotswood 2016). In particular, these existing methods tend to focus on people's self-reporting of their knowledge, attitudes, and behaviours—with the associated issues of bias and incomplete insight and understanding that this may bring. We know that people do not always tell us exactly what they are really thinking or doing (Neeley and Cronley 2004)—which means that research can never give us a full picture of the minds and agency of people. Recently, some social marketing scholars have recognised the limitations of traditional research methods and have started to introduce other approaches such as ethnography and video ethnography into the field (see Spotswood and Tapp 2013; French and Gordon 2015; Karippanon and Narayan 2015). Furthermore, the potential role of techniques such as eye tracking and brain wave imaging for social marketing research has been identified (French and Gordon 2015). This chapter responds to the need to advance research approaches in social marketing by considering the role of cognitive neuroscience.

The chapter is structured as follows. We begin this chapter by considering existing traditional research approaches in social marketing, with a particular focus on methods used in formative research and pretesting in social programs. We identify some limitations of these traditional approaches, and suggest that the introduction of innovative and/or less commonly used methods such as cognitive neuroscience can help advance social marketing research. We then define and provide a brief explanation of cognitive neuroscience, with a particular focus on Electroencephalography (EEG), functional magnetic resonance imaging (fMRI), Magnetoencephalography (MEG), and eye tracking methods. This is followed by an exploration of the role and utility that cognitive neuroscience may have for social marketing formative and pretesting research, with reference to a case study that uses cognitive neuroscience to pretest social marketing videos on energy efficiency. We also discuss some of the strengths and limitations of cognitive neuroscience. We conclude with some implications and important considerations for social marketing and social marketers relative to using cognitive neuroscience in research and suggest some ideas for a future research and practice agenda.

Approaches to Formative Research and Pretesting in Social Marketing

Research has been identified as lying at the heart of social marketing practice, with every step of the process being informed by and dependent upon insights, evaluation and learning that come from research. Research acts as the eyes and ears of social marketing and helps guide what we do. It helps us develop insight, understand the issues, establish objectives and goals for behaviour and social change, check on our progress and make adjustments, and evaluate whether programs have been effective in making a difference (French and Gordon 2015).

Given the crucial importance of research in social marketing, one might expect that the field would be open to, and engage strongly with innovation, new approaches and methods for doing research. However, as some social marketers have suggested, research in social marketing does not necessarily draw on an expansive toolkit (Brennan et al. 2015), and often reverts to doing some open-ended interviews and focus groups (Spotswood and Tapp 2013). Indeed, reviewing some of the key social marketing texts identifies that interviews, focus groups and surveys are methods commonly identified with formative research; and interviews and focus groups are almost exclusively identified with pretesting in social marketing (Hastings 2007; French et al. 2009; Lee and Kotler 2011; Eagle et al. 2012; Hastings and Domegan 2013; French and Gordon 2015).

Formative research can be defined as the use of research to gain insight and understanding on the everyday lives of people, what moves and motivates them, their needs and wants, aspirations, and values (Grier and Bryant 2005). It also helps explore factors that influence current behaviours, practices and social outcomes, and potential strategies for change that may emerge from the individual, family, workplace, and community, socio-cultural, political and environmental-structural level. The idea of formative research is that it provides the platform upon which the planning, development and implementation of social marketing programs can be based (Stead et al. 2007). Given the crucial role that formative research plays in informing social marketing programs and the likelihood that they are effective (see Stead et al. 2007), it is worth noting that interviews and focus groups appear to remain the dominant research methods used in social marketing formative research (Kubacki et al. 2015). Although there has been an increase in the use of mixed methods research in social marketing but this only accounts for around 15 % of published studies (see Truong 2014). Furthermore, whilst interviews and focus groups have a place in the formative research space, it could be argued that social marketing has failed to embrace a broader range of methodological approaches, particularly with the emergence of alternative and innovative techniques in recent years.

Interviews and focus groups are also commonly used in pretesting research in social marketing (French et al. 2009). Pretesting in social marketing involves testing the intervention or elements of it with participant groups before it is fully implemented. This might involve the testing of social marketing program concepts,

messaging, materials, communications, products, services, brand names, training programs and so on. Pretesting of some, or all elements of a social marketing program normally involve the citizens that an intervention is designed to engage, but can also involve other relevant stakeholders including service delivery agents, frontline staff, or expert panels (French et al. 2009; NSMC 2010). The focus in pretesting research is to help test the ideas designed in the scoping stage of a program, and refine the approach based on comment and feedback. However, as well as refinement pretesting can also lead to a change in the approach as major issues are identified. The idea with pretesting is that it can help avoid costly mistakes and the use of inappropriate or ineffective program approaches by identifying issues before roll out.

Whilst they certainly have their place, there are obviously some well documented limitations of the dominant forms of research used in social marketing such as surveys, interviews and focus groups. It can be difficult to generate representative random samples in survey research, social desirability bias can be a problem, survey questions are subject to comprehension and different interpretations, and survey responses limit the ability for people to express any depth of insight on the why of things (Bryman 2012). Interviews and focus groups can generate a lot of data that can be difficult to analyse and interpret, can also be subject to social desirability bias and group think, especially in focus groups, and are often open to subjectivities and multiple interpretations (Bryman 2012). Siegel and Doner (2004) identify that focus groups are also often overused in pretesting research as the group often sways individual responses, and that such research is not naturalistic and may not capture what participants really think about the materials being tested.

Furthermore, there are some other important limitations of current approaches to formative and pre-testing research in social marketing. Spotswood and Tapp (2013, p. 287) identify that social marketing research often 'tends to focus on the cognitive aspects of behaviour, i.e. the barrier and limitations to the behaviour, and the attitudes formed.' Inherent in this criticism is that social marketing research is too singularly focused on cognition, and what people tell us is going on. Given that we understand that people do not always know, acknowledge, or recognise what they are doing, that a lot of things are left unsaid, and that practices may have more meaning than is ever realised, research that focuses only on cognition that is recorded in spoken or written forms is limited. The implications for formative research in social marketing are that if we over-rely on research methods that only explore individual cognition, and ignore the role of emotion, or the brain, or the body then we risk forming a limited understanding of social issues and social change (Spotswood and Tapp 2013; Brennan et al. 2015). This chapter makes a small contribution to this area by introducing and examining the potential of cognitive neuroscience for social marketing research. To help assess the utility of cognitive neuroscience for social marketing, we present a brief explanation and synopsis in the next section.

Cognitive Neuroscience: A Brief Synopsis

Cognitive neuroscience is a discipline that is concerned with the study of biological processes that underpin cognition, with a particular focus on neural activities in the brain that influence mental processing. It examines questions relating to how psychological/cognitive functions are affected by neural circuits in the brain. As such, cognitive neuroscience can offer insights on cognition, emotion, attention, memory and complex decision making. Cognitive neuroscience is an interdisciplinary domain, largely existing as a branch of both psychology and neuroscience. It relies on theories from cognitive science along with research approaches from neuropsychology, and data analysis from computational modelling.

Cognitive neuroscience is also built on the broader, older discipline of psychophysiology, a study of the relation between brain, body and behaviour. It covers basic mechanisms of attention, emotion, memory, language, sleep, mood and executive functions (Andreassi 2007). Why does the heart beat faster when someone is anxious? Why do blood flow and oxygen consumption rates change in some brain regions when processing a complex decision? These are the neurological and biological changes which occur with cognition and mood. (Kandel et al. 2000). Cognitive neuroscience is a field where the brain processes associated with complex decision making can be elucidated using a variety of neuroimaging and brain monitoring technologies (Purves et al. 2013).

Historically, this field has grown from ideas combined from disciplines such as psychology and neuroscience, and more recently computational neuroscience and neuro-philosophy. As far back as the 19th century, physicians have wanted to locate where in the brain certain functions were controlled, Broca's and Wernicke's areas, for example, are key regions of the brain associated with the production and understanding of language named after their discoverers (Bear et al. 2007). Since those early years, the use of various techniques and methodologies have largely uncovered how the brain works and provided explanations for its dysfunction in various disorders (neuropsychology).

To unpack the research methods involved in doing cognitive neuroscience we briefly examine four important techniques used in this area: *EEG, fMRI, MEG, and eye tracking.*

Electroencephalography (EEG) The EEG is a recording of the electrical activity associated with the neural structures associated with the neocortex of the brain. It is non-invasive and has superior temporal resolution (Ciorciari 2012). This electrical energy changes with respect to different states of consciousness, attention and cognition. The first EEGs were recorded in 1924 by the father of the technology, Dr Hans Berger (1873–1941), who was also the first to record epileptic activity and the changes in alpha associated with attention, which he called alpha dysynchronisation (Andreassi 2007).

The frequency range of brain wave activity can be calculated and presented in terms of frequency band, designated as delta, theta alpha and beta. Simply put, each band is associated with changes in attention and state. For example if someone is feeling sleepy, then the EEG will reflect a higher amount of delta and theta activity. If they were processing some complex task, then there would be more beta activity. If the participant were reacting to a continuous external stimulus such as flashes of light, then the EEG would reflect this activity in the form of an evoked potential—more specifically a visual evoked potential. The EEG is also a very useful measure in identifying epileptic activity and other disorders.

Due to the increased computing power available, improving amplifier technology and high-density electrode systems, the use of computationally sophisticated algorithms can be used to map the spread of the relevant band activities across the scalp. These techniques are also used to localise the source of the activity in brain 3D space. Specifically, Low Resolution Electromagnetic Tomography (LORETA) can identify active brain regions activated during tasks (Pascual-Marqui et al. 1994). Other correlation techniques (such as coherence) can also measure the electrical relationships between regions and suggest the strength of neural connectivity during cognition and brain development (Thatcher et al. 1986).

EEG and the Steady State Topography Steady state topography (SST) involves a particular use of EEG, in which brain electrical activity (EEG) is recorded while participants view audiovisual material and/or perform a psychological task. This patented EEG methodology is robust in detecting neural activity changes associated with cognitive processes. A sinusoidal visual flicker is used to elicit a brain electrical response known as Steady State Visually Evoked Potential (SSVEP). Task related changes in brain activity are then determined from the SSVEP measurements. Decreases in the magnitude of this potential are correlated with an increase in cognitive processing demand (Silberstein et al. 1990). This permits a unique window into brand function based on neural processing speed associated with advertisements (Rossiter et al. 2001).

Functional Magnetic Resonance Imaging (fMRI) This newer (since the 1990s) method is useful for looking at how the brain functions at a metabolic level. It does this by utilising a Magnetic Resonance Imaging (MRI) technology and detecting small changes in blood flow, and blood oxygenation by measuring the blood-oxygen-level dependent contrast, known as the BOLD haemodynamic response (Friston et al. 2007; Huettel et al. 2009). Unlike EEG, which can measure what is happening in milliseconds, the time delay associated with this measure may be many minutes. By structuring the tasks accordingly (block design) it is possible to find correlation between the responses and the tasks employed. One major advantage of fMRI over EEG is the spatial resolution. The fMRI can produce a measure from small precise areas within the brain. The technology is also ideal for finding tumours and other structural diseases, as well as brain functionality and connectivity.

Magnetoencephalography (MEG) This technology has developed from the 1990s to become one of the better technologies for studying brain function and cognition because of its temporal and spatial resolution (when used in conjunction with an MRI). The strength of this technique is its ability to map both electrical and magnetic changes deep inside the brain (Cohen and Halgren 2004). It has been demonstrated to be very useful in identifying sources of epileptic activity and other disturbances in brain function.

Eye Tracking There has been a long history of studying eye movement and gaze (saccades) in diseases and disorders (Rayner 1998; Bojko and Stephenson 2005). Currently, the most widely used are the infrared systems which can follow the movements of the pupil and corneal reflection. New systems such as the Tobii eye glasses and desktop-mounted systems are used while aisle roaming in supermarkets (by neuromarketers), or to study the eye movements associated with website searching (Bojko 2006), reading eBooks, or studying faces of celebrities. Studying eye movements in virtual environments has also become popular for studying reactions to architectural structures, product development and during gaming. It has become one of the most popular tools because the eyes 'don't lie' (Bojko and Stephenson 2005). However, eye tracking data can be challenging to interpret. Furthermore, facial coding methods often only pick up emotions that cause a significant rather than mild emotional response—limiting the range of emotions that these methods can help to assess.

Other Tools While the techniques explained here are among the most common, there are other techniques that, although directly related to measuring brain activity, are often considered as neuromarketing or neuroscience related techniques such as galvanic skin response, heart rate variability, facial skin temperature fluctuations (as measured by infra-red cameras), and facial coding with online and smart phone apps. Indeed, neuromarketing is moving away from a single focus on fMRI-centric research to the more affordable and easier to use techniques and related devices. This chapter now goes on to consider the utility and role of cognitive neuroscience in social marketing.

Cognitive Neuroscience and Marketing

The use of cognitive neuroscience (termed 'neuromarketing' by some) in marketing, 'the application of neuroscientific methods to analyse and understand human behaviour in relation to markets and marketing exchanges' (Lee et al. 2007, p. 200), has emerged since the year 2000. One of the earliest studies in this area was by McClure et al. (2004) who re-enacted the Coke versus Pepsi taste challenge to examine why consumers might choose one brand even when they prefer the taste of the other. In their study, they used fMRI to observe brain activity while consumers

were exposed to two different conditions, one in which they did not know the brand of soft drink they consumed and one in which they did. The results of the study suggested that when consumers did not know the brand they were consuming, the part of the brain associated with seeking reward such as good taste (called the ventromedial prefrontal cortex) was engaged, and half of the participants indicated that they preferred Pepsi. When they did know which brand they were consuming the majority of participants indicated that they preferred Coke. In this condition, the medial prefrontal cortex, hippocampus, dorsolateral prefrontal cortex and the midbrain showed strong activity—these are areas of the brain associated with higher cognitive processing, emotion and affect, cognitive control, and working memory (McClure et al. 2004; Fugate 2007). The researchers suggested that the greater exposure to Coke, better memory of Coke, and greater emotional ties to Coke created a brand recognition and preference for Coke that overwhelmed the actual taste preference (reward) for Pepsi (McClure et al. 2004; Fugate 2007). This early work suggested that brand and image development are just as important as product development in marketing.

Lee et al. (2007) identify that the academic marketing discipline was initially somewhat slow to respond to the use of neuroimaging techniques perhaps because of perceptions that funding and access to the required equipment was not possible. However, academic marketing research using cognitive neuroscience is increasing, as evidenced by journal special issues (see Senior and Lee 2008; Shiv and Yoon 2012), associations, and an increasing number of research studies (Bercea Olteanu 2015). Much research in this area has focused on better understanding consumer decision-making processes (Eser et al. 2011). Studies have looked at the effect of compulsivity on buying (Raab et al. 2011); the probability or non-probability of buying (Knutson et al. 2007); and the process of cognitive (e.g. Ambler et al. 2000), affective (e.g. Plassmann et al. 2007) and emotive response in the brain (e.g. Deppe et al. 2005). Research studies have also used cognitive neuroscience to measure brain responses to a range of marketing stimuli including television advertising/commercials (Ambler et al. 2000; Kenning et al. 2007), videos (Page and Raymond 2006), brochures (Zurawacki 2010), branding (Plassmann et al. 2008, 2012), products (Litt and Shiv 2012), packaging (Stoll et al. 2008; Reimann et al. 2010), and services (Fugate 2008) to name a few. Of interest to social marketers are recent suggestions for the application of cognitive neuroscience/neuromarketing to the development of social campaigns such as promoting energy efficiency, smoking cessation, and using seat belts in cars (Fortunato et al. 2014; French and Gordon 2015). These research insights are argued to have advanced knowledge about consumer decision-making processes and consumer behaviour (Senior and Lee 2008; Schneider and Woolgar 2012).

A more recent term than neuromarketing has been used to further capture the breadth of the many encapsulated fields. '*Neuropsychoeconomics'* or '*consumer neuroscience'* is a relatively new area of study bridging *neuroscience* research on human cognitive behaviour (*psychology*) and *economic theory*. This multidisciplinary

approach has economists, neuroscientists, and psychologists attempting to understand the neural basis of judgment and decision making, personality traits, and social behaviour (Knutson and Cooper 2005; Knutson et al. 2005; Cheung et al. 2010), and of response to advertising materials (Vecchiato et al. 2013; Cook et al. 2011). Experimental directions in this field include studies of risk (Fessler et al. 2002), and evaluation, motivation, emotion, behaviour, personality traits, attention and awareness, learning, trust and addictive behaviour (Glimcher and Rustichini 2004).

Experiments in this field have also used a variety of techniques and methodologies, including functional neuroimaging, psychophysiological measures (brain electrical activity, behavioural measures, psychological testing, blood chemistry and hormone analysis) (De Pascalis and Speranza 2000; Knutson and Cooper 2005; Knutson et al. 2005).

Perhaps unsurprisingly, there is also significant interest in cognitive neuroscience in marketing, or 'neuromarketing' from the commercial sector. Flores et al. (2014) identify a number of corporations using 'neuromarketing' (for example, Viacom use it to study reactions to advertising; Yahoo use it to study consumers reactions to television commercials; Hyundai have used it to study consumers' reactions when viewing a sports car; and Frito-Lay have adjusted commercials, products, and packaging based on the results of neuromarketing research). However, corporations are not always willing to share the insights they develop from conducting cognitive neuroscience research owing to issues of commercial confidentiality (Bridger 2015), and also to controversies over the ethics of 'neuromarketing' (Murphy et al. 2008; Flores et al. 2014).

Research from the commercial world has identified a number of specific and relevant considerations for developing marketing materials that can have implications for marketing, and indeed social marketing design. For example, research has suggested that cognitive stimuli in television commercials stimulate the portion of the brain related to memory (posterior parietal and superior prefrontal cortex), while affective stimuli engages the part of the brain associated with processing emotional information (ventromedial prefrontal cortex, amygdala and brain stem) (Ambler et al. 2000). Attractiveness in advertising has been found to stimulate brain response associated with the integration of emotions in decision making, suggesting that attractive ads can operate as reward stimuli (Kenning et al. 2007). Research in this area has also offered insights into developing advertising that triggers positive feelings (Ohme and Matukin 2012); how to avoid elements that should not be used in communications due to causing aversion (Fortunato et al. 2014); or what visual and sound features are more effective in marketing materials (Fugate 2007).

Therefore, the extant research on the application of cognitive neuroscience in marketing suggests that it holds some salience, and in the social marketing sphere is worthy of exploration.

The Utility and Role of Cognitive Neuroscience in Social Marketing

Having explained what cognitive neuroscience is, we now consider its utility and potential role in social marketing research. A first point to make is that we do not advocate that cognitive neuroscience could or should supplant other research approaches. Insights developed from using cognitive neuroscience techniques are not definitive—for example, if a person views an advertisement and an fMRI scan indicates that the parts of the brain associated with memory have been stimulated, that does not unquestionably mean that the ad has entered that person's memory; rather the fMRI might suggest to us that this may be the case, but we cannot ever say so with complete authority. This is similar to how we interpret the findings from other research methods—they can guide and suggest to us what is going on, but we can never be completely sure. We will never fully understand how the brain works, why people behave the way they do, why certain practices are performed, why specific social issues exists, and why the world is the way it is. Therefore, we don't advocate throwing the baby out with the bathwater by suggesting that social marketing should use cognitive neuroscience and no other methods. Instead, we identify how cognitive neuroscience can complement existing research approaches.

Firstly, cognitive neuroscience could be used as an approach to formative research in social marketing. One idea is that it may be used to help understand behaviours and practices that may act as competition to pro-social outcomes (e.g. examining how people use gambling applications on mobile phones and how this might influence their attention, arousal, and memory (Gordon and Chapman 2014; Gordon et al. 2015). Conducting fMRI, EEG, or eye tracking research to map how consumers respond to alcohol, fast food, or tobacco marketing is another potential application. The additional insights that cognitive neuroscience could add here derive from its ability to shed some light on how the brain is reacting and responding to stimuli that may not always be expressed in visual, written or spoken form by people.

Another application for cognitive neuroscience in social marketing—an area in which it has already been applied fairly extensively in commercial marketing (see Flores et al. 2014)—is for pretesting of marketing materials such as advertising (Page and Raymond 2006; Boksem and Smidts 2015), videos (Page and Raymond 2006), brochures (Zurawacki 2010), branding (Plassmann et al. 2008), products (Litt and Shiv 2012), packaging (Reimann et al. 2010), and services (Fugate 2008). To help illustrate how cognitive neuroscience research could be used in social marketing, we present in this chapter a case study from a project called *Energy + Illawarra*, which involved the pretesting of social marketing videos promoting energy efficiency.

Fig. 1 The Energy + Illawarra Social Marketing Program Brand Logo

Case Study Using Cognitive Neuroscience to Pre-test Social Marketing Videos

Background This case study discusses a project that aimed to use cognitive neuroscience techniques to help pretest and provide insight and understanding of people's neural responses to social marketing videos about energy efficiency. The pretesting project formed part of a larger, multidisciplinary, multi-component strategic social marketing program called *Energy + Illawarra* that aimed to support energy efficiency, comfort and wellbeing among low-income older people in regional NSW, Australia (see Fig. 1).

This pilot study used EEG to investigate the emotional and cognitive response, and impact on memory of people aged 60 + who viewed social marketing videos relating to the topic of using energy efficiently in the home. The insights presented from the research were valuable in informing the development, refinement and rollout of the social marketing videos, and can, more generally, help inform social marketing programs.

The study involved testing responses to a series of four narrative video advertisements about energy efficiency targeted at older consumers aged 60 years and over in NSW, Australia. The full suite of videos can be viewed on the project website: http://www.energyplusillawarra.com.au/?page_id=84.

The Research Process The EEG has a number of advantages over the more costly neuroimaging techniques; it is cheap, non-invasive and has excellent temporal resolution. For this case study, EEGs were recorded from a number of participants aged 60+ years old, seated comfortably in an electrically shielded EEG laboratory while watching the videos on a large monitor. Participants wore a 64-channel electrode cap with electrodes distributed over the whole scalp. A standard EEG recording paradigm was followed for amplification, artefact removal, and signal analysis and filtering. EEG was recorded continuously during rest and task activation (videos) conditions. The EEGs demonstrating significant changes during video events were then analysed with LORETA to identify brain regions activated.

Based on previous EEG and neuropsychological literature, it was hypothesised that brain regions associated with decision making, emotions,

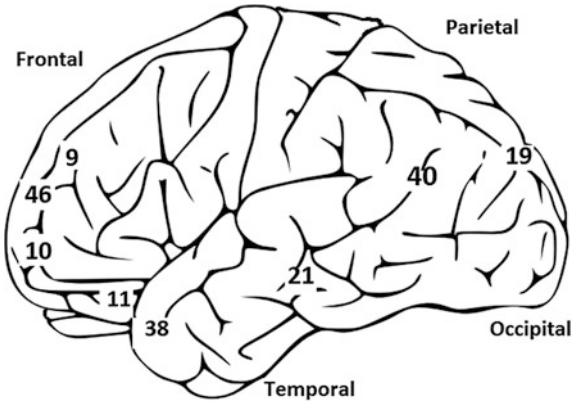

Fig. 2 Regions (identified with EEG LORETA analysis) associated with viewing all videos, processing positive and negative emotional imagery (AVC, TA), memory encoding (AFC), information processing (DLPFC), and assessment of risk (OFC). Numbers refer to the Brodmann Areas (BA). These include: BA9 (DLPFC), BA10 (AFC), BA11 (OFC), BA19 (AVC), BA38 (TA), BA46 (Left DLPFC), BA21 (Middle temporal gyrus—MTG) and BA40 (Supramginal gyrus —SMG), (Garey and Brodmann 2006; Handbook of Medical Imaging 2000)

memory and risk assessment would be active during video viewing. These regions include the following: the *associative visual cortex (AVC)*, a region associated with emotional visual attention processes; the t*emporal-polar Area (TA)*, which supports visceral or negative emotional responses; the a*nterior frontal cortex (AFC)*, the strategic executive processes and memory recall system; the *dorsolateral prefrontal cortex (DLPFC)* or working memory, planning and social cognition system; and the *orbitofrontal cortex (OFC)*, an area associated with risk assessment (Vecchiato et al. 2013; Cook et al. 2011; Garey and Brodmann 2006; Mulert et al. 2004; Pascual-Marqui 2002; Handbook of Medical Imaging 2000). Some of these key areas are illustrated in Fig. 2 with Brodmann areas (BA) (Garey and Brodmann 2006).

Preliminary EEG Findings Figure 3 illustrates the periods during the viewing of the videos. Three conditions are represented in this illustration. These are: (A) when the group were attending and engaged in the visual material, (B) not engaged in the video material, and (C) emotionally engaged in reading the messages. The red areas highlighted in the images are associated with increased activity when compared to a rest condition. Engagement is associated with frontal activity. Interestingly, the participants tended to lose interest when they were watching the actors perform various energy saving acts (B), and focused on the narrator's speech.

Generally, the findings suggested some other interesting insights. First, they suggested that low-income older people were interested in the videos, with brain wave imaging demonstrating attention and arousal related activity

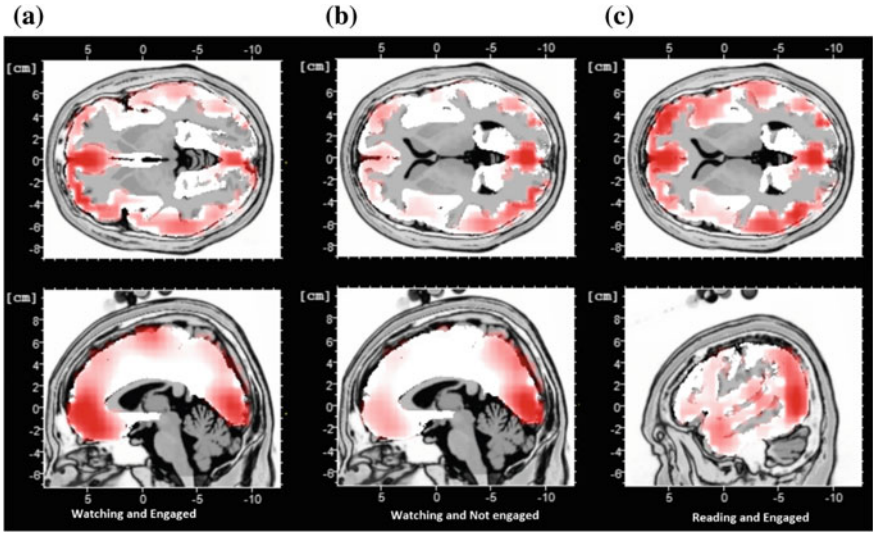

Fig. 3 Explaining the LORETA EEG images: These LORETA maps illustrate three events during the viewing of all videos, the visual images and the text. Each panel illustrates two orientations of the brain (superior and sagittal views), with significant activity highlighted

at the start of the videos. Furthermore, although attention and arousal reduced somewhat during the videos, this appeared to increase again towards the end of the videos and as the main points made and the ideas explained were being summarised (what is known as conceptual closure; Gabora 2000). Furthermore, the brain scans also identified that at this point, a part of the brain normally associated with memory was stimulated. This suggests that the key concepts and messages contained in the videos were engaging with the memory processes of participants. This has obvious importance for social marketing, because for messages, concepts, ideas and information to have an influence on behaviour change it is helpful is this information is stored in people's memory.

The Outcomes So Far The findings from the study helped inform the *Energy + Illawarra* Project team to make some refinements to the videos. Using insights from the cognitive neuroscience study, the traditional focus group testing, and expert and field review, the team incorporated the brand logo throughout each video, and added voice narrations to energy efficiency facts which appeared on the screen. Edits were also made to reduce the length of each video to help ensure that viewers did not 'switch off' and fail to reach a point of conceptual closure or retain information in their memory.

Limitations of Cognitive Neuroscience

Cognitive neuroscience does have its limitations. Cost can be an issue, with fMRI costing up to US$1000 per participant. Apart from the significant technical skills and expertise required, this may be the reason why cheaper, though more limited, alternatives such as EEG and eye tracking are often used. Furthermore, although neuroscience can identify brain responses and provide insights on mental processes and reactions, the meaning of these may be difficult to interpret (Lindstrom 2008). Some scholars advocate using cognitive neuroscience in combination with marketing models, psychometrics and traditional survey methods to augment data collected, for a more informed, rather than speculative interpretation (Glimcher and Rustichini 2004; Vecchiato et al. 2013).

Another issue relates to regulation. Any technology can be abused, especially by industries that are not regulated, allowing them to take advantage of the population. To address this potential, the Neuromarketing Science and Business Association (NMSBA) have formulated guidelines for ethical conduct associated with cognitive neuroscience practices (NMSBA 2013). A link to these ethical guidelines can be found here: http://www.nmsba.com/Resources/Documents/NMSBA%20Code%20of%20Ethics.pdf. The *European Society for Opinion and Marketing Research (ESOMAR)* also publishes ethical guidelines at: www.esomar.org, and the *International Chamber of Commerce (ICC)* publishes codes and guidelines as well at: www.iccwbo.org. Key concerns in these ethical guidelines include integrity, credibility, transparency, participant consent, privacy, participant rights, children and young people, and publication and dissemination. It is hoped that these guidelines may assist in reducing fears associated with issues of privacy and the potential for manipulation of consumers (Murphy et al. 2008).

Nonetheless, one important ethical concern that has been raised with respect to commercial applications of cognitive neuroscience is that corporations could use it to manipulate consumers through their marketing activities. Flores et al. (2014) identify that a number of corporations use neuromarketing to influence consumers, causing concern about manipulation. For example, Frito-Lay, a division of Pepsi-co that sells corn chips, potato chips and other largely energy-dense high-fat foods, have adjusted commercials, products, and packaging based on the results of neuromarketing research. This is problematic, and suggests that cognitive neuroscience may be part of what forms the competition to social marketing—especially if it is used to help promote behaviours such as gambling, alcohol consumption, or the consumption of high-fat foods.

Implications and Reflections on the Future

As this chapter has identified, cognitive neuroscience does hold some relevance for social marketing, and there may be a role for its use in research in the field. Here we have also identified some important implications and considerations for the use of cognitive neuroscience in the social marketing domain, as listed below:

- Cognitive neuroscience adds another tool to the social marketing research toolkit—it should not replace other forms of research but rather supplement them.
- It can contribute alternative insights into consumer behaviours and practices by shedding light on brain responses including cognitive and affective processes, and attention, arousal, emotion and memory encoding, which may help address the issue of people not always telling or showing us what they are actually thinking.
- The findings from cognitive neuroscience research are neither conclusive nor definitive. This type of research does not necessarily explain the 'why' of human behaviour—it may give us some facts, but not their meaning.
- Existing research in cognitive neuroscience already offers some potentially useful insights for social marketing—for example, brand and image development may be just important as product development in marketing; and attractive advertisements can stimulate reward processes in the brain.
- Cognitive neuroscience could be used as an approach to formative research and pretesting in social marketing.
- This type of research can be expensive and require access to the proper equipment, expertise and appropriate situations for its application.
- There are important ethical implications in using cognitive neuroscience, and these should be considered carefully.
- Commercial organisations are using cognitive neuroscience, and may use it in ways that compete with pro-social outcomes (e.g. by promoting gambling or energy-dense snack food consumption). Therefore, although cognitive neuroscience offers utility to social marketing research, it will be important for critical social marketers to monitor this conflict of purpose.
- Cognitive neuroscience and social marketing are new to each other. Research and exploration of their synergies and potential applications are required to provide further knowledge in this area.
- Social marketers should be encouraged to consider cognitive neuroscience as a possible method in the social marketing research toolkit.

The use of cognitive neuroscience in social marketing is a very recent innovation, and there are several opportunities for future exploration and research. Areas that could be explored include health campaigns, such as the prevention of drinking and driving and adolescent drug abuse, and the development of viable social media-based interventions. A key challenge in unlocking the potential of cognitive neuroscience in social marketing will be capacity. Given the considerable costs and

technical expertise involved, social marketers should be encouraged to seek interdisciplinary partnerships with cognitive neuroscientists to conceptualise and manifest future work.

Key Internet Sources

Cognitive Neuroscience Society: https://www.cogneurosociety.org.
Neuromarketing Science and Business Association: http://www.nmsba.com/what-is-neuromarketing.
Nielsen Consumer Neuroscience: http://www.nielsen.com/us/en/solutions/capabilities/consumer-neuroscience.html.

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Projective Techniques

Krzysztof Kubacki and Dariusz Siemieniako

Abstract This chapter discusses projective techniques, an increasingly popular formative research method in social marketing. Projective techniques involve the provision of ambiguous and indirect stimuli such as images or stories to research participants to encourage them to project their own experience onto the stimuli. Projective techniques may also rely on participant-provided stimuli. In marketing and consumer behaviour research, five main categories of projective techniques have been identified: association, completion, construction, expressive and choice ordering. The case study included in the second part of this chapter showcases a research project that uses a construction technique, namely collages, to explore the sensitive relationship between alcohol consumption and sexual behaviour among university students.

Introduction

Social marketers conducting formative research are often faced with a dilemma over how to tap into consumer behaviour processes that escape rational decision-making models and theories. For example, we know we should eat a healthy diet, exercise regularly and drink alcohol responsibly. If we all did what is best for our health and wellbeing, there would be no need for behaviour change techniques like social marketing. Yet we do not always behave rationally: as human beings we are emotional and fickle, and we cannot always explain our behaviours in a logical and rational way. This is why social marketers need methods that attempt to capture the complexity, ambiguity, diversity and richness of human

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_10

decision-making processes in their imperfectness. One such approach is projective techniques.

Projective techniques as a research method involves providing ambiguous and indirect stimuli such as images or stories to research participants to encourage them to project their own experience onto the stimuli (Colakoglu and Littlefield 2011). Projective techniques may also rely on participant-provided stimuli, such as in the case study offered in the final section of this chapter. Projective techniques are usually administered in the context of a focus group or face-to-face interview, but it is becoming more and more popular to adapt some of the techniques for the online environment (Jones et al. 2015). By incorporating projective techniques into other commonly used research methods, such as focus groups, interviews and surveys, a semi-projective aspect can be gained, thereby minimising rationalisation of responses. Therefore, projective techniques have been attracting growing interest in marketing and consumer research. For example, a review of the use of visual methods in marketing research published in six marketing journals between 2002 and 2012 found that 113 of 203 identified articles reported using projective techniques, which was among all visual methods the largest group (Rohani et al. 2014). In this chapter, we provide a brief introduction and an overview of the use of projective techniques in marketing and consumer behaviour research, with particular focus on studies in social marketing. In the second part of the chapter we present a case study showcasing the use of one of the most popular projective techniques—collages—in a social marketing research project.

Projective Techniques

The goal of projective techniques in marketing research is for participants to project their subjective beliefs, personality and mindset onto external stimuli such as products, brands, images or other objects, in order to give them structure and meaning (Boddy 2005). The argument is that '*by telling a story about a picture, what a person does reflects how he structures and interprets life situations and reacts to them*' (Levy 1963, p. 4). These objects become visual prompts that stimulate spontaneous responses from research participants, who are expected to project their own interpretations onto the stimuli. The assumption underlying all projective techniques is that when research participants are exposed to an ambiguous stimulus it is easier for them to express themselves in an unfiltered way, free from inhibition and rational scrutiny (Porr et al. 2011). What follows is a sense-making activity in which participants use their own frames of reference (Donoghue 2000). The UK Association for Qualitative Research defines projective techniques (AQR 2016) as:

> A wide range of tasks and games in which respondents can be asked to participate during an interview or group, designed to facilitate, extend or enhance the nature of the discussion… These rely on the idea that someone will 'project' their own (perhaps unacceptable or shameful) feelings or beliefs onto an imaginary other person or situation.

Projective techniques have been used to study associations, feelings, attitudes and perceptions across a wide range of topics including, for example, consumer desires (Belk et al. 2003), health perceptions (Sijtsema et al. 2007), new product development (van Kleef et al. 2005), product design (Costa et al. 2003), political brand image (Pich and Dean 2015) and mental disorders (Anderson and Anderson 1951). One of the first instances of the use of projective techniques was in early psychoanalysis and Sigmund Freud's work on personality disorders, in which he regarded projection as an anxiety-avoidance defence mechanism through which subconscious associations, feelings, attitudes and perceptions are revealed (Boddy 2004). In his work, Freud used associative techniques to identify patients' immediate thoughts, giving him access to people's subconscious processes (Porr et al. 2011). Since Freud's initial work, projective stimuli have been used in psychology to tap into unconscious dimensions of decision-making processes; however, unlike in marketing, studies in psychology have been largely quantitative in nature. Following Freud's original idea, a wide range of projective techniques and tests have been developed by researchers from fields such as psychology, psychiatry, cultural studies and education, as well as marketing and consumer research. In the 1950s, projective techniques became widely used in consumer behaviour studies focusing on motivation. The use of projective research in marketing increased notably in the 1990s following the work of Gerald Zaltman and the publication of his ZMET protocol (Zaltman Metaphor Elicitation Technique; for more information on ZMET, see Zaltman 1997; Zaltman and Coulter 1995).

Categories of Projective Techniques

Different categories of projective techniques provide researchers with various levels of ambiguity, from quite unstructured drawing and story construction, to highly structured sentence and story completion. Selection of the most suitable technique depends on the focus and sensitivity of the research project, the type of participants, and the degree of freedom that researchers want to give participants. In marketing and consumer behaviour research, five main categories of projective techniques have been described, namely association, completion, construction, expressive and choice ordering (Pich and Dean 2015). They are briefly explained in Table 1.

Association techniques are one of the easiest projective approaches to execute. Research participants are expected to respond spontaneously to a stimulus, for example a question such as '*What kinds of food do healthy people usually eat?*' Participants can identify words that they associate with healthy eating and provide rich material, including thoughts and images automatically activated by the stimulus, for further discussion and interpretation. This kind of research activity is enjoyed by participants as an entertaining game, which increases their engagement in the research process. Other stimuli, like images, photographs, colours, thoughts and feelings, can also be used in the same context. Association techniques are an effective way to create a consumer dictionary that gathers all relevant vocabulary

Table 1 Projective Techniques (Bond and Ramsey 2010; Hofstede et al. 2007; Linzey 1959; Pich and Dean 2015)

Projective technique category	Description
Association	The practice of connecting the research object with images, photographs, words, colours, thoughts and feelings; stimuli are presented to elicit an individual's immediate thoughts
Completion	Individuals are asked to finish sentences, stories or arguments, or to complete drawings
Construction	The construction category utilises drawings, paintings, collages, clay models and cartoons to harness the link with the research object
Choice ordering	Choice ordering focuses on ranking products, brands, pictures, sentences, organisations, thoughts and feelings in relation to the research object
Expressive	Using role playing, storytelling, drama or dance to highlight illustrations related to the research object

associated with the research topic. For example, Will et al. (1996) used word associations to explore perceptions of family planning and 'well woman' services. Participants were presented with cards on which different factors affecting their health were written and asked to discuss them.

In the next technique, completion exercises, participants are asked to finish sentences, stories or drawings, for example a sentence such as '*Healthy people do things like…*' This exercise may also include images of a conversation between two or more individuals with partially completed speech and thought bubbles. Completion tasks introduce some form of structure into the stimulus, but while they can be much better at providing a clear focus for participants than some of the more complex techniques, they may restrict people's imagination to a particular scenario presented in the conversation. For example, in Will et al.'s (1996) study noted above, sentence completion followed word associations. Participants were asked how someone else may complete the sentence '*I like going to my family doctor because …*' and when all participants had provided their answers they were asked to discuss all responses. Association and completion techniques are an efficient way to generate insights if time is too limited for participants to engage in more demanding tasks.

In the next type of projective technique, construction, research participants are expected to use their creativity to construct a collage, clay model or cartoon in response to a given problem or question. For example, they can be asked to create a collage entitled '*Healthy lifestyle*' using pictures, letters and words from a selection of magazines and newspapers. Following construction of the collage, participants are usually expected to provide either written or verbal interpretation of their work. The case study provided in the final part of this chapter features an example of the construction technique.

In choice ordering, participants are asked to arrange different stimuli into an order specified by researchers or the participants themselves. For example, children

participating in a research project may be asked to put images of fruits and vegetables into order from the most to the least healthy. Choice ordering technique was also used by Will et al. (1996), who, having discussed in a focus group each issue identified by participants in the word association, then asked participants to rank the factors important for their health from the most to least important.

In the final type of projective approach, expressive technique, participants are asked to take part in a form of expressive exercise such as role playing, storytelling, drama or dance in which they can explore their different associations with a given topic or question in an uninhibited fashion. For example, they can be asked to create a conversation between two people in which one is trying to convince the other of the value of healthy eating, exploring potential arguments for and against it. Role playing was one of the techniques used by Wyllie and Casswell (1991) in their study investigating young men's drinking, focusing specifically on enacting interactions in a drinking setting.

Advantages of Projective Techniques

Projective techniques have been recognised for their ability to explore the meanings beyond explicitly stated associations, feelings, attitudes and perceptions, providing access to the research participants' conscious and unconscious inner worlds (Pich and Dean 2015). As they attempt to overcome the limitations of rationality associated with popular methods such as surveys and interviews (which require participants to describe their behaviours and attitudes in a logical and rational way), they can provide insights into the complex and often chaotic nature of human behaviours (Colakoglu and Littlefield 2011). Previous research has reported that asking research participants directly about their motivations or feelings can yield inaccurate findings, either because they are unable to explain their own emotions and behaviours, or are unwilling to share their true feelings, fearing being judged by other participants or the researchers (Donoghue 2000). Anghelcev et al. (2015) provide a long list of limitations associated with verbocentric research (surveys, focus groups and interviews). For example, language has only a limited ability to communicate the complex thoughts and emotions that often accompany consumer behaviours; and the fact that while conscious thoughts are expressed via language, unconscious beliefs and emotions can be better reflected in images. Projective techniques aim to overcome these limitations.

There are several important advantages of projective techniques. Projective techniques as indirect forms of questioning help to overcome many of the initial social barriers discussed in the previous paragraph. For example, one of the main challenges for any qualitative researcher is how to build rapport with the research participants—complete strangers in most cases who may be unwilling to share their personal feelings and experiences during such short interactions as an interview or a focus group. Furthermore, participants may not always be fully aware of their own feelings and motivations. Projective techniques have also been very effectively used

to explore topics that can be considered sensitive by research participants and may cause some embarrassment when discussed openly, such as excessive alcohol consumption (Kubacki and Siemieniako 2011); or when it is difficult for them to verbalise feelings or articulate their thoughts, such as in studies involving children (John 1999). In some situations, participants might also avoid discussion of difficult topics because they want to be polite.

The creative and highly subjective nature of projective techniques allows research participants to express themselves in a more unrestricted and less verbally demanding way than does any form of direct questioning (Boddy 2005), such as interviews and focus groups, by creating an enjoyable environment for participants who find traditional interview situations inhibiting or stressful. The non-explicit nature of stimuli used in projective techniques also means that it is not immediately clear to participants what the most appropriate response might be, making it easier for researchers to overcome some of the limitations associated with social desirability bias. As projection depersonalises participants' responses, as in Freud's work mentioned earlier, it acts to protect their egos. In the data-collection process, associations, feelings, attitudes and perceptions take shape using participants' own terms and preferences, with minimum interference from researchers. Therefore, projective techniques are a very efficient way to establish rapport between researchers and participants, overcoming linguistic, emotional and cultural barriers (Boddy 2004; Pich and Dean 2015).

Disadvantages of Projective Techniques

As with most qualitative research, it is important that researchers remember to be cautious of making generalisations based on research using projective techniques, and instead focus their aim on identifying new insights and a more complex understanding of the issues being investigated in the research project.

Stimulus design has also been identified in previous studies as a potential source of bias, and to avoid the risks, for example, of gender biases, the use of 'stick' people in drawings and cartoons is recommended (Bond and Ramsey 2010). There are several other ways that biases can be overcome. For example, as will be discussed in a case study in the second part of this chapter, in some projective techniques (e.g. collages) participants can be invited to supply their own stimulus. Second, different stimuli can be tested on a small group of research participants to identify and eliminate any potential and undesirable biases that they may introduce to the research process. Finally, computer-aided design (CAD) packages can be used by researchers to generate visual stimuli that minimises the role of any biases in the stimuli design (Bond and Ramsey 2010).

Another significant disadvantage of projective techniques is that it can be difficult to convince participants to engage in activities such as role playing, which may be perceived as embarrassing and, therefore, create the very problem they are designed to overcome. The role of moderator becomes crucial in this situation. As

observed by Will et al. (1996), an experienced moderator needs to be warm, friendly, interested and relaxed, and able to establish rapport with research participants. The moderator must be able to identify any cues that the participants give and adapt the stimuli to the circumstances. Starting the discussion with smaller and less demanding tasks may help break the ice. It is also important to explain to all participants what is expected of them, and screen out any individuals who may not be comfortable taking part in role playing scenarios. Those participants can be included in other types of projective activities that do not demand such a high level of involvement.

The unstructured nature of projective stimuli can also result in the delivery of ambiguous results that are very difficult to interpret (Colakoglu and Littlefield 2011), potentially leading to inconsistency in the interpretation of data which may undermine the validity and reliability of projective techniques. It is therefore important to pretest any projective techniques, and if possible, use other data-collection methods such as focus groups or interviews to provide a wider interpretive context.

One of the biggest challenges in using projective techniques is data analysis and interpretation. Extant literature provides only limited guidance on the best way to approach the analytical process (Pich and Dean 2015). Qualitative content analysis can be used initially to classify data collected using projective techniques into categories of similarity, and to facilitate further reflection, conceptualisation, cataloguing, linking and re-evaluation (Boddy 2007). Donoghue (2000) argued that analysis and interpretation of projective techniques should follow the same procedures as those established for other qualitative research methods. For example, the majority of marketing and consumer research studies have used thematic analysis—one of the most common qualitative techniques of data analysis—to focus on the identification of key patterns, relationships between them and emerging themes. As data analysis often involves both verbal and visual data, qualitative data analysis software such as NVivo can facilitate the analysis of data regardless of the analytic method.

Projective Techniques in Social Marketing

Projective techniques have been used previously in social marketing formative research. Although the number of studies has been growing rapidly in recent years, there are still many opportunities to extend the use of various projective techniques in social marketing. In the following section, five studies using different projective techniques are described.

Healthy eating remains one of the most important areas of social marketing research, with a recent systematic literature review identifying 34 social marketing interventions aiming to improve healthy eating behaviour (Carins and Rundle-Thiele 2014). Several social marketing formative studies in the healthy eating domain have used projective techniques to generate insights that can inform

future interventions. For example, Cherrier (2012) employed collages to understand the consumption of fast food in the United Arab Emirates. Participants were asked to use any materials they needed to construct the collages and answer the question '*What are the things you do as a college student?*' The author used 50 collages constructed by university students accompanied by three-page written explanations, 27 of which included images related to unhealthy fast food consumption (e.g. burgers and French fries, and fast food restaurant brands such as McDonald's). An interesting outcome of this work was an in-depth understanding of the relationships between individuals' unhealthy consumption of fast foods and wider social discourses of the globalisation and homogenisation of cultural spaces. Participants were found to be more concerned about the impact of global influences and fast food culture on their culture and society than the impact of fast food consumption on their physical health. The author argued that while informing citizens about the risks of unhealthy behaviours is an important aspect of social marketing, interventions also need to offer alternative messages, focusing in this case on the wider social and cultural impacts of fast food culture, to harness a collective desire for resistance to unhealthy behaviours in their social, political and economic contexts.

Another example of using projective techniques in research that can inform future social marketing interventions is Atik and Ertekin's (2013) study, which used several projective techniques—drawing, word association and sentence completion games, and role playing—to understand children's food preferences and eating habits. The authors used a focus group setting to engage children in different creative activities. First, they asked children to draw their favourite food or meal. Then, children were instructed to prepare a mock shopping list and pretend to go on a shopping trip. They were also asked to complete the sentence '*If I was a type of food or drink I would want to be… because…*' Finally, they were asked to say the first food or drink that they associated with words such as 'fun', 'boring', 'exciting', 'forbidden', 'allowed', 'family', 'friend', 'healthy' and 'unhealthy'. The data analysis indicated many different types of appeal of food to children, and social influences on their preferences. For example, the sensory appeal of food, its taste, sight, smell and touch, was very important to children, who were also happy to make healthy food fun, which highlights the role of appealing to children's sense of fun and play in promoting healthy foods to them. Some children in Atik and Ertekin's (2013) study associated healthy food with beauty, and for those approaching the teenage years, it made them more conscious of their body image. The research highlighted the role of parents as the key influencers in shaping children's eating preferences, and showed how projective techniques can facilitate research with children within a traditional focus group context.

In another study, projective techniques were used by Vidal et al. (2013) to explore consumers' motivations to buy a ready-to-eat salad. A total of 320 participants completed three tasks delivered to them by email. In the first, participants were asked to identify words, images, thoughts or feelings that they spontaneously associated with a ready-to-eat salad. In the second, two groups of participants were provided with two shopping lists of groceries. The study followed the approach presented in Haire's (1950) original shopping list study considered to be one of the

first examples of projective techniques in consumer research. Both lists were identical except in one aspect: while the first list included ready-to-eat salad, the second list included some of the ingredients that can be used in a salad (e.g. lettuce, tomatoes and carrots). Participants were asked to write a brief description of the personality of the person who prepared the list they received. In the final task, participants were given three pictures showing a couple in a supermarket with incomplete dialogue bubbles which they were asked to complete focusing on three different perspectives: first, on the positive characteristics of ready-to-eat-salad; second, on the product characteristics limiting its purchase; and third, on the characteristics discouraging the purchase of ready-to-eat salad.

Findings from each of the three techniques focused on different aspects of consumer perceptions. Interestingly, although the word association task generated the largest number of different associations, they were mostly positive—unlike in the completion task which also provided a significant number of negative associations. The least detailed insights were generated through Haire's shopping lists, although the results did indicate that participants perceived the personality of the person who wrote each shopping list differently. The combined results of the study indicated that consumers see ready-to-eat salads as products purchased for their convenience, freshness and healthiness; and yet while some consumers seek reassurance (e.g. the product is from a trusted brand, the ingredients have been washed properly, and prepared in hygienic conditions), they also view ready-to-eat salads as an expensive product with a short shelf-life. The outcomes of Vidal et al.'s (2013) study highlight the need for several projective techniques to be used in the same study, or in association with at least one other research method to achieve more comprehensive insights.

In another study of food preferences Viana et al. (2014) used a word association technique to explore consumer perceptions of four types of frozen burgers with healthy attributes—traditional, reduced sodium, reduced fat, and with antioxidants. The study, involving 56 participants completing attitudinal questionnaires scoring the degree of agreement with each of ten statements on a scale from strongly disagree to strongly agree, was conducted at a sensory evaluation laboratory at a university in Brazil. Four identical images of frozen burgers were used with different descriptions identifying the type of the product. Only burgers with reduced sodium, reduced fat and antioxidants were considered by the research participants as healthy. Participants agreed much more often that traditional burgers had a better flavour, but also that they had high fat and high calorie contents. Only reduced fat burgers were seen to be good from a dietary point of view, and reduced sodium burgers were viewed favourably for people with hypertension. The study clearly indicated that different types of products with different attributes elicit different associations. A main implication of Viana et al.'s study is that the key challenge for both social and commercial marketers is to develop healthy products that can overcome consumer perceptions that the healthier product is not as tasty as the less healthy one.

Projective techniques have also been used in contexts apart from healthy eating. For example, Jones et al. (2015) recently explored parental supply of alcohol to children and adolescents in Australia. The authors gave four different scenarios to parents in which a parent was described as providing or not providing alcohol to

their child. The study design attempted to overcome the potential problems of direct questioning in a situation where social desirability bias may prevent parents from reporting their actual behaviours for fear of being judged as bad parents. Employing a projective technique allowed the authors to identify the main factors influencing parental supply of alcohol without directly questioning participants' behaviours and motives. Here, 175 parents of teenagers completed an online survey aiming to identify parental attitudes shaping their alcohol supply behaviours. Jones and colleagues used content analysis of the open ended responses, to identify eight main themes: safety, law, control, trust, fitting in, cool parent, harm minimisation, and lack of concern. Parents were concerned about their child's safety and believed (incorrectly) that it was illegal for them to supply alcohol to a 16-year-old. They were also concerned about establishing rules and limits that would allow them to stay in control, trust their children and let them fit into their groups of friends, be seen as a cool parent, and minimise any potential harm from alcohol by restricting the amount supplied. Finally, some respondents described parents in the research scenario as unconcerned and irresponsible. Projective techniques used in this research were an important step in developing insights into parental motivations and beliefs, which will be used by the researchers in this case to develop future interventions aiming to discourage parental supply of alcohol to children.

In the following section, we will describe a social marketing case study that utilised collages, one of the most popular projective techniques, in a formative research project exploring alcohol consumption among university students.

Case Study: Using Collages to Understand Students' Associations Between Alcohol Consumption and Sexual Behaviours

Research has indicated that university students who drink at a high risk level are likely to engage in risky sexual behaviours: for example, having multiple sexual partners, sex with casual or unknown partners, or failure to use a condom during sex (Cooper 2002; Scott-Sheldon et al. 2010); unplanned sexual activity (Wechsler et al. 1998); sexual activities with new partners (Cooper and Orcutt 1997), and failing to discuss sexual history and sexually transmitted infections prior to having sex (Tatchell et al. 2005). This case study therefore investigated university students' associations between alcohol consumption and sexual behaviours.

Method and Procedure

This case study is based on a larger research project using qualitative research methods to investigate the role of alcohol consumption in students' lives (see Kubacki and Siemieniako 2011 for full description of the research procedure). All

participants were drawn from a pool of students studying at a university in the Polish city of Białystok. Only students who drank alcohol regularly were recruited to take part in the study. The sample consisted of 82 students aged 20–21, including 48 females and 34 males, who were divided into 14 groups. Previously, similar studies using projective techniques have reported data collected from 16 informants (Tantiseneepong et al. 2012). The groups were run in three sessions, with five groups working simultaneously in the first two sessions and four groups in the third. The students were asked to bring to their group a variety of popular magazines that they read regularly as a source of materials reflecting their worldviews and communication styles; further materials were also provided by the researchers. Each group was told to produce a collage entitled '*Alcohol as part of a student's life*'. They were given a piece of paper (format B2, 50 × 70.7 cm), glue and scissors, and asked to cut out relevant materials to construct a collage within 45 min. Several earlier studies used a similar approach for the development of collages (Banister and Hogg 2001; Nguyen and Roedder 2001). Similarly to those in Belk et al.'s (1997) study, the students were encouraged to try to express their 'feelings, intuitions, imaginings, fantasies, and associations'. When all the collages had been assembled, they were collected by researchers and brought back to the groups a week later. Each group then presented an interpretation of their collage. Participants were encouraged to comment on any aspect of their work, its structure, and materials used. During the course of each presentation they were questioned by the researchers so they could better identify the reasons behind the selections and layout of images, pictures and words, and the meanings of those. All presentations and discussions were filmed using a digital camcorder. Table 2 includes examples of the collages created by participants in this research project.

Findings

The initial data analysis indicated that ten out of 14 collages contained images and texts that were classified as related to sex, and in the majority of these, the relationship between alcohol consumption and sex was presented by participants as one of the dominant themes, taking a significant amount of space. Juxtaposing was identified by Vaughan (2005) as one of the characteristics of collages as a research method unique in its '*interplay of fragments from multiple sources, whose piecing together creates resonances and connections that form the basis of discussion and learning,*' and representing internal conflicts among participants. The initial data analysis suggested that in constructing the relationship between alcohol and sex through collages and verbal commentaries, participants frequently relied on juxtaposing positive and negative consequences of the relationship. Further data analysis, focusing on juxtapositions, identified three main areas of the perceived relationship between alcohol and sex—personal experiences, social relations and morality.

Table 2 Collage examples

Example 1	Example 2	Example 3
		

Personal experiences were influential in shaping participants' perceptions of positive and negative consequences of the relationship between alcohol consumption and sex. The collages and their interpretations contained many more references to negative consequences than to positive ones. Positive consequences included, for example, finding love, while the dominant negative consequence of the perceived relationship between alcohol consumption and sex was pregnancy. When questioned, most groups argued in a very similar way to that expressed in this statement from a female participant:'Amongst students, this is one of the most negative consequences […] we may have to give up studying, get a job, and that's it…'

Although casual and uncommitted sex was often presented as desirable, another important negative experience indicated by participants was the risk of damaging their stable relationship by having casual sex with someone else under the influence of alcohol; as stated by one of the participants '… *and we simply lose control*'.

Personal experiences described by participants produced further examples and discussions about **social relations** among students which focused on judging and being judged by others. For example, an image of naked women in a lake attracted the following comment from one of the participants:

'Sometimes after alcohol people do things that they regret later, they can go swimming naked, they feel liberated…'

On the one hand, there was pressure from fellow students to lose control; on the other, there was a fear of damaging one's reputation by engaging in risky behaviours. The collages contained many examples where risky sexual behaviours were used to impress other students. For example, there were sexually provocative images of both males and females, interpreted by participants as poses and behaviours used to impress others. One of the collages presented an image of a group of young females dressed in provocative ways accompanied by the slogan 'hunting for occasions' (see Example 1 in Table 2). When questioned, one of the participants explained that '*after alcohol the barriers collapse, even girls feel more confident*'. Sexually provocative behaviour after consuming alcohol was also contrasted with an image presented by one of the male-only groups, in which a slogan stated 'there are no ugly women, only not enough alcohol', pointing to a problem with the instrumental treatment of women as sex objects by their male fellow students.

The **morality** of the relationship between alcohol and sex emerged as a strong theme, frequently presented through the prism of religion. For example, on one of the collages, the word 'sex' was juxtaposed with 'God forgives'. Another collage portrayed alcohol consumption and sex with a reference to participants' understanding of categories such as 'good' and 'evil' interpreted in the light of their Catholic upbringing and values. When questioned about that interpretation, participants referred to a slogan that read 'a little bit of luxury' to indicate the 'good' side of alcohol consumption, and their use of the Ten Commandments in their collage to explain its 'bad' side. When asked to clarify their statements, one of the respondents explained:

> 'It's something like […] everything has two sides, it's the same with alcohol, there are good and bad sides, the Ten Commandments represent the bad one, the Ten Commandments were created to be obeyed, so it means it's something we do because we have to do it, we are addicted to it.'

Discussion

The projective techniques case study presented in this chapter investigated the relationship between alcohol consumption and sexual behaviours as perceived by university students. While the role of alcohol consumption in students' lives was the main aim of the study, the analysis of collages and verbal commentaries provided by participants pointed to a very strong relationship between alcohol consumption and sex. It is not unusual for projective techniques to provide researchers with insights they were not originally, or not mainly, aiming to explore. Exploration of the role of alcohol in students' lives lent participants the freedom to explore the relationship between alcohol consumption and sexual behaviours, one that would have been difficult to uncover in a research project that used more direct forms of questioning. That relationship was shaped by its perceived negative and positive consequences, often in images juxtaposed by our participants, who were balancing two opposing consequences of their risky behaviours. Our indicative findings point towards many conflicts experienced by the participants when they engaged in risky behaviours, including social relations with their peers and perceptions of the morality of their behaviours and attitudes.

Conclusions

In this chapter, different types of projective techniques have been presented. Projective techniques have been used in marketing and consumer behaviour research since the seminal work of Haire (1950). More recently, we have observed the growing popularity of various projective techniques in social marketing formative research on, for example, healthy eating and alcohol consumption. On the one hand, formative research in social marketing has frequently explored behaviours that consumers may find difficult to talk about, such as drug use and violence. On the other hand, there are topics such as unhealthy eating, about which people may not always be able to verbalise all their motivations. Projective techniques, including associative techniques, sentence completion, collage construction, role playing and choice ordering, can provide new—and sometimes serendipitous—insights into previously untapped dimensions of the social issues that social marketing interventions aim to influence. Work that uses these techniques in social marketing remains limited, and there are many opportunities for social marketing research to utilise projective techniques to elicit consumer insights, to inform

intervention design, and even to evaluate social marketing activities. Projective techniques can therefore offer social marketers new and critical insights in their quest for behaviour change.

Key Internet Sources

Qualitative mind: http://www.qualitativemind.com/projective-techniques/
SAGE research methods: http://dx.doi.org/10.4135/9781412963909.n342, http://dx.doi.org/10.4135/9781412985529, http://dx.doi.org/10.4135/9781412985543
The Association for Qualitative Research: http://www.aqr.org.uk/glossary/projective-and-enabling-techniques

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Reviewing Research Evidence for Social Marketing: Systematic Literature Reviews

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Abstract Systematic literature reviews are among the most popular methods in social research. Within the social marketing field, systematic literature reviews have been conducted to document program effectiveness, examine current strategies and practices, and assess the academic landscape of the discipline. This chapter applies the systematic literature review method to examine the use of formative research in social marketing health interventions. A systematic search strategy was conducted which identified 166 self-labelled social marketing health interventions reported in 242 refereed journal articles. Nutrition was the most popular topic, followed by alcohol prevention, HIV/AIDS, and physical activity. A majority of these interventions reported conducting some form of formative research activities to understand the target audience's characteristics, attitudes, behaviours, and preferred communication channels. Theory and model use was not always reported. Qualitative methods were employed in nearly half of the identified interventions. Relatively limited stakeholder participation in formative research activities was found, particularly of policy makers. Study limitations are discussed and implications for further research indicated.

Introduction

Systematic literature reviews are arguably one of the most popular methods in social research (Webb and Roe 2007; Littell et al. 2008). Petticrew and Roberts (2006) define systematic literature reviews as *a method of making sense of a large body of information, and a means of contributing to the answer to questions about*

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_11

what works and what does not […]. They are a method of mapping out areas of uncertainty, and identifying where little or no relevant research has been done, but where new studies are needed (p. 2). Systematic literature reviews aim to identify and evaluate all available research evidence relevant to a question. They may be highly formal, quantitative syntheses or qualitative summaries of observational data (Glasziou et al. 2003). Whether they cover a research topic or a discipline, systematic literature reviews often involve a considerable amount of data and are thus time consuming. However, they are important to benchmarking the progress of research on a topic or within a discipline while informing directions for future research with respect to topical, theoretical, and methodological trends (Truong 2014).

Refereed journal articles are perhaps the most important source of evidence for systematic literature reviews (Luca and Suggs 2013; Carins and Rundle-Thiele 2014; Truong 2014). Yet, other types of publications, such as project reports, are also valuable in that they provide practical information as well as real-world experiences. For example, in reviewing the influence of implementation on program outcomes and the factors affecting implementation Durlak and DuPre (2008) considered not only published academic literature but also additional project reports. In the field of social marketing, Briggs et al. (2012) reviewed both published, peer reviewed studies and publicly available data and trend reports to identify the key influencers of youth in high risk urban communities with respect to teen dating and dating violence. Therefore, systematic literature reviews are an observational research method that can be used to evaluate and synthesise the content of various forms of literature (Glasziou et al. 2003; Petticrew and Roberts 2006; Littell et al. 2008).

Systematic literature reviews can clearly be used as a research method in their own right. However, they can also be combined with other research methods to enhance the validity of the research results by minimising biases. In some cases, these methods are explicitly stated, such as Truong's (2014) utilisation of the content analysis method in his review of the social marketing literature published from 1998 to 2012. In other reviews, such methods are not stated but can be inferred from the analysis and synthesis of the results (Carins and Rundle-Thiele 2014; Kubacki et al. 2015a, b). Nevertheless, systematic literature reviews share the commonality of using a pre-defined protocol that comprises a clearly stated set of objectives with predetermined eligibility criteria for studies; a systematic search that aims to identify all relevant studies; an assessment of the validity of the results of the included studies; and a systematic presentation, and synthesis, of the characteristics and findings of the included studies (Petticrew and Roberts 2006; Webb and Roe 2007; Green et al. 2008; Littell et al. 2008).

While the advantages of systematic literature reviews are numerous, the main drawback is the potential influence of the reviewer. Reviewer bias potentially constrains decisions on data collection, analysis, and interpretation in favour of the research question or hypothesis (Petticrew and Roberts 2006; Littell et al. 2008). Clarke (2007) suggests an objective systematic literature review is one in which all relevant studies have been identified before their results could influence decisions

about their inclusion. This would help overcome the problem of publication and other biases where prior knowledge of the results of a study might influence the reviewer's decision of whether it should be included in his/her review (Clarke 2007; Littell et al. 2008). However, it needs to be noted that systematic literature reviews are not different from other social science research methods in that the value of the application of the method much depends on the skills and experiences of the researcher and appropriate reflection on the research process.

This chapter will provide an overview of the application of systematic literature reviews in the social marketing field. It will then return to a case study of its application to the examination of formative research in social marketing health interventions.

Systematic Literature Reviews in Social Marketing

Social marketing is a fast growing field of study (Truong et al. 2015). Therefore, there has been a perceived need among researchers and practitioners for conducting systematic literature reviews to demonstrate the effectiveness of social marketing interventions, examine current practices and strategies, and assess the academic landscape of the discipline. As will be shown below, these reviews are common in that they primarily draw upon the academic literature and use Andreasen's (2002) six social marketing benchmark criteria (behaviour change, consumer research, segmentation and targeting, marketing mix, exchange, and competition) to identify eligible studies.

Gordon et al. (2006) conducted three literature reviews to examine the efficacy of social marketing in improving diet, increasing physical exercise, and tackling substance misuse. Different databases were used to search for potential studies on each topic. Gordon et al. (2006) suggested that social marketing can be a potential approach to tackling public health issues at the individual, organisational, and societal levels. Similar findings were obtained by Stead et al. (2007) who reviewed the effectiveness of social marketing in promoting individual behaviour and generating environmental and regulatory changes in relation to alcohol, tobacco, drug abuse, and physical activity, and Truong and Hall (2013, 2016) who reviewed evidence of social marketing in tourism settings (see also Truong et al. 2014b).

Other systematic reviews seek to examine the ingredients for success and the factors affecting the effectiveness of social marketing interventions. Carins and Rundle-Thiele (2014) identified 34 social marketing studies promoting healthy eating behaviour published between 2000 and 2012. Only six studies were found to meet Andreasen's (2002) six benchmark criteria and 16 studies reported positive changes in healthy eating behaviour. Carins and Rundle-Thiele (2014) suggest that social marketing interventions can potentially improve their behaviour change outcomes by adopting all the six benchmark criteria. Similar results are also reported by Fujihira et al. (2015) with respect to social marketing physical activity

interventions among the elderly; Kubacki et al. (2015a) in the case of alcohol prevention interventions; and Kubacki et al. (2015b) with respect to social marketing studies targeting children under 12 years old.

Systematic literature reviews are also undertaken to investigate the strategies and practices employed in social marketing programs and their potential influence on behaviour change outcomes. For example, Luca and Suggs (2010) indicate that social marketing public health interventions tend to report scant usage of the full marketing mix (product, price, place, promotion, policy, and partnerships). In contrast, there is widespread use of the marketing mix among social marketing programs targeting water and sanitation products (Evans et al. 2014). In particular, the design of the social marketing product is often not grounded in theory (Alcalay and Bell 2001; Luca and Suggs 2013) and involves limited stakeholder input (Buyucek et al. 2015). Most programs tend to focus more on communication channels and activities rather than the location where the target audience access the product and adopt the proposed behaviour (Alcalay and Bell 2001; Edgar et al. 2015). This is because programs often associate the location where the audience receive information with the place where they do the behaviour or access the product (Edgar et al. 2015). Such practice potentially undermines program effectiveness because it deflects social marketers away from environmental and infrastructure change that is an important component of an effective place strategy (Edgar et al. 2015). Furthermore, evaluations of intervention outcomes are often based on self-reported knowledge and behavioural effects, while experimental designs and randomised trials are rarely used (Alcalay and Bell 2001; Luca and Suggs 2010; Evans et al. 2014).

In addition, systematic literature reviews are conducted to assess the academic landscape of the social marketing discipline. Truong (2014) suggests that research on social marketing is dominated by the English-speaking world, with US- and UK-based researchers and institutions having contributed significantly to shaping knowledge in the field. It is argued that if this trend continues, the social marketing field may remain limited not only in terms of topical coverage (i.e. public health), research perspectives (i.e. downstream influence), but also geographically. Therefore, the potential of social marketing for social issues other than health confronting less developed countries may not be realised (Truong 2014). Furthermore, while many scholars claim that social marketing is an academic discipline in its own right (Buyucek et al. 2015), others argue that this is a debatable point. For example, Truong et al. (2014a, b) identified virtually no clear 'academic home' for doctoral students to undertake social marketing research, and argued that the legitimacy of social marketing as an academic field is questionable if undergraduate course offerings and postgraduate dissertation completions are considered important criteria (see also Andreasen 2002; Kelly 2013).

On the whole, there are few systematic reviews in the extant literature of how formative research has been undertaken to inform social marketing programs, one notable exception being Carins and Rundle-Thiele (2014), who examined formative research in their review of social marketing interventions promoting healthy eating

behaviour. The next section, therefore, seeks to extend this knowledge by systematically reviewing the use of formative research in self-identified social marketing health interventions.

A Systematic Review of Formative Research in Social Marketing Health Interventions

Social scientists recognise that developing effective interventions plays an important role in improving the health and wellbeing of populations. However, delivering effective programs in real-world settings, and maintaining them, requires insightful understandings of the target audience and the many complex contextual factors affecting their lives. It is important that the potential value of new interventions is adequately tested, and this is impossible without attending carefully to the beliefs, attitudes, and behaviours of the target audience, a process that is referred to as formative research in the social, behavioural, and health science literature (Gittelsohn et al. 2006; Donovan and Henley 2010). Within respect to social marketing, formative research provides an opportunity for the social marketer to learn about the target audience and tailor an intervention to their needs and preferences (Donovan and Henley 2010), and it constitutes part of Andreasen's (2002) six social marketing benchmark criteria as noted earlier. This process often involves the participation of the people for whom interventions will be designed as well as other relevant stakeholders, and uses specific theoretical frameworks to develop formative research approaches and questions (Gittelsohn et al. 2006). However, little is known about the way formative research is undertaken in the social marketing literature (Carins and Rundle-Thiele 2014; Kubacki et al. 2015a, b). To fill this knowledge gap, this section reviews the use of formative research to inform social marketing health interventions. It seeks to answer the following questions:

- Q1: Is formative research conducted to inform social marketing health interventions?
- Q2: What are the objectives of formative research as reported by those interventions?
- Q3: What theories are used in the formative research process?
- Q4: What methods are employed in the formative research process?
- Q5: Who are the stakeholders that are involved in the formative research process?

Potential studies are required to meet the following eligibility criteria: report a social marketing intervention, seek to promote behaviour change in any area of the public health field, and are published in peer-reviewed English-language journals between 2000 and 2015.

Search Strategy To identify potential studies, a systematic search strategy was implemented. First, comprehensive searches were conducted of online databases,

including PsycInfo, Medline, Embase, PubMed, EconLit, Social Policy and Practice, Cochrane Database of Systematic Reviews, Health Technology Assessment Database, Database of Abstracts of Reviews of Effects, and Business Source Complete Database. Other online databases were also mined, such as Scopus, JSTOR, and Web of Science (Luca and Suggs 2010, 2013; Carins and Rundle-Thiele 2014; Truong 2014; Kubacki et al. 2015a, b; Rundle-Thiele et al. 2015). A variety of keywords were used in combination in the search, including 'social marketing', 'HIV', 'AIDS', 'condom use', 'safe sex', 'alcohol', 'substance misuse', 'smoking', 'testing', 'mass media', 'campaign', 'intervention', and 'behaviour change'.

Second, the reference lists of prior systematic reviews were examined for potential studies (e.g. Luca and Suggs 2010, 2013; Carins and Rundle-Thiele 2014; Truong 2014; Truong et al. 2014a; Buyucek et al. 2015; Fujihira et al. 2015; Kubacki et al. 2015a, b). In addition, all issues of *Social Marketing Quarterly* (from 2000 to 2015) and *Journal of Social Marketing* (from 2011 to 2015) were searched for relevant articles. Although social marketing studies are published in a wide range of journals, these are recognised as two main outlets that exclusively focus on social marketing research and practice (Truong et al. 2015).

The literature search was undertaken over a 3-month period, from October to December 2015, which resulted in 1691 papers. Given that the online databases that were mined tend to include similar journals, duplicate articles were removed. Next, conference papers, newspaper articles, articles published in non-English languages, and articles published before 2000 were excluded, reducing the number of articles to 1084. The titles and abstracts of these 1084 articles were then examined. Editorials, review articles, conceptual articles, articles without a significant social marketing focus, and articles not reporting social marketing health interventions were removed. A final set of 242 articles reporting 166 social marketing health interventions were included in this review.

Article Coding The identified articles were coded on seven dimensions of interest: health topic, target audience, use of formative research, formative research objectives, use of theory and/or model, research methods, and stakeholder involvement. Two independent coders participated in the coding process. After each article was coded, the two coders met and discussed any discrepancies that were present. In cases of discrepancy, the two coders re-examined the articles where discrepancies arose, and discussed until mutual agreement was reached.

Results Up to the end of 2015, 166 self-identified social marketing health interventions were found, which were reported in 242 refereed journal articles as noted. The full list of 242 articles for each intervention is provided in "Appendix". In terms of location, a large number of these interventions were implemented in developed countries. With respect to topical areas, nutrition was the most popular, which was reported in 31 interventions (18.67 %), followed by alcohol prevention/cessation (24 interventions, 14.46 %), HIV/AIDS prevention (22 interventions, 13.25 %), and physical activity (20 interventions, 12.05 %). Obesity

prevention was the focus of 12 interventions, accounting for 7.23 %. Other topics, such as sanitation, cancer prevention, and violence prevention, were reported in a smaller number of interventions. Given the prevalence of these topics, it is understandable that a large majority of the identified interventions targeted schoolchildren, adolescents, college students, and young adults. Adults aged between 30 and 60 were also the target audience of a considerable number of interventions, which could be explained by the fact that many of the above health problems (e.g. HIV/AIDS and cancer) affect increasing numbers of adults on a global scale. Overall, the identified interventions are similar in that they primarily focused on promoting behaviour change at the individual and family levels. This could be because it is often easier to obtain the desired behavioural change outcomes at these levels. Those encouraging behaviour change on a community scale were less popular, such as the 5+ *a day* campaign (Ashfield-Watt 2006), the *Sumter country program* (Burroughs et al. 2006), and the *PATH* initiative (Wilson et al. 2010, 2013).

Use of Formative Research A large majority (143/166) of the identified social marketing health interventions reported conducting some type of formative research activities (Table 1). Formative research was not reported in the remaining 23 interventions. As can be seen in Table 1, all social marketing efforts targeting obesity prevention, diabetes prevention, and sanitation reported undertaking formative research. In the areas of nutrition, physical activity, alcohol prevention/cessation, and HIV/AIDS, the number of interventions reporting formative research far outweighs those that did not report any form of formative research activities.

While some studies provided very detailed information about how formative research was conducted to inform the development of social marketing interventions (e.g. Cortes et al. 2001; Eitel and Delaney 2004; Maddock et al. 2008; Wayman et al. 2008; Hull et al. 2013), others were less clear about the formative research phase of the reported interventions (e.g. Acharya et al. 2006). However, it needs to be noted that some of the identified interventions may have conducted formative research to gain insights into their target audience but they did not report such activities because they only sought to publish intervention outcomes or because limited spaces were allowed by journals.

Objectives of Conducting Formative Research The 143 interventions that reported conducting some form of formative research activities were investigated with respect to objectives. According to Atkin and Freimuth (2001), formative research can be divided into two categories: preproduction research and production testing (or pretesting). Preproduction research seeks to gather information about audience characteristics, the behaviour of interest, and/or the potential message channels that can be used. Pretesting involves testing initial messages with members of the target audience, where feedback on appropriateness, persuasiveness, comprehension as well as recall is obtained (Atkin and Freimuth 2001). In the current review, 115 interventions (80.42 %) conducted formative research to gain insights into audience knowledge, attitudes, behaviours (Cates et al. 2014; Dickey

Table 1 Analysis of formative research in social marketing health interventions (2000–2015)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
1	Florida Cares for Women	Brown et al., 2000; Brown, Lindenberger, & Bryant, 2008; Bryant et al., 2000	Cancer Prevention	Women aged over 50	✓	Preproduction	×	Literature review, focus groups, interviews, survey	Women
2	Fort McMurray Project	Guidotti, Ford, & Wheeler, 2000	Injury Prevention	Community	✓	Preproduction	×	Survey	Community members
3	ScenariosUSA	Joiner, Minsky, & Seals, 2000	HIV/AIDS	Young adults	×	×	×	×	×
4	Be Under Your Own Influence	Kelly, Stanley, & Edwards, 2000; Kelly, Comello, & Slater, 2006	Alcohol Cessation	Adolescent Females	✓	Both[a]	Theory of Reasoned Action (TRA), Community Readiness Model	Literature review, interviews, focus groups	Young adults, adolescent females
5	Sacramento Campaign	Kennedy et al., 2000; Mizuno, Kennedy, Seals, & Myllyluoma, 2000	HIV/AIDS	Adolescents aged 14–18	✓	Preproduction	×	Survey	Adolescents under 18
6	Drink Less	Lock & Kaner, 2000; Lock et al., 2000; Lock et al., 2006; Kaner et al., 2009	Alcohol Cessation	Health professionals	✓	Preproduction	×	Focus groups, interviews, survey	Health professionals, receptionists, government representatives
7	Soweto Adolescent Reproductive Health Program	Meekers, 2000	Reproductive Health	Adolescents	✓	Preproduction	×	Survey	Young adults

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
8	Horizon Jeunes	Van Rossem & Meekers, 2000	Reproductive Health	Young adults	✓	Preproduction	Health Belief Model (HBM)	Focus groups	Young adults, peer educators
9	JeitO	Agha, Karlyn, & Meekers, 2001	HIV/AIDS	Adults	×	×	×	×	×
10	Healthy Babies Healthy Children	Brunetti et al., 2001	Child Health	Health professionals	✓	Preproduction	×	Literature review, interviews	Health professionals
11	Women, Infants, Children	Bryant et al., 2001	Nutrition	Women, infants, young children	✓	Preproduction	×	Observations, interviews, focus groups, survey	Families, women
12	Marshall Islands Healthy Stores	Cortes, Gittelsohn, Alfred, & Palafox, 2001; Gittelsohn et al., 2007	Nutrition	Community	✓	Preproduction	Social-Cognitive Theory	Interviews, surveys	Households
13	Together for Agricultural Safety	Flocks et al., 2001	Pesticide Prevention	Agricultural workers	✓	Preproduction	×	Participant observation, focus groups, interviews, surveys	Community members, healthcare providers, employers, supervisors
14	HIV. Live with It. Get Tested!	Futterman et al., 2001	HIV/AIDS	Adolescents	✓	Both	×	Literature review, focus groups, interviews	Adolescents
15	Campus Binge Drinking Campaign	Glider et al., 2001	Alcohol Cessation	Students	✓	Preproduction	×	Survey	Students

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
16	Pregnancy Drinking Prevention Campaign	Glik, Halpert-Schilt, & Zhang, 2001	Alcohol Cessation	Girls aged 13–19	✓	Pretesting	×	Focus groups	Adolescent girls, community gatekeepers
17	Just the Facts	Gomberg, Schneider, & DeJong, 2001	Alcohol Cessation	Students	✓	Preproduction	×	Survey	Students
18	Active for Life®	Hillsdon et al., 2001; Emery, Crump, & Hawkins, 2007	Physical Activity	Adults	✓	Preproduction	×	Survey	Adults
19	Eat Smart Move Smart	Neiger et al., 2001; Neiger & Thackeray, 2002	Nutrition	Adults	✓	Preproduction	Stages of Change Theory (SCT)	Focus groups, interviews, survey	Adults
20	California Bone Health Campaign	Walter et al., 2001	Nutrition	Latino mothers	✓	Preproduction	×	Literature review, focus groups, interviews, survey	Mothers, health experts
21	Truth®	Evans, Wasserman, Bertolotti, & Martino, 2002	Smoking Cessation	Adolescents aged 12–24	×	×	×	×	×
22	Immunise Australia	Carroll & Van Veen, 2002	Child Health	Parents of children under 5	✓	Preproduction	×	Literature review, focus groups	Mothers of children under 5, first-time mothers, children
23	Team Nutrition	Levine et al., 2002	Nutrition	Children	✓	Preproduction	Social Learning Theory (SLT)	Interviews, surveys	Teachers, principals, parents

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
24	Wheeling Walks	Reger et al., 2002; Reger-Nash et al., 2005	Physical Activity	Adults aged 50–65	✓	Preproduction	Theory of Planned Behaviour (TPB), Elaboration Likelihood Model	Interviews	Community members, adults
25	5-a-day	Thackeray et al., 2002	Nutrition	Adolescents	✓	Preproduction	×	Focus groups, interviews	Students, parents, faculty, staff
26	Leprosy Campaign	Wong, 2002; Brown, 2006	Leprosy	Patients, community	✓	Preproduction	×	Survey, focus groups	Community members, patients
27	Identification and Management of Alcohol-related Problems in Primary Healthcare	Aalto, Pekuri, & Seppa, 2003	Alcohol Cessation	Medical professionals	✓	Preproduction	×	Survey	Medical professionals, patients
28	Colour Your Life: Eat Fruits and Vegetables	Landers, 2003	Nutrition	Children	×	×	×	×	×
29	Middle-School Physical Activity and Nutrition	Sallis et al., 2003	Physical Activity	Children	✓	Preproduction	×	Survey	Children, parents
30	Rock! Richmond	Yancey et al., 2003	Physical Activity	Community	✓	Preproduction	×	Survey	Community residents
31	Thunder and Lightning and Rain	Almendarez, Boysun, & Clark, 2004	Diabetes Prevention	Community	✓	Both	×	Literature review, focus groups, survey	Diabetes patients, the public, health professionals, payers and purchasers of care, stakeholder groups

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
32	Freshman Alcohol Abuse Program	Brown, 2004	Alcohol Cessation	Students	×	×	×	×	×
33	The Healthy Talk	Cho et al., 2004	STDs[b] & Family Planning	Young adults	✓	Preproduction	×	Focus groups	Young adults, family planning service providers
34	National Youth Anti-Drug Campaign	Eitel & Delaney, 2004; Worden & Slater, 2004; Hornik et al., 2008; Scheier & Grenard, 2010	Drug Prevention	Adolescents	✓	Both	Social-Cognitive Theory	Literature review, focus groups	Adolescents
35	Smoking Cessation Programme	Lowry, Hardy, Jordan, & Wayman, 2004	Smoking Cessation	Women	✓	Preproduction	×	Focus groups	Women
36	Stand Up And Be Counted	Mattern & Neighbor, 2004	Alcohol Cessation	Students	✓	Preproduction	×	Survey	Students
37	Done 4	Russell, Clapp, & DeJong, 2005	Alcohol Cessation	Students	✓	Pretesting	×	Focus groups	Students
38	VERB™	Wong et al., 2004; Huhman et al., 2007; Berkowitz et al., 2008; Berkowitz, Huhman, & Nolin, 2008; Heitzler et al., 2008; Price, Huhman, & Potter, 2008; Price et al., 2009; Huhman et al., 2010; Alfonso et al., 2011	Physical Activity	Adolescents	✓	Preproduction	TPB, Social-Cognitive Theory	Focus groups, interviews	Adolescents, parents, community residents

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
39	Food Friends®	Young et al., 2004; Bellows, Cole, & Anderson, 2006; Johnson, Bellows, Beckstrom, & Anderson, 2007; Bellows, Anderson, Gould, & Auld, 2008; Bellows, Anderson, Davies, & Kennedy, 2009; Bellows, Davies, Anderson, & Kennedy, 2013	Nutrition	Children	✓	Both	×	Focus groups, interviews	Elderly people, parents, children
40	Iron-Folic Acid Supplementation Program	Berger et al., 2005; Nguyen et al., 2005	Nutrition	Women of Reproductive Age	×	×	×	×	×
41	DUI (Driving Under The Influence of Alcohol)	Clapp et al., 2005	Alcohol Cessation	Students	×	×	×	×	×
42	SOLAAR	Conner et al., 2005	HIV/AIDS	Gay male adults	✓	Preproduction	×	Focus groups	Gay male adults
43	Iron-Folic Acid Supplementation Program	Kanal et al., 2005	Nutrition	Women of Reproductive Age	✓	Both	×	Focus groups, participant observations	Women of reproductive age
44	Think Before You Buy-18's Drink	Kypri et al., 2005	Alcohol Cessation	Teens aged 13–17, parents	✓	Preproduction	×	Community consultation, surveys	Teenagers aged 13–17, parents, school

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
45	LEAN (Leaders Encouraging Activity and Nutrition)	McDermott et al., 2005	Nutrition	School board members	✓	Preproduction	×	Literature review, focus groups, interviews, survey, media analysis	School board members
46	100 % Jeune	Meekers et al., 2005; Plautz & Meekers, 2007	STDs & Family Planning	Adults aged 15–24	✓	Preproduction	HBM, SLT, TRA	Focus groups	Adults
47	Go for 2 and 5	Miller & Pollard, 2005; Pollard et al., 2008, 2009	Nutrition	Meal preparers, household grocery shoppers	✓	Preproduction	×	Literature review, focus groups, surveys	Community residents, industry experts, consumers
48	Cancer Prevention for Alabama	Miner et al., 2005	Cancer Prevention	Community	×	×	×	×	×
49	The Healthy Penis	Montoya et al., 2005; Ahrens et al., 2006	STDs & Family Planning	Male adults	×	×	×	×	×
50	Get Up and Do Something	Peterson, Abraham, & Waterfield, 2005; Peterson, Chandlee, & Abraham, 2008	Physical Activity	Adults aged 18–30	✓	Preproduction	×	Survey	Young adults
51	Xperience	Singer et al., 2005; Diamond et al., 2009	Alcohol Cessation	Youth aged 14–20	✓	Preproduction	Expectancy Theory, Social Norms Theory	Survey	Young adults

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
52	TrEAT Yourself Well	Acharya et al., 2006	Nutrition	Community	✓	Preproduction	TRA	Survey	Restaurant diners
53	5+ a Day[c]	Ashfield-Watt, 2006	Nutrition	Community	✓	Preproduction	×	Survey	Families with children
54	Cherokee Choices	Bachar et al., 2006	Diabetes Prevention	Community	✓	Preproduction	×	Literature review, focus groups, interviews	Children, parents, local gatekeepers
55	Sumter County Program	Burroughs et al., 2006	Physical Activity	Community	✓	Preproduction	×	Focus groups	Community members
56	Alcohol and Pregnancy Project	Elliott, Payne, Haan, & Bower, 2006; France et al., 2010; Payne et al., 2011a, 2011b, 2011c	Alcohol Cessation	Health professionals	✓	Preproduction	×	Literature review, focus groups, interviews	Health professionals, patients, policy makers, NGOs, women of reproductive age
57	Take Charge. Take the Test	Lee et al., 2006; Davis et al., 2011	HIV/AIDS	Women aged 18–24	✓	Preproduction	Ecological Model, TPB, HBM	Literature review, focus groups, interviews	Women aged 18–34, health and social marketing experts, advocacy groups, faith-based organisations, health institutions

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
58	Healthy Hawaii	Maddock et al., 2006; Maddock, Silbanuz, & Reger-Nash, 2008; Buchthal et al., 2011	Physical Activity	Adults	✓	Both	TPB	Literature review, focus groups, surveys	Adults
59	Florida's Folic Acid Campaign	Quinn et al., 2006; Quinn et al., 2009	Nutrition	Women of Reproductive Age	✓	Preproduction	×	Literature review, focus groups, interviews	Women of reproductive age
60	Road Crew	Rothschild, Mastin, & Miller, 2006	Alcohol Cessation	Men aged 21–34	✓	Preproduction	×	Focus groups	21–34 year old males, community, employees, suppliers, shareholders, policy makers
61	Energize Your Life!	Shive & Neyman Morris, 2006	Nutrition	Students	✓	Both	×	Focus groups	Students
62	MACS 4-city Campaign	Silvestre et al., 2006	HIV/AIDS	Male adults	✓	Preproduction	×	Focus groups, interviews	Male adults
63	5–4–3–2–1 Go!	Evans et al., 2007, 2011	Obesity Prevention	Children	✓	Preproduction	×	Focus groups	Community residents and leaders, service providers
64	Prevention IS Care	Fraze, Rivera-Trudeau, & McElroy, 2007	HIV/AIDS	Health professionals	✓	Preproduction	Diffusion of Innovations Theory, Social-Cognitive Theory	Literature review, focus groups, interviews	Health professionals

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
65	Control Your Diabetes. For Life	Gallivan, Lising, Ammary, & Greenberg, 2007	Diabetes Prevention	Adults	✓	Both	SCT, HBM	Literature review, focus groups, survey	Health professionals, consumers, stakeholder groups
66	ACCESS	Hetzel et al., 2007; Alba et al., 2010	Malaria Prevention	Community	✓	Preproduction	×	Focus groups, survey	Parents, caretakers, health professionals, community residents
67	Think Again	Lombardo & Léger, 2007	HIV/AIDS	Male adults	✓	Preproduction	×	Focus groups	Gay men
68	STDs/HIV Project	Nguyen et al., 2007	HIV/AIDS	Women	✓	Preproduction	×	Survey	Household
69	Tú No Me Conoces (You Don't Know Me)	Olshefsky, Zive, Scolari, & Zuniga, 2007	HIV/AIDS	Community	✓	Both	SCT	Focus groups	Community residents
70	Florida School Violence Campaign	Quinn, Bell-Ellison, Loomis, & Tucci, 2007	Violence Prevention	Children	✓	Preproduction	×	Interviews	School children
71	Move More Diabetes	Richert et al., 2007	Diabetes Prevention	Community	✓	Preproduction	SCT	Focus groups, surveys	Community residents
72	Chef Charles Club	Russell & Oakland, 2007	Nutrition	Adults aged over 60	✓	Preproduction	×	Focus groups	Old people
73	It's Your Move!	Swinburn et al., 2007; Matthews, Moodie, Simmons, & Swinburn, 2010	Obesity Prevention	Adolescents	✓	Preproduction	×	Focus groups, survey	Students, teachers

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
74	Get Moving	Atlantis, Salmon, & Bauman, 2008	Physical Activity	Adolescents	✓	Preproduction	×	Survey	Young children, parents
75	POWER (Prevention Options for Women Equals Rights)	Bull et al., 2003, 2008	STDs & Family Planning	Women aged 15–25	✓	Preproduction	×	Survey	Women
76	Food n Fun	Cork, 2008	Obesity Prevention	Children	✓	Preproduction	×	Literature review, focus groups, survey	Children, parents, teachers
77	Listening to Reason	De Gruchy & Coppel, 2008	Smoking Cessation	Adults aged over 40	✓	Preproduction	SCT	Focus groups, survey	Smokers
78	SNPI (School Nutrition Policy Initiative)	Foster et al., 2008	Obesity Prevention	Children	✓	Preproduction	×	Survey	School children
79	Pregnancy Drinking Campaign	Glik, Prelip, Myerson, & Eilers, 2008	Alcohol Cessation	Young women	✓	Preproduction	×	Focus groups	Young women, community
80	Heart Truth®	Long et al., 2008a, 2008b; Taubenheim et al., 2008; Wayman, Temple, Taubenheim, & Long, 2008; Wayman et al., 2008; Long et al., 2011	Heart Disease	Women aged 40–60	✓	Both	HBM, TRA, SLT, SCT, Diffusion of Innovations Theory, Social Network Theory	Literature review, focus groups	Women aged 40–60

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
81	PITSTOP	O'Brien & Forrest, 2008	Healthy Lifestyle	Men aged 50–65	✓	Preproduction	×	Literature review, focus groups, survey	Male adults
82	SWS (Safe Water System) Programme	O'Reilly et al., 2008	Sanitation	Students	✓	Preproduction	×	Survey	Students, teachers, parents
83	Saathiya	O'Sullivan, 2008	STDs & Family Planning	Young married couples	✓	Preproduction	×	Focus groups, survey	Couples, health professionals
84	Step Up. Step Out!	Peck, Sharpe, Burroughs, & Granner, 2008	Physical Activity	Women aged 35–54	✓	Preproduction	×	Focus groups, survey, media analysis	Women
85	Be Active Eat Well	Sanigorski et al., 2008	Obesity Prevention	Children aged 4–12	✓	Preproduction	×	Survey	School children
86	Go Men's Health	Burton, Atherton, & Nygaard, 2009	Healthy Lifestyle	Men aged over 40	✓	Preproduction	×	Focus groups	Men aged over 40
87	ParticipACTION	Craig, Bauman, & Reger-Nash, 2009; Craig et al., 2009	Physical Activity	Parents of school children	✓	Preproduction	×	Survey	Parents of school children
88	HEALTHY Study	DeBar et al., 2009; The HEALTHY Group, 2009; DeBar et al., 2011; Siega-Ritz et al., 2011	Diabetes Prevention	Adolescents	✓	Preproduction	×	Focus groups, interviews	School children

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
89	WoSCAP (West of Scotland Cancer Awareness Project)	Eadie, MacKintosh, MacAskill, & Brown, 2009	Cancer Prevention	Adults aged over 40	✓	Preproduction	Social-Cognitive Theory	Literature review, survey	Adults aged over 40
90	Check-It-Out	Guy et al., 2009	HIV/AIDS	Male adults	✓	Preproduction	×	Survey	Male adults
91	Steps to a Healthier Salinas	Hanni, Garcia, Ellemberg, & Winkleby, 2009	Obesity Prevention	Restaurant owners	✓	Preproduction	×	Literature review, survey	Restaurant owners
92	CSI (Corner Store Initiative)	Hoffman, Morris, & Cook, 2009	Nutrition	Children	✓	Preproduction	×	Focus groups, interviews	School children, store owners
93	Rock on Café	Johnston, Denniston, Morgan, & Bordeau, 2009	Nutrition	Children	×	×	×	×	×
94	Open Up to Mouth Cancer	Lowry et al., 2009; Croucher, Islam, & Nunn, 2011; Lowry, Archer, Howe, & Hiom, 2011	Cancer Prevention	Adults aged over 40	✓	Both	×	Focus groups	Adults aged over 40
95	Hombres Sanos	Martinez-Donate et al., 2009, 2010	HIV/AIDS	Male adults	✓	Preproduction	×	Survey	Male adults
96	EX	McCausland et al., 2009	Smoking Cessation	Community	✓	Preproduction	HBM, TRA	Focus groups, interviews, surveys	Smokers
97	Stop the Sores	Nanin, Bimbi, Grov, & Parsons, 2009; Plant et al., 2010	STDs & Family Planning	Male adults	✓	Preproduction	×	Focus groups	Male adults, community organisations

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
98	Pac-man Advergame	Pempek & Calvert, 2009	Nutrition	Children	×	×	×	×	×
99	Snack Right	Richards et al., 2009	Nutrition	Children	✓	Preproduction	×	Survey	Children, professionals
100	EPODE (Together, Let's Prevent Childhood Obesity)	Romon et al., 2009; Henley, Raffin, & Caemerer, 2011; Koperen et al., 2013	Nutrition	Children	✓	Preproduction	×	Literature review, surveys	Children
101	I Am the Owner of Me	Schmidt, Kiss, & Lokanc-Diluzio, 2009	Smoking Cessation	Adolescents aged 12–18	✓	Preproduction	×	Survey	Youth
102	Get Firefighters Moving	Staley, 2009	Physical Activity	Firefighters	✓	Preproduction	Social-Ecological Model	Focus groups, interviews, survey	Firefighters
103	Bike, Walk, and Wheel	Thomas, Sayers, Godon, & Reilly, 2009; Sayers et al., 2012	Physical Activity	Community	✓	Preproduction	SCT	Survey	Community residents
104	Florida Oral Cancer Campaign	Watson et al., 2009	Cancer Prevention	African Americans	✓	Both	×	Focus groups, interviews	African American individuals
105	Could It Be Asthma?	Briones, Lustik, & LaLone, 2010	Asthma	Parents, Caregivers	✓	Both	×	Focus groups, interviews	Parents, caregivers
106	Real Life. Real Talk®	Brookes et al., 2010	Reproductive Health	Parents and caregivers of children aged 8–18	✓	Preproduction	×	Interviews	Parents, community influentials, teens

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
107	FunAction	Bush, Laberge, & Laforest, 2010	Physical Activity	Adolescents	✓	Preproduction	×	Survey	School children
108	Parents Speak Up	Davis, Blitstein, Evans, & Kamyab, 2010; Evans et al., 2011; Gard et al., 2011	STDs & Family Planning	Parents of teens aged 10–14	×	×	×	×	×
109	Campus Alcohol Campaign	Eckert, Melancon, & James, 2010	Alcohol Cessation	Students	✓	Preproduction	×	Focus groups	Students
110	Clean Hands for Life™	Forrester, Bryce, & Mediaa, 2010	Sanitation	Health professionals	✓	Preproduction	×	Survey	Healthcare workers
111	Less is More	Glassman, Dodd, Miller, & Braun, 2010	Alcohol Cessation	Students	✓	Both	×	Focus groups	Students
112	Let's Go Local	Englberger et al., 2010, 2011; Kaufer et al., 2010	Nutrition	Community	✓	Preproduction	×	Interviews, community consultation	Community residents, advocacy groups, NGOs, policy makers
113	Avahan Programme	Lipovsek et al., 2010; Verma et al., 2010	HIV/AIDS	Female sex workers, gay men	×	×	×	×	×
114	Food Mail Program	Maji & Grier, 2010	Nutrition	Aboriginal community	×	×	×	×	×
115	Most of US	Perkins, Linkenbach, Lewis, & Neighbors, 2010	Alcohol Cessation	Adults aged 21–34	✓	Preproduction	×	Survey	Adults aged 21–34

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
116	The Right Stuff	Peterson et al., 2010	Nutrition	Students	✓	Preproduction	×	Survey	Students
117	Incentives, Pledges, and Competitions	Raju, Rajagopal, & Gilbride, 2010	Nutrition	Children	×	×	×	×	×
118	PESO (Hispanic Obesity Prevention and Education)	Rivera, Lieberman, Rivadeneyra, & Sallas, 2010	Obesity Prevention	Community	✓	Preproduction	–	Survey	Community residents
119	Cycling Connecting Communities	Rissel et al., 2010	Physical Activity	Community	×	×	×	×	×
120	Dogs Are Talking	Stephens, Bernstein, McCright, & Klausner, 2010	HIV/AIDS	Male adults	×	×	×	×	×
121	Campus Alcohol Coalition	Vinci et al., 2010	Alcohol Cessation	Students	✓	Preproduction	×	Survey	Students, university, community, policy makers, stakeholder groups
122	PATH (Positive Action for Today's Health)	Wilson et al., 2010, 2013	Physical Activity	Community	✓	Preproduction	Ecological Model	Focus groups	Community residents
123	HPV Vaccination Campaign	Cates, Shafer, Diehl, & Deal, 2011	STDs & Family Planning	Mothers of girls aged 11–12, health professionals	✓	Both	HBM	Focus groups, interviews	Parents of teens, health professionals, community organisers

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
124	Oxford Hills Healthy Moms	Dharod, Drewette-Card, & Carwford, 2011	Physical Activity	Mothers	✓	Both	×	Literature review, focus group, interview, survey	Mothers, community partners
125	Project FIT	Eisenmann et al., 2011; Paek et al., 2015	Physical Activity	Children	✓	Preproduction	Social-Ecological Model, Social-Cognitive Theory	Survey	Parents, teachers, children
126	Ma'alahi Youth Project	Fotu et al., 2011	Obesity Prevention	Adolescents	✓	Preproduction	×	Interviews, surveys, community readiness assessment	School children, parents, teachers, community residents
127	STYLE (Strength Through Youth Livin' Empowered)	Hightow-Weidman et al., 2011	HIV/AIDS	Male adults	✓	Preproduction	×	Focus groups	Male adults
128	Power Play! Campaign	Keihner et al., 2011	Physical Activity	Children	✓	Preproduction	Resiliency Theory, Social-Cognitive Theory	Survey	School children
129	Healthy Youth Healthy Communities	Kremer et al., 2011	Obesity Prevention	Children aged 13–18	✓	Preproduction	×	Survey	School children
130	MHAI (Mental Healthiness and Aging Initiative)	Kruger, Murray, & Zanjani, 2011	Mental Health	Community	✓	Preproduction	×	Focus groups	Community residents

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
131	No Germs on Me!	McDonald, Slavin, Bailie, & Schobben, 2011	Sanitation	Aborginal community	✓	Preproduction	×	Literature review, survey	Community residents
132	Last Call	Rivara, Boisvert, Relyea, & Gomez, 2011	Alcohol Cessation	Adults aged 21–34	✓	Preproduction	×	Focus groups, interviews, surveys	Community, customers, policy makers, shareholders, suppliers, stakeholders
133	You Know Different	Thackeray, Heller, Heilbronner, & Dellinger, 2011	HIV/AIDS	Adults aged 18–24	✓	Both	×	Focus groups	Young adults, community partners
134	Don't Just Say It Matters!	The National Social Marketing Centre Research Team, 2011	Reproductive Health	Aboriginal women	✓	Preproduction	×	Focus groups, interviews	Community residents, key informants
135	Because We All Breathe the Same Air	Thrasher et al., 2011	Smoking Cessation	Community	✓	Both	×	Focus groups	Community residents
136	POUZN (Point of Use Water Disinfection and Zinc Treatment)	Wang, MacDonald, Paudel, & Banke, 2011	Nutrition	Local manufacturers, caregivers	×	×	×	×	×
137	I'll Tackle It Soon	Athey et al., 2012	Cancer Prevention	Men aged over 50	×	×	×	×	×
138	Change for Life	Croker, Lucas, & Wardle, 2012	Obesity Prevention	Children	✓	Preproduction	×	Survey	Families with children

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
139	University Hall of Residence Campaign	Murphy, Moore, Williams, & Moore, 2012	Alcohol Cessation	Students	✓	Both	×	Literature review, survey	Students
140	Loving Support	Pérez-Escamilla, 2012	Nutrition	Women of Reproductive Age	✓	Preproduction	×	Focus groups	Women
141	Know Your Power	Potter, 2012	Violence Prevention	Students	✓	Both	SCT	Focus groups, survey	Students, faculty, staff
142	Have Fun, Get Fitter, Look Fab - All For Free	Withall, Jago, & Fox, 2010, 2011, 2012	Physical Activity	Community	✓	Preproduction	×	Literature review, interviews, surveys	Community residents
143	Bostin Value	Woodhouse et al., 2012	Nutrition	Parents/carers of young children	✓	Preproduction	×	Focus groups, interviews	Community residents, key informants
144	Until You Are Ready, AvoidtheStork.com	Campo et al., 2013	Reproductive Health	Women aged 18–30	✓	Both	×	Focus groups, interviews, survey	Female campus students
145	Time to Change	Evans-Lacko et al., 2013a, 2013b, 2013c; Henderson & Thornicroft, 2013	Mental Health	Adults aged 20–40	✓	Preproduction	×	Focus groups, interviews, survey	Adults
146	Scale Back Alabama	Forbus & Snyder, 2013	Obesity Prevention	Adults	✓	Preproduction	×	Focus groups	Adults
147	Live the Solution: Take Your Pills Everyday	Giordano et al., 2013	HIV/AIDS	Patients	✓	Preproduction	×	Focus groups	Patients

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
148	Acceptance Journeys	Hull, Gasiorowicz, Hollander, & Short, 2013	HIV/AIDS	Male adults	✓	Both	×	Focus groups	Male adults
149	4-day Throw-Away	James, Albrecht, Litchfield, & Weishaar, 2013	Nutrition	Families with children aged under 10	×	×	×	×	×
150	One Tiny Reason To Quit	Kennedy et al., 2013	Smoking Cessation	African American Women	✓	Preproduction	×	Literature review, focus groups, surveys	Researchers, service providers, pregnant women
151	Get Healthy Philly	Parvanta et al., 2013	Smoking Cessation	African Americans	✓	Both	×	Survey	Adult smokers
152	Sun Sound	Potente et al., 2013	Cancer Prevention	Young adults	✓	Preproduction	×	Focus groups, surveys	Young adults, school children
153	Communities That Care	Rowland et al., 2013	Alcohol Cessation	Adolescents	✓	Preproduction	Social-Ecological Model, Integrated Behavioural Model	Focus groups, survey	Students
154	Game On: Know Alcohol	Rundle-Thiele et al., 2013; Dietrich, Rundle-Thiele, Leo, & Connor, 2015; Rundle-Thiele et al., 2015	Alcohol Cessation	Students	✓	Preproduction	TPB	Focus groups, literature review, ethnographic research	School children

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
155	Before One More	Thompson et al., 2013	Alcohol Cessation	Students	✓	Both	×	Observations, in-depth interviews, focus groups, survey	Students, university administrators
156	Strength to Change	Thomson, Stanley, & Miller, 2013	Violence Prevention	Male adults	✓	Preproduction	×	Focus groups	Male adults
157	Protect Him	Cates, Diehl, Crandell, & Coyne-Beasley, 2014	HIV/AIDS	Parents and healthcare providers of teen boys	✓	Preproduction	×	Survey	Males
158	Get Yourself Tested	Friedman et al., 2014	HIV/AIDS	Women aged 15–25	✓	Preproduction	×	Focus groups, interviews	Women
159	Fat Talk Free Week	Garnett et al., 2014	Obesity Prevention	Students	✓	Preproduction	Elaboration Likelihood Model	Survey	Students
160	Show Your Love	Lynch et al., 2014	Reproductive Health	Women of Reproductive Age	✓	Preproduction	SCT	Literature review, focus groups	Women of reproductive age
161	Check Yourself	Plant et al., 2014	HIV/AIDS	Male adults	✓	Preproduction	×	Focus groups	Male adults
162	School Breakfast Program	Askelson et al., 2015	Nutrition	Children	✓	Preproduction	Theory of Active Involvement	Focus groups	School children
163	Project Raksha	Deshpande, Bhanot, & Maknikar, 2015	Reproductive Health	Women of Reproductive Age	×	×	×	×	×
164	Eryuan County Sanitation Campaign	Dickey, John, Carabin, & Zhou, 2015	Sanitation	Community	✓	Preproduction	×	Focus groups, survey	Community residents

(continued)

Table 1 (continued)

ID	Intervention	Authors	Health topic	Target audience	Formative research	Objective	Theory use	Method(s)	Stakeholder involvement
165	TAK NAK	Lee et al., 2015	Smoking Cessation	Community	×	×	×	×	×
166	Start Strong	Miller et al., 2015	Violence Prevention	Adolescents	×	×	×	×	×

By year of publication

[a]Both preproduction and pretesting; [b] Sexually transmitted diseases; ✓ reported; ×not reported; [c] This intervention differs from 5-a-day (Thackeray et al. 2002) in terms of location (New Zealand vs. USA) and target audience (community vs. adolescents). Their formative research methods and stakeholder participation differ as well as shown in the table

et al. 2015), the barriers and enablers to adopting the proposed behaviour (Quinn et al. 2007; Pérez-Escamilla 2012), and preferred message channels (Giordano et al. 2013). This was either explicitly stated or implied in these interventions. Those that reported using formative research to pretest messages among members of the target audience account for only 1.4 %, or two interventions (Glik et al. 2001; Russell et al. 2005). In the remaining 26 interventions (18.18 %), formative research was conducted to both obtain information about audience characteristics and pretest messages with members of the target audience.

Theories for Conducting Formative Research Social marketing draws upon the appropriate use of behavioural theory to provide frameworks for developing intervention strategies by specifying the determinants of health behaviour. However, recent research suggests that social marketing campaigns tend to report scant usage of theories and models (Luca and Suggs 2013). In the current review, only 33 (23.08 %) of the 143 interventions that reported conducting some form of formative research activities used theories or models in the formative research phase. Theory and model use was not explicitly stated in the remaining 110 interventions (76.92 %). Of those reporting using a theory/model, the Theory of Planned Behaviour/Reasoned Action was used most often (ten interventions), followed by the Stages of Change Theory (nine interventions), the Health Belief Model (seven interventions), and the Social-Cognitive Theory (seven interventions). Other theories/models were used less often, including Diffusion of Innovations Theory, Social-Ecological Model, and Social Learning Theory, among others. This finding is relatively consistent with prior studies (Truong et al. 2014a, b).

Some interventions used specific theories or models to develop formative research approaches and questions. In the *Be Under Your Own Influence* campaign, the Theory of Reasoned Action (TRA) was used to explore adolescent girls' perceptions of the costs and benefits of living a drug-free lifestyle (Kelly et al. 2006). The Theory of Planned Behaviour (TPB), an extension from the TRA, was utilised to guide the development of the *Wheeling Walks* campaign's messages, where the core beliefs in attitudes, norm, and perceived behavioural control factors that supported walking for exercise for the target audience were identified (Reger et al. 2002). Other theories were also used to develop campaign messages, such as the Health Belief Model and the Stages of Change Theory in the *Control Your Diabetes. For Life* project (Gallivan et al. 2007), and the TPB and the Social-Cognitive Theory in the *VERB* project (Huhman et al. 2007). Overall, most of the identified interventions used theories to gain insights into the personal factors affecting the behavioural choices of the target audience. Only a limited number of interventions sought to examine the contextual and environmental factors that influenced the behaviour of the target audience, and these were primarily based on the Ecological Model or the Social-Cognitive Theory. Examples include the *Get Firefighters Moving* campaign (Staley 2009) and the *Power Play!* campaign (Keihner et al. 2011). Meanwhile, theory and model use was mentioned in some interventions but how they contributed to the formative research phase was not clearly stated (e.g., Long et al. 2008; McCausland et al. 2009).

Research Methods for Conducting Formative Research Prior research suggests that qualitative research methods are predominantly used in social marketing studies (Truong 2014). Relatively similar findings are found in the current review, where 62 (43.36 %) of the 143 identified interventions employed qualitative methods in their formative research phase. Quantitative and mixed methods approaches were adopted in 39 (27.27 %) and 42 (29.37 %) of the identified interventions, respectively.

Among those interventions that used qualitative methods in their formative research phase, eight combined three methods (literature review, focus groups, and interviews) (e.g. Quinn et al. 2006, 2009; Fraze et al. 2007) and 18 combined two methods (literature review and focus groups, literature review and interviews, focus groups and interviews, or focus groups and observations) (e.g. Friedman et al. 2014; Lynch et al. 2014). In both cases, a review of literature was often conducted to learn from prior interventions and/or regulatory documents, which was followed by focus group discussions or interviews with members of the target audience. The remaining 36 interventions based their formative research on a single qualitative method, where focus group discussions were the most frequently used (e.g. Hull et al. 2013; Thomson et al. 2013; Plant et al. 2014). By contrast, no combinations of quantitative research methods were found. Indeed, all of the 39 interventions that reported using quantitative methods based their formative research on questionnaire surveys (e.g. Kremer et al. 2011; Croker et al. 2012).

Stakeholder Involvement in Formative Research Social marketing seeks to promote behavioural change for the benefit of individuals, communities, and society. This is a challenge not only because it is generally difficult to define a behaviour and communicate its (often intangible) benefits to the target group, but also because behaviour change takes place in complicated, or at least contested contexts (Lefebvre 2013). Therefore, it is widely recognised that successful social marketing interventions require the involvement of different stakeholders, such as interest groups, the media, community organisations, private and public institutions, and policy makers (Kotler and Lee 2009; Donovan and Henley 2010), who may participate in the design, implementation, and/or evaluation of social marketing initiatives. The involvement of such stakeholders in social marketing interventions has been described in the forms of partnerships (Abercrombie et al. 2012), coalitions (Kennedy et al. 2000), alliances (Andreasen and Drumwright 2001), and community based social marketing (Flocks et al. 2001). Therefore, identifying which stakeholders are involved in formative research is important not only because it represents the first step towards understanding stakeholder involvement in social marketing initiatives, but also because of the extent to which it should help underlie any behavioural change strategy.

In the current review, the involvement of stakeholders in the formative research phase of the identified interventions varies significantly by context. The number of stakeholders tended to be very limited among interventions that were undertaken in college settings, where students were the target audience and, at the same time, the

participants in focus group discussions, interviews, and/or surveys (e.g. Gomberg et al. 2001; Mattern and Neighbors 2004). Stakeholder involvement was greater among interventions that targeted young and school-aged children, where parents, teachers, and school staff were engaged in formative research activities. Examples include *Project FIT* (Eisenmann et al. 2011; Paek et al. 2015), *Ma'alahi Youth* project (Fotu et al. 2011), and *Food n Fun* (Cork 2008). The largest number of stakeholders was reported in interventions that sought to promote community-wide change. For example, the *Thunder and Lightning and Rain* campaign engaged people with diabetes, the public, health professionals, payers and purchasers of healthcare services, and stakeholder groups in its formative research activities (Almendarez et al. 2004). Likewise, the *Let's Go Local* campaign attracted not only community residents but also advocacy groups, NGOs, and policy makers in the formative research phase that included interviews and community consultation (Englberger et al. 2010, 2011; Kaufer et al. 2010). Overall, a large majority of the identified interventions conducted formative research within their target audience groups. Relatively limited involvement was found, particularly of policy makers, with notable exceptions being the *Alcohol and Pregnancy* project (Elliott et al. 2006; France et al. 2010; Payne et al. 2011a, b, c) and the *Let's Go Local* campaign (Kaufer et al. 2010; Englberger et al. 2010, 2011), among others.

Discussion and Conclusion

Social marketing has developed relatively quickly over the last 45 years, leading to its potential being explored in many new areas other than health, such as environmental protection (Takahashi 2009), poverty alleviation (Kotler and Lee 2009), tourism (Truong and Hall 2013, 2015, 2016), and animal conservation (Drury 2011; Truong et al. 2016). Therefore, systematically reviewing the social marketing literature has become vital to informing future research and practice. This chapter has explored some of the potential applications of the systematic literature review method to social marketing. The most significant aspect of systematic literature reviews is a clear understanding of the process and the systematic selection and synthesis of appropriate studies. The case study that has been presented in this chapter illustrates both the process of undertaking a systematic literature review and its application to an under-researched issue in contemporary social marketing debates. It has suggested that a large majority of social marketing health interventions reported conducting some form of formative research activities to gain insights into the target audience's beliefs, attitudes, behaviours, and preferred communication channels. Pretesting of messages with members of the target audience was less popular. This finding suggests that social marketing researches and practitioners appear to understand the true nature of formative research of trying to understand the target audience before developing or implementing a behaviour change strategy. While in some interventions detailed information about the formative research phase was provided, in others this was less clear or was only

implied. It is recommended that social marketing health campaigns clearly report their formative research activities, which would help establish a clear linkage between formative research and intervention outcomes. In addition, reporting such activities may provide valuable lessons for the design, implementation, and evaluation of future campaigns. To realise this, academic journal editors need to recognise that reporting the formative research phase of any social marketing intervention is as important as reporting its outcomes.

If social marketing is concerned with changing behaviours, then it is often assumed that this is undertaken upon the use of appropriate theories and models to understand what actually causes people to change their behaviours (Lefebvre 2013). Lefebvre (2013) suggests that theories serve to explain how and why things are related, assist in identifying what should be focused upon, suggest what questions should be asked, help formulate assumptions about what should be done about a social problem, suggest the type of outcomes that should be set, and determine how success should be measured. However, this chapter has found that most of the identified social marketing health interventions did not base their formative research on any theory and model. This is not surprising given that prior research has suggested that many social marketing campaigns tend to be undertaken on the basis of lay knowledge and assumptions, often without reference to theory or evidence-based methods of changing behaviours (Luca and Suggs 2013; Truong 2014). If social marketing interventions are developed on the basis of intuition or personal beliefs with respect to individual behaviour and responsibility, then it is difficult to identify common factors in effective interventions.

Most interventions reported using theories/models to identify the personal factors affecting the behaviour of the target audience. Only a few interventions used the Social-Cognitive Theory or the Ecological Model to understand the broad contextual and environmental influencers of the behavioural choices of the target audience. Again, this comes as no surprise since most social marketing programs tend to focus on individual behaviour change (Lefebvre 2013; Truong 2014). Lefebvre (2013, p. 79) argues that it is only when social marketers *switch to social cognitive and diffusion theories that [they] begin to consider aspects of a person's "outside world" or environment in solving the puzzles that are presented [to them].* Some recent research has explored the potential of social marketing in influencing environmental change rather than individual change, and has offered further implications for the use of the Social-Cognitive and Ecological Models (Truong 2016).

In terms of methods, nearly half (62) of the identified interventions employed qualitative methods to conduct formative research, where combinations of two and three methods (literature review, focus groups, interviews) were found in 26 interventions. The remaining 36 interventions used a single qualitative method in their formative research phase, where focus group discussions were the most frequently reported. Questionnaire surveys were the only quantitative method reported. On the whole, ethnographic research methods were rarely used. While qualitative methods, such as focus groups and interviews, are useful in that they

allow the social marketer to understand the social problems of interest from the perspective of the target audience, they are not always reliable, particularly if they are not complemented by other methods. As Western (2007, p. 329) has critiqued with respect to the use of focus groups, *If you ask people conscious questions about unconscious processes, they will be happy to offer you their theories. But most of the time, these theories are wrong.* This has been referred to as the 'say-mean' gap, which typically arises when the target group makes non-routine decisions (Zaltman and Zaltman 2008, p. 9). With respect to social marketing, the gap between saying and meaning may arise when a culturally sensitive behaviour is promoted. For example, Asian men who have sex with men may not be comfortable with disclosing their HIV status and sexual behaviour because they want to protect themselves and their family from shame (Yoshioka and Schusmack 2001).

Likewise, the use of surveys to examine the target audience's beliefs, attitudes, and behaviours may also not be sufficient. As Zaltman and Zaltman (2008) argue, when the audience group is asked to attach ratings of agreement to statements, the response reveals only thoughts about what the social marketer deems important but which might not actually be the most relevant drivers of individual behaviour. Put another way, the audience is responding to ideas imposed on them, not generated by them. To overcome this barrier, it is necessary that ethnographic research methods, such as observations, should be employed to provide additional evidence regarding the beliefs, attitudes, and behaviours of the target group. In addition, these methods should explore not just individuals' beliefs, attitudes, and behaviours, but also the socio-cultural context and the structural barriers and enablers to adopting the proposed behaviour. To this end, all relevant stakeholders should be involved in the formative research phase and their views integrated in the design and implementation of social marketing interventions (Donovan and Henley 2010; Lefebvre 2013). This study has found limited participation of stakeholders, particularly policy makers in formative research activities. Although it is generally difficult to access policy makers and senior government officials, these people are often gatekeepers of information and potential sources of rich data for researchers. Because they have access to special data, knowledge, and power, they are providers of valuable policy information that would be very helpful for social marketers to develop upstream strategies. The combination of different research methods and stakeholder input in the formative research process would contribute to enhancing the quality of baseline survey questions and the outcome evaluation study.

Finally, some limitations in this chapter should be noted. First, this chapter has explored some potential applications of the systematic literature review method and illustrated it through the examination of formative research in social marketing health interventions. Only interventions labelling themselves as social marketing were analysed. Future research may, therefore, examine the use of formative research by interventions that do not label themselves in social marketing terms, as well as those that were undertaken in other topic areas. Second, several relevant interventions might have been missed notwithstanding multiple databases were mined. Third, interventions published in non-English languages were not included

and thus further research is needed, particularly by scholars outside of the English-speaking world. A greater evidence base would then be established of the use of formative research in social marketing interventions.

Appendix

See Table 2.

Table 2 Articles included in the analysis of formative research in social marketing health interventions by year of publication (2000–2015)

ID	Intervention	Authors
1	Florida Cares for Women	Brown, K.M., Bryant, C.A., Forthofer, M.S., et al. (2000). Florida Cares for Women social marketing campaign: A case study. *American Journal of Health Behavior, 21*(1), 44–52
		Bryant, C.A., Forthofer, M.S., McCormack-Brown, K., et al. (2000). A social marketing approach to increase breast cancer screening rates. *Journal of Health Education, 31*(6), 320–330
		McCormack-Brown, K., Lindenberger, J.H., & Bryant, C.A. (2008). Using pretesting to ensure your messages and materials are on strategy. *Health Promotion Practice, 9*(2), 116–122
2	Fort McMurray Project	Guidotti, T.L., Ford, L., & Wheeler, M. (2000). The Fort McMurray demonstration project in social marketing: Theory, design, and evaluation. *American Journal of Preventive Medicine, 18*(2), 163–169
3	ScenariosUSA	Joiner, K., Minsky, M., & Seals, B.F. (2000). By and for youth: Lessons from the Sahel and Paris Come to the USA. *Social Marketing Quarterly, 6*(3), 138–151
4	Be Under Your Own Influence	Kelly, K.J., Stanley, L., & Edwards, R. (2000). The impact of a localized anti-alcohol and tobacco media campaign on adolescent females. *Social Marketing Quarterly, 6*(3), 39–43
		Kelly, K.J., Comello, M.L.G., & Slater, M. D. (2006). Development of an aspirational campaign to prevent youth substance use: "Be Under Your Own Influence". *Social Marketing Quarterly, 12*(2), 14–27

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Table 2 (continued)

ID	Intervention	Authors
5	Sacramento Campaign	Kennedy, M.G., Mizuno, Y., Seals, B.F., et al. (2000). Increasing condom use among adolescents with coalition-based social marketing. *AIDS, 14*, 1809–1818
		Mizuno, Y., Kennedy, M., Seals, B., & Myllyluoma, J. (2000). Predictors of teens' attitudes toward condoms: Gender differences in the effects of norms. *Journal of Applied Social Psychology, 30*(7), 1381–1395
6	Drink Less	Lock, C.A., & Kaner, E.F.S. (2000). Use of marketing to disseminate brief alcohol intervention to general practitioners: Promoting health care interventions to health promoters. *Journal of Evaluation in Clinical Practice, 6*(4), 345–357
		Lock, C.A., Kaner, E.F.S., Heather, N., et al. (2000). Changes in receptionists' attitudes towards involvement in a general practice-based trial of screening and brief alcohol intervention. *British Journal of General Practice, 50*, 111–115
		Lock, C.A., Kaner, E., Heather, N., et al. (2006). Effectiveness of nurse-led brief alcohol intervention: A cluster randomized controlled trial. *Journal of Advanced Nursing, 54*(4), 426–439
		Kaner, E., Bland, M., Cassidy, P., et al. (2009). Screening and brief interventions for hazardous and harmful alcohol use in primary care: A cluster randomised controlled trial protocol. *BMC Public Health, 9*, 287–300
7	Soweto Adolescent Reproductive Health Program	Meekers, D. (2000). The effectiveness of targeted social marketing to promote adolescent reproductive health: The case of Soweto, South Africa. *Journal of HIV/AIDS Prevention & Education for Adolescents & Children, 3*(4), 73–92
8	Horizon Jeunes	Van Rossem, R., & Meekers, D. (2000). An evaluation of the effectiveness of targeted social marketing to promote adolescent and young adult reproductive health in Cameroon. *AIDS Education and Prevention, 12*(5), 383–404
9	JeitO	Agha, S., Karlyn, A., & Meekers, D. (2001). The promotion of condom use in non-regular sexual partnerships in urban Mozambique. *Health Policy and Planning, 16*(2), 144–151

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Table 2 (continued)

ID	Intervention	Authors
10	Healthy Babies Healthy Children	Brunetti, G., Forsyth, P., Feltracco, A., et al. (2001). Partnering for social change: Public health positively affecting physician practices. *Social Marketing Quarterly, 7*(3), 57–62
11	Women, Infants, Children	Bryant, C., Lindenberger, J., Brown, C., et al. (2001). A social marketing approach to increasing enrolment in a public health program: A case study of the Texas WIC program. *Human Organization, 60(3)*, 234–246
12	Marshall Islands Healthy Stores	Cortes, L.M., Gittelsohn, J., Alfred, J., & Palafox, N.A. (2001). Formative research to inform intervention development for diabetes prevention in the Republic of the Marshall Islands. *Health Education and Behavior, 28*(6), 696–715
		Gittelsohn, J., Dyckman, W., Frick, K.D., et al. (2007). A pilot food store intervention in the Republic of the Marshall Islands. *Health Promotion in the Pacific, 14*(2), 43–53
13	Together for Agricultural Safety	Flocks, J., Clarke, L., Albrecht, S., et al. (2001). Implementing a community-based social marketing project to improve agricultural worker health. *Environmental Health Perspectives, 109*(3), 461–468
14	HIV. Live with It. Get Tested!	Futterman, D.C., Peralta, L., Rudy, B.J., et al. (2001). The ACCESS (Adolescents Connected to Care, Evaluation, and Special Services) project: Social marketing to promote HIV testing to adolescents, methods and first year returns from a six city campaign. *Journal of Adolescent Health, 29S*, 19–29
15	Campus Binge Drinking Campaign	Glider, P., Midyett, S.J., Mills-Novoa, B., et al. (2001). Challenging the collegiate rite of passage: A campus-wide social marketing media campaign to reduce binge drinking. *Journal of Drug Education, 31*(2), 207–220
16	Pregnancy Drinking Prevention Campaign	Glik, D., Halpert-Schilt, E., & Zhang, W. (2001). Narrowcasting risks of drinking during pregnancy among African American and Latina adolescent girls. *Health Promotion Practice, 2*(3), 222–232

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Table 2 (continued)

ID	Intervention	Authors
17	Just the Facts	Gomberg, L., Schneider, S.K., & DeJong, W. (2001). Evaluation of a social norms marketing campaign to reduce high-risk drinking at the University of Mississippi. *American Journal of Alcohol Abuse, 27*(2), 375–389
18	ACTIVE for LIFE®	Hillsdon, M., Cavill, K., Nanchahal, K., et al. (2001). National level promotion of physical activity: Results from England's *ACTIVE for LIFE* campaign. *Journal of Epidemiol Health, 55*, 755–761
		Emery, J., Crump, C., & Hawkins, M. (2007). Formative evaluation of AARP's Active for Life® campaign to improve walking and bicycling environments in two cities. *Health Promotion Practice, 8*(4), 403–414
19	Eat Smart Move Smart	Neiger, B.L., Thackeray, R., Merritt, R., et al. (2001). The impact of a social marketing campaign on the eat smart move smart initiative among public health employees. *Social Marketing Quarterly, 7*, 10–28
		Neiger, B.L., & Thackeray, R. (2002). Application of the SMART model in two successful social marketing projects. *American Journal of Health Education, 33* (5), 301–303
20	California Bone Health Campaign	Walter, C.G., Bell, E.J., Martinez, N.A., et al. (2001). California Bone Health campaign: Using social marketing to promote 1 % milk with low-income Latino mothers. *Social Marketing Quarterly, 7*(3), 53–56
21	Truth®	Evans, W.D., Wasserman, J., Bertolotti, E., & Martino, S. (2002). Branding behavior: The strategy behind the TruthSM campaign. *Social Marketing Quarterly, 8*(3), 17–29
22	Immunise Australia	Carroll, T.E., & Van Veen, L. (2002). Public health social marketing: The Immunise Australia program. *Social Marketing Quarterly, 8*(1), 55–61
23	Team Nutrition	Levine, E., Orlander, C., Lefebvre, C., et al. (2002). The Team Nutrition pilot study: Lessons learned from implementing a comprehensive school-based intervention. *Journal of Nutrition Education & Behavior, 34*, 109–116

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Table 2 (continued)

ID	Intervention	Authors
24	Wheeling Walks	Reger, B., Cooper, L., Booth-Butterfield, S., et al. (2002). Wheeling Walks: A community campaign using paid media to encourage walking among sedentary older adults. *Preventive Medicine, 35*, 285–292
		Reger-Nash, B., Bauman, A., Booth-Butterfield, S., et al. (2005). Wheeling Walks: Evaluation of a media-based community intervention. *Family & Community Health, 28*(1), 64–78
25	5-a-day	Thackeray, R., Neiger, B.L., Leonard, H., et al. (2002). Comparison of a 5-a-day social marketing intervention and school-based curriculum. *American Journal of Health Studies, 18*(1), 46–54
26	Leprosy Campaign	Wong, M.L. (2002). Can social marketing be applied to leprosy programs? *Leprosy Reviews, 73*, 308–318
		Brown, W. (2006). Can social marketing approaches change community attitudes towards leprosy? *Leprosy Reviews, 77*, 89–98
27	Identification and Management of Alcohol-related Problems in Primary Healthcare	Aalto, M., Pekuri, P., & Seppa, K. (2003). Primary health care professionals' activity in intervening in patients' alcohol drinking during a 3-year brief intervention implementation project. *Drug and Alcohol Dependence, 69*, 9–14
28	Colour Your Life: Eat Fruits and Vegetables	Landers, P. (2003). Refrigerator art to promote 5 a day. *Journal of Nutrition Education & Behavior, 35*, 268–268
29	Middle-School Physical Activity and Nutrition	Sallis, J.F., McKenzie, T.L., Conway, T.L., et al. (2003). Environmental interventions for eating and physical activity. *American Journal of Preventive Medicine, 24*(3), 209–217
30	ROCK! Richmond	Yancey, A.K., Jordan, A., Bradford, J., et al. (2003). Engaging high-risk populations in community-level fitness promotion: ROCK! Richmond. *Health Promotion Practice, 4*(2), 180–188
31	Thunder and Lightning and Rain	Almendarez, I., Boysun, M., & Clark, K. (2004). Thunder and lightning and rain: A Latino/Hispanic diabetes media awareness program. *Family & Community Health, 27*, 114–122

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Table 2 (continued)

ID	Intervention	Authors
32	Freshman Alcohol Abuse Program	Brown, J.J. (2004). An analysis of the Freshmen Alcohol Abuse program. *California Journal of Health Promotion, 2* (2), 41–71
33	The Healthy Talk	Cho, H., Oehlkers, P., Mandelbaum, J., et al. (2004). The Healthy Talk family planning campaign of Massachusetts: A community-centered approach. *Health Education, 104*(5), 314–325
34	National Youth Anti-Drug Campaign	Eitel, T., & Delaney, B. (2004). The role of formative research in a mass media social marketing campaign. *Social Marketing Quarterly, 10*(2), 28–33
		Worden, J.K., & Slater, M.D. (2004). Theory and practice in the National Youth Anti-Drug Media campaign. *Social Marketing Quarterly, 10*(2), 13–27
		Hornik, R., Jacobsohn, L., Orwin, R., et al. (2008). Effects of the National Youth Anti-Drug Media campaign on youths. *American Journal of Public Health, 98*(12), 2229–2236
		Scheier, L.M., & Grenard, J.L. (2010). Influence of a nationwide social marketing campaign in adolescent drug use. *Journal of Health Communication, 15*(3), 240–271
35	Smoking Cessation Programme	Lowry, R.J., Hardy, S., Jordan, C., & Wayman, G. (2004). Using social marketing to increase recruitment of pregnant smokers to smoking cessation service: A success story. *Public Health, 118*, 239–243
36	Stand Up And Be Counted	Mattern, J.L., & Neighbors, C. (2004). Social norms campaigns: Examining the relationship between changes in perceived norms and changes in drinking levels. *Journal of Studies on Alcohol, 7*, 489–493
37	Done 4	Russell, C.A., Clapp, J.D., & DeJong, W. (2005). Done 4: Analysis of a failed social norms marketing campaign. *Health Communication, 17*(1), 57–65
38	VERB™	Wong, F., Huhman, M., Heitzler, C., et al. (2004). VERB™—A social marketing campaign to increase physical activity among youth. *Preventing Chronic Disease, 1*(3), 1–7

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Table 2 (continued)

ID	Intervention	Authors
		Huhman, M.E., Potter, L.D., Duke, J.C., et al. (2007). Evaluation of a national physical activity intervention for children: VERB™ campaign 2002–2004. *American Journal of Public Health, 32*(1), 38–43
		Berkowitz, J.M., Huhman, M., Heitzler, C. D., et al. (2008). Overview of formative, process, and outcome evaluation methods used in the VERB™ campaign. *American Journal of Preventive Medicine, 34*(6S), S222–S229
		Berkowitz, J.M., Huhman, M., & Nolin, M. J. (2008). Did augmenting the VERB™ campaign advertising in select communities have an effect on awareness, attitudes, and physical activity? *American Journal of Preventive Medicine, 34*(6S), S257–S266
		Heitzler, C.D., Asbury, L.D., & Kusner, S.L. (2008). Bringing "Play" to life: The use of experiential marketing in the VERB™ campaign. *American Journal of Preventive Medicine, 34*(6), S188–193
		Price, S.M., Huhman, M., & Potter, L.D. (2008). Influencing parents of children aged 9–13 years: Findings from the VERB™ campaign. *American Journal of Preventive Medicine, 34*(6), S267–S274
		Price, S.M., Potter, L.D., Das, B., et al. (2009). Exploring the influence of the VERB™ brand using a brand equity framework. *Social Marketing Quarterly, 15*(4), 66–82
		Huhman, M., Potter, L., Nolin, M.J., et al. (2010). The influence of the VERB campaign on children's physical activity in 2002 to 2006. *American Journal of Public Health, 100*, 638–645.
		Alfonso, M.L., McDermott, R.J., Thompson, Z., et al. (2011). Vigorous physical activity among tweens, VERB Summer Scorecard Program, Kentucky, 2004–2007. *Preventing Chronic Disease, 8*(5), 104–115
39	Food Friends®	Young, L., Anderson, J., Beckstrom, L., et al. (2004). Using social marketing principles to guide the development of a nutrition education initiative for preschool-aged children. *Journal of Nutrition Education & Behavior, 36*, 250–257

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Table 2 (continued)

ID	Intervention	Authors
		Bellows, L., Cole, K., & Anderson, J. (2006). Assessing characteristics, needs, and preferences of a secondary audience for the development of a bilingual parent component to the Food Friends social marketing campaign. *Social Marketing Quarterly, 12*(2), 43–57
		Johnson, S.L., Bellows, L., Beckstrom, L., & Anderson, J. (2007). Evaluation of a social marketing campaign targeting preschool children. *American Journal of Health Behavior, 31*(1), 44–55
		Bellows, L., Anderson, J., Gould, S.M., & Auld, G. (2008). Formative research and strategic development of a physical activity component to a social marketing campaign for obesity prevention in preschoolers. *Journal of Community Health, 33*, 169–178
		Bellows, L., Anderson, J., Davies, P., & Kennedy, C. (2009). Integration of social marketing elements in the design of a physical activity program for preschoolers. *Social Marketing Quarterly, 15*(1), 2–21
		Bellows, L., Davies, P.L., Anderson, J., & Kennedy, C. (2013). Effectiveness of a physical activity intervention for head start preschoolers: A randomized intervention study. *American Journal of Occupational Therapy, 67*, 28–36
40	Iron-Folic Acid Supplementation Program	Berger, J., Hoang, T.K.T., Cavalli-Sforza, T., et al. (2005). Community mobilization and social marketing to promote weekly Iron-Folic Acid supplementation in women of reproductive age in Vietnam: Impact on Anemia and Iron status. *Nutrition Reviews, 63*(12), S95–S108
		Nguyen, C.K., Hoang, T.K.T., Berger, J., et al. (2005). Community mobilization and social marketing to promote weekly Iron-Folic Acid supplementation: A new approach toward controlling anemia among women of reproductive age in Vietnam. *Nutrition Reviews, 63*(12), S87–S94
41	DUI (Driving Under The Influence of Alcohol)	Clapp, J.D., Johnson, M., Yoas, R.B., et al. (2005). Reducing DUI among US college students: Results of an environmental prevention trial. *Addiction, 100*, 327–334

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Table 2 (continued)

ID	Intervention	Authors
42	SOLAAR	Conner, R.F., Takahashi, L., Ortiz, E., et al. (2005). The SOLAAR HIV prevention program for gay and bisexual Latino men: Using social marketing to build capacity for service provision and evaluation. *AIDS Education and Prevention, 17*(4), 361–374
43	Iron-Folic Acid Supplementation Program	Kanal, K., Busch-Hallen, J., Cavalli-Sforza, et al. (2005). Weekly Iron-Folic Acid supplements to prevent Anemia among Cambodian women in three settings: Process and outcomes of social marketing and community mobilization. *Nutrition Reviews, 63*(2), S126–S133
44	Think Before You Buy-18's Drink	Kypri, K., Dean, J., Kirby, S., et al. (2005). 'Think before you buy under-18 s drink': Evaluation of a community alcohol intervention. *Drug and Alcohol Review, 24*, 13–20
45	LEAN (Leaders Encouraging Activity and Nutrition)	McDermott, R.J., Berends, V., McCormack-Brown, K.R., et al. (2005). Impact of the California project LEAN school board member social marketing campaign. *Social Marketing Quarterly, 11* (2), 18–40
46	100 % Jeune	Meekers, D., Agha, S., & Klein, M. (2005). The impact on condom use of the "100 % Jeune" social marketing program in Cameroon. *Journal of Adolescent Health, 36*, 530.e1–530.e12
		Plautz, A., & Meekers, D. (2007). Evaluation of the reach and impact of the *100 % Jeune* youth social marketing program in Cameroon: Findings from three cross-sectional surveys. *Reproductive Health, 4*(1), 1–15
47	Go for 2 and 5	Miller, M., & Pollard, C. (2005). Health working with industry to promote fruit and vegetables: A case study of the Western Australian Fruit and Vegetable campaign with reflection on effectiveness of inter-sectoral action. *Food and Weight. 29* (2), 176–182
		Pollard, C.M., Lewis, J.M., Binns, C.W. (2008). Selecting interventions to promote fruit and vegetable consumption: From policy to action, a planning framework case study in Western Australia. *Australia and New Zealand Health Policy, 5*(27), 1–7

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Table 2 (continued)

ID	Intervention	Authors
		Pollard, C.M., Nicolson, C., Pulker, C.E., & Binns, C.W. (2009). Translating government policy into recipes for success! Nutrition criteria promoting fruits and vegetables. *Journal of Nutrition Education & Behavior. 41*(3), 218–226
48	Cancer Prevention for Alabama	Miner, J.W., White, A., Lubenow, A.E., & Palmer, S. (2005). Geocoding and social marketing in Alabama's cancer prevention programs. *Preventing Chronic Disease, 2*, 1–6
49	The Healthy Penis	Montoya, J.A., Kent, C.K., Rotblatt, H., et al. (2005). Social marketing campaign significantly associated with increases in syphilis testing among gay and bisexual men in San Francisco. *Sexually Transmitted Diseases, 32*(7), 395–399
		Ahrens, K., Kent, C.K., Montoya, J.A., et al. (2006). Healthy Penis: San Francisco's social marketing campaign to increase syphilis testing among gay and bisexual men. *PLoS Medicine, 3*(12), 2199–2203
50	Get Up and Do Something	Peterson, M., Abraham, A., & Waterfield, A. (2005). Marketing physical activity: Lessons learned from a statewide media campaign. *Health Promotion Practice, 6*(4), 437–446
		Peterson, M., Chandlee, M., & Abraham, A. (2008). Cost-effectiveness of a statewide media campaign to promote adolescent physical activity. *Health Promotion Practice, 9*(4), 426–433
51	Xperience	Singer, M., Clair. S., Schensul, J., et al. (2005). Dust in the wind: The growing use of embalming fluid among youth in Hartford, CT. *Substance Use & Misuse, 40* (8), 1035–1050
		Diamond, S., Schensul, J., Snyder, L., et al. (2009). Building Xperience: A multilevel alcohol and drug prevention intervention. *American Journal of Community Psychology, 43*, 292–312
52	TrEAT Yourself Well	Acharya, R.N., Patterson, P.M., Hill, E.P., et al. (2006). An evaluation of the TrEAT Yourself Well" restaurant nutrition campaign. *Health Education & Behavior, 33* (3), 309–324

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Table 2 (continued)

ID	Intervention	Authors
53	5+ a Day	Ashfield-Watt, P.A.L. (2006). Fruits and vegetables, 5+ a day: Are we getting the message cross? *Asia Pacific Journal of Clinical Nutrition, 15*(2), 245–252
54	Cherokee Choices	Bachar, J., Lefler, L.J., Reed, L., et al. (2006). Cherokee Choices: A diabetes prevention program for American Indians. *Preventing Chronic Disease, 3*(3), 1–9
55	Sumter County Program	Burroughs, E.L., Peck, L.E., Sharpe, P.A., et al. (2006). Using focus groups in the consumer research phase of a social marketing program to promote moderate-intensity physical activity and walking trail use in Sumter County, South Caroline. *Preventing Chronic Disease, 3*(1), 1–13
56	Alcohol and Pregnancy Project	Elliott, E.J., Payne, J., Haan, E., & Bower, C. (2006). Diagnosis of foetal alcohol syndrome and alcohol use in pregnancy: A survey of paediatricians' knowledge, attitudes, and practice. *Journal of Paediatrics and Child Health Division, 42*, 698–703
		France, K., Henley, N., Payne, J., & D'Antoine, H. (2010). Health professionals addressing alcohol use with pregnant women in Western Australia: Barriers and strategies for communication. *Substance Use & Misuse, 45*(10), 1474–1490
		Payne, J.M., France, K.E., Henley, N., et al. (2011a). RE-AIM evaluation of the Alcohol and Pregnancy project: Educational resources to inform health professionals about prenatal alcohol exposure and fetal alcohol spectrum disorder. *Evaluation & the Health Professions, 34*(1), 57–80
		Payne, J.M., France, K.E., Henley, N., et al. (2011b). Changes in health professionals' knowledge, attitudes and practice following provision of educational resources about prevention of prenatal alcohol exposure and fetal alcohol spectrum disorder. *Paediatric and Perinatal Epidemiology, 25*, 316–327
		Payne, J.M., France, K.E., Henley, N., et al. (2011c). Paediatricians' knowledge, attitudes and practice following provision of educational resources about prevention of prenatal alcohol exposure and fetal alcohol spectrum disorder. *Journal of Paediatrics and Child Health, 47*, 704–710

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ID	Intervention	Authors
57	Take Charge. Take the Test	Lee, N.R., Spoeth, S., Smith, K., et al. (2006). Encouraging African-American women to "Take Charge. Take the Test": The audience segmentation process for CDC's HIV testing social marketing campaign. *Social Marketing Quarterly, 12*(3), 16–28
		Davis, K.C., Uhrig, J., Bann, C., et al. (2011). Exploring African American women's perceptions of a social marketing campaign to promote HIV testing. *Social Marketing Quarterly, 17*(3), 39–60
58	Healthy Hawaii	Maddock, J., Takeuchi, L., Nett, B., et al. (2006). Evaluation of a statewide program to reduce chronic disease: The Healthy Hawaii Initiative, 2000–2004. *Evaluation and Program Planning, 29*, 293–300
		Maddock, J.E., Silbanuz, A., & Reger-Nash, B. (2008). Formative research to develop a mass media campaign to increase physical activity and nutrition in a multiethnic state. *Journal of Health Communication, 13*(3), 208–215
		Buchthal, O.V., Doff, A.L., Hsu, L.A., et al. (2011). Avoiding a knowledge gap in a multiethnic statewide social marketing campaign: Is cultural tailoring sufficient? *Journal of Health Communication, 16*(3), 314–327
59	Florida's Folic Acid Campaign	Quinn, G.P., Hauser, K., Bell-Ellison, B.A., et al. (2006). Promoting pre-conceptional use of Folic Acid to Hispanic women: A social marketing approach. *Maternal and Child Health Journal, 10*(5), 403–412
		Quinn, G.P., Thomas, K.B., Hauser, K., et al. (2009). Evaluation of educational materials from a social marketing campaign to promote Folic Acid use among Hispanic women: Insight from Cuban and Puerto Rican ethnic groups. *Journal of Immigrant Minority Health, 11*, 406–414
60	Road Crew	Rothschild, M.L., Mastin, B., & Miller, T. W. (2006). Reducing alcohol-impaired driving crashes through the use of social marketing. *Accident Analysis and Prevention, 38*, 1218–1230

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Table 2 (continued)

ID	Intervention	Authors
61	Energize Your Life!	Shive, S.E., & Neyman Morris, M. (2006). Evaluation of the *Energize Your Life!* Social marketing campaign pilot study to increase fruit intake among community college students. *Journal of American College Health, 55*(1), 33–39
62	MACS 4-city Campaign	Silvestre, A.J., Hylton, J.B., Johnson, L.M., et al. (2006). Recruiting minority men who have sex with men for HIV research: Results from a 4-city campaign. *Public Health Matters, 96*(6), 1020–1027
63	5–4–3–2–1 Go!	Evans, W.D., Necheles, J., Longjohn, & Christoffel, K.K. (2007). The 5–4–3–2–1 Go! Intervention: Social marketing strategies for nutrition. *GEM, 436*, S55–S59
		Evans, W.D., Christoffel, K.K., Necheles, J., et al. (2011). Outcomes of the 5–4–3–2–1 Go! Childhood obesity community trial. *American Journal of Health Behavior, 35* (2), 189–198
64	Prevention IS Care	Fraze, J.L., Rivera-Trudeau, M., & McElroy, L. (2007). Applying behavioral theories to a social marketing campaign. *Social Marketing Quarterly, 13*(1), 2–14
65	Control Your Diabetes. For Life	Gallivan, J., Lising, M., Ammary, N.J., & Greenberg, R. (2007). The National Diabetes Education Program's "Control Your Diabetes. For Life" campaign: Design, implementation, and lessons learned. *Social Marketing Quarterly, 13*(4), 65–82
66	ACCESS	Hetzel, M.W., Iteba, N., Makemba, A., et al. (2007). Understanding and improving access to prompt and effective malaria treatment and care in rural Tanzania: The ACCESS programme. *Malaria Journal, 6*, 83–98
		Alba, S., Dillip, A., Hetzel, M.W., et al. (2010). Improvements in access to malaria treatment in Tanzania following community, retail sector and health facility interventions—a user perspective. *Malaria Journal, 9*, 163–179
67	Think Again	Lombardo, A.P., & Léger, Y.A. (2007). Thinking about "Think Again" in Canada: Assessing a social marketing HIV/AIDS prevention campaign. *Journal of Health Communication, 12*(4), 377–397

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Table 2 (continued)

ID	Intervention	Authors
68	STDs/HIV Project	Nguyen, V.T., Khuu, V.N., Tran, P.H., et al. (2007). Impact of a community sexually transmitted infection/HIV intervention project on female sex workers in five border provinces of Vietnam. *Sexually Transmitted Infection, 83*, 376–382
69	Tú No Me Conoces (You Don't Know Me)	Olshefsky, A.M., Zive, M.M., Scolari, R., & Zuniga, M. (2007). Promoting HIV risk awareness and testing in Latinos living on the U.S-Mexico border: The Tú No Me Conoces social marketing campaign. *AIDS Education and Prevention, 19*(5), 422–435
70	Florida School Violence Campaign	Quinn, G.P., Bell-Ellison, B.A., Loomis, W., & Tucci, M. (2007). Adolescent perceptions of violence: Formative research findings from a social marketing campaign to reduce violence among middle school youth. *Public Health, 121*, 357–366
71	Move More Diabetes	Richert, M.L., Webb, A.J., Morse, N.A., et al. (2007). Move More Diabetes: Using lay health educators to support physical activity in a community-based chronic disease self-management program. *The Diabetes Educator, 33*(6), 179S–184S.
72	Chef Charles Club	Russell, C., & Oakland, M.J. (2007). Nutrition education for older adults: The Chef Charles Club. *GEM, 441*, 233–234
73	It's Your Move!	Swinburn, B., Pryor, J., McCabe, M., et al. (2007). The Pacific OPIC project (Obesity Prevention in Communities) — Objectives and designs. *Health Promotion in the Pacific, 14*(2), 139–146
		Matthews, L.B., Moodie, M.M., Simmons, A.M., & Swinburn, B.A. (2010). The process evaluation of *It's Your Move!* an Australian adolescent community-based obesity prevention project. *BMC Public Health, 10*, 448–460
74	Get Moving	Atlantis, E., Salmon, J., & Bauman, A. (2008). Acute effects of advertisements on children's choices, preferences, and ratings of liking for physical activities and sedentary behaviours: A randomised controlled pilot study. *Journal of Science and Medicine in Sport, 11*, 553–557
75	POWER (Prevention Options for Women Equals Rights)	Bull, S.S., Posner, S.F., Ortiz, C., & Evans, T. (2003). Knowledge of, attitudes toward, and stage of change for female and male

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Table 2 (continued)

ID	Intervention	Authors
		condoms among Denver inner-city women. *Journal of Urban Health, 80*(4), 658–666
		Bull, S.S., Posner, S.F., Ortiz, C., et al. (2008). POWER for reproductive health: Results from a social marketing campaign promoting female and male condoms. *Journal of Adolescent Health, 43*, 71–78
76	Food n Fun	Cork, S. (2008). Beating the barriers to social marketing. *Social Marketing Quarterly, 14*(1), 37–49
77	Listening to Reason	De Gruchy, J., & Coppel, D. (2008). "Listening to Reason": A social marketing stop-smoking campaign in Nottingham. *Social Marketing Quarterly, 14*(1), 5–17
78	SNPI (School Nutrition Policy Initiative)	Foster, G.D., Sherman, S., Borradaile, K.E., et al. (2008). A policy-based school intervention to prevent overweight and obesity. *Paediatrics, 121*(4), e794–e802
79	Pregnancy Drinking Campaign	Glik, D., Prelip, M., Myerson, A., & Eilers, K. (2008). Fetal alcohol syndrome prevention using community-based narrowcasting campaigns. *Health Promotion Practice, 9*(1), 93–103
80	Heart Truth®	Long, T., Taubenheim, A.M., Wayman, J., et al. (2008). The Heart Truth: Using the power of branding and social marketing to increase awareness of heart disease in women. *Social Marketing Quarterly, 14*(3), 3–29
		Taubenheim, A.M., Long, T., Smith, E.C., et al. (2008). Using social media and internet marketing to reach women with the Heart Truth. *Social Marketing Quarterly, 14*(3), 58–67
		Wayman, J., Temple, S., Taubenheim, A. M., & Long, T. (2008). The Heart Truth: Applying formative research to build a national women's heart health movement. *Social Marketing Quarterly, 14*(3), 30–39
		Wayman, J., Long, T., Ruoff, B.A., et al. (2008). Creating a women and heart disease brand: The Heart Truth campaign's red dress. *Social Marketing Quarterly, 14*(3), 40–57
		Long, T., Taubenheim, A.M., McDonough, S., et al. (2011). Delivering the Heart Truth® to women through community education. *Social Marketing Quarterly, 17*(4), 24–40

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ID	Intervention	Authors
81	PITSTOP	O'Brien, B., & Forrest, D. (2008). PITSTOP—Men's health social marketing program. *Social Marketing Quarterly, 14*(1), 31–36
82	SWS (Safe Water System) Programme	O'Reilly, C.E., Freeman, M.C., Ravani, M., et al. (2008). The impact of a school-based safe water and hygiene programme on knowledge and practices of students and their parents: Nyanza Province, west Kenya, 2006. *Epidemiological Infection, 136*, 80–91
83	Saathiya	O'Sullivan, G. (2008). The Saathiya Trusted Partner program in India: Meeting young couple's reproductive health needs. *Social Marketing Quarterly, 14*(3), 109–120
84	Step Up. Step Out!	Peck, L.E., Sharpe, P.A., Burroughs, E.L., & Granner, M.L. (2008). Recruitment strategies and costs for a community-based physical activity program. *Health Promotion Practice, 9*(2), 191–198
85	Be Active Eat Well	Sanigorski, A.M., Bell, A.C., Kremer, P.J., et al. (2008). Reducing unhealthy weight gain in children through community capacity-building: Results of a quasi-experimental intervention program, Be Active Eat Well. *International Journal of Obesity, 32*, 1060–1067
86	Go Men's Health	Burton, A., Atherton, M., & Nygaard, A. (2009). Go Men's Health program. *Social Marketing Quarterly, 15*(2), 39–47
87	ParticipACTION	Craig, C.L., Bauman, A., & Reger-Nash, B. (2009). Testing the hierarchy of effects model: ParticipACTION's serial mass communication campaigns on physical activity in Canada. *Health Promotion International, 25*(1), 14–23
		Craig, C.L., Bauman, A., Gauvin, L., et al. (2009). ParticipACTION: A mass media campaign targeting parents of inactive children; knowledge, saliency, and trialing behaviours. *International Journal of Behavioral Nutrition and Physical Activity, 6*, 88–95
88	HEALTHY Study	DeBar, L.L., Schneider, M., Ford, E.G., et al. (2009). Social marketing-based communications to integrate and support the HEALTHY study intervention. *International Journal of Obesity, 33*, S52–S59

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ID	Intervention	Authors
		The HEALTHY Group (2009). HEALTHY study rationale, design and methods. *International Journal of Obesity, 33*, S4–S20
		DeBar, L.L., Schneider, M., Drews, K.L., et al. (2011). Student public commitment in a school-based diabetes prevention project: Impact on physical health and health behavior. *BMC Public Health, 11*, 711–722
		Siega-Ritz, A.M., Ghormli, L.E., Gillis, B., et al. (2011). The effects of the HEALTHY study intervention on middle school student dietary intakes. *International Journal of Behavioral Nutrition and Physical Activity, 8*, 7–15
89	WoSCAP (West of Scotland Cancer Awareness Project)	Eadie, D., MacKintosh, A.M., MacAskill, S., & Brown, A. (2009). Development and evaluation of an early detection intervention for mouth cancer using a mass media approach. *British Journal of Cancer, 101*, S73–S79
90	Check-It-Out	Guy, R.G., Goller, J., Leslie, D., et al. (2009). No increase in HIV or sexually transmitted infection testing following a social marketing campaign among men who have sex with men. *Journal of Epidemiology and Community Health, 63*(5), 391–396
91	Steps to a Healthier Salinas	Hanni, K.D., Garcia, E., Ellemberg, C., & Winkleby, M. (2009). Targeting the Taqueria: Implementing healthy food options at Mexican American restaurants. *Health Promotion Practice, 10*(2), 91S–99S
92	CSI (Corner Store Initiative)	Hoffman, J.A., Morris, V., & Cook, J. (2009). The Boston middle school-corner store initiative: Development, implementation, and initial evaluation of a program designed to improve adolescents' beverage-purchasing behaviors. *Psychology in the Schools, 46*(8), 756–766
93	Rock on Café	Johnston, Y., Denniston, R., Morgan, M., & Bordeau, M. (2009). Rock on Cafe: Achieving sustainable systems changes in school lunch programs. *Health Promotion Practice, 10*(2), 100S–108S
94	Open Up to Mouth Cancer	Lowry, R., Archer, A., Howe, D., et al. (2009). Social marketing approach to a successful oral cancer case-finding pilot. *Social Marketing Quarterly, 15*(4), 99–110

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ID	Intervention	Authors
		Croucher, R., Islam, S.S., & Nunn, H. (2011). Campaign awareness and oral cancer knowledge in UK resident adult Bangladeshi: A cross-sectional study. *British Journal of Cancer, 105*, 925–930
		Lowry, R., Archer, A., Howe, D., & Hiom, S. (2011). The second phase of a social marketing approach to a successful oral cancer case-finding pilot. *Social Marketing Quarterly, 17*(4), 13–23
95	Hombres Sanos	Martinez-Donate, A.P., Zellner, J.A., Fernandez-Cerdeno, A., et al. (2009). Hombres Sanos: Exposure and response to a social marketing HIV prevention campaign targeting heterosexually identified Latino men who have sex with men and women. *AIDS Education and Prevention, 21*, 124–136
		Martinez-Donate, A.P., Zellner, J.A., Sanudo, F., et al. (2010). *Hombres Sanos*: Evaluation of a social marketing campaign for heterosexually identified Latino men who have sex with men and women. *American Journal of Public Health, 100* (12), 2532–2540
96	EX	McCausland, K.L., Allen, J.A., Duke, J.C., et al. (2009). Piloting EX, a social marketing campaign to support prompt smoking cessation. *Social Marketing Quarterly, 15* (S1), 80–101
97	Stop the Sores	Nanin, J.E., Bimbi, D.S., Grov, C., & Parsons, J.T. (2009). Community reactions to a syphilis prevention campaign for gay and bisexual men in Los Angeles County. *Journal of Sex Research, 46*(6), 525–534
		Plant, A., Montoya, J.A., Rotblatt, H., et al. (2010). Stop the Sores: The making and evaluation of a successful social marketing campaign. *Health Promotion Practice, 11* (1), 23–33
98	Pac-man Advergame	Pempek, T.A., & Calvert, S.L. (2009). Tipping the balance: Use of Advergames to promote consumption of nutritious foods and beverages by low-income African American children. *Archives of Paediatrics and Adolescent Medicine, 163*(7), 633–637

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ID	Intervention	Authors
99	Snack Right	Richards, J., Hackett, A., Duggan, B., et al. (2009). An evaluation of an attempt to change the snacking habits of pre-school children using social marketing. *Public Health, 123*, e31–e37
100	EPODE (Together, Let's Prevent Childhood Obesity)	Romon, M., Lommez, A., Tafflet, M., et al. (2009). Downward trends in the prevalence of childhood overweight in the setting of 12-year school- and community-based programs. *Public Health Nutrition*, doi:10.1017/S1368980008004278
		Henley, N., Raffin, S., & Caemerer, B. (2011). The application of marketing principles to a social marketing campaign. *Marketing Intelligence & Planning, 29*(7), 697–706
		Van Koperen, T.M., Jebb, S.A., Summerbell, C.D., et al. (2013). Characterizing the EPODE logic model: Unravelling the past and informing the future. *Obesity Reviews, 14*, 162–170
101	I Am the Owner of Me	Schmidt, E., Kiss, S.M., & Lokanc-Diluzio, W. (2009). Changing social norms: A mass media campaign for youth ages 12–18. *Canadian Journal of Public Health, 100*(1), 41–45
102	Get Firefighters Moving	Staley, J.A. (2009). "Get Firefighters Moving": Marketing a physical fitness intervention to reduce sudden cardiac health risk in full-time firefighters. *Social Marketing Quarterly, 15*(3), 85–99
103	Bike, Walk, and Wheel	Thomas, I.M., Sayers, S.P., Godon, J.L., & Reilly, S.R. (2009). Bike, Walk, and Wheel: A way of life in Columbia, Missouri. *American Journal of Preventive Medicine, 37*, S322–S328.
		Sayers, S.P., LeMaster, J.W., Thomas, I.M., et al. (2012). Bike, Walk, and Wheel: A way of life in Columbia, Missouri. *American Journal of Preventive Medicine*, *43*, S379–S383
104	Florida Oral Cancer Campaign	Watson, J.M., Tomar, S.L., Dodd, V., et al. (2009). Effectiveness of a social marketing media campaign to reduce oral cancer racial disparities. *Journal of the National Medical Association, 101*, 774–782

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ID	Intervention	Authors
105	Could It Be Asthma?	Briones, K., Lustik, F., & LaLone, J. (2010). Could it be Asthma? Using social marketing strategies to increase parent and caregiver knowledge of Asthma symptoms in children in a rural community. *Health Promotion Practice, 11*(6), 859–866
106	Real Life. Real Talk®	Brookes, R., Lehman, T.C., Maguire, S., et al. (2010). Real Life. Real Talk®: Creating engagement in sexual and reproductive health among parents, teens, families, and communities. *Social Marketing Quarterly, 16*(1), 52–69
107	FunAction	Bush, P.L., Laberge, S., & Laforest, S. (2010). Physical activity promotion among underserved adolescents: "Make It Fun, Easy, and Popular". *Health Promotion Practice, 11*(S1), 79S–87S
108	Parents Speak Up	Davis, K.C., Blitstein, J.L., Evans, W.D., & Kamyab, K. (2010). Impact of a parent-child sexual communication campaign: Results from a controlled efficacy trial of parents. *Reproductive Health,* doi:10.1186/1742-4755-7-17
		Evans, W.D., Davis, K.C., Umanzor, C., et al. (2011). Evaluation of sexual communication message strategies. *Reproductive Health,* doi:10.1186/1742-4755-8-15
		Gard, J.C., Kan, M.L., Jones, S.B., et al. (2011). Organizational use of a media campaign booklet to encourage parent–child communication about waiting to have sex. *Social Marketing Quarterly, 17*(1), 91–107
109	Campus Alcohol Campaign	Eckert, J., Melancon, J., & James, G. (2010). Using social marketing to impact alcohol consumption of first-year college students. *TAHPERD Journal, 78*, 12–16
110	Clean Hands for Life™	Forrester, L.A., Bryce, E.A., & Mediaa, A. K. (2010). Clean Hand for Life™: Results of a large, multicentre, multifaceted, social marketing hand-hygiene campaign. *Journal of Hospital Infection, 74*, 225–231
111	Less is More	Glassman, T.J., Dodd, V., Miller, E.M., & Braun, R.E. (2010). Preventing high-risk drinking among college students: A social marketing campaign. *Social Marketing Quarterly, 16*(4), 92–110

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112	Let's Go Local	Englberger, L., Kuhnlein, H.V., Lorens, A., et al. (2010). Pohnpei, FSM case study in a global health project documents its local food resources and successfully promotes local food for health. *Pacific Health Dialog, 26*(1), 129–136
		Englberger, L., Lorens, A., Pretrick, M., et al. (2011). Local food policies can help promote local foods and improve health: A case study from the Federated States of Micronesia. *Hawaii Medical Journal, 70* (11), 31–34
		Kaufer, L., Engleberger, L., Cue, R., et al. (2010). Evaluation of a "Traditional Food for Health" intervention in Pohnpei, Federated States of Micronesia. *Pacific Health Dialog, 16*(1), 61–74
113	Avahan Programme	Lipovsek, V., Mukherjee, A., Navin, D., et al. (2010). Increase in self-reported consistent condom use among male clients of female sex workers following exposure to an integrated behaviour change programme in four states in southern India. *Sexually Transmitted Infection, 86*(S1), i25–i32
		Verma, R., Shekha, A., Khobragade, S., et al. (2010). Scale-up and coverage of Avahan: A large-scale HIV prevention programme among female sex workers and men who have sex with men in four Indian states. *Sexually Transmitted Infection, 86* (S1), i76–i82
114	Food Mail Program	Maji, K., & Grier, S. (2010). The Food Mail Program: "When Figs Fly"—Dispatching access and affordability to healthy food. *Social Marketing Quarterly, 16*(3), 78–95
115	Most of US	Perkins, H.W., Linkenbach, J.W., Lewis, M. A., & Neighbors, C. (2010). Effectiveness of social norms media marketing in reducing drinking and driving: A statewide campaign. *Addictive Behaviors, 35*, 866–874
116	The Right Stuff	Peterson, S., Duncan, D.P., Null, D.B., et al. (2010). Positive changes in perceptions and selections of healthful foods by college students after a short-term point-of-selection intervention at a dining hall. *Journal of American College Health, 58*(5), 425–431

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ID	Intervention	Authors
117	Incentives, Pledges, and Competitions	Raju, S., Rajagopal, P., & Gilbride, T. J. (2010). Marketing healthful eating to children: The effectiveness of incentives, pledges, and competitions. *Journal of Marketing, 74*, 93–106
118	PESO (Hispanic Obesity Prevention and Education)	Rivera, F.I., Lieberman, L.S., Rivadeneyra, G.M., & Sallas, A.M. (2010). Using a social marketing framework to transform an education program: Lessons learned from the Hispanic Obesity Prevention and Education (PESO) Program. *Social Marketing Quarterly, 16*(2), 2–17
119	Cycling Connecting Communities	Rissel, C.E., New, C., Wen, L.M., et al. (2010). The effectiveness of community-based cycling promotion: Findings from the Cycling Connecting Communities project in Sydney, Australia. *International Journal of Behavioral Nutrition and Physical Activity*, doi:10.1186/1479-5868-7-8
120	Dogs Are Talking	Stephens, S.C., Bernstein, K.T., McCright, J.E., & Klausner, J.D. (2010). Dogs Are Talking: San Francisco's social marketing campaign to increase syphilis screening. *Sexually Transmitted Diseases, 37*(3), 173–176
121	Campus Alcohol Coalition	Vinci, D.M., Philen, R.C., Walch, S.E., et al. (2010). Social norms tactics to promote a campus alcohol coalition. *American Journal of Health Education, 41*(1), 29–37
122	PATH (Positive Action for Today's Health)	Wilson, D.K., Trumpeter, N.N., St. George, S.M. (2010). An overview of the "Positive Action for Today's Health" (PATH) trial for increasing walking in low income, ethnic minority communities. *Contemporary Clinical Trials, 31*(6), 624–633
		Wilson, D.K., St. George, S.M., Trumpeter, N.N., et al. (2013). Qualitative developmental research among low income African American adults to inform a social marketing campaign for walking. *International Journal of Behavioral Nutrition and Physical Activity*, doi:10.1186/1479-5868-10-33
123	HPV Vaccination Campaign	Cates, J.R., Shafer, A., Diehl, S.J., & Deal, A.M. (2011). Evaluating a county-sponsored social marketing campaign to increase mothers' initiation of HPV vaccine for their pre-teen daughters in a primarily rural area. *Social Marketing Quarterly, 17*(1), 4–26

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ID	Intervention	Authors
124	Oxford Hills Healthy Moms	Dharod, J.M., Drewette-Card, R., & Carwford, D. (2011). Development of the Oxford Hills Healthy Moms project using a social marketing process: A community-based physical activity and nutrition intervention for low-socioeconomic-status mothers in a rural area in Maine. *Health Promotion Practice, 12*(2), 312–321
125	Project FIT	Eisenmann, J.C., Alaimo, K., Pfeiffer, K., et al. (2011). Project FIT: Rationale, design and baseline characteristics of a school- and community-based intervention to address physical activity and healthy eating among low-income elementary school children. *BMC Public Health*, doi:10.1186/1471-2458-11-607
		Paek, H-J., Jung, Y., Oh, H.J., et al. (2015). A social marketing approach to promoting healthful eating and physical activity in low-income and ethnically diverse schools. *Health Education Journal, 74*(3), 351–363
126	Ma'alahi Youth Project	Fotu, K.F., Moodie, M.M., Mavoa, H.M., et al. (2011). Process evaluation of a community-based adolescent obesity prevention project in Tonga. *BMC Public Health*, doi:10.1186/1471-2458-11-284
127	STYLE (Strength Through Youth Livin' Empowered)	Hightow-Weidman, L.B., Smith, J.C., Valera, E., et al. (2011). Keeping them in "STYLE": Finding, linking, and retaining young HIV-positive black and Latino men who have sex with men in care. *AIDS Patient Care and STDs, 25*(1), 37–45
128	Power Play! Campaign	Keihner, A.J., Meigs, R., Sugerman, S., et al. (2011). The *Power Play! Campaign's School Idea & Resource Kits* improve determinants of fruit and vegetable intake and physical activity among fourth- and fifth-grade children. *Journal of Nutrition Education & Behavior, 43*, S122–S129
129	Healthy Youth Healthy Communities	Kremer, P., Waqa, G., Vanualailai, N., et al. (2011). Reducing unhealthy weight gain in Fijian adolescents: Results of the Healthy Youth Healthy Communities study. *Obesity Reviews, 12*(S2), 29–40

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ID	Intervention	Authors
130	MHAI (Mental Healthiness and Aging Initiative)	Kruger, T.M., Murray, D., & Zanjani, F. (2011). The Mental Health and Aging Initiative: Lessons from a social marketing-informed research campaign in Kentucky. *Social Marketing Quarterly, 17* (3), 18–38
131	No Germs on Me!	McDonald, E., Slavin, N., Bailie, R., & Schobben, X. (2011). *No germs on me*: A social marketing campaign to promote hand-washing with soap in remote Australian aboriginal communities. *Global Health Promotion, 18*(1), 62–65
132	Last Call	Rivara, F.P., Boisvert, D., Relyea-Chew, A., & Gomez, T. (2011). Last Call: Decreasing drunk driving among 21–34-year-old bar patrons. *International Journal of Injury Control and Safety Promotion, 19*(1), 53–61
133	You Know Different	Thackeray, R., Heller, H., Heilbronner, J.M., & Dellinger, L.K.L. (2011). Social marketing's unique contribution to mental health stigma reduction and HIV testing: Two case studies. *Health Promotion Practice, 12*(2), 172–177
134	Don't Just Say It Matters!	The National Social Marketing Centre Research Team (2011). "Don't Just Say It Matters": Reducing inequalities in cervical screening in New Zealand. *Social Marketing Quarterly, 17*(4), 41–53
135	Because We All Breathe the Same Air	Thrasher, J.F., Huang, L., Pérez-Hernández, R., et al. (2011). Evaluation of a social marketing campaign to support Mexico city's comprehensive smoke-free law. *American Journal of Public Health, 101*(2), 328–335
136	POUZN (Point of Use Water Disinfection and Zinc Treatment)	Wang, W., MacDonald, V.M., Paudel, M., & Banke, K.K. (2011). National scale-up of zinc promotion in Nepal: Results from a post-project population-based survey. *Journal of Health, Population and Nutrition, 29*(3), 207–217
137	I'll Tackle It Soon	Athey, V.L., Suckling, R.J., Tod, A.M., et al. (2012). Early diagnosis of lung cancer: Evaluation of a community-based social marketing intervention. *Thorax, 67*, 412–417

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ID	Intervention	Authors
138	Change for Life	Croker, H., Lucas, R., & Wardle, J. (2012). Cluster-randomised trial to evaluate the 'Change for Life' mass media/social marketing campaign in the UK. *BMC Public Health*, doi:10.1186/1471-2458-12-404
139	University Hall of Residence Campaign	Murphy, S., Moore, G., Williams, A., & Moore, L. (2012). An exploratory cluster randomised trial of a university halls of residence based social norms interventions in Wales, UK. *BMC Public Health*, doi:10.1186/1471-2458-12-186
140	Loving Support	Pérez-Escamilla, R. (2012). Breastfeeding social marketing: Lessons learned from USDA's "Loving Support" campaign. *Breastfeeding Medicine, 7*(5), 358–363
141	Know Your Power	Potter, S.J. (2012). Using a multimedia social marketing campaign to increase active bystanders on the college campus. *Journal of American College Health, 60*(4), 282–295
142	Have Fun, Get Fitter, Look Fab — All For Free	Withall, J., Jago, R., & Fox, K.R. (2010). Who attends physical activity programs in deprived neighbourhoods? *Health Education Journal, 70*(2), 206–216
		Withall, J., Jago, R., & Fox, K.R. (2011). Why some do but most don't. Barriers and enablers to engaging low-income groups in physical activity programs: A mixed methods study. *BMC Public Health*, doi:10.1186/1471-2458-11-507
		Withall, J., Jago, R., & Fox, K.R. (2012). The effect of a community-based social marketing campaign on recruitment and retention of low-income groups into physical activity programs—a controlled before-and-after study. *BMC Public Health*, doi:10.1186/1471-2458-12-836
143	Bostin Value	Woodhouse, L., Bussell, P., Jones, S., et al. (2012). Bostin Value: An intervention to increase fruit and vegetable consumption in a deprived neighborhood of Dudley, United Kingdom. *Social Marketing Quarterly, 18*(3), 221–233
144	Until You Are Ready, AvoidtheStork.com	Campo, S., Askelson, N.M., Spies, E.L., et al. (2013). "Wow, That Was Funny": The value of exposure and humor in fostering campaign message sharing. *Social Marketing Quarterly, 19*(2), 84–96

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ID	Intervention	Authors
145	Time to Change	Evans-Lacko, S., Henderson, C., & Thornicroft, G. (2013). Public knowledge, attitudes and behaviour regarding people with mental illness in England, 2009-2012. *The British Journal of Psychiatry, 202*, s51–s57
		Evans-Lacko, S., Henderson, C., Thornicroft, G., & McCrone, P. (2013). Economic evaluation of the anti-stigma social marketing campaign in England 2009–2011. *The British Journal of Psychiatry, 202*, s95–s101
		Evans-Lacko, S., Malcolm, E., West, K., et al. (2013). Influence of Time to Change's social marketing interventions on stigma in England, 2009–2011. *The British Journal of Psychiatry, 202*, s77–s88
		Henderson, C., & Thornicroft, G. (2013). Evaluation of the Time to Change programme in England 2008–2011. *The British Journal of Psychiatry, 202*, s45–s48
146	Scale Back Alabama	Forbus, R., & Snyder, J.L. (2013). Use of comforting to enhance social marketing success: A case study. *Social Marketing Quarterly, 19*(2), 97–109
147	Live the Solution: Take Your Pills Everyday	Giordano, T.P., Rodriguez, S., Zhang, H., et al. (2013). Effect of a clinic-wide social marketing campaign to improve adherence to antiretroviral therapy for HIV infection. *AIDS Behavior, 17*, 104–112
148	Acceptance Journeys	Hull, S.J., Gasiorowicz, M., Hollander, G., & Short, K. (2013). Using theory to inform practice: The role of formative research in the construction and implementation of the Acceptance Journeys social marketing campaign to reduce homophobia. *Social Marketing Quarterly, 19*(3), 133–155
149	4-day Throw-Away	James, K.J., Albrecht, J.A., Litchfield, R.E., & Weishaar, C.A. (2013). A summative evaluation of a food safety social marketing campaign "4-Day Throw-Away" using traditional and social media. *Journal of Food Science Education, 12*, 48–55
150	One Tiny Reason To Quit	Kennedy, M.G., Genderson, M.W., Sepulveda, A.L., et al. (2013). Increasing tobacco quitline calls from African American pregnant women: The "One Tiny Reason to Quit" social marketing campaign. *Journal of Women's Health, 22*(5), 432–438

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ID	Intervention	Authors
151	Get Healthy Philly	Parvanta, S., Gibson, L., Forquer, H., et al. (2013). Applying quantitative approaches to the formative evaluation of antismoking campaign messages. *Social Marketing Quarterly, 19*(4), 242–264
152	Sun Sound	Potente, V., Rock, V., Mclver, J., et al. (2013). Fighting skin cancer with a musical sound: The innovative Australian Sun Sound campaign. *Social Marketing Quarterly, 19*(4), 279–289
153	Communities That Care	Rowland, B., Toumbourou, J.W., Osborn, A., et al. (2013). A clustered randomised trial examining the effect of social marketing and community mobilisation on the age of uptake and levels of alcohol consumption by Australian adolescents. *BMJ Open*, doi:10.1136/bmjopen-2012-002423
154	Game On: Know Alcohol	Rundle-Thiele, S., Russell-Bennett, R., Leo, C., & Dietrich, T. (2013). Moderating teen drinking: Combining social marketing and education. *Health Education, 113*(5), 392–406
		Dietrich, T., Rundle-Thiele, S., Leo, C., & Connor, J. (2015). One size (never) fits all: Segment differences observed following a school-based alcohol social marketing program. *Journal of School Health, 85*, 251–259
		Rundle-Thiele, S., Schuster, L., Dietrich, T., et al. (2015). Maintaining or changing a drinking behavior? GOKA's short-term outcomes. *Journal of Business Research, 68*, 2155–2163
155	Before One More	Thompson, E.B., Heley, F., Oster-Aaland, L., et al. (2013). The impact of a student-driven social marketing campaign on college student alcohol-related beliefs and behaviors. *Social Marketing Quarterly, 19*(1), 52–64
156	Strength to Change	Thomson, G., Stanley, N., & Miller, P. (2013). Give me 'strength to change': Insights into a social marketing campaign in the North of England. *Primary Health Care Research and Development, 14*, 350–359

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ID	Intervention	Authors
157	Protect Him	Cates, J.R., Diehl, S.J., Crandell, J.L., & Coyne-Beasley, T. (2014). Intervention effects from a social marketing campaign to promote HPV vaccination in preteen boys. *Vaccine*, doi:10.1016/j.vaccine.2014.05.044
158	Get Yourself Tested	Friedman, A.L., Bozniak, A., Ford, J., et al. (2014). Reaching youth with sexually transmitted disease testing: Building on successes, challenges, and lessons learned from local Get Yourself Tested campaigns. *Social Marketing Quarterly, 20*(2), 116–138
159	Fat Talk Free Week	Garnett, B.R., Buelow, R., Franko, D.L., et al. (2014). The importance of campaign saliency as a predictor of attitude and behavior change: A pilot evaluation of social marketing campaign Fat Talk Free Week. *Health Communication, 29*(10), 984–995
160	Show Your Love	Lynch, M., Squiers, L., Lewis, M.A., et al. (2014). Understanding women's preconception health goals: Audience segmentation strategies for a preconception health campaign. *Social Marketing Quarterly, 20*(3), 148–164
161	Check Yourself	Plant, A., Javanbakht, M., Montoya, J., et al. (2014). Check Yourself: A social marketing campaign to increase syphilis screening in Los Angeles county. *Sexually Transmitted Diseases, 41*(1), 50–57
162	School Breakfast Program	Askelson, N.M., Golembiewski, E.H., DePriest, A.M., et al. (2015). The answer isn't always a poster: Using social marketing principles and concept mapping with high school students to improve participation in school breakfast. *Social Marketing Quarterly, 21*(3), 119–134
163	Project Raksha	Deshpande, S., Bhanot, A., & Maknikar, S. (2015). Assessing the influence of a 360-degree marketing communications campaign with 360-degree feedback. *Social Marketing Quarterly, 21*(3), 142–151
164	Eryuan County Sanitation Campaign	Dickey, M.K., John, R., Carabin, H., & Zhou, X-N. (2015). Program evaluation of a sanitation marketing campaign among the Bai in China: A strategy for cysticercosis reduction. *Social Marketing Quarterly, 21*(1), 37–50

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ID	Intervention	Authors
165	TAK NAK	Lee, W.B., Fong, G.T., Dewhirst, T., et al. (2015). Social marketing in Malaysia: Cognitive, affective, and normative mediators of the TAK NAK antismoking advertising campaign. *Journal of Health Communication, 20*(10), 1166–1176
166	Start Strong	Miller, S., Williams, J., Cutbush, S., et al. (2015). Evaluation of the *Start Strong* initiative: Preventing teen dating violence and promoting healthy relationships among middle school students. *Journal of Adolescent Health, 56*, S14–S19

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Cochrane Database of Systematic Reviews: http://www.cochranelibrary.com/.
Craig Lefebvre's On Social Marketing and Social Change Blog: http://socialmarketing.blogs.com/.
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Survey for Formative Research

Mike Basil

Abstract Surveys are used frequently for formative research. Most frequently this involves baseline behavioural measures. However, surveys are very useful for a wider range of formative research including studying existing knowledge, attitudes and beliefs of a population. One reason is that there is a considerable amount of secondary data that already exists. An advantage of surveys is that data can be collected from a large population relatively cheaply. Surveys can be used to understand a population or to evaluate an intervention. Questions can be asked in a variety of forms—either quantitative or qualitative, open or closed-ended—and allow the potential to get honest answers to sensitive information. In actual use, several surveys have been used to study people's existing behaviours. Examples include the U.S. Centers for Disease Control and Prevention (CDC) surveys such as the BRFSS, NHIS and NHANES. Surveys have also been used to assess the knowledge, attitudes and beliefs that help us to understand those behaviours, often to help segment and target specific segments of a population. Finally, a case study examines how Porter Novelli's HealthStyles survey was developed and how it has been used to understand a variety of health behaviours.

Introduction

Formative research involves the collection of data useful as a background for variety of possible interventions (Gittelsohn et al. 2006). The roots of formative research are found in several fields, including anthropology, education, and sociology. The foundational assumption across these fields is that people's behaviours are motivated by a variety of personal, cognitive, economic, social, cultural, and structural factors. As a result, understanding these factors is an important aspect of developing more effective interventions (Gittelsohn et al. 2006). Formative research then allows us to more fully understand the underlying situation. To that end,

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_12

formative audience research is a fundamental tenet in social marketing (Andreasen 1995; Green and Kreuter 1999; Lefebvre and Flora 1988) and proposes that formative and other forms of background research increase the chances that an intervention program will be most appropriate and effective.

As this book demonstrates, a variety of research methods can be used for formative research. Of the variety of methods that are or can be employed in formative research, surveys are probably the most frequently used approach for baseline research where information on existing behaviours is examined. In the case of this baseline research, surveys are employed in a variety of countries, most frequently by government agencies, public health agencies and NGOs to measure a variety of existing conditions and behaviours. Surveys are often employed because they allow information on a large number of people to be collected at relatively low cost; can be administered in a wide variety of ways; can be open- or closed-ended; and permit access to sensitive information as well as to different and sometimes less accessible groups. However, surveys are probably somewhat under-utilised for other forms of formative and evaluative research.

Surveys

Surveys are most frequently employed in situations where the researcher is trying to understand the underlying prevalence of behaviour among a population, but are also useful in understanding existing knowledge, attitudes and beliefs. For example, research on HIV/AIDS has asked people about their knowledge of the disease, its transmission, attitudes toward those with HIV, attitudes towards and use of condoms, people's sexual behaviours, and whether or not they have been tested for HIV. In general, surveys are best employed when the researcher has a basic understanding of the situation so that the right questions are asked and the right wording used. For example, research can build on what people do, and look into why they do it. Some background research such as focus groups or interviews can often be helpful in developing the basic understanding that can help to identify the appropriate words and questions. For example, Subar et al. (2007) document how they used some formative pilot testing to develop an online self-administered food diary.

Surveys usually involve asking direct questions of respondents using closed-ended or open-ended formats or a combination of both. With regard to survey administration, historically this have been done in a variety of ways which include face-to-face, telephone, or paper-and-pencil methods. More contemporary techniques are email and the current favourite, online administration. If the researcher wants to develop a good understanding of the prevalence of knowledge, beliefs or behaviours then typically this involves administering the survey to a sample of the population. Often this will involve a fairly large sample of hundreds of respondents because this allows generalisations or subgroup analysis. Sometimes, however, surveys are more exploratory in nature and might only sample a few dozen respondents, and might even be employed to gain some

understanding of baseline measures and beliefs prior to a focus group. Finally, trying to draw inferences from the sample to the population from which the sample was drawn usually requires inferential statistics.

Compared to focus groups, where informants meet face-to-face, the use of surveys means that the results are conducted individually and as a result, are believed less likely to be influenced by any form of group pressure. The bias of group pressure and social desirability can be improved not only through the anonymity of many survey formats, but also by assurance and reminding participants of their anonymity and acknowledging that many others think, feel, or act in a variety of ways.

Surveys are almost always focused on acquiring information about the individual respondents themselves (self-report). Sometimes, however, they are used to understand a group or country by sampling one or more people who are knowledgeable about that group or country. This is often termed an 'expert survey'. Research has, for example, investigated the factors which may impede or assist the adoption of more sustainable sources of energy such as biomass (Buchholz et al. 2009). The most common type of international expert surveys probably sample members of the United National or World Health Organization (e.g. Kessler and Üstün 2004).

In contrast to face-to-face individual interviews and focus groups, surveys are mostly limited to questions that are formulated in advance and are not modified in the course of the study, i.e. the same questions are asked of all respondents. (There is a minor exception with the use of 'skip patterns' where a response to one question may not require responses to some later questions. For example, after asking a question that begins 'Have you…?', and the response is 'Yes' then typically there are follow up questions; if the response is 'No' then the survey may jump to the next issue).

Advantages and Disadvantages of Surveys

There are several benefits of using surveys for formative research. First off, many surveys have already been administered, and by making use of this existing or secondary data, there may be no costs of collection for the social marketer. Instead survey-based formative research may require only identifying the data and analysing it for your own ends. Moving beyond the original analyses already conducted on the data can move the questions from their original purpose into a new domain or a deeper understanding. For example, a study that investigates incidence of tobacco use may analyse a population's tobacco use and look at correlates such as demographics and associated beliefs. Second, survey data, especially when drawn from large-population-based surveys, can provide a large and reliable understanding of the population. Large samples not only have the ability to provide a reliable understanding of what the overall population is doing, but allow us to investigate smaller segments of the population. This can be important in developing

segmentation schemes and making targeting decisions (Grant et al. 2006; Slater 1996). Third, a population based survey is an instrument that can be used to evaluate the intervention on a large scale, which strengthens the validity of the research for governments or other funding agencies. Fourth, surveys allow the collection of a wide variety of information including both quantitative and qualitative data. This flexibility means it can be applied to a wide variety of social marketing situations. Fifth, surveys can be administered anonymously, providing the potential to get honest answers to questions involving sensitive information that may not be forthcoming in face-to-face settings such as focus groups—another reason why surveys often are employed in conjunction with, or following focus groups, when the research might want to probe further into sensitive topics.

There are also disadvantages to using surveys for formative research. The first is that the researcher must have a good understanding of the issue before developing a survey. For this reason, a literature review, exploratory research, focus groups, interviews or pilot tests may be a necessary prelude to developing a survey. Second, surveys offer less interactive potential in terms of probing or follow-up questions; essentially, researchers need to know what they want in advance, and structure their questions accordingly. Third, surveys are often language based (written or oral), so issues may arise especially in linguistically diverse populations where more than one, or many languages are spoken, or where literacy rates are uneven. Finally, some researchers may not have adequate technical skills for executing the qualitative coding and analysis required to interpret open-ended questions, or with the statistical methods that are used to describe the sample or draw inferences about the underlying population.

What Are the Typical Steps in Designing and Conducting a Survey?

Surveys should almost always begin with a research question or hypothesis. What do we need or want to know? What other issues or factors that might be relevant are missing from our research question or hypothesis? This process is typically called problem identification. For example, research questions about physical activity might be interested in the types and amounts of activity that people do, the barriers to physical activity that they may face, and the perceived benefits of being physically active.

Once the research question has been clarified, the next step will typically involve developing the survey questions. This can take the form of either adapting questions and ‘scales’ that have been developed for previous studies, or developing original questions. What do you want to know and how best can you frame it without biasing your results? A seemingly simple research question, for example, about the amount of physical activity people do can require much thought about how to structure the question to make it easy and unambiguous for respondents. It may be

necessary, for example, to list different exemplars of physical activity so that respondents do not think only of running, walking, or going to the gym, but mention others such as gardening and housework. Perhaps you want to break these different types of activity apart, and perhaps it would be easier for respondents to think in terms of days per week and minutes per day, rather than minutes per week.

Next, looking at survey questions and items, what will be the most appropriate types of questions and response options for each item—open-ended or closed-ended, Likert scale, yes or no, etc.? Similarly with interviews and focus groups, open-ended questions are most appropriate when our understanding is limited so that we can receive more guidance from respondents. A researcher might ask, 'What types of physical activity do you typically engage in?' This may not only help to get an understanding of what people typically associate with the term 'physical activity', but also might reveal a good number of activities that the researcher had not considered. Open-ended questions, however often result in lower response rates and are more difficult to code and analyse. Coding typically involves categorisation, a search for themes before proceeding.

Examples of Open-ended Questions
1. What types of physical activity do you typically engage in? _____ _____
2. What is your favourite physical activity? _____ _____
3. What would you say are the main benefits to being active? _____ _____

Closed-ended questions, when you have a good understanding of people's thoughts or behaviours, are easier for respondents and therefore usually have a higher response rate, and are easier for the researcher to code and analyse. Asking 'How many days per week are you typically active' is easy to understand and interpret. When writing your own questions it is necessary to consider the most appropriate response options, perhaps even pretesting to ensure that the response options are collectively exhaustive of all possible responses, as well as mutually exclusive, so that responses fit only into a single category. For example, what if older respondents spend a lot of time gardening, which they consider a physical activity, and this is not listed as an option?

Examples of Closed-ended or Structured Questions	
Question	Responses
Are you regularly physically active?	__no __yes
Which of the following days do you usually walk? [Mark all days you are usually active]	__Monday __Tuesday __Wednesday __Thursday __Friday __Saturday __Sunday
On days you are physically active, on average how many minutes are you usually active?	__less than 15 min __15 min to 1 h __more than an hour __more than 2 h

Once a draft of the questions is put together, the length of the survey will often need to be modified. With online surveys, it is unlikely that a respondent will be willing to spend more than 15 min on the survey, and this time is probably getting shorter. As a result, especially in the case of academic and government research, the survey needs to be trimmed to fit this time frame. Which questions are critical, and which ones can be omitted (this time around!). This process is often an iterative back-and-forth negotiation between members of the research team. For example, a team whose main interest is in the perceived barriers to activity might determine that simply measuring days per week of physical activity will provide a sufficient understanding of the population.

Finally, pretesting the survey is a good strategy. This can be done with experts, members of the population or a combination of both. Experts will often be involved to ensure that the issues and questions are grounded in the current state of knowledge in an area. Pretests with members of the population are usually done to assess whether people understand the questions and that the response options are exhaustive to cover all likely answers.

Data Collection Decisions

Who should we ask? How many respondents do we need (can we afford)? These methodological questions are critical and have important implications for drawing generalisable conclusions from our results.

The first question in deciding who should be asked is usually based on identifying the population we are looking to study, or, who do we want to know about? A related issue is a practical one—how can we access that population to gain a valid sample? The second question is often that of sample size based on our budget. Many government surveys, especially in Western countries, are often expected to measure the entire population, and will therefore involve very large sample sizes,

often in the thousands. In other instances and in other circumstances a project may be investigating only a subgroup, a more narrowly defined target that will require a much smaller sample size. These issues are often resolved by examining both the mandate and the budget for the study.

Previous uses Surveys and survey data have been used for formative research in a variety of ways in the past. These uses are divided here into three main categories: (1) identification of key behaviours, (2) assessment of knowledge and attitudes, and (3) segmentation and targeting. The first category is when surveys are used for 'behavioural surveillance' to monitor and understand people's current behaviours—what are people doing? Second, survey data are used to develop an understanding of audience knowledge and attitudes, knowledge gaps, perceptions, or perceived behavioural norms—what does the population believe? Third, survey data are used for developing segmentation schemes that examine how behaviours co-occur according to demographic and psychological correlates—what types of people, knowledge, attitudes and behaviours are out there? These three main categories of formative survey research are explained in greater detail below.

Behavioural Surveillance

One of the most frequent applications of surveys in formative research is to monitor the environment to see what people's behaviours are, i.e. to discover what people are doing. Epidemiological evidence provides a clinical understanding of which health behaviours put people at most risk, and this is often the starting point to identify health risk factors. These factors are then examined in population based studies to examine the overall prevalence of these behaviours. This is often the starting point basis for what is termed 'evidence-based public health' (Brownson et al. 2010). Concerns about obesity by public health agencies, such the Centers for Disease Control and Prevention in the United States, are not based on the aesthetics of overweight, but on evidence that obesity is related to a number of negative health outcomes such as diabetes and cardiovascular disease (CVD). These health outcomes are associated with quality of life and years of life lost. Once risk factors are identified, survey research is often employed to understand the prevalence of those behaviours among a population.

Many public health departments use population based samples to examine and monitor existing behaviours. For example, the U.S. National Center for Health Statistics (NCHS), a branch of the Centers for Disease Control and Prevention (CDC) is responsible for the Behavioural Risk Factor Surveillance System (BRFSS). The BRFSS is a telephone survey of around 400,000 respondents that has been employed since 1984. The BRFSS asks about a variety of health conditions

such as disease states (including arthritis, asthma, CVD), and behaviours (such as exercise, fruit and vegetable consumption, seatbelt use, sexual behaviour, and tobacco use), as well as respondent demographics. This information is helpful in gathering more detailed information about the population, and in then identifying which risk factors are the most important for public health objectives.

The NCHS also collects other survey data to understand people's health behaviour. The National Health Interview Survey (NHIS) is a large-scale household interview survey that studies health status and health care access around specific national health objectives. The National Health and Nutrition Examination Survey (NHANES) examines the health and nutrition of adults and children in the US using interviews combined with physical examinations. There are a few other surveys that are employed to similar ends, including a National Program of Cancer Registries (NPCR), a National Youth Tobacco Survey (NYTS), and the Youth Risk Behaviour Surveillance System (YRBSS). Many other countries collect similar health data. The EU, for example, collects The European Health and Behaviour Survey (Steptoe et al. 1997). Even cities have commissioned their own studies, as Adelaide, Australia has with their North West Adelaide Health Study (Grant et al. 2006).

These surveys are typically used to understand people's behaviours and health conditions. That is, these agencies are trying to understand the situations that underlie specific diseases or health issues, with the objective to understand when and what public health action is warranted. For example, the NHANES data were primarily responsible for the alert that obesity rates were increasing so rapidly. These data can be used as formative research in that they often guide public health efforts. Importantly, these same surveys can also be employed to monitor the situation and evaluate the success of broad based efforts.

Knowledge and Attitude Research

Survey research and data have also been used to derive further understanding of the audience itself. That is, these studies attempt to delve behind the behavioural surveillance of people's behaviours to try and understand more of the why. One example can be seen in Porter Novelli's 'HealthStyles' survey that was developed in 1995 (Maibach et al. 1996). HealthStyles has been used by several health organisations including the U.S. CDC to examine people's perceptions of risks from specified behaviours and their control over these behaviours. This type of data typically goes beyond the question of what people are doing or how prevalent these behaviours are, and is used to develop a deeper understanding of people's activities as they fit into their lives.

This perspective raises the question of 'lifestyle'. For example, this type of formative research might ask who is not wearing seatbelts, as well as finding out whether people know the risk factors associated with not wearing seatbelts and their feelings about seatbelt use. One of the foundational concepts in psychology is to understand motivations. Research may also examine if there is a particular

personality type or social group that tends to engage in risky behaviours or if there are other risky behaviours that co-occur. The unit of analysis in this case is typically the individual person (i.e. studying individual behaviour). Although it is possible to compare across countries (e.g. on physical activity or obesity rates) it often takes coordination and effort to synchronise definitions, measures, and the types of samples used to enable comparisons.

An understanding of individuals' knowledge, attitudes, perceptions, and behaviours can be applied to a variety of population based interventions. For example, according to models of fear appeal effectiveness, such as Witte's (1992) Extended Parallel Process Model, creating action requires a combination of fear and efficacy. Applying this model to message creation suggests that formative research is necessary to understand the audience's current level of fear and efficacy before choosing which messaging strategies are in order (Basil and Witte 2012; Witte et al. 2001). As a result, formative research can be important in establishing a baseline prior to developing messages.

Survey-based formative research has been used in other ways. Brennan and Binney (2010) used a survey to understand the emotional responses of 120 participants to various appeals before developing their own appeals with regard to reporting income. Coulon et al. (2012) used survey data to assess current levels of walking in several communities that were targeted with a 'Positive Action for Today's Health' trial which were then evaluated using a similar survey. In this case, the survey served both as formative and evaluative research.

Segmentation Research

Survey research is also used to examine whether there are particular types of people who engage in particular behaviours, or who share a common outlook in knowledge or attitudes toward those behaviours. This approach applies traditional marketing approaches to segment or categorise people according to their interests or needs, and then targets specific segments deemed most amenable to buying a product or adopting a behaviour (Slater 1996). To this end, longer surveys will often be employed to develop clusters and to develop a segmentation scheme that examines how these behaviours relate, as well as demographic and psychological correlates of these clusters, for example, with regard to physical activity (Grant et al. 2006).

In some cases, surveys have been used to understand when health behaviours co-occur. For example, data-driven cluster analyses have been built from the HealthStyles survey (Maibach et al. 1996). Data from these surveys made use of statistical software to develop clusters that identified similar types of people. There are the 'Decent Dolittles' who usually don't smoke or drink, but also don't exercise or eat carefully; another cluster is 'Hard-Living Hedonists' who smoke and drink but are moderately active; then there are the 'Physical Fantastics' who exercise, eat

right, don't drink, and don't smoke. These clusters were derived from a k-means cluster analysis using a variety of items that measured behaviour, social factors and internal factors across alcohol, tobacco, exercise, nutrition and weight control (Maibach et al. 1996). Understanding the types of people that make up a population can provide us with a richer understanding of the diversity of perspectives within a community and help us understand and target the right 'types'—in many cases, those most likely to change their behaviours, and sometimes those willing to change behaviours for specific reasons.

Case Study: Health Styles

In 1972, Porter Novelli began as one of the first commercial social marketing firms in Washington DC. The founders, Jack Porter and William Novelli, were advertising executives who worked with the government to market efforts such as the Peace Corps and the National Institutes of Health's National High Blood Pressure Education Program. In 1995, the Director of Research, Ed Maibach, undertook an effort to expand on the Lifestyles survey of their affiliate, the advertising agency DDB, to focus on health issues. The Porter Novelli team, in collaboration with a couple of early sponsors including the CDC and academic researchers, developed a large survey of five health behaviours and attitudes, including questions about tobacco, alcohol, exercise, diet and weight control. The initial sample of 5000 resulted in more than 3000 completed surveys in 1995. The HealthStyles survey has continued over the years and now expanded into the ConsumerStyles survey.

The HealthStyles survey has been used to study a variety of health behaviours that has grown from the original five. The surveys examine behaviours, social and internal factors. One of the early studies that emerged was the cluster analysis that found eight different health style types, including the three types mentioned above Additional research using the HealthStyles data has been used to study people's food choices. In that case, the previously developed clusters were shown to be very predictive in understanding people's motivations and behaviours (Glanz et al. 1998). The HealthStyles data have also been used to study and understand people's alcohol consumption (Slater et al. 1999). The results of these studies demonstrate not only that people's health attitudes and behaviours are related to each other, but that health behaviours in one domain (e.g. tobacco) are related to what might seem to be an unrelated domain (e.g. diet and exercise). This suggests that people appear to have a generalised health mindset that colours a variety of health attitudes and behaviours, and that thinking of each in isolation does not provide a thorough understanding of people or their perspectives.

The Centers for Disease Control and Prevention was one of the founding sponsors of the HealthStyles survey. As a result, many of the questions were developed in conjunction with the CDC. Later surveys have expanded on these

questions to include the 'piggybacking' of additional topics and questions, such as attitudes toward breastfeeding. Adding questions to an existing survey is typically less expensive than administering a dedicated survey and also allows comparisons with other questions that are part of the survey. For example, breastfeeding questions have been asked since 1999, and this allows the public health agency to track public opinion on this topic. Similar piggybacking has been done on other topics by the CDC and other agencies. For example, researchers have used the data to examine experiences with Lyme and other tick-borne diseases (Hook et al. 2013), communication practices among older adults (Friedman et al. 2013) and attitudes toward smoking during pregnancy (Polen et al. 2014). Other research has examined the use of blood pressure monitors, fruit and vegetable consumption, attitudes toward antibiotic use, distracted driving, ignition locks for convicted drunk drivers, vaccinations, and water fluoridation. This widespread use of piggybacked questions on the HealthStyles survey suggests the value of surveys for formative research as well as the value of large, continuing population surveys for social marketing.

Conclusion

Surveys are very useful and therefore frequently used in providing baseline behavioural measures. These types of data and results are perhaps most widely used by a number of federal health agencies to examine what people are currently doing. Such results often have important implications for understanding what behaviours have implications for health and other outcomes. These questions and surveys may be developed and administered by academics, public health agencies, or governments. Surveys, however, can also be used to delve more deeply into the reasons behind people's behaviours, examining existing attitudes, beliefs, and perceptions of barriers and benefits.

Surveys are widely used because they are typically inexpensive and reliable. However, developing good surveys usually requires some understanding of the situation and respondents. There are a number of important decisions of survey development such as designing questions and sample selection and administration where additional details can be found in textbooks on research methods and survey research.

With regard to previous uses, we can categorise the ways that research has used surveys for formative research in three main categories: (1) identification and monitoring of key behaviours, (2) assessment of knowledge and attitudes, and (3) segmentation and targeting. These data can often be used toward social marketing efforts by those same governments and agencies or by social marketing efforts. Commercial firms often make use of surveys that can be very helpful to social marketers, both in their original form and through the use of supplemental questions.

Key Internet Sources

CDC's CDCynergy: http://www.orau.gov/cdcynergy/index.htm.

CDC's formative research explanation: http://www.cdc.gov/nccdphp/dnpa/socialmarketing/training/phase2/formative_research_methods.htm.

California Department of Health's on Formative Research: https://www.cdph.ca.gov/programs/cpns/Pages/FormativeResearch.aspx.

Porter Novelli's Healthstyles survey is an example of a case where a commercial firm, in collaboration with government agencies, was able to provide information on a wide variety of topics. In addition, these agencies also sometimes "piggybacked" additional questions for their formative social marketing research.

Primer on Porter Novelli's Healthstyles survey: http://www.orau.gov/cdcynergy/soc2web/content/activeinformation/resources/Healthstyles.pdf.

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Videography and Netnography

Russell Belk and Robert Kozinetz

Abstract Both videography and netnography contain relatively new practices for collecting and analysing data that can be used for formative research in social marketing. The combination of the internet and video also offers new presentation opportunities for research that can potentially reach a broad audience of academics, managers, NGOs, government officials, and ordinary consumers. In the treatment that follows we suggest some common elements between the two methods before first addressing videographic methods and providing a case study of its use for social marketing purposes. We follow with a summary of netnographic methods. To close, we discuss opportunities as well as issues in using both techniques in formative research for social marketing.

Introduction

Both videography and netnography contain relatively new practices for collecting and analysing data that can be used for formative research in social marketing. They also offer new opportunities for presenting research that can potentially reach a broad audience, including ordinary consumers. The two approaches have much in common, and it would be no overstatement to suggest, as we will in what follows, that some of their principles, origins, and characteristics overlap.

Videography and netnography both derive from the time-tested anthropological technique of ethnography. Although videography is centred upon audiovisual images, and netnography upon online data, both are grounded in and emanate from the practice of participant observation, with all of its attendant opportunities and strictures. In this sense, the '-ography' of both techniques is a link to their common origins in both anthropology and ethnography. Second, videography and

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_13

netnography are grounded more than most techniques in observation and, as often applied in business fields such as marketing, the techniques tend to tip the ethnographic balance more to observation than to participation. Third, both techniques rely upon technology: videography upon video cameras and netnography upon networked digital communication devices. Fourth, both approaches converge in digital spaces such as YouTube and Vimeo, where audiovisual data can be the subject of online investigation, and in documentary treatments of online cultural topics such as the Life 2.0, which presents an examination and treatment of people's cultural experiences and interaction in Second Life. And beyond sharing technological characteristics, both netnography and videography share axiological aspirations that make them particularly relevant for social marketing and social marketing research purposes. That is, both videography and netnography have been found to be more emotionally resonant with, and accessible to, their audiences. This final characteristic of the two research approaches may distinguish them from more traditional academic approaches which tend to exclude wider audiences and mass distribution.

In this short chapter, we explain the underlying principles and elements of these two approaches to research. Each will be developed in turn, with examples that help to illustrate how the approach works in practice. In the chapter's concluding section, we will attempt an overview that synthesises the two approaches and consider some of their implications for the practice of social marketing.

Videography

Introduction to Videography When video graphic methods were first employed in consumer research in a summer-long research trek from coast to coast in the USA in 1986 (in a project called the Consumer Behavior Odyssey, led by Melanie Wallendorf and Russell Belk), we used a heavy ¾″ camcorder with bulky 30-min tapes and a heavy battery pack that had to be carried separately. Today anyone with a smartphone has a far superior technology that can also be used for video editing and posting to the internet. In fact, a breakout hit film at the 2015 Sundance Film Festival was shot almost entirely on iPhone 5S devices with a supplemental lens, off-camera microphones, and an US$8 app called Filmic Pro. The documentary film, *Tangerine*, is about transgender prostitutes and probably could not have been made with more obtrusive conventional film equipment.

Another testimony to the opportunities for video is the Association for Consumer Research (ACR) Film Festival that has been held each year since 2001 when it was initiated by the two co-authors. After running the Festival in conjunction with the association's annual conference for 10 years, we passed it into the very capable hands of Marylouise Caldwell and Paul Henry at the University of Sydney. Among the other innovations they have added to the Film Festival is the site '*Films by Consumer Researchers'* (https://vimeo.com/groups/136972) on which films and trailers of films juried into the Festival or which have appeared in any of several

special DVD and/or online issues of what are normally print journals can be included on the site. Several of the films and trailers on that site provide good examples of social marketing research, including:

- "I'm Struggling: Men's Stories of Mental Health"
- "Changing Consumer Behavior in Diet and Health"
- "Walk the Talk: Living Positive with AIDS"
- "Respect and the Media: A Generational View"
- "A Right to Life: Reducing Maternal Deaths in Pakistan"

Videographic studies with a social marketing purpose have also been conducted in an Australian Aboriginal context with careful attention to respect Aboriginal law, rights, and traditions (e.g. Belk et al. 2000; Kariippanon et al. 2015).

A Videographic Case Study We may take one of the films referenced above, made by Steve Watson, Paul Henry, and Marylouise Caldwell in 2007, as a case study of how this medium can be used not only for research but also as an action-oriented technique for precipitating social behaviours on the part of stakeholders—in this case the medical and government officials of Pakistan. The film focuses on Dr. Shershah Syed, an Obstetrician and Gynaecologist in Karachi who has valiantly struggled to save women and babies who lack maternal and hospital care. He also trains 75 midwives each year, as well as medical technicians, operating room technicians, and female health workers. Tens of thousands of deaths in childbirth and hundreds of thousands of severe injuries occur in Pakistan each year due to lack of medical attention. Dr. Syed has selflessly struggled to provide care for impoverished women living in urban slums and rural areas who would not otherwise have access to medical attention. But he nevertheless wound up losing his hospital position, apparently because of jealous government officials.

The film calls attention to his heroic struggles, successful interventions, and Dr. Syed's job loss. In a January, 2013 talk at Oxford, he said, 'It is sad, due to a lack of education, we give cattle higher care compared to poor women.' In September, 2015, the High Court of Pakistan finally called for a government response to allegations that poor women in Pakistan are turned away and denied medical care because they lack money for doctor and hospital fees. Not only has the film had an impact in Pakistan, it has won both the People's Choice and Jurors' prizes at the ACR film festival. One unusual evidence of the impact of the film is that we have watched ACR Film Festival audience members pass out while watching the birth scenes in the movie. That of course, is not the intent of the film, but is rather dramatic testimony to the opportunity for film to have an emotional impact that is impossible with normally dry academic prose.

Advantages and Uses of Videographic Methods Besides its emotional impact as a presentation medium, videography in consumer and social marketing research has several other benefits. It allows researchers to capture detailed observations as well as depth interview data. Even though audio recording can capture what people say, it cannot capture how they say it. Video can do this as well as preserve audio and

visual details for later analysis. For example, how do parents interact with their children in a learning situation? Do they praise, critique, help, demonstrate, or merely passively observe? What are effective strategies for getting children involved in improving the healthiness of their family meals (see the "Changing Consumer Behavior" video noted above)? Besides reaching a potentially much broader audience, as noted in the abstract, video can communicate in a more compelling manner, even with those who are pre-literate or illiterate. It is a chance for researchers to communicate more effectively, whether the audience is students, the general public, managers, or others. Recent studies of anthropologically oriented market research agencies by Julien Cayla, Robin Beers, and Eric Arnould finds that video graphic storytelling is a highly effective way of impacting clients and that a well-edited film has much longer staying power in an organisation than a written report.

The editing of video is a skill the researcher can develop or a task that can be turned over to others. Control is greatest when the researcher also does the editing, and basic editing skills can be quickly learned. One demonstration of this claim is the fact that the majority of filmmakers in the ACR Film Festival have been first time videographers and editors. Today's editing packages, including those that come free from operating system providers or are available as inexpensive smartphone apps, are so powerful and engaging to use that most of those who try them are quickly hooked on doing their own editing. An awareness of editing choices also makes researchers more sensitive to capturing field material that will be beneficial later in editing.

Filming also requires some learning, but as the number of films on both Vimeo and YouTube demonstrates, it is something that hundreds of thousands of people are now not only doing, but also perfecting and putting up online. Nevertheless, there are things that filmmakers can do to enhance the quality and impact of their videos:

- Place the camcorder, DSLR camera, or smartphone on a tripod
- Use an off-camera microphone
- In interviews, use a camera operator/sound technician other than the person doing the interview
- Because 'talking head' video is boring, capturing lots of action, cutaways, and 'B-roll' material
- Shooting ratios vary, but plan on shooting at least 10 min of video for every minute of edited video
- Twenty minutes is more common time for films that have appeared in the ACR Film Festival
- Still photos can also be made to be compelling, especially by panning and zooming them with the help of editing software

With millions of CCTV cameras around the world accessible online as well as thousands of hours of archival video on YouTube, Vimeo, and sites like Rick Prelinger's archive of industrial films, there is also a wealth of already captured

video that is most often freely available for use in your video. It is also possible to call up live images from thousands of CCTV cameras around the world as well as uploaded shots from the dash-cams consumers are increasingly using in cars and taxis. Another technique that is often effective is to give the participants the camcorders to record their own material for the researchers. Patricia Cunningham and Rita Denny of Practica, an anthropological research agency based in New York City and Chicago, have used this method frequently. For example they gave camcorders to college students going out to bars on weekends—venues where the researcher would likely be a 'fifth wheel'. They found that these young consumers typically ordered 'good' or expensive beers early in the evening when they felt they could best appreciate them. Later in the evening as their senses were dulled by previous drinking, they turned to less expensive beers.

Videographic research need not be made into a film output for a film festival or journal in order to be useful and provide unique insights. Macy's department store analysed their 'surveillance' video footage in order to understand why the merchandise placed on an aisle gondola wasn't selling, even though past experience suggested higher sales with this merchandising technique. They found that the aisle was on a path from a store entry door and was too narrow. As a result, shoppers who stopped at the display experienced an average of two 'butt brushes' from other shoppers passing by, before they too quickly moved on. Although such surveillance footage is the property of the store and can be legally used for research purposes, further ethical issues emerge when it is combined with facial recognition software and used to monitor the shopping patterns of particular consumers, conceivably also tying into their credit card expenditures in the store previously. This is less of an issue if consumers are not individually identified and only aggregate traffic patterns in-store are analysed, but issues of reasonable expectations of privacy remain. Imagine, for example, if camera footage was analysed from store dressing rooms where shoppers try on clothing.

Videography Challenges and Opportunities There are other special issues or problems to overcome in doing video graphic research. People may be more self-conscious if a video camera is present, although with so much self-videotaping and photographing today, this is a lessening concern in most contexts. Where sensitivity is found, prolonged engagement with the participants can be a big rapport-builder rather than showing up with cameras rolling. Where identifying participants is an issue because they wish to remain anonymous, it is possible to silhouette them through backlighting or to pixelate their faces in editing. Informed consent should always be obtained. We like to do this in two stages. Before filming consumers we carefully explain our purpose and what we hope to do. We then get their permission to film, but not necessarily to use the video. After filming, when participants know what has transpired, they can knowledgeably sign off on allowing various uses of the video. We allow them to choose among options such as: only the researchers may view the film, researchers and students can watch it, other academics can also see it, or it can be broadcast on television or placed on the internet. If the nature of the film treatment is a concern to participants, we also let them see

the finished product before asking their final permission. They can request further edits or deny permission to use the film at any stage. Collaborative video making with those being studied is another possibility that further respects the rights and viewpoints of research participants. And short of that, video elicitation in which participants are shown videos of themselves in action can be an effective means to stimulate informative interviews that can help in interpreting what has been filmed. It also makes for a comfortable interviewing situation because researcher and participant are both watching the video rather than staring at each other.

As with other ethnographic research, the analysis of audiovisual data also requires coding as part of the sense making process. While still evolving, one thing we encourage experimenting with is direct coding of film material rather than transcribing it into words and then coding the resulting transcripts. The reason is that transcribing loses the very data that makes film so compelling. It loses not only the action and detail of the visual material, but also the tone and nuances of the verbal material. There are several commercial programs available that allow direct coding of AV material, including nVivo, ATLAS.ti, and MAXQDA. In addition a free Microsoft program called OneNote can do something similar. In each case when a coded category is clicked, the full video segments coded emerge on the computer screen rather than simple text transcriptions. As with other qualitative data, further analysis and interpretation is needed as well as thought about how a video output might be made with this material. Something of this process is also followed in editing video in that video, audio, and still photographic materials are captured in segments that can have a code description attached and that can then be pulled into the emerging video and audio timeline where they can be further trimmed, rearranged, and otherwise altered in putting together the video.

There are also technical, video graphic, editing, musical permissions, and other issues and skills that may be needed in producing an effective film. These are learnable skills and some, like obtaining musical permissions, can be circumvented by using free applications like the music-generating Garage Band app by Apple. We find that because the process or making a film is so engaging for researchers, different forms of experimentation and creativity emerge freely. For most technical questions, there is probably a video available online that will show how to do it, whether it is improving sound quality, fixing colour balance, inserting titles or translations, or structuring a film. There is always more to learn, including how to create a more dramatically effective film, but that too can be part of the fun. A more difficult issue is often how to make a film that is not only descriptive and dramatically compelling, but that also advances theoretical understanding. One thing that is clear is that trying to structure a film like an academic paper with literature review, references, and complex models of findings, is seldom an effective strategy. It is better to stick to simpler theoretical points that are clearly and compellingly demonstrated, probably with titles or voiceovers, but ideally with minimal help for an audience that can reach its own conclusions, sometimes after being presented with multiple possible points of view and interpretations. Just as a novel that is turned into a feature film necessarily presents a story differently than the book does,

so a film has different strengths and weaknesses than a journal article. No one wants to replicate the often boring and didactic educational films they may have seen in school. Nor do we want to go to the other extreme and emulate the goofiest of YouTube films just to be entertaining. We regard the question of theoretical contribution in film as an area that most filmmakers are still struggling and experimenting with. But that is part of the creative challenge with film.

In a broader sense, videography can also include researching videos that have been made by others, including documentary films, consumer-produced films, ethnographic anthropological films, television advertising archives, and various online archives as noted above. For example, YouTube has more than 50 million hours of video uploaded every year. Fortunately these videos are tagged and searchable. That means if you want to know what popular Christmas gifts were this past year, how people celebrate weddings in Vietnam or India, or what makes for a popular 'unboxing video' (in which consumers unpack and reveal some new product), it is easy to find such content. Because video archives go back to the early days of film, it is possible to do historic research as well as contemporary studies, cultural comparisons, and analyses of both everyday life and special occasions.

We do not recommend that videography be used for every research project, any more than we would advise that experiments, survey research, projective methods, or other data collection methods be used for each and every project that a researcher undertakes. But we do believe that all researchers can benefit from considering video methods as a part of their tool kit for conducting research. We also do not advocate the use of video for all depth interviews. We need to observe what people do as well as what they say. Video can't see and hear everything, even with multiple camcorders operating simultaneously. But it can preserve a richer set of data than audio recording or un-aided observation. Its uses can range from micro-behavioural analysis of a single person's gestures to macro-behavioural events that occur among large groups of people over an extended period of time. It can capture behaviours that participants are unable to appreciate or verbalise. For example in one clever study of drinking and music at a bar playing country western music, it was found that, counter to expectations, the slower the musical beat, the more frequently people took a drink. The explanation was that slower songs addressed sadder topics and that it was the sadness evoked, rather than the beat of the music per se that led to the greater incidence of drinking with slow tunes.

Netnography

Introduction to Netnography Whether we are examining citizens, consumers, managers, government officials, employees, or any of the people and professionals who might affect or be affected by social marketing, we can be nearly certain that online interaction and experience are playing essential and expanding roles in their daily experience of work and the world. When using formative research to reach

them for social marketing campaigns, or indeed evaluative research to examine the effects of these initiative, netnography can be a useful tool. As a form of ethnographic research uniquely adapted to the particularities of technologically mediated social interaction in the contemporary world, netnography has some distinct advantages.

Although the approach has its origins in fields related to marketing and consumer research, netnography has developed to become more than this. It can be considered the basis for broader studies of online social interaction and experience that assume a cultural perspective. It is founded in anthropology's epistemologies of participant-observation and that field's axiologies of human (and humane) understanding.

Netnography and Other Ethnographies Netnography is a form of online ethnography. Netnography is related to Hine's (2015) virtual ethnography but distinct from it. Virtual ethnography is ethnography that explores the social landscapes that emerge through and around the internet, but may not be contained within it; many of the practices of virtual ethnography involved how embedded, embodied, and every day the internet has become. Digital ethnographies are similarly broad, and can encompass, for example, fieldwork among software programmers and people who work on networked workstation.

Netnography focuses on online interactions and experience. It is not limited to online data, but it must utilise a preponderance of this type of data. It also does not limit itself to data from the internet, but also includes mobile and apps. The use of the term 'netnography' also connotes a particular affiliation with a set of research practices identified as ethnographic. Locating studies within, using, and perhaps even expanding upon and developing the established standards of netnography confers upon present studies a future consistency they might not otherwise hold. However, this is not to deny the dynamism of netnography. As the internet changes, as people's use of it changes, as its use of people changes, the method must adapt to these contingencies. Where once upon a time studies using the method would be focused on text from Friendster, MySpace and bulletin boards, studies conducted today might focus mainly on photographs from SnapChat and Instagram apps, and tomorrow they might be concerned with something entirely different, such as biometric information from wearable applications. As is manifest in ethnography itself, data sources change and adapt, data gathering, analysis, and representational practices alter to emphasise and capture particular elements previously obscure or under-realised, but the core of the method stays the same.

As with virtual ethnography, digital ethnography, and all forms of online ethnography, netnography's relation to its ethnographic orientations and aims remains at the centre of the practice: it is about participant observation, no more and no less. Netnography takes participant observation and specifically adapts its data collection, data analysis, ethical, and representational practices for the technologically-mediated research task at hand. These practices utilise the communications and information found and created through the internet, including its

mobile manifestations. In marketing and consumer research studies, its field of origin, netnography has been overwhelmingly employed to understand the collective online behaviours, conversations, languages, meaning making and symbolic repertoires of different groups of consumers.

There are six main differences between online and face-to-face sociality that netnographic practices holds to be important (from Kozinets 2015, pp. 72–75):

- *Alteration.* Communication changes based on medium, such as the common and changing language of Snapchat user's poses and captions, or food image posters shared practices.
- *Access.* Technology provides different levels of social access. Existing friends communicate more frequently and with more emotional range. Close family members may be locked out of key communication channels because of their hardware ownership and levels of software fluency. Online interactions can be more important than embodied ones.
- *Archiving.* Online communications are often stored and archived automatically. Research, intelligence, and everyday social life become radically altered when interactions are archived, easily shared, and create lasting records.
- *Analysis.* New technologies provide various ways to analyse and visualise data. Researchers have far more ways to search for, code, analyse, and be hopelessly inundated with social information than ever before. There are massive challenges as well as opportunities in the digitization of social space.
- *Approach.* These changes to social interaction raise a range of novel ethical, legal, and social questions relating to our research approach. Who owns the information? To what uses can it legally and morally be put? When are interactions public and when are they private? Can we ever really ensure anonymity any more, and do we need to? Our legal and moral codes are bursting under the weight of technocultural change. For the past two decades, netnographers have been at the forefront of those asking these sorts of questions, and offering (often difficult) answers to them.
- *Affiliations.* The final difference has a direct bearing upon social marketing concerns. It looks at the importance and impact of large corporate, governmental, and organisational interests on the social interaction occurring online. How does marketing impact the online social experience? How do corporate affiliations affect the gathering of personal information which netnography also partakes within? How does government surveillance impact it? What are the wider social ramification of such developments on families, relationships, institutions, occupations, and human society itself? What are the broader implications of the intense and prolonged colonization of online experience and interaction by companies and governments, and what can we, as researchers, do about it?

Netnographic Research Practices Traditional ethnographic practices of performing cultural entrée, keeping field notes, conducting personal and group interviews, creating and interpretation, and ensuring consent and a fair and honest

cultural representation are maintained within netnography in adapted forms dealt with in some detail elsewhere (see Kozinets 2002, 2010). New research practices and new amalgams of extant and developing practices have also been added as netnography continues to develop and be adapted to the investigatory tasks at hand. These procedures include those which are used for:

1. finding online field sites in order to pursue particular research questions and topics of interest;
2. handling the challenges of working with large sets of downloaded digital data;
3. navigating the uncharted shoals of online ethics and, most recently;
4. dealing with the public aspects of netnographic participation and examination.

In the current social media age, netnography takes on a more activist role than ever before. In humanist netnography in particular, a notion that deliberately defies definition while it draws both from humanism as philosophy and the humanities as social practice, researcher immersion becomes linked to engagement in efforts for social change and human betterment. This takes place as the academic uses her or his privileged position in society as an authority and an influencer in order to gain media attention, build legitimacy and trust, and attempt to have a positive influence on relevant social affairs (see Kozinets 2015, pp. 263–276).

In contemporary netnography, the concept of a field site becomes decentred. What were formerly stable sites can be composed of particular topics uniting many disparate only addresses and postings, particular individuals, or groups of individual social media names. The formerly bounded physical field site may in fact no longer exist, not even in the allegedly 'real' 'embodied' world. Communications have opened up extended and expanded possibilities for social being that transcend skin-encapsulated existence, as the recent and fairly extensive literature studying virtual worlds such as Second Life attests (see Boellstorff 2008; Boellstorff et al. 2012). However, manifestations of online community appear to remain salient to many types of human endeavour, even for the most physical of activities. For instance, the many drug user forums which were referenced previously can be important sites of investigation, as can the many forums and sites dedicated to a range of social topics, from obesity and spousal abuse to anorexia and advocacy for criminal acts. Recently, Berdychevsky and Nimrod (2015) used a yearlong netnography of seniors' online communities to discover the characteristics of their sex-related discussions, finding that humour and peer-to-peer based education were frequently used, that the forum sometimes appeared to lead to new sexual behaviours (such as experimenting with sex toys and oral sex) and that the discussions themselves were found to be a leisure activity related to sex. A range of resources are available for consumers to learn about various topics with strong social implications. The same set of resources is open for the social marketing researcher and campaign planner.

The evolving set of netnographic research practices includes the use of search engines to locate particular sorts of information, as well as the use of different types of communication channels. Search engines that are used in netnography are often popular and familiar, such as Google. Sometimes, customised and specialised

search engines and filtering or mining software might be developed, as with digital netnography and its use of data science directed by cultural understanding and naturalistic inquiry. Netnography often proceeds with special websites created to provide a controlled and ethical domain for the research interaction. These websites can sit as sites on the internet, as blogs, or be centred within social networking sites such as LinkedIn or Facebook.

In order to choose netnographic sites as part of a research study, investigators should look for places where interaction or experience occur that:

- are directly relevant to the study's research question, orientation, or its topic;
- have a substantial amount of seemingly relevant data, be it textual, visual, or otherwise;
- offer a larger number rather than smaller number of discrete message posters;
- provide the researcher with a sense of activity and liveliness, giving the impression of a social place where something is happening;
- show postings and other data that is recent (if currency is relevant);
- provide social interactions that are more detailed or descriptively rich;
- offer a more welcoming and friendly atmosphere and thus one in which interpersonal contact might be pursued and;
- exhibit interactions where one poster responds to another, and another responds to them, creating a flow of conversation.

Data in netnography assume three principal formats. These are archival data, co-created data, and field note data. Archival data about particular sites, topics, and people can often be in extensive, and in netnography its capture, saving (in text files, visual screenshots of computer and mobile phones, and downloaded data or audio-visuals captures or streams), storing, and analysis is often important. Archival data is important because it pre-dates the netnographic exploration and does not involve the netnographer's involvement. The next type of data is created by the interaction of the netnographer with people and site. This second type results from the researcher's elicitation, interview, conversation or other social interchange between the netnographic researcher and relevant persons, software agents, or other actors. The third, and perhaps most distinguishing type of netnographic data is field note. These data are created by the netnographer. They are first-hand observations about her netnographic participation as well as reflections on her research-related interactions and experiences, as they affect her entire lifeworld, both on the screen and in all embodied practice. Keeping field notes is important to netnographic research practice. It is the reflection of the participative side of participant-observation. It is also a key methodological affordance that draws attention to the human-technology-human interaction that underpins some of the core foci of netnography. Once data are collected, a battery of both familiar and novel analytic techniques including data visualisation, social network analysis, and conceptual mapping can be marshalled to foster improved human understanding (see Kozinets 2015).

Netnographic Research for Formative Social Marketing Research Within the growing bank of netnographic studies lie many applications of the method to questions of social marketing, both in its formative as well as its evaluative phases. In one of the earliest applications, Sandlin (2007, p. 288) found that netnography *'is a helpful research tool for consumer education researchers who are interested in capturing and critically examining the education and learning occurring in informal sites of consumer education, especially in online communities.'* Shortly after this, Berger et al. (2008) used netnography to understand the role and meaning of sports to adolescents. Seeing these meanings revealed in online narratives, they found sports articulated through *'a complicated picture of stress, social role conflict and susceptibility to external influence'* (Berger et al. 2008, p. 277). Applying the netnography as type of formative social marketing research, they unpacked from the research a range of implications for future programs that could speak to adolescents about sports participation in ways that used appropriate communications media and 'fit into their time stressed, multi-tasked lives' (p. 303).

Netnography has been used to understand religious conversion by Rhazzali (2015). The author researched online conversions to Islam and discovered how *'the logic of the web'* played *'an essential role in the construction of the religious message.'* Following narrowcast media practices, online religious evangelists customised their messages, following a type of social marketing procedure of their own. Rhazzali also found in his netnography that those seeking converts to Islam were also employing methods *'typical of promotional campaigns, such as highlighting the individual benefits of choosing Islam, or using testimonials as examples'* (ibid).

In a particularly apt book chapter based upon a conference presentation, Ulosoy (2012) argues that netnography is particularly useful, relevant, effective, and fruitful for undertaking formative social marketing research because it renders accessible the perceptions, issues, and groups which often concern social marketing. As Kozinets (2015) notes, netnography has been found particularly useful for studying sensitive and controversial issues in an ethical and humane manner. For instance, Van Hout and Hearne (2015) studied the recreational use of dimethylamylamine (DMAA) by members of the recreational drug community, as discussed in various online centres of interaction. As another good example of this use of netnography for revealing data that would otherwise be very difficult to discern, see how Bakken (2015) uses netnography to study online "cryptomarkets" such as Silk Road which sell and educate people about the availability of black market goods such as guns, illegal drugs, and even trafficked human beings. Among the netnographies currently published, there are many such investigations of clandestine, stigmatic, or otherwise hidden phenomena. Although it is beyond the scope of this short, shared chapter to do so, each and every one of these investigations has potentially valuable insights that can be used to create social marketing campaigns as well as to further social marketing or transformative consumer research.

Videography, Netnography, and the Future of Formative Social Marketing Research

As we have discussed in this chapter, videography and netnography are united as techniques which offer a seemingly less obtrusive, observational and naturalistic alternative to many other formative social marketing research techniques. Both videography and netnography depend upon digital technology for their data collection, rely on curatorial techniques that are often rendered opaque, and provide research outputs that offer different forms of representing knowledge to various research stakeholders, whether they are located in public, markets, organisations, or regulatory agencies. We have argued for the new opportunities that these two techniques present to potentially reveal, help understand, and reach out to broader audiences. In this concluding section, we speculate about the potential of the two techniques as they continue to combine and expand.

In the marketing, business, and management fields there can often be a tension between the academic tendency to cast a critical eye upon markets, regulators, and corporations and the more pragmatic imperatives of fostering economic productivity and providing students with jobs. Situated firmly within the intersection of these two poles, social marketing attempts to bring together the efficiency of marketing with the lofty aims of social betterment and human welfare.

We might consider how videography and netnography might be used to improve existing social marketing practices. Consider that one of the most damaging critique of AIDS-related social marketing practices in sub-Saharan Africa has been that the campaigns have been largely ignorant of the complex structural and cultural determinants of health-related behaviour and that they exclude genuine community behaviour. Medical anthropologist Pfeiffer (2004, p. 77) argues that the diffusion of social marketing techniques is not driven by demonstrated efficacy, but rather can be attributed *'to the promotion of privatization and free markets…across the region.'* Social marketing thus becomes like advertising itself—a tool to further capitalist expansion and broadcast the benefits of globalisation in a culturally-insensitive and non-participatory way. It is possible that videography and netnography might be used in ways that could foster more empathic and culturally sensitive approaches to such important social marketing directives as the sub-Saharan AIDS campaign.

Although netnography and videography are techniques that can, like any technique, be used in a variety of different ways, we believe that they can be easily used in more open-ended ways that could promote individual and community participation and dialog. Videography is useful for revealing how groups of people actually behave and how they speak. It reveals the human face of what might otherwise be abstracted as 'subject' or 'consumer' behaviour. Skilful videography is needed to reveal topics that might be stigmatized or hidden, such as illegal or sexual behaviours. However, when revealed the resulting works are almost without peer in the power of their impact.

Netnography employs the technologies that people use to communicate in order to understand the content and structure of those communications. In many countries in sub-Saharan Africa, for instance, cell phone ownership is as common as it is in the United States (Pew Internet Report 2015). Research shows that many Africans use their cell phones to get consumption information, get health information, get political news, and take photos, as well as most commonly to send messages. Netnography would study the content of these messages and seek to understand more fully the complexities of communications contexts into which social marketing messages would be cast. Netnography might reveal more easily than many techniques some of the covert notions and behaviours that interest social marketers.

The rich and culturally-embedded data provided by the collection techniques of netnography and videography can also be subject to an analytic focus that pays close attention to the all-important cultural contexts of social change and adoption. In so doing, they can provide formative research to help design campaigns that are not only more participatory, realistic, and open, but also more effective.

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Filmmaker, Six Essential Sites for the No-Budget Filmmaker: http://filmmakermagazine.com/75699-essential-websites-for-the-no-budget-filmeditor/#.VqSgIzbXJbw.

Filmora, Top Ten Best Online Video Editors for Editing Video Online: http://filmora.wondershare.com/video-editor/free-online-video-editor.html.

Films by Consumer Researchers: https://vimeo.com/groups/136972.

Journal of Research for Consumers: http://www.jrconsumers.com.

Netnography: The Art and Science of Social Media Anthropology: https://www.linkedin.com/start/join?trk=login_reg_redirect&session_redirect=https%3A%2F%2Fwww.linkedin.com%2Fgroups%2F1602247.

Robert Kozinets blog: http://kozinets.net.

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Case Studies in Formative Research

Rowena Merritt and Michelle Vogel

Abstract Formative research is a vital component of the social marketing process. Unless you understand the problem you are addressing from your target audience's perspective, and gain insight into what would motivate your target audience, you cannot change behaviour. There are numerous research methods which can help you gain this crucial understanding, however some methods are more appropriate than others, and the methods used must take into consideration the audience type and/or topic area. This chapter uses a series of case studies to explore how different research methods have been used to gain the key insights and in-depth understanding of the target audience required to develop effective behaviour change programs. The research methods covered in this chapter include focus group discussions, individual interviews, observations, and photo diaries, plus the use of new technologies including text messaging and video booths.

Introduction

Formative research is a vital component of the social marketing process. The key insights identified through the formative research process are imperative when developing a successful marketing mix. There are numerous research methods that can be drawn upon to support the formative research stage, however some methods are more appropriate than others, and the methods used must take into consideration the audience type and/or topic area. Thinking outside of the box and using novel data collection methods can also yield positive results.

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K. Kubacki and S. Rundle-Thiele (eds.), *Formative Research in Social Marketing*, DOI 10.1007/978-981-10-1829-9_14

Through the use of case studies, this chapter details a number of different research methods which have been used successfully to gain the key insights and in-depth understanding of the target audience required to develop effective behaviour change programs.

Focus Group Discussions: Road Crew, USA

In their traditional usage, focus groups are a type of method in qualitative research in which researchers explore perceptions, beliefs, and attitudes about a certain topic or product with a small group of people (usually 6–10 people) who are representative of the target population. Focus groups are a popular data collection method because they are fairly simple to execute and have the capacity to gather a great amount of data in a short time period (Mack et al. 2005; Kitzinger 1995; Powell and Single 1996).

However, sometimes focus groups alone do not provide the in-depth information practitioners are seeking. Focus groups with the target audience may not yield the most quality or 'honest' findings if the discussion is on a taboo, sensitive or illegal topic (Morgan 1997). In these cases, focus groups with the target audience might be most effective when strategically combined with interviews with people who know the target audience well, as illustrated by the Road Crew program in Wisconsin, USA.

In 2000, the Wisconsin Department of Transportation enlisted the help of a team from the University of Wisconsin School of Business lead by Professor Michael Rothschild to develop a social marketing program aimed at reducing drink driving in 21–34 year-old male drivers in the state (Rothschild et al. 2006; NSMC 2011a). Researchers spent a year conducting formative research through three main methods: a literature review, focus groups with expert observers of the target audience, and focus groups with the target audience themselves.

The literature review was an integral step aimed at better understanding and narrowing down the target audience, behaviour, and surrounding context. Research into national statistics showed 21–34 year-old single, male, blue-collar workers living in rural areas were disproportionately responsible for the most crashes involving drink driving and were also the most resistant to change; thus they were chosen as the target audience for the intervention. Researchers used the literature review to further understand the prevalence of drink driving in the target audience and any past interventions.

Understanding this information was critical to designing the next steps in data collection as the literature review helped the research team to determine what key questions remained unanswered. For example, researchers knew who the most likely person to drive after excessive drinking was but they did not know what the motivators were for this population to drink and drive. The focus group discussions were therefore set up to answer these type of questions.

First, the Road Crew team decided to conduct focus group discussions with 'expert observers of the target audience', meaning bar owners, waiting staff, law enforcement personnel, ambulance drivers, judges, lawyers, and friends and relatives of the target audience. Researchers used these seven focus group discussions to better understand what people in close contact with the target audience felt about their behaviours, values, and lifestyle choices. They also used the information gathered during these focus groups to help them develop their topic guide for the discussions with the target audience later on.

Researchers then coordinated eleven focus groups with 21–34 year-old men who admitted to driving after excessive drinking. The discussions were held in the back rooms of bars and taverns with moderators close to their demographics to make sure the participants felt comfortable to share their views.

They found that the target audience knew they should not be drunk driving but did not perceive to have an easy alternative when going out to bars. Members of the target audience drank *while* driving, so an intervention needed to allow them to drink while riding in the car. Other insights included that the vehicles needed to be as appealing as the target audience's own vehicles, and customers would prefer to pay for the service at the beginning of the night before they have spent their money at the bars.

The decided intervention was an affordable car service utilising used luxury vehicles that could be hired at the beginning of the night and would take people from their home to the bar, between bars, and back home again so the customer's vehicle would be left at home. Branding ideas were pretested with members of the target audience and the whole intervention was piloted in eight communities.

In this way, focus groups as a data collection method were used mindfully to reach certain actionable insights that led to intervention development.

The Use of Individual Interviews: Program H, Brazil

In-depth interviews can be used to explore sensitive topics like gender norms. Sexual health continues to be an important public health issue around the world. Research shows that behaviours related to Sexually Transmitted Infections (STIs) and HIV transmission, such as condom usage, can be guided by gender norms. Specifically, rigid conceptions of manhood may guide these types of behaviours and lead to a higher prevalence of STIs/HIV (Weiss et al. 2000).

Beginning in 1999, four Latin American Non-Governmental Organisations (Instituto Promundo, ECOS, Instituto PAPAI, and Salud y Género) started formative work to create an intervention to increase gender equitable attitudes in Latin American men (Promundo n.d.; NSMC 2011b; Ricardo et al. 2010). They would then use insights from the formative research process to create an intervention to decrease the prevalence of STIs and HIV through changing gender norms. Developers of Program H, named for *homens* and *hombres*, the Portuguese and Spanish words for 'men', respectively, conducted in-depth interviews with men

with gender equitable attitudes in Brazil. Their aim was to understand the attitudes and behaviours related to sexuality and masculinity held by this particular group of men.

This type of data collection strategy is also known as a positive deviance approach: researchers identify individuals with a more positive outcome than their peers (in this case, individuals with gender equitable attitudes), and try to understand the behaviours that led to this improved outcome (Marsh et al. 2004).

Insights from data collection showed that these 'positive deviants' who had gender equitable attitudes also had a peer group supportive of gender equality, better personal experiences around gender equality, and more meaningful male role models. These men also had an awareness of the personal benefits of being gender equitable.

By focusing interviews only on men with the attitude desired, researchers were able to gather the exact insights they needed to design group education sessions and youth-led campaigns to change gender norms about masculinity. Program H was implemented in Brazil in 2002 and now operates in over 22 countries (Promundo n.d.).

Text Messaging: Increasing Breastfeeding Rates, UK

The following example used a simple technology—text messaging—to understand how the target audience was feeling at certain time points and then used this information as stimuli for discussion in subsequent in-depth interviews.

Despite the benefits of breastfeeding and the growing national and international policy initiatives, the number of women who feed their babies formula milk remains high in many countries, including the UK (McAndrew et al. 2012).

Whilst there is a large body of evidence detailing the many different reasons why mothers do not breastfeed or discontinue breastfeeding before the recommended six-months mark (Brown et al. 2014), there is little evidence detailing the emotional barriers and attitudes towards breastfeeding from the fathers' perspective (Brown and Davies 2014).

In Wiltshire, a rural county in the UK, as part of their Breastfeeding Strategy, the Local Government's Public Health team commissioned the National Social Marketing Centre to develop a social marketing intervention to positively influence the behaviour of fathers in relation to supporting their partners in breastfeeding. To support the development of this intervention, research was conducted with fathers who had young children (0–6 months) through in-depth individual and paired interviews, which were qualitative in nature.

Although the interviews were informative, often the fathers struggled to remember exact events. For example, when exactly their partners had stopped breastfeeding, how they had felt during that period, and so on. In addition, anecdotal evidence from local healthcare professionals suggested that there were certain times within the first month when mothers struggled the most with breastfeeding and were most likely to stop (although there was no official record of this as breastfeeding

figures, after initiation, are not recorded again until 6–8 weeks post-delivery in the UK). This finding suggested that it was imperative to understand the 'highs and lows' in relation to breastfeeding during that first month and the father's involvement at these key times.

Therefore, in addition to the in-depth interviews, fathers were recruited from local maternity ward waiting rooms and hospital cafes whilst their partner was either in labour or had given birth within the previous 24 hours. These fathers were sent three text messages per week throughout the first month of their new child's life. The text messages asked about the current feeding status, father's involvement with the child (what jobs they helped with), and how they were feeling emotionally themselves at that moment in time. At the end of the month, in-depth qualitative interviews were conducted with the fathers. During the interviews, the texts were discussed in more detail and used as reminders when asking the fathers to elaborate further.

By using this data collection method, the research team were able to pinpoint the exact time when the mothers stopped breastfeeding and the fathers' attitudes at that moment in time. Interestingly many mothers would stop breastfeeding between days 16–21, after experiencing problems either from the start or around days 5–12. The problems were heightened by the fact that most fathers returned to work after day 14 (fathers receive 2 weeks' paid paternity leave in the UK), and at this time point the mothers were discharged from midwifery care and placed under the care of a health visitor. However, there was frequently a time lag of a week before the health visitor saw them, and then it was often too late as the mothers had already stopped breastfeeding.

In relation to the father's attitudes, although they were pro breast milk, which they saw as natural and best for their child's health, they did enjoy feeding the child because this activity provided precious bonding time. Once they had returned to work, coming home after a long day and seeing their partner in pain or distress from breastfeeding was very upsetting for them and they felt helpless, so their views often changed and they focused more on the holistic wellbeing of the mother. This change often led to encouraging their partner to switch to bottle-feeding so the fathers could help out on an evening and through the night whilst their partners slept and recovered.

These insights and crucial timing issues would not have been gained through in-depth interviews alone.

Observations: World Health Organisation Maternal Health, Philippines and Lao PDR

In the following example, the use of observational research methods were employed as a way to triangulate the findings from a series of individual interviews and focus group discussions with the target audience and stakeholders.

In the World Health Organization's (WHO) Western Pacific Region (an area extending from China down to Papua New Guinea), a new-born baby dies every two minutes and new-borns now represent 54 % of all child deaths (Liu et al. 2012). Most deaths are caused by three conditions—preterm birth, asphyxia and new-born infections (Black et al. 2010). The WHO developed the *First Embrace* to try and eliminate unnecessary and harmful new-born care practices by increasing the adoption of the four simple steps, which can be done by any healthcare professional and need no expensive equipment (World Health Organization and UNICEF 2012). These four steps included:

- Immediate and thorough drying;
- Immediate skin-to-skin contact;
- Clamping the cord after pulsations stop and cutting with a sterile instrument and cord care;
- Initiating exclusive breastfeeding when feeding cues occur (e.g., drooling, tonguing, rooting, biting hand).

Formative research was conducted to identify appropriate interventions to increase the uptake of the four steps by healthcare professionals, which focused initially on those working in the Philippines and Lao People's Democratic Republic (Lao PDR), two priority countries for the WHO.

The research was conducted with doctors, nurses, policy makers and senior officials in both countries through a mixture of paired, individual and focus group interviews. The sampling ensured that a mixture of interviews were held with healthcare professionals who were already implementing the four steps ('doers'), and those who were not ('non-doers'). In a doer/non-doer analysis, researchers compare the attitudes and beliefs of doers of the desired behaviour to non-doers of the desired behaviour. They can then identify the factors that may motivate individuals to participate in a behaviour (Academy for Educational Development (AED) n.d.).

The structure of the interviews changed greatly throughout the data collection period, as the research team soon discovered that if the participants understood the four steps were being promoted by the WHO, they immediately said they were (or would) follow them because they saw WHO as an official body. Therefore the wording was changed in subsequent interviews to be more generic and less focused on WHO's involvement in creating the guidelines. In addition, the interviewers feared that they were being given the 'polite' responses and that the participants were telling them what they felt they should say. It was only after creating a role play scenario and asking participants to demonstrate how they would deliver a baby that researchers realised the four steps were not being adhered to. They then probed to find out why this was the case (as most of the healthcare professionals interviewed had received interactive and practical training around the four steps).

This role play work was then supported by observational work conducted within a number of hospitals and clinics to see the reality of what was occurring. As suspected, what was happening was not in-line with the four steps. While observing

the deliveries, the research team asked informal questions to the healthcare professionals to try and understand why they reverted to old habits/procedures and what could be done to prompt them into adhering to the four steps.

Use of a Video Booth: Graffiti Project, UK

In this next example, researchers used a reality-TV style video confessional booth to gather data about graffiti vandalism in Brent, London. Although graffiti can be artistic, it is also vandalism to public and private property. In 2006, Brent Council was spending approximately £450,000 a year cleaning up graffiti in the region. To prevent graffiti vandalism in the first place, they created the Brent Graffiti Partnership Board in 2007 and commissioned Uscreates, a social change agency, to conduct formative research (NSMC 2011c).

Researchers used different data collection methods for each type of audience they were interested in exploring: local residents, graffiti offenders, victims of graffiti vandalism, and young people. They conducted a public survey, both in a paper version through the mail and electronically, to understand community attitudes towards graffiti vandalism. Researchers conducted in-depth group interviews with graffiti offenders, moderated by a professional street artist to ensure understanding and trust between the participants and discussion leader. To reach 'victims' of graffiti vandalism, they led a focus group discussion with nine participants. Lastly, a novel data collection technique dubbed the RANT BOX™ was used with young people in schools to elicit a conversation about graffiti and graffiti vandals who were oftentimes their peers.

The RANT BOX™ was a video booth akin to video confessional booths used in reality TV shows. It was set up in four schools in Brent to engage students who did not have a good relationship with authority about the subject. About 80 students shared their views in these taped group interviews. Students were lining up to participate, and their responses on camera were surprisingly honest and open.

Through the research, the project team learned that most of graffiti offenders were males aged 13–17 years from deprived backgrounds. Most graffiti tagging occurred during summertime. Also, groups of taggers were usually composed of one tag designer and a crew of taggers.

These graffiti offenders were unaware of how art could be used in commercial settings; instead, they saw it as something forced upon them in school. They did not see how they could channel their talents into a career in design. Finally, they enjoyed the adrenaline 'buzz' they got from doing graffiti, and this feeling would need to be recreated during any diversionary activities offered as a part of the intervention.

The final intervention included stronger investigation and enforcement, combined with diversionary activities like street art workshops and parkour workshops to reduce graffiti vandalism. The insights gathered through data collection activities

including the RANT BOX™ were integral to the development of this comprehensive intervention package by allowing young people to open up in a forum they found familiar and comfortable.

Photo Diaries: Sub21, UK

Photographs taken by the target audience were used in the next example to stimulate conversation and to try and understand what motivated the target audience and what they valued from their own perspective.

Youth alcohol consumption, mostly in the form of binge drinking, has been a long-standing issue in the UK and carries with it a host of short-and long-term negative health effects (Institute of Alcohol Studies 2013; Healey et al. 2014). Short-term effects can include alcohol dependence and alcohol poisoning; in the long term, drinking alcohol excessively and frequently can increase the risk of cardiovascular disease, liver cirrhosis, and certain types of cancers, amongst other disorders. Furthermore, alcohol can lead to injury through accidents since it lowers inhibitions and can lead to developmental problems if an unborn child is exposed during pregnancy (Room et al. 2005).

In response to surveys that showed common and frequent alcohol use in youths in North Tyneside (an area in North East England), the National Social Marketing Centre and the North of Tyne Primary Care Trust[1] began formative research to create a social marketing intervention aimed to reduce underage street drinking and antisocial behaviour in this region of northeast England (NSMC 2013; Lloyd et al. 2015).

For this project, research needed to be conducted with a very 'hard-to-reach' group of young people; those who were already in the criminal justice system, those living in foster care or without a permanent residence, and young people who were having difficulties at school and/or had dropped out before completing their final year of education.

It was apparent early on in the formative research phase that these young people were wary and distrustful of authority and even though the data collection team stressed that they were independent researchers, some of the participants were not forthcoming with information. To try and overcome this, the researchers developed a rapport with the target audience over time initially by going to the areas where they would drink and having informal chats.

Once this relationship had been developed, some of the male participants who were proving difficult to gain any real insights from were given disposable cameras and asked to take photos of people, places, or items they valued and cared about.

[1]A Primary Care Trust (PCT) was a part of the National Health Service in England from 2001 to 2013. PCTs were largely administrative bodies, responsible for commissioning primary, community and secondary health services from providers.

The photos were then developed and the researchers conducted individual interviews with the participants to go through the photos as discussion starters. With each of the photos participants were asked why they had taken those photos, how looking at those photos made the participants feel, and how their drinking affected or changed their perceptions and attitudes towards the things they had photographed. By using photographs as stimuli, open discussions were successfully held and key insights gathered.

Key Internet Sources

The First Embrace—A Touching Solution to Save Newborn Lives. Video on YouTube: https://www.youtube.com/watch?v=lqAvsGP_TyY.
RoadCrew. Video on YouTube: https://www.youtube.com/watch?v=-gOfbL3Fh8k.
The NSMC. ShowCase: http://www.nsmcentre.org.uk/resources/showcase.

Key Readings

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Program H (full case study). Downloadable for free at: http://www.nsmcentre.org.uk/resources/showcase/program-h.
Graffiti vandalism in Brent, London (full case study). Downloadable for free at: http://www.nsmcentre.org.uk/resources/showcase/reducing-graffiti-vandalism.

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