

NATIONAL COLLEGE OF IRELAND

To explore the efficacy of Facebook
as a platform for a stage-matched
smoking cessation intervention – a
netnography

A social marketing study

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Abstract:

Title: To explore the efficacy of Facebook as a platform for a stage-matched smoking cessation intervention – a netnography

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It is suggested that the widespread adoption of social media has created huge potential for the social marketing of health promotion. The social support found in social media networks is cited as a significant factor in terms of mediating behaviour change. However, it is accepted that there is limited research in this area, and it is not known to what extent social media can affect behaviour change. The Transtheoretical Model of Health Behaviour highlights that individuals are in different stages of readiness to change their behaviour and a number of behavioural and cognitive processes can support movement through each of the model's six stages of change. This study explores the HSE's You Can Quit Facebook community as a stage-matched smoking cessation intervention using a non-participant netnography approach. To examine the relationship between social support and stages of change the author used thematic analysis to study the comments and posts of members of this community. This study demonstrates that individuals engage with this community in different ways depending on their stage of change. Early stage quitters engage most with the community, followed closely by those who have successfully quit for over six months. Early stage quitters receive and benefit from motivational support and advice and information from later stage members. Those who have quit use the community as a platform to publically congratulate themselves on their achievements. Helping others and proclaiming their milestone achievements on Facebook spur this group on. This study concludes that Facebook is an effective platform for a stage-matched smoking cessation intervention for early stage quitters and for supporting those in maintenance.

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1. Introduction:

Social marketing emerged as legitimate limb of marketing over forty years ago. Social marketing is broadly similar to traditional marketing in that it employs commercial techniques, albeit in campaigns aimed at the betterment of individuals or society (NMSC, 2010). On the basis that lifestyle habits have a huge impact on individual health (Bandura, 1998), public health or health promotion is a major area of social marketing concentration and investment.

Smoking is undoubtedly the lifestyle habit with the most devastating consequences for individual health. According to a recent Pfizer report (2009) smoking is responsible for 6,000 deaths in Ireland each year. Breaking this figure down further, Brugha et al (2009) create an even bleaker image of the consequences of smoking, stating that it is responsible for one in 10 adult deaths. It is also considered the largest cause of preventable disease (Pfizer Report, 2009) and smoking-related illnesses (Brugha et al., 2009). Smoking is directly linked to 90% of lung cancer cases (Brugha et al., 2009). It also causes coronary heart disease; according to the US Centers for Disease Control and Prevention (CDC) compared to non-smokers, it is predicted to escalate the risk of coronary heart disease and stroke by two to four times (www.CDC.gov). Given the health implications and fatal consequences of smoking it is considered one of the riskiest behaviours individuals can engage in (Hassan, Shiu, Walsh & Hastings, 2009).

Drawing on these stark facts, which present a compelling case for further smoking-related research, this study is concerned with exploring a new platform for smoking cessation interventions – social media and more specifically Facebook.

Most smoking cessation campaigns are conducted via mass media; TV, print and radio (Graham, Milner, Saul & Pfaff, 2008). While there is strong evidence to suggest that many such campaigns are effective (Rigotti & Wakefield, 2012) they are not without limitations, tending to be costly, inflexible and difficult to measure (Graham et al., 2008). It is suggested that “*novel approaches and new interventions*” are needed to increase smoking cessation rates (Cobb, Graham, Byron, Niaura, Abrams, 2011). Social media is one such novel approach. Many authors contest that the “*almost universal*” adoption of social media has created huge potential for the social marketing of health promotion (Gold, Pedrana, Sacks-Davis, Hellard, Chang, Howard, Keogh, Hocking, & Stooove, 2011; Korda & Itani, 2013;

Newman, Lauterbach, Munson, Resnick & Morris, 2011). This is largely due to social media's ability to engender a sense of interconnectedness among individuals and its capability for acting as a social support network (Korda & Itani, 2013), its huge reach potential (Newbold & Campos, 2011; Cugelman, Thewall & Dawes, 2011; Neiger, Thackeray, Van Wagenen, Hanson, West, Barnes, & Fegan, 2012) and its cost effectiveness (Cugelman et al., 2011). From a health promotion perspective, Bandura (2004) states that behavioural change is most likely in these social environments. In relation to smoking cessation, it has been suggested that new media can also be a means to distribute tools and information that might assist in quitting smoking (Freeman, 2011). In addition, online social environments are thought to play important roles in smoking behaviour and cessation (Cobb et al., 2011). It has been suggested that Facebook could be particularly effective in this regard (Lowe, Barnes & Sutherns, 2012; Ramo & Prochaska, 2012; Vyas, Landry, Schnider, Rojas & Wood 2012; Cobb et al., 2011; Norman, MacIntosh, Selby & Eysebacher, 2008).

However, there are a number of gaps in the research to date; there has been little investigation into the efficacy of social media as a health promotion tool (Korda & Itani, 2013; Neiger et al., 2012; Cobb et al., 2011; Gold et al., 2011; Newbold & Campos, 2011). In relation to the role social media and Facebook can play in smoking cessation, Cobb et al (2011) call for a more rigorous understanding of this new medium and how it can affect behaviour change.

This study aims to reduce the extent of these two research deficits, and add to the current literature by exploring the efficacy of Facebook as a platform for a stage-matched smoking cessation intervention. A second sub-objective is to classify the nature of support within this smoking cessation network, and to identify the types of support most beneficial to quitters. The transtheoretical model (TTM), also known as the 'stages of change' is considered particularly effective in framing smoking cessation interventions. Given its proven use within the remit of smoking cessation, the author has employed the stages of change model, coupled with online social support as the theoretical basis for this study, which investigates the nature of online social support and the stages of change within the context of a specific Facebook smoking cessation community – the HSE You Can Quit community. Through a netnography of this smoking cessation community the author offers general conclusions about Facebook as a platform for a stage-matched smoking cessation intervention.

In terms of a study overview, this study begins by way of a general introduction, which provides the justification for this study and the background to it. Chapter 2 – Literature

Review puts social marketing and its various theories in context, before introducing the Stage of Change or Transtheoretical Model of health behaviour, in combination with online social support as the theoretical basis for this study. Social media and Facebook are introduced and explored, both in terms of their general applications in public health and with reference to smoking cessation. The behaviour of community members in online health communities is also examined. The various theories and findings from the literature review inform the research objectives and research questions at the end of the chapter. Chapter 3, Methodology presents and rationalises the research philosophy and overall approach of this study. Netnography is introduced and justified as the research design. The overall research design process is outlined, including the sampling approach, data collection and analysis process, before concluding by addressing ethical and trustworthiness issues. Chapter 4 – Findings introduces the findings or results of this study. Chapter 5 presents a discussion of the findings, with reference both to the data and the preceding literature. The conclusion, or chapter 6, summarises the study and its objectives. Empirical findings are synthesised and limitations and areas for further research are presented. The theoretical and managerial implications of the research are outlined.

1.2 Background – HSE You Can Quit Facebook community:

This study is specifically concerned with the social media aspect of the HSE QUIT campaign. This collaborative integrated marketing campaign (IMC) backed by a number of leading health organisations commenced on 13 June, 2011 and has been running since then. Based on evidence that half of all smokers will die from a smoking related disease, the main message of the campaign is: *“1 in every 2 smokers will die of a tobacco related disease – Can you live with that? /You can quit, we can help”* (www.hse.ie). In terms of digital communications, the QUIT campaign features a strong online presence with a dedicated website – www.QUIT.ie and Facebook community - www.facebook.com/HSEquit, both of which are intended to provide support to smokers as they seek to break the habit (www.HSE.ie). Venturing into social media for such a campaign has proved worthwhile. Although only a relatively recent campaign, the HSE's You Can Quit Facebook page has already gained significant traction among members of the public with 48,973 likes (Facebook/HSEquit.com, 2013). According to the HSE the, *“real value of the page however is in the level of engagement; current smokers, quitters and former smokers are all commenting and sharing day to day, supporting each other in a very real way. The page has grown organically, with the HSE as facilitator, but with the real power of the page coming from the users”* (www.hse.ie).

2. Literature review:

2.1 Introduction:

The literature review begins by introducing the theoretical framework upon which this social marketing in health promotion study is based. Firstly social marketing is broadly outlined. Next it explores social marketing in the context of public health and health promotion. The main theories in social marketing are detailed before introducing the Stage of Change or Transtheoretical Model of health behaviour as the theoretical basis for this study. The remainder of the literature review is concerned with social media and its role, both generally in terms of health promotion, and in respect of smoking cessation. Having examined social media and health promotion in broad terms, it next explores Facebook as a platform for health promotion and smoking cessation campaigns. The chapter ends with an examination of behaviour in social networking sites, what motivates behaviour and how this could influence others. The various theories and findings from the literature review inform the research objectives and questions at the end of the chapter.

2.2 Theoretical Framework

In 1951 Wiebe posed the question, “Can brotherhood be sold like soap?”, thus laying the foundations for social marketing (Stead, Hastings & McDermott, 2007). The notion that marketing tools could be extracted for social good properly emerged in the late 1960s (Wood, 2008). This idea stemmed from Kotler and Levy’s (1969) pioneering article *‘Broadening the Concept of Marketing’*, which argued for a wider understanding of the marketing concept. Stating that marketing goes “*considerably beyond the selling of toothpaste, soap and steel*”, Kotler and Levy (1969) urged researchers and practitioners to consider the application of marketing principles to “*organisations, persons and ideas*”. A few years later Kotler & Zaltman (1971) first introduced the term social marketing, defining it, “*As the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication and marketing research*” (Kotler & Zaltman, 1971).

Although revised definitions of social marketing have been proposed (Hastings & Saren, 2007; Andreason, 1994) the defining features of social marketing remain the same (Cheng, Kotler & Lee, 2009). That is, its place as a distinct marketing discipline (Cheng, Kotler & Lee, 2009), its focus on voluntary behaviour change and the principle of exchange (Andreason, 1994), and its application of commercial marketing approaches to influence

voluntary behaviour change for the good of individuals and society (Cheng, Kotler & Lee, 2009; Evans & McCormack, 2008; Stead et al., 2007; Grier & Bryant, 2005; Andreason, 1994). While differentiated by its focus on intangible "*ideas, attitudes and lifestyle change*" (Lefebvre & Flora, 1988), social marketing employs the same concepts, as commercial marketing – relying on customer focus, audience segmentation, the marketing mix, market research, measurement or monitoring (Kotler & Lee, 2008; Grier & Bryant, 2005) and exchange theory (Grier & Bryant, 2005). Validating the application of commercial techniques in social marketing, Wiebe's 1951 analysis of four separate social change campaigns found that the most successful campaigns had more in common with commercial marketing (Stead et al., 2007).

Over the years social marketing has focused on four main areas: health promotion (or public health), injury prevention, environmental protection and community mobilisation (Cheng, Kotler & Lee, 2009). This research paper is concerned with social marketing in the context of public health.

2.2.1 Social marketing in public health and health promotion:

The UK's National Social Marketing Centre (NSMC) differentiates between traditional and social marketing. Traditional marketing is profit oriented; social marketing promotes social good, and encourages behaviours that will benefit individuals and society (NSMC, 2010).

Health marketing is borne out of two disciplines: social marketing and health promotion. As an aspect of social marketing, health marketing strives to design specific programmes and strategies to influence behaviour change for the benefit of individuals (Pralea, 2011).

While social marketing shares many similarities with public health planning processes, it is distinguished by its emphasis on employing commercial marketing strategies to change individual behaviour (Grier & Bryant, 2005). These campaigns often centre on health promotion issues like smoking cessation; many are delivered as mass media campaigns (Suarez-Almazor, 2011; Crawshaw & Newlove, 2011). Lifestyle habits have a huge impact on individual health (Bandura, 1998).

Health promotion is one of the main tools used to change smoking behaviour and attitudes towards it. Health promotion is part of the social cognitive health-centred approach method that helps people to stay healthy through lifestyle awareness and self-management (Bandura, 1998). Self-efficacy is a factor in this approach (Bandura, 2004). Self-efficacy relates to the

extent to which individuals have belief in their own capabilities (Bandura, 2004). However, in the context of Irish smokers, it is reported that social deprivation, not self-efficacy is a major factor in high smoking levels and poor quitting rates (Brugha et al., 2009). Bandura (2004) outlines two pathways by which health promotion can change health behaviour: the “*direct pathway*” or one-way media communication, and the “*socially mediated pathway*”, whereby media campaigns direct individuals to social networks. The theme of engaging individuals to change their health behaviour through online and social media interventions is explored later in this chapter. The next section outlines the main social marketing theories within the domain of this study.

2.2.2 Guiding theories in social marketing:

There are a number of guiding theories that can be applied to social marketing (Glanz, Rimer & Viswanath, 2008; Kotler & Lee, 2008; Lefebvre, 2000) many are public health orientated (Lebevre, 2000). In the public health sphere, theories include: the Stages of Change or Transtheoretical Model (TTM), Social Norms Theory, the Health Belief Model (HBM), the Theory of Reasoned Action and Theory of Planned Behaviour (TRA/TRB), Social Cognitive Theory (SCT) (Glanz et al, 2008; Kotler & Lee, 2008). Although there is no one dominant theory in public health and health promotion, Glanz et al (2008) found that from 2000-2005 the Transtheoretical Model (TTM), Social Cognitive Theory (SCT) and the Health Belief Model (HBM) were the most often used in published health research.

As this paper is concerned with social marketing and its application to public health, a brief review of the main social marketing theories in this domain, including their uses and any critiques, is presented below. Following this, the specific theoretical framework guiding this research study is outlined.

2.2.3 Review of the main social marketing theories used in public health:

From the perspective of a non-health professional, at first it appears that little separates the leading social marketing public health theories. While there is a degree of overlapping among them, there are both subtle and more explicit differences.

The basic premise of Social Norms Theory centres on normative behaviour. Specifically, that individual behaviour is based on perceptions of what is normal or typical (Kotler & Lee, 2008). It is designed to correct misconceptions about particular behaviours by providing accurate information, from which individuals can adjust their behaviour to fit the norm (Glassman & Braun, 2010; Schultz, Nolan, Cialdini, Goldstein, Griskevicius, 2007).

Based on a somewhat similar premise, the Theory of Reasoned Action (TRA) asserts that the most important predictor of behaviour is the individual's intentions to change. This is determined by the attitude and social normative perceptions towards it (Glanz et al, 2008; Lefebvre, 2000). Both Social Norms Theory and TRA imply that social norms can affect behaviour change – however, TRA and Theory of Reasoned Behaviour (TRB) are perhaps more complex processes. Health programmes using this theory need to meticulously select beliefs to target for change (Glanz et al., 2008). Also unlike social norms theory, TRB as an extension of TRA suggests that self efficacy is required on the part of the individual (Glanz et al., 2008). Both TRA and TRB have been used extensively in public health research (Glanz et al., 2008)

The Health Belief Model (HBM) expands on social norms theory and TRA/TRB by identifying the various concepts that will prompt an individual to change their behaviour. These include the individual's perceived susceptibility to developing a health issue, the associated severity of the health problem as well as the barriers to and benefits of the desired behaviour (Glanz et al., 2008; Kotler & Lee, 2008; Lefebvre, 2000) and similar to TRB, the self-efficacy of the individual. HBM posits that the combination of these beliefs leads to behaviour change (Glanz et al., 2008). However, although widely used in HIV programmes and cancer screening (Glanz et al., 2008), HBM is not without its criticisms. Specifically, that it does not take account of the emotional aspects of behaviour. Witte (1992) deemed fear a core element of health behaviour, stating that if used correctly, this emotional construct has huge potential to motivate behaviour change.

Self efficacy is a recurring theme in the various theoretical frameworks. It appears again in Social Cognitive Theory, which suggests that the likelihood of changing a behaviour is predicated on perceptions of the benefits outweighing costs, and self –efficacy (Kotler & Lee, 2008). A theory that is somewhat broader to other approaches, SCT recognises the wider social influences on behaviour as well as cognitive factors. It maintains that behavioural, cognitive, environmental and interpersonal factors are inter-related determinants of behaviour (Glanz et al., 2008; Lefebvre, 2000). Observational learning is a key concept in SCT – this is a process whereby behaviour is observed and learned from (Lefebvre, 2000). This SCT concept reflects similarities with social norms theory in that normative behaviour can be achieved through a learned process. SCT's broad base has meant that it has not been tested to the same extent as other theories (Glanz et al., 2008).

While it is important to recognise these alternative theories, the author has chosen the Stages of Change Model also known as TTM as the specific theoretical framework guiding this paper. It is thought that TTM may be especially useful in developing interventions in smoking cessation (Glanz et al., 2008). This is discussed further in the next section.

2.2.4 Research theoretical framework:

This section introduces the theoretical grounding for this paper; the Stages of Change Model (TTM). This model, coupled with social support provides the theoretical basis for this research paper.

2.4.5 Stages of Change Model/TTM:

As a theory of behaviour change, Stages of Change or TTM is quite different to those already outlined. Firstly it was specifically developed by Prochaska and DiClemente (1984) in the context of a smoking cessation intervention (Whitelaw, Baldwin, Bunton & Flynn, 2000; DiClemente, Prochaska, Fairhurst, Velicer, Velasquez & Rossi, 1991). As such, it is appropriate for use in the context of this research study. Secondly, unlike social norms theory and TRA and TRB, which outline how behaviour can be changed normatively, TTM suggests that change is affected at two interlinked levels. The first is the *stages of change* – this identifies the “*temporal, motivational, and constancy aspects of change*” (DiClemente et al., 1991). TTM suggests that change occurs over time through a process of six stages: precontemplation, contemplation, preparation, action, maintenance and termination or relapse (Glanz et al, 2008; Kotler & Lee, 2008; Lefebvre, 2000). Each stage is defined below.

Precontemplation: Those still smoking with no plans to quit,

Contemplation: Those smoking but planning to quit soon,

Preparation: Those preparing to quit within a 30 day period,

Action: Those who had quit in the last six months,

Maintenance: Those who had not smoked in over six months,

Relapse: Those who quit in the last six months but who had begun smoking again (Prochaska, DiClemente, Velicer & Rossi, 1993; Prochaska, Velicer, DiClemente and Fava, 1988).

The second dimension of TTM is ‘*the processes of change*’. These are 10 activities, or “*independent variables*” that support and help individuals cope with successful problem behaviour change (DiClemente et al., 1991; Prochaska, et al., 1988). These are listed as: consciousness raising, dramatic relief, self-re-evaluation, environmental re-evaluation, self-

liberation, social liberation, counter-conditioning, stimulus control, contingency management and helping relationships (Guillot, Kilpatrick, Hebert & Hollander, 2004; Prochaska & DiClemente, 1983). Echoing aspects of other public health theories, these elements are classified as cognitive and behavioural processes. The cognitive processes (consciousness raising, dramatic relief, environmental re-evaluation, self-re-evaluation and social liberation) are concerned with gathering information which will change attitudes towards the problem behaviour (Guillot et al., 2004). The behavioural processes are those “*that change overt behaviours*” (Guillot et al., 2004). These are counter-conditioning, stimulus control, contingency management and helping relationships (Guillot et al., 2004).

In comparison to other social marketing public health theories, TTM’s unique feature is its claim that people are in different stages of readiness to change their behaviour, and that interventions should be matched accordingly. TTM suggests that people in the action and maintenance phases are more likely to use behavioural processes like, contingency management, helping relationships, counter-conditioning and stimulus control (Lefebvre, 2000; Prochaska & DiClemente, 1983). Once into the action stage DiClemente et al (1991) argues that effective strategies are needed to maintain long term cessation. It is also thought that individuals in the later stages could benefit from more intense, shorter, action-oriented types of interventions, while those in the earlier stages may require less intense but more comprehensive interventions (Lefebvre, 2000). However, while TTM offers insight into the types of interventions needed at different stages, these are not explicitly stated. This paper seeks to explore the role of Facebook as a stage-matched intervention.

2.4.6 TTM – criticisms:

Despite numerous claims for the efficacy of TTM as a predictor of smoking cessation behaviour, this is hotly contested debated by a number of authors. While some authors state that stage-matched interventions are crucial to a successful behaviour change (Lefebvre, 2000), many others failed to find any evidence for this, including, Aveyard, Massey, Parsons, Manaseki and Griffin (2009), Callaghan and Taylor (2007), Aveyard, Lawrence, Cheng, Griffin, Croghan and Johnson (2006) and Quinlan and McCaul (2000). Others question the overall validity of TTM applied to smoking cessation (Balmford, Borland & Burney, 2010; Herzog, 2010; Whitelaw, Baldwin, Bunton & Flynn, 2000). Questions are also raised about the time-frames allotted to the stages, with Sutton (2001) stating: “*Staging algorithms are based on arbitrary time periods and some are logically flawed.*”

2.4.7 Helping Relationships – TTM and social support:

This paper focuses on the role of one of TTM's processes of change, a "*helping relationship*", specifically an online social support network (HSE You Can Quit Facebook community) in smoking cessation's Stages of Change. Helping relationships are defined as those that, "*combine caring, trust, openness, and acceptance, as well as support for healthy behaviour change. Rapport building, therapeutic alliances, counsellor calls, and buddy systems can be sources of social support*" (Glanz et al., 2008). Helping relationships occur in an individual's natural environment as well as in therapy (Prochaska et al., 1988). Virtual reality has become part of the human experience (Garcia, Standlee, Bechkoff and Cui, 2009; Murthy, 2008), as such the online world is now as much part of the natural environment as the off-line world. Therefore, the HSE's Facebook Quit community can be logically considered as a medium for 'helping relationships' or social support. On this premise, the author is exploring HSE's QUIT Facebook page as a Stage of Change intervention. While there is limited research in TTM and social support, the majority of what is available is largely focused on exercise (see Guillot et al., 2004) there is a breadth of literature available on online social support and smoking cessation.

The next section reviews the literature in this regard. It begins by way of an introduction to social media and Facebook.

2.3. What is social media?

Social media is the collective term for Internet-based applications which allow users to communicate, collaborate and share content with others online (Thackeray, Neiger & Keller, 2012; Diffley, Kearns, Bennett & Kawalek, 2011). Many social media platforms now exist. These are often referred to as to as Web 2.0 social media, and include Internet-based social networking services such as Facebook and MySpace, Twitter, blogs, and YouTube (Korda & Itani, 2013). Active engagement (Freeman, 2011), user generated content and social interaction are characteristic of Web 2.0 technologies (Gold et al, 2011). However, many new media users do not create or share content, they simply use it to read, view or listen to the contributions of others (Freeman, 2011).

The main motivating factors for social networking use include: communication and relationship maintenance (Diffley et al, 2011); socialising, entertainment, self-status seeking, and information (Park, Kee, and Valenzuela, 2009). Participants also use social networks to share personal preferences and experiences (Durukan, Bozaci, Hamsioglu, 2012) as well as

knowledge, information, media, ideas, opinions and insights (Diffley et al, 2011). This leads to “*collective intelligence*” (Thackeray, Neiger, Hanson & McKenzie, 2012). Unlike traditional mass media channels, in which the user is passive, social media allows participants to interact with messages; in essence it is an interactive rather than passive medium (Diffley et al, 2011). Social network sites like Facebook enable users to express themselves and build social relationships: in the process these users are able to build social capital through increased connectedness (Lin & Lu, 2011; Sheng-Yi, Shih-Ting, Zhi-Feng, Da-Chain & Wu-Yuin 2012). From a user perspective, social networking produces sociological and psychological benefits (Lorenzo-Romero & Alarcón-Del-Amo, 2012). Facebook is the most popular and largest among social networking sites (Lin & Lu, 2011).

2.3.1 Social media and Facebook: demographics:

Age is shown to be the strongest predictor of social networking use (Chou, Hunt, Beckjord, Moser & Hesse, 2009). The largest category of Irish Facebook users is aged 25-34 with a total of 664, 760 users, this is closely followed by those aged 18-24 (SocialBakers, 2012). Although Chou et al (2009) highlights relatively low engagement levels among the over 55s, social networking use by older adults is increasing. In the US, usage among the over 50s almost doubled from 22% in April 2009 to 42% in May 2010 (Pew Internet Research, 2010). In an Irish context, 45-54 year olds showed the highest gain in Facebook registrations over a recent three month period (SocialBakers, 2012).

In terms of gender, it is thought that women are the predominant users of social networking sites like Facebook (Galer-Unti, 2010; Lorenzo-Romero & Alarcón-Del-Amo, 2012). In an Irish context, there isn't a huge gender divide; 47% of Irish Facebook users are male and 53% are female (Socialbakers, 2012). That said, gender differences emerge around patterns of usage. In a qualitative study of US college students, female students spent longer on Facebook than male counterparts, these women often reported losing sleep because of Facebook, and in many cases reported feeling closer to Facebook friends rather than real friends (Thompson & Loughheed, 2012) .

Park et al (2009) also found that in addition to gender, other socio-demographics, including hometown and educational background influenced the degree to which Facebook was used. The demographics discussed above are very important considerations in developing a health promotion strategy. To be used effectively, priority populations must be segmented based on the degree to which they use social media (Thackeray et al, 2012). In terms of smoking

cessation, it is important to identify the types of individuals who might benefit most from this medium (Cobb et al, 2011).

2.3.2 Social media and health promotion:

The almost universal adoption of social media has created huge potential for its use in health promotion (Korda & Itani, 2013; Gold et al, 2011; Newman et al., 2011). It is believed that Internet or web interventions can influence positive health change across a range of behaviours including, nutrition; tobacco and substance use; sexual behaviour; bingeing/purging episodes; and general health (Portnoy, Scott-Sheldon, Johnson & Carey, 2008), and reducing binge drinking and maintaining a healthy weight (Cugelman et al., 2011). Referencing its potential George (2011) states that social media tools should no longer be ignored by health promotion professionals.

This message seems to be increasingly getting through. Internet and social networking sites are increasingly being harnessed as a medium to promote healthy behaviours (Webb, Joseph, Yardley & Michie, 2010). Although still in the early adoption phase, Thackeray et al (2012) note that 60% of US state health departments are using at least one platform and many health-related online social networks now exist in the US. Many of these specifically target tobacco use including, becomeanex.org, quitnet.com, and stopsmokingcenter.com (Cobb et al, 2011).

There are many reasons for the growth of online mediums for health promotion and for its growing uptake. It provides access to a very wide reach (Newbold & Campos, 2011; Cugelman et al, 2011; Neiger et al, 2012). It allows highly engaged consumers and individuals to react and contribute to the health debate (Newbold & Campos, 2011). It is also cost effective (Cugelman, 2011) and can be used effectively to disseminate information (Vance, Howe & Dellavalle, 2009). In addition, social media are found to penetrate the population regardless of education, race/ethnicity, or health care access (Chou et al, 2009). Social networking sites attract the most users; this makes them an obvious destination for health communication and interventions (Chou et al, 2009). The viral nature of social media can also provide benefits; it could be used to encourage friends to participate in off-line health interventions, including screenings and classes (Thackeray et al., 2012). From a health promotion perspective, Bandura (2004) states that behavioural change is most likely in these social environments. Bandura (2004) advocates "*psychosocial*" Internet inventions, suggesting that people generally ignore preventative messages, but will seek Internet assistance because it is accessible, convenient and anonymous. However, Bandura (2004)

argues that the Internet “*is a tool, not a panacea*”. To be successful, these outlets require individual motivation (self-efficacy) to be present. If possible, Bandura (2004) states that motivating tools should be built in to online health communities to capitalise on the technology's benefits.

In contrast to the many strong arguments supporting Internet intervention in health promotion, Cugelman et al (2011) balances the argument with empirical evidence. They found that while online interventions can work to effect healthy behaviour change, these interventions were no more effective than print campaigns. However, it is noted that this research relates to the web more generally and not the efficacy of social media (Cugleman et al, 2011). While there is strong theoretical support for social media as a health intervention and smoking cessation medium, one author in particular also raises health concerns about the growth of this new medium. In a content analysis of web and social media sites, Freeman (2011) found that the tobacco industry is heavily promoting its products on Facebook and YouTube. The number of anti-smoking messages on YouTube is “*dwarfed*” by the amount of pro-smoking messages (Freeman, 2011). As a result, Freeman (2011) calls for greater regulation of new media to counter the marketing of smoking products. However, it is important to note that Freeman (2011) does not diminish the role social media can play in promoting smoking cessation.

Having examined social media in general from a health promotion perspective, this next section broadly examines online support and smoking cessation. Next it details Facebook in the context of health promotion, and then more specifically in relation to smoking cessation.

2.4 Online social support and smoking cessation:

It is widely accepted that quitting smoking is one of the hardest but most important health changes a person can make (Mermelstein, Cohen, Lichtenstein, Baer & Kamarck, 1986). Given the difficulties associated with quitting, the suggestion that new and perhaps more social interventions are needed (Bandura, 2004) is a welcome one. However, Bandura’s point is perhaps now moot, as online social networks have become common amongst behaviour-change websites (van Mierlo, Voci, Lee, Fournier & Selby, 2012). The growth in avenues for online peer support is described by Eysenbach, Powell, Englesakis, Rizo and Stern (2004) as “*one of the most promising aspects of the rise of ehealth*”. These types of online support groups are capable of connecting geographically dispersed people who are trying to quit smoking (Selby, van Mierlo, Voci, Parent & Cunningham, 2010; Stoddard, Augustson &

Moser, 2008), with access to always-on support at marginal cost (Selby et al., 2010; An, Schillo, Saul, Wendling, Klatt, Berg Ahulwalia, Kavanaugh, Christenson & Luxenberg, 2008). As such, social networks can be considered a novel and appealing alternative intervention to traditional smoking cessation aids.

Novel interventions are all well and good but they must be justified. In terms of efficacy, online social support is presented as having a powerful mediating effect on smoking cessation. Defined as the encouragement or help from others that the smoker receives (May, West, Hajeck, McEwen & Robbie, 2007), social support is considered beneficial to smokers in a number of ways. Firstly, the influence of others can help to sustain motivation, secondly, social support can help smokers model their behaviour on that of non-smokers, thirdly, it can aid cessation and maintenance by creating a calm interpersonal environment and finally it can limit the effects of stress on relapse (Mermelstein et al., 1986). Theoretical evidence largely supports claims for the efficacy of online social support. Correlational and epidemiological studies have linked improved cessation outcomes with social support, particularly in the short-term (May et al., 2007; Mermelstein et al., 1986;). Similarly, low levels of support are seen as barriers to cessation and maintenance (An et al., 2008). Randomised controlled studies by Etter (2005), Strecher, Shiffman and West (2005) and Swartz, Noell, Schroeder and Ary (2006) generally found evidence to support the use of internet delivered smoking cessation interventions. More specifically, another randomised controlled trial into US online smoking intervention, Quitnet.com by Cobb, Graham, Bock, Papandonatos & Abrams (2005) found that “*sustained use of Quit.net, especially the use of social support, was associated with more than three times greater point prevalence abstinence and more than four times greater continuous abstinence*”. Similarly, an observational study into Quitnet.com noted that despite low engagement on the site’s social network forum, one-to-one messaging between community members was associated with greater abstinence rates (An et al., 2008). However, studies have also found no evidence for the efficacy of online social support. In their randomised controlled trial of members of US Government employee smoking cessation site, Smokefree.gov, Stoddard et al (2008) found that the site’s bulletin board (online community network) did not have a bearing on quit rates. Although, given the composition of the study sample, these findings may not be generally representative.

2.4.1 Facebook as a health promotion and smoking cessation medium:

Facebook is the most popular and largest among social networking sites (Lin & Lu, 2011), with a global audience of 981,119,140 (www.checkfacebook.com, 2013). As a social media platform it offers a simple a cost effective way to communicate health information (Hyojung, Rodgers & Stemmler, 2011). It is also the main destination for those using social media sites for health (Hyojung et al., 2011). Facebook offers the potential for the viral dissemination of (smoking cessation) interventions through existing networks (Cobb et al., 2011). Using a mixed-methods approach, Vyas et al (2012) found that social media in general and Facebook in particular were effective mediums for public health interventions. In terms of delivering health messages to marginalised groups, in this case Latino youths, Facebook was seen as preferable to SMS or texting because of participants' "*overwhelming access to and usage of Facebook*" (Vyas et al., 2012).

As a platform for health promotion messages, Facebook is already being harnessed in a number of ways. Gold et al (2011) found that Facebook is being actively used for sexual health promotion (it was used by 71% of the health activities identified. However, Gold et al (2011) acknowledge that little is known about the success of health promotion activities on large sites like Facebook; they call for future research in this area. Social networks like Facebook provide a channel for delivering tobacco cessation messages and social support to quit (Norman et al., 2008). Increased access to the Internet has resulted in more people seeking tobacco cessation resources in this way than ever before (Saul, Schillo, Evered, Luxemburg, Kavanaugh, Cobb & An, 2007). Following a cross sectional study, Ramo & Prochaska (2012) report that Facebook is a useful and cost effective way to survey (young) smokers. In addition, they found it had the potential to recruit smokers unmotivated to quit to participate in cessation programmes (Ramo & Prochaska, 2012). Lowe et al (2012) carried out qualitative research in an investigation into the use of social media to help women from going back to smoking post-partum. This research found that Facebook was used by women as a form of support post-pregnancy, helping to reduce the respondent's sense of social and geographic isolation. However, it is not clear if social networking helped the women to remain quit from smoking post-partum. Although, it is suggested that social support could diminish the possibility of relapse (Lowe et al., 2012). While, there is strong support for Facebook as a health promotion and smoking cessation tool, much is still unknown about its efficacy (Cobb et al, 2011).

2.4.2 Social media and community member behaviour:

Social media engenders a sense of interconnectedness among individuals and can act as a social support network (Korda & Itani, 2013). It has been suggested that the efficacy of social media and Facebook as a health promotion tool derives to a large extent from its ability to connect people and reduce their sense of isolation (Lowe et al, 2012). However, the extent to which individuals use social media varies. It is thought that “*the depth of engagement is the cornerstone to effective social media outreach*” (Korda & Itani, 2013). Neiger et al (2012) measure social media engagement in terms of action; levels of engagement can be low, medium or high. Low engagement social media users merely show a preference for content; medium engagement users create and share content; high engagement users also participate in off-line interventions (Neiger et al., 2012).

A number of studies have examined the behaviour of individuals in relation to participating in online health communities and social networking sites. Behaviour unfolds in online smoking cessation communities in specific ways. Social network members are classified in the literature as *key players, posters, active users, or caretakers* (van Mierlo et al., 2012). Van Mierlo et al (2012) used cross sectional datasets from the Canadian Cancer Society’s Smokers’ Helpline Online: SHO and WATI StopSmokingCenter.net to examine how users behaved in social network and to gain insight into the demographic make-up of “superusers”. Across both sites they found that “superusers” drove network traffic, contributing to 34.78% (29,422/84,599) and 46.22% (61,820/133,753) of social network content. Hence the authors suggest that organisations deploy resources to encourage superuser involvement (van Mierlo et al., 2012). A further qualitative analysis of message content on StopSmokingCenter.net by Selby et al (2010) found that struggling recent quitters were responsible for the highest frequency of first posts, and the majority of responses were from members who were quit for a month or more. The authors concluded that online social support networks could be especially helpful to smokers requiring immediate assistance with their quit attempts, and could be particularly beneficial in preventing relapse (Selby et al., 2010). As well as providing an avenue for support among active members, it is thought that social networks can offer passive support to “lurkers” (An et al., 2008). This is an area identified for further research (Selby et al., 2010).

Centola (2010) investigated the spread of health behaviour in a social networking environment. This quantitative experimental research found that individual health behaviour adoption was much more likely when participants received social reinforcement from

multiple neighbours in the social network; participants made decisions about whether or not to adopt a health behaviour based on the adoption patterns of their “*health buddies*” (Centola, 2010). Newman et al (2011) undertook to examine how and why people share health information online. Using a qualitative research design, fourteen participants were surveyed, the findings show that receiving emotional support was the most commonly cited motive for individuals' participation; motivation also ranked very highly as a factor (Newman et al, 2011). Similarly, in the context of how women used online breast cancer support groups, Rodgers & Chen (2005) found information exchange and social support to be the highest ranking motivating factors. They conclude that women gain significant psychosocial benefits by communicating in this way (Rodgers & Chen, 2005).

In relation to smoking behaviour, it is believed that social support can influence both initiation and quitting (Cobb et al, 2011). Citing social network theory - the dynamics of interrelationships between people and groups (Sacks & Graves, 2012), Cobb et al (2011) suggest that an interactive social media environment could motivate smokers to quit, and to cope better when quitting. They also suggest that smoking cessation behaviour change could spread through a social media network. However, while acknowledging the processes of behaviour change present within social networks, including diffusion of information, viral spread of interventions, social support, social norms, and modeling, they admit it is not known to what extent these processes are useful in terms of smoking cessation. Cobb et al (2011) call for a more comprehensive understanding of social media networks, in this regard.

2.5 Summary:

The Stage of Change Model (TTM) was introduced as an effective approach for developing smoking cessation interventions, and assessing individuals' readiness to quit. One of the “processes of change” thought to support people through the action and maintenance phases of quitting is that of a “helping relationship”. Given its propensity for social support, Facebook can be used to mediate such helping relationships. Throughout this paper, it has been proposed that social media in general is an effective medium for health promotion messages (Gold et al, 2011; Korda & Itani, 2013; Newman et al, 2011; Freeman, 2011; Cobb et al, 2011; & Chen, 2005; Centola, 201; Bandura, 2004; Ramo & Prochaska, 2012; Lowe et al., 2012). From a health promotion perspective, Bandura (2004) states that behavioural change is most likely in these social environments. In relation to smoking cessation, it has been suggested that new media can also be a means to distribute tools and information that might assist in quitting smoking (Freeman, 2011). In addition, online social environments are

thought to play important roles in smoking behaviour and cessation (Cobb et al, 2011). It has been suggested that Facebook could be particularly effective in this regard (Ramo & Prochaska, 2012; Vyas, Landry, Schnider, Rojas & Wood, 2012; Cobb et al, 2011; Lowe et al, 2011; Norman, MacIntosh, Selby & Eysebacher, 2008). However, there are a number of gaps in the research to date; there has been little investigation into the efficacy of social media as a health promotion tool (Korda & Itani, 2013; Gold et al, 2011; Neiger et al., 2012; Newbold & Campos, 2011; Cobb et al., 2011). In relation to the role social media can play in smoking cessation, Cobb et al (2011) call for a more rigorous understanding of this new medium and how it can affect behaviour change. The overall aim of this research paper is to assess if an online social network, namely the HSE's QUIT Facebook page is a useful Stage of Change intervention.

The next section details how this author proposes to address some of these research gaps.

2.6. Research objectives:

- Drawing on the literature, the main objective of this research paper is to explore the efficacy of the HSE Facebook QUIT community as a Stage of Change smoking cessation intervention.
- A second sub-objective is to classify the nature of support within this smoking cessation network, and to identify the types of support most beneficial to quitters.

The next section outlines the research questions the author is using to achieve these aims. Each question is followed with a brief rationale drawn from the literature.

2.6.1 Research questions:

1. How has support from QUIT community members aided people in the readiness stages of TTM?

TTM suggests that people in the action and maintenance phases are more likely to use behavioural processes, including “helping relationships” (Prochaska & DiClemente, 1983; Lefebvre, 2000). Given the ability of a social network to engender support – the HSE You Can Quit Facebook community may mediate such helping relationships.

The first research question will address the stage of change at which a social support or “helping relationship” intervention is most appropriate by identifying the sample's positions in the cycle, and how community member support has benefited them.

2. What types of social support exist in the HSE Facebook community?

The predominant factors predicating participation in on-line health communities were found to be emotional support (Newman et al., 2011; Rodgers & Chen, 2005), motivation (Newman et al, 2011) and knowledge exchange (Rodgers & Chen, 2005). However, these studies did not specifically examine smoking cessation communities. This next research question addresses the types of social support in the community and any impact this has on cessation or maintenance.

3. To explore the social support typologies most beneficial to members?

Cobb et al (2011) referenced social network theory to explain how the social support in online communities could affect behaviour change. However, the degree to which social support is a factor in smoking cessation in social media settings is not known (Cobb et al, 2011). The second objective will seek to identify the degree to which social support influences stage of Change smoking cessation and maintenance.

3. Methodology Chapter:

3.1 Introduction:

Using Saunders, Lewis and Thornhill's (2009) 'research onion' as a guiding framework, this chapter introduces the philosophy, approach, strategy, method, and overall research design of this study. It begins with a review of the major research paradigms including their epistemological, axiological and ontological dimensions, and the types of research logic (deductive and inductive) associated with them. The author presents the interpretivist philosophical statement underpinning this study. Next the author presents a critique of quantitative and qualitative approaches, and outlines the rationale for adopting a qualitative approach. A netnographic research design is outlined – netnography is a qualitative research design used in the study of online communities and cultures. A rationale for this decision is outlined. The chapter continues with an outline of the theoretical sampling approach, ethical considerations and the data collection and data analysis processes. The final part of the methodology chapter deals with the trustworthiness of this study.

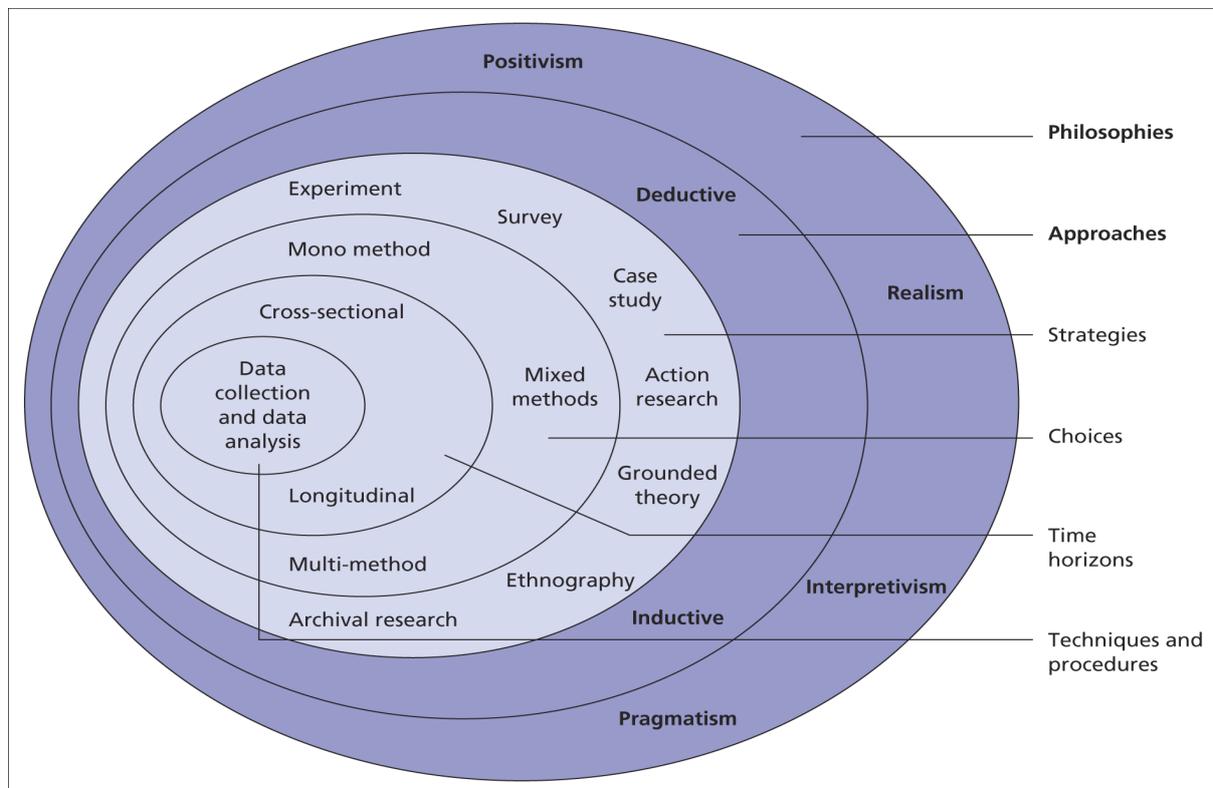


Figure 1: Saunders et al (2009) p: 108.

3.2 Paradigms in research:

Saunders et al (2009) emphasise the importance of questioning the research paradigm in research as it will aid the understanding and framing of social phenomena. Guba and Lincoln (1994) take this claim one step further, positing that research methods are of secondary importance to the research paradigm. Paradigms are defined by O' Leary (2007) as: “A *pattern of thinking based on shared assumptions or collective awareness that is predominant in a society and affects the way individuals perceive and respond to the world.*” Drawing on this definition, paradigms can be construed as dominant systems of thought found within cultures and societies. In scientific research they are theoretical perspectives. The concept of paradigms in the social sciences originated with Thomas Kuhn's 1962 essay, *The Structure of Scientific Revolutions* (O' Leary, 2007; Barron, 2006; Blaikie, 2004). Scientists within a specific paradigm share a common approach to understanding, conducting and evaluating science; paradigms “*set boundaries for the legitimate production of knowledge*” (O' Leary, 2007). The major paradigms in social science research are: positivism, post-positivism (realism), critical theory, and constructivism (or interpretivism) (Guba & Lincoln, 1994), and pragmatism (Saunders et al., 2009). Each paradigm is comprised of distinct philosophical beliefs, otherwise known as epistemology, ontology and axiology. By way of brief explanations: ontology is the study of the nature of reality (Scotland, 2012; Wahyuni, 2012; Saunders et al., 2009) or social entities (Bryman, 2004). In short, it deals with the way in which reality is perceived and what constitutes reality. There are two basic ways in which this questions of ontology can be approached – objectively or subjectively (Saunders et al., 2009). Epistemology is concerned with the nature of knowledge and what constitutes acceptable knowledge (Scotland, 2012; Saunders et al., 2009; Bryman, 2004; Brewer, 2003). This debate focuses on whether the social world should be studied according to the same principles as the natural sciences or not. Positivism and interpretivism are two of the main epistemological positions (Bryman, 2004). Axiology is the branch of philosophy concerned with the role of values in conducting social research (Saunders et al., 2009).

On the basis that they are most relevant to this study the next section outlines the two dominant research paradigms: positivism and interpretivism (Zawawi, 2007), and the ontological, epistemological and axiological philosophical dimensions associated with them.

3.2.1 Positivism:

Positivism, a term coined by French philosopher Auguste Comte stresses the importance of using the natural sciences to explore the social world (Barron, 2006). It is concerned with research that produces facts, is independent by nature, is value free and focused on observation (Saunders et al., 2009; Eriksson & Kovalainen, 2008; Barron, 2006; Bryman, 2004). Comte's 'Law of the Three Stages' and Durkheim's social explanation as to the causes of suicide are cited as examples of positivistic social research (Barron, 2006). Berger, Luckmann, Bhaskar, Byrne, Payne, Dingwall, Payne, Carter & Williams (2004) identify three main aspects to positivism. It is "*phenomenological*" in that the relationship between the world and the observer experiencing it is distinct and separate. The principle of phenomenism states that only phenomena or knowledge established by the senses can truly be considered knowledge (Bryman, 2004). By virtue of using observable evidence to gain knowledge, it is "*empirical*". It is *objective* in that, beliefs, values or feelings are not part of knowledge gathering process. The assumption is that the researcher exists independently from the research; neither affected by, nor affecting the subject matter (Saunders et al., 2009). This view results in the ontological position of positivism as one of realism, whereby objects exist independently to the observer (Wahyuni, 2012). Axiologically, the positivist is separate from the research (Wahyuni, 2012). They are 'resources' researchers, rather than 'feelings' researchers, who in conducting personal interviews may become part of the data collection process (Saunders et al., 2009). The epistemology of positivism is that of a quantifiable and numeric scientific approach, which is often used in quantitative research, using structured methodologies that lend themselves to statistical analysis (Saunders et al., 2009; Eriksson & Kovalainen, 2008; Barron, 2006).

3.2.2 Interpretivism:

Interpretivism is a distinct epistemology to positivism (Bryman, 2004). This type of research requires an understanding of the role of humans as social actors (Saunders et al., 2009). Interpretivism is framed by the ontological philosophy of relativism. Relativism asserts that reality is a subjective construct and varies from person to person (Guba & Lincoln, 1994). In terms of epistemology, interpretivism is based on subjectivism (Scotland, 2012). Interpretivists posit that reality is created by social actors and individual's subjective perceptions of it (Wahyuni, 2012). On this basis, it is suggested interpretivists reject the positivist and post-positivist objective view of the world, in which single realities exist (Wahyuni, 2012).

Interpretivism emerged from two intellectual traditions: phenomenology and symbolic interactionism (Saunders et al, 2009). Phenomenology is a philosophy that centres on the ways individuals make sense of the world (Saunders et al., 2009; Bryman, 2004). Also referred to as 'hermeneutics' – a theory derived from theology and concerned with interpreting human action (Bryman, 2004), interpretive phenomenology seeks to understand and make sense of human experiences (Tuohy, Cooney, Dovling, Murphy & Sixsmith, 2013). Symbolic interactionism asserts that individuals are constantly interpreting the world, and the actions of others; and in doing so individual meanings and actions are adjusted accordingly (Saunders et al., 2009). In terms of axiology, interpretivist researchers study people from personal perspectives - this is referred to as emic or insider research (Wahyuni, 2012). The interpretivist researcher must adopt an empathetic stance in order to understand the world from another's perspective (Saunders et al., 2009). In this regard, the experiences and values of the researcher as well as those of participants influence the data collection process. Qualitative research is largely focused on understanding human behaviour so it is not surprising that interpretivists favour this approach. Interpretivist researchers derive meaning from social phenomena by engaging with study participants through dialogue and interaction and through a narrative form of analysis (Wahyuni, 2012). This is an important point because as well as examining the contents of empirical data, interpretative and constructionist researchers also examine the ways in which data is produced through words (Eriksson & Kovalainen, 2008). In this regard, qualitative research offers the interpretive researcher rich descriptions of social phenomena (Wahyuni, 2012). The next section further explores qualitative and quantitative research in presenting a critique of both approaches.

3.3 Approaches to reasoning – induction and deduction:

Within research paradigms there are two logical but not necessarily mutually exclusive approaches to reasoning. These are deduction and induction – each is considered a means to approach an argument or research problem. Deduction is grounded in the epistemology of the natural sciences, while induction is rooted in the social scientific approach. Aristotle is considered to be the founding father of deduction (Nickerson, 2010). A deductive approach evolves from the development of theory and hypothesis and subsequent strategies to rigorously test these (O' Reilly, 2009; Saunders et al., 2009). Bryman (2004) outlines the deductive process as: 1. Theory, 2. Hypothesis, 3. Data collection, 4. Findings, 5. Hypothesis confirmed or rejected 6. Revision of theory. The characteristics of deductive approaches include: the use of controls to show relationships between variables, use of highly structured

research designs, and large samples from which findings can be generalised, and a researcher who is independent from the data (Saunders et al., 2009). In contrast, inductive reasoning approaches theory in the opposite direction. Data is collected and theory is later developed as a result of the data. In this approach, the researcher comes to the process with few fixed ideas and allows the theory to grow from the data (O' Reilly, 2009). Theory is the outcome, rather than the basis of research (Bryman, 2004). As such, induction is considered a more naturalistic process from which knowledge is developed by way of interpretation and understanding. Due to the nature of these approaches, qualitative methods are most closely associated with inductive reasoning and quantitative research generally applies deductive methods (Saunders et al., 2009; Bryman, 2004). However, in terms of the applicability of deductive or inductive approaches to quantitative or qualitative research there are no hard and fast rules. Indeed, the contrast between them is not as distinct as is sometimes suggested (Brewer, 2003). Grounded theory is an example of a deductive approach in qualitative research. This approach involves the development of hypotheses from the emerging theory and the subsequent testing of them by way of theoretical sampling (Brewer, 2003). Although, this process involves deduction, qualitative researchers prefer to call this process iterative rather than purely deductive. Both approaches have inherent weaknesses. While some view induction as central to inquiry, others refute its validity as a form of reasoning (Hammersly, 2010). One of the main criticism levelled at inductive approaches centres around issues of generalisability. Inductive research cannot be generalised beyond its specific research setting (Fox, 2008). It is also viewed as being too simplistic, and is sometimes referred to as "*naive realism*" (O' Reilly, 2009). Deductive reasoning is sometimes criticised for its rigid approach to knowledge and its failure to take into account the deeper role of human action. According to O'Reilly (2009) the deductive approach is often "*explicitly rejected*" by qualitative researchers, on the grounds that the social world is too complex to be fully comprehended by way of such a rigid approach.

The next section outlines the rationale for the chosen philosophy of this study.

3.4 Philosophical statement:

As discussed there are a number of research paradigms and philosophies upon which to base research. However, the author is guided by Saunders et al (2009) who recommend that the philosophical decision depends on the research questions. Table 1 introduces the philosophical grounding for this study.

Feature:	Description
Research question	Social media and health promotion: <i>To explore the efficacy of Facebook as a Stage of Change smoking cessation support medium, with reference to the HSE's You Can Quit Facebook page.</i>
Ontology	Ontology relates to what we can perceive as real. In the case of understanding the ontology of HSE's You Can Quit Facebook, reality exists in members' minds. The author will explore this community from members' perspectives, based on their articulations of their own realities.
Epistemology	In terms of what it is the author can study, and what is acceptable knowledge, the author will study the opinions in the form of posts and comments of You Can Quit community members participating in the community.
Axiology	Relating to values – in terms of axiology, this author considers this a very worthy study, given the difficulties associated with quitting smoking.

Table 1. Research philosophy of this study

3.4.1 The ontological basis for this study:

Interpretivism adopts a subjective approach to knowledge. The aim of this study is to explore Facebook as a stage of change intervention in smoking cessation by observing the individuals who comprise this community. The social actors who constitute this community in effect create the reality that is presented on this page. Currently, there are 54,883 likes and a steady flow of individual comments and responses between community members on the HSE You Can Quit Facebook page (www.facebook.com/HSEquit). As such, there are multiple meanings and perspectives involved, rather than a single objective reality, as suggested by positivism.

3.4.2 The epistemological basis for this study:

This study is grounded in the interpretivist paradigm. The author has adopted this position as it is most fitting to the nature of this exploratory study and the research questions it poses. This study is concerned with gaining a deeper understanding of Facebook as a stage of change intervention by studying the individuals involved in this community – through their interactions and narratives. The author will examine the ways in which stage of change and social support phenomena are presented through language. An interpretive phenomenological approach will best explore this phenomena and its development in what is a relatively new public health intervention, Facebook. Also, the research questions posed by this study do not lend themselves to statistical or empirical analysis, as causal relationships between variables

are not being investigated. The author notes that the context of this study is very specific, and accepts that the any findings will not be generalisable.

3.4.3 The axiological basis for this study:

Axiology is the branch of philosophy concerned with the role of values in conducting social research (Saunders et al., 2009). It also denotes what type of research is considered valuable. In respect of the study, the author is a smoker who has struggled to quit on many occasions. Social media is considered to be a powerful medium to deliver effective smoking cessation interventions, however this is still an underdeveloped area of research. The author believes this to be a valuable research topic and one that warrants this investigation. Axiologically, positivists distance themselves from research, while interpretivists adopt a more empathetic approach. In seeking to understand the behaviour of QUIT community members, the author recognises the importance of approaching the data in so far as is possible from the perspectives of the sample, rather from a detached position.

3.5 Critique of qualitative and quantitative approaches:

There is no right or wrong methodology – McGrath and Johnson (2003) state that neither quantitative nor qualitative approaches can be classed as good or bad. What is of paramount importance is choosing the approach which will best address specific research problems. In order to make an informed decision, the author examines both approaches in terms of their philosophical associations, general application and methods, and strengths and weaknesses. Table 2 provides a broad overview of the differences between quantitative and qualitative approaches. The next section elaborates further on these differences.

Philosophical orientation	Quantitative	Qualitative
Principle orientation	Deductive	Inductive
Epistemology	Positivism and post-positivism	Interpretivism
Ontology	Objective	Subjective
Axiology	Independent researcher	Embedded researcher
Methodology	Focus on measurement - experiments, surveys, randomised controlled etc.	Focus on understanding – open-ended interviews, case studies, ethnography, narrative analysis etc.

Table 2. Adapted from: Bryman, 2004: p20

3.5.1 Quantitative and qualitative – philosophy, general application and strengths and weaknesses:

S K (1992) posits that there is sometimes a tendency to argue for or against quantitative or qualitative approaches on face value without taking into account their deeper ontological and epistemological contexts. Given the important influence of philosophy on research, the author thought it apt to include a brief discussion on this topic.

As outlined earlier in this chapter, quantitative research is generally associated with the positivist paradigm; qualitative with the interpretive. Objective research is generally linked to quantitative methods; this research approach is numerical and focuses on data that is objective, generalisable and reliable (Zawawi, 2007). In terms of ontology, objectivists are concerned with hard facts and causal relationships; subjectivists with the interpretation of meaning (S K, 1992). In terms of epistemology, quantitative research is empirical and concerned with a single truth or reality (Arghode, 2012). The epistemology of positivism and as a result of quantitative research is based upon principles of quantification, cause and effect relationships and reproduction (Barron, 2006). These theoretical concepts are conducive to objective and positivistic methods like surveys, questionnaires, structured interviews, experiments, quasi-experiments and official statistics, (Barron, 2006). In terms of advantages and disadvantages, quantitative methods are considered quick and inexpensive and most appropriate when research lends itself to statistical results (Zawawi, 2007). However, this approach can also be inflexible and does not lend itself to understanding human action (Zawawi, 2007).

Qualitative approaches stress the need to derive meaning from the subjective perspectives of social actors (Barron, 2006). In contrast, qualitative researchers do not, like quantitative researchers, seek objective realities (Barron, 2006). In terms of epistemology, qualitative researchers believe in multiple realities or truths (Arghode, 2012). By way of an inductive process, qualitative researchers explore multiple truths, whereby the subjective beliefs, values and understanding of study participants is important in generating knowledge (Arghode, 2012). As such, qualitative approaches are more concerned with language and the interpretation of its meaning (Walliman, 2006). The methods employed by qualitative researchers reflect the subjective ontological approach of this paradigm and include interpretive methods like: participant observation, unstructured/ semi-structured interviews, focus groups, case studies and secondary analysis of diaries, letters, autobiographies,

newspapers, photographs and documentaries (Barron, 2006). While qualitative analysis is deemed to have a monopoly on the study of meaning, Bryman (2004) uses the example of surveys based on interviews and questionnaires to show that this is not necessarily the case. Zawawi (2007) writes that the weaknesses of quantitative methods are mostly considered the strengths of qualitative - as an iterative process it gives a better understanding of the meanings people attach to things, and is better suited to the development of theory (Zawawi, 2007). However, it can be labour intensive and time consuming (Zawawi, 2007).

While acknowledging the differences between quantitative and qualitative methodologies, Bryman (2004) cautions against exaggerating “*hard and fast*” distinctions between the two. Adding a touch of grey, to this often black and white debate, Bryman (2004) posits that research methods are more independent of epistemological and ontological assumptions than is often supposed, and any connections where they exist are not deterministic. Indeed, quantitative and qualitative approaches share many of the same characteristics (see Dobrovolny & Fuentes, 2008).

The author concludes from this debate that despite their epistemological and ontological differences both qualitative and quantitative are valid approaches to the search for knowledge and its understanding – the decision instead is which is most appropriate. The rationale for the qualitative nature of this study is outlined in the next section.

3.5.2 Rationale for a qualitative study:

This study is concerned with exploring the HSE You Can Quit Facebook page as a stage of change intervention from the perspectives of its community members. An inductive interpretive qualitative approach is appropriate for a number of reasons. While there are many types of qualitative research, including case studies, grounded theory and ethnography, each approach share certain commonalities. Merriman (2002) outlines the main characteristics of all qualitative research: its search for meaning, the researcher as the main source of data collection, lack of existing theory to explain phenomena and richly descriptive findings. The author rationalises this study on the basis of these characteristics, which are detailed below.

- **Meaning:**

Firstly, qualitative research asserts that meaning is a social construct developed by individuals through their interactions with the world (Merriman, 2002). Understanding and

interpreting meaning is a key tenet of qualitative research, and one of its key strengths. In terms of this study, the meaning of the phenomena – Facebook as a stage of change smoking cessation intervention – is best explored by interpreting the multiple perspectives of community members. The author is specifically interested in the perspectives of the actors who comprise this community. In terms of the questions posed by this study, there is no one single truth that can be tested empirically by way of quantitative means. Uncovering meaning in this instance is therefore lends itself best to an interpretive qualitative approach, as the nature of the research questions do not lend themselves to the statistical analysis that is central to quantitative research. While it is recognised that quantitative approaches can capture important links between variables and establish the nature of causal relationships by statistical means, this study is more concerned with interpretive understanding. In this respect, qualitative methods represent a better approach.

- **Researcher as main source of data collection:**

The author is focused on a very specific context, the HSE You Can Quit Facebook page. In respect of this study, rather than objectively approaching the data as in quantitative research, the author needs to be empathetic in understanding the perspectives of community members. These are real people with feelings, rather than mere statistical resources. Data will be collected by way of a process of observation. As a qualitative approach observation will allow the researcher to get as close to the data as possible; observation is a first encounter with data; interviews are second hand accounts (Merriman, 2002).

- **Lack of existing theory to explain phenomena:**

Qualitative approaches are better for developing new insights and theory (Zawawi, 2007). Social media and more specifically Facebook is a new area of social science research, and one that has yet to be fully understood. While some studies have examined social media as a smoking cessation intervention, it is generally accepted that little is still known about this phenomena. In this respect, the author is adopting an inductive approach to build theory in an attempt to understand Facebook as a stage of change smoking cessation intervention. Merriman (2002) writes that this type of inductive process is an important characteristic of qualitative research.

- **Richly descriptive findings:**

The author endeavours to present rich descriptions of community members – their narratives and interactions in an effort to understand this particular phenomena. The nature of interaction on social media are textual and narrative in nature – this data is readily available, easily downloadable, and in some cases it is historical in that past conversations are also recorded. As such, a qualitative approach can offer real insights and meanings – to reduce this rich data to statistics would limit what can be learned by way of an interpretive process. Qualitative research values rich descriptions, whereas quantitative data dismisses this on the basis that it gets in the way of generalisability (Merriman, 2002).

Summary:

In summary, a qualitative approach lends itself best to this study. Whereas a quantitative approach could explain links between variables and causal relationships, this information is not being sought. Rather this study is concerned with developing theories about a phenomena about which little is known. An inductive process is best suited in this regard. A qualitative approach will provide the researcher with a greater depth of understanding and richer data, while also allowing the author to subjectively approach the data from an empathetic stance.

The next section introduces netnography as the research methodology for this study.

3.6 Research methodology - a netnography:

Ethnography or field research is a qualitative anthropological approach to social research, concerned with the in-depth and often embedded study of the culture and practices of specific social groups (Bryman, 2004). Ethnographic data is collected through a mix of observation, interviews and documents (Bryman, 2004). As such, ethnography is based on observation and participation (Kozinets, 2002). The nature of this type of research means it can be a lengthy and complex process, involving considerable skill and commitment (Kozinets, 2002).

However, the digital revolution is changing the way conventional ethnography is conducted, and the means by which ethnographic “*stories are told*” (Murthy, 2008). On the basis that ‘virtual reality’ is now part of human experience, ethnographers are now encouraged to incorporate internet technologies in social research in order to sufficiently understand contemporary society (Garcia, Standlee, Bechkoff and Cui, 2009; Murthy, 2008). While social researchers still have some way to go in catching up with Internet technologies

(Murthy, 2008) the ripples of a digital ethnographic sea change are slowly emerging. A number of authors have helped to steer ethnography in a digital direction, including Hine (2000) who termed her research into the online treatment of the trial of British nanny Louise Woodward “*virtual ethnography*”, Murthy (2008) who describes ‘digital ethnography’ and Kozinets (1997) who first coined the term ‘netnography’, and who later advanced procedural guidelines for its adaption to online social research (Kozinets, 2002).

In simple terms, netnography applies the basics of ethnography to study the online world. The *Sage Dictionary of Social Research Methods* defines it as, “*A qualitative interpretive research methodology that adapts the traditional, in-person ethnographic research techniques of anthropology to the study of the online cultures and communities formed through computer-mediated communications*” (Barron, 2006). However, netnography differs from conventional ethnography in a number of positive ways. The Internet provides researchers with a wealth of information, and allows participants to be recruited quickly and easily (Xun & Reynolds, 2010). The work of taking field notes and transcribing are greatly aided by the textual and archival nature of digital information (Xun & Reynolds, 2010; Kozinets, 2006). Kozinets (2002) advances that netnography is quicker, easier and less costly than conventional ethnography, and more organic and less intrusive than focus groups or interviews. This unobtrusiveness derives from the flexibility of netnography with regard to choosing participant and non-participant observational methods. Netnographic researchers can choose to “*lurk*”, rather than interact (Wei, Straub & Poddar, 2011). It is suggested that the majority of netnographic research is conducted in this “*covert*” manner (Murthy, 2008). Examples include, Cova and Pace’s (2006) study into the ‘My Nutella’ web community and Wei, Straub and Poddar’s (2011) research on internet group purchasing. Kozinets (2006) used this approach in conjunction with follow-up interviews in an investigation into Star Trek brand communities, likening it to performing ethnography while “*wearing my invisibility jacket*”. The results from these studies suggest that a non-participant approach is a valid approach.

However, like all research methods there are also weaknesses to this approach. According to Xun and Reynolds (2010) netnography has five major weaknesses: unreliable users, a poorly developed method of analysis, potentially weak narratives, as well as ethical and generalisation issues. Robert Kozinets, one of the main advocates of netnography also features prominently in outlining its shortcomings. It is interesting to note that many of

netnography's strengths are also indicative of its weaknesses – vast quantities of data, while invaluable to netnographic researchers, can be overwhelming if the researcher does not know how to approach the information (Kozinets, 2006). It is all well and good being able to access data but the researcher needs to be able to decipher it for relevance and contextual importance in a systematic way. In order to do this, Kozinets (2002; 2006) argues that netnographers need to be skilled ethnographers.

Due to its virtual and textual nature, netnography misses out on the richness and nuances of interpersonal communication – the pauses, frowns, gasps – that are part of human speech (Kozinets, 2006). Kozinets (2006) writes that these shortcomings cannot be fully addressed. It is also suggested that the anonymous nature of online communication prevents full understanding of the discloser and potentially important information, like age, gender and status (Kozinets, 2006). However, as this study is concerned with Facebook – a more public arena, where unless members have chosen a private profile their information is publically available, this consideration is less pertinent.

Despite its shortcomings, netnography is now broadly accepted as a consumer behaviour research methodology (Liang & Scammon, 2011; Wei, Straub & Poddar, 2011) and has gained recognition in academic journals (Kozinets, 2006). A number of recently published research studies have used this methodology to study a diverse range of phenomena in online environments, including: English language teachers (Kulavuz-Onal & Vásquez, 2013), the customer experiences of tourists (Rageh, Melewar & Woodside, 2013), religion (Love, 2011), wedding message boards (Nelson & Otnes, 2005), branding (Oakes & Oakes, 2013; Cova & Pace, 2006), racism (Hirvonen, 2013), consumption patterns of fans of TV show the X-Files (Kozinets, 1997), fathers' experiences of parental support (Salzmann-Erikson & Eriksson, 2013) word of mouth in fashion blogs (Kulmala, Mesiranta & Tuominen, 2013), guitar preferences (Dumoulin & Gauzente, 2013), e word of mouth in health social network sites (Liang & Scammon, 2011) as well as a market research (Xun & Reynolds, 2010; Kozinets, 2002) and as an advertising tool (Kozinets, 2006).

The types of online environments netnographic research can be applied to include bulletin boards, which are organised around specific interests, products or lifestyles – mumsnet.ie is an Irish example of this type of user group , webpages, listservs or email mailing lists which

share common themes, chat rooms (Kozinets, 2002), blogs, social networking sites and digital video (Murthy, 2008).

Guidelines for conducting participant observer netnography were developed by Kozinets (2002). The ethics of netnography as pertaining to this particular research are explored later in the methodology chapter under 'Research ethics'.

4.6.1 Rationale for netnography:

In fitting with the qualitative and inductive nature of this study, the author chose netnography as the most appropriate method. The rationale for this decision is framed by the preceding literature on netnography. Firstly, as a qualitative study, netnography is appropriate, given its epistemological remit (Murthy, 2008) within an interpretivist paradigm. In terms of deciding between ethnography and netnography, the choice was obvious – ethnography is a complex, sophisticated and often longitudinal process, requiring significant researcher skill (Kozinets, 2002). The context of this research is an online Facebook community, as such, netnography, given its specific remit within the study of online communities represents a more logical approach. While it has been argued that a weakness of netnography rests on its narrow online focus (Xun & Reynolds, 2010). This perceived limitation actually presents a justification for netnography in this instance. This study is framed in the specific context of a social networking community; its nature, the support it elicits and how this online support mediates the various stages of change in smoking cessation. As a result, the research questions posed by this study specifically and explicitly are framed solely within the boundaries of this Facebook community; an examination of the off-line world experienced by community members is not required. Therefore, while perhaps narrow in respect of some research, within this topic, netnography as a research method is as broad, in terms of context, as this researcher requires it to be.

In addition, netnography is a flexible approach that can be adapted to the interests and skills of the researcher (Kozinets, 2002). In terms of adapting the netnography of this study, this author is employing a non-participant approach to data retrieval. This decision is informed by the suggested validity of similar approaches used by Cova and Pace (2006), Wei, Straub and Poddar (2011) and partially by (Kozinets, 2006). The non-participant approach is also validated in this instance by virtue of the data needed to address the research questions being readily and publically available on the HSE You Can Quit Facebook page. This access to

readily available data cemented the author's decision to use netnography and not other qualitative methods like interviews or focus groups. In addition to the logic of not wanting to duplicate data that already exists, the author in adopting an ethnographic approach wanted to observe the QUIT community in its natural habitat on Facebook. A key feature of ethnography and netnography is accessing the social setting relevant to the research problem (Bryman, 2004). Notwithstanding their benefits, in terms of this study, focus groups and interviews were dismissed as being less natural and contextual than netnography (Kozinets, 2002). "*Netnography is a naturalistic approach that offers a window into culture and composition of online communities*" (Kozinets, 2002). To take this interaction out of its natural environment and put it in a real-world context like a focus group or interview could dilute or alter the organic nature of the community and potentially affect the overall findings of the research. Further to this, using Facebook to conduct non-participant netnographic research offers the author access to past conversations and content, which may not be available for participant ethnographers, interviewers or focus group facilitators.

In summary, the author appraised alternative methodologies, and considered the weaknesses of netnography before concluding that the strengths of this method, in terms of the specific research context (Facebook), the ready availability of the data needed to answer the research questions, and the naturalistic nature of this approach outweigh any limitations associated with this methodology.

3.7 Sample - theoretical sampling:

Probability sampling is based on statistical criteria and is often used in quantitative survey research to aid representation and subsequent generalisability (Bryman, 2004). Probability sampling is not applicable to this research. The author is not seeking to generalise the findings, but rather to explore and build theory around a relatively new phenomenon about which little is known to date – Facebook as a stages of change smoking cessation intervention. In this regard, theoretical sampling has been used. Theoretical sampling, as advocated by Glaser and Straus (1967) is described as, "*the process of data collection for generating theory whereby the analyst jointly collects, codes and analyses his data and decides what to collect next and where to find them, in order to develop his theory as it emerges*". This definition explains one of the core features of theoretical sampling – that it is an iterative process. Theoretical sampling has its roots in grounded theory, which asserts that data is collected until theoretical saturation is achieved (Bryman, 2004), or put more simply

until the researcher has exhausted all the available data. In terms of ethnography, time and context are also considered important sampling considerations (Bryman, 2004). The context in this case is an online community – therefore it is apt to consider that the behaviour of people in this setting may not reflect their behaviour in the real world. The author, while cognisant of the time element recognises that Facebook is a 24 hour resource that people check in on regularly at all times of the day and night. However, in terms of requiring support the timings of posts could indicate when during the day, community members most require social support. The theoretical sample used in this study is drawn from existing HSE You Can Quit Facebook community members. The authors adopted this sampling approach, while aware that a limitation of extracting a sample through Facebook is that “*representativeness cannot be fully determined*” (Ramo & Prochaska, 2012).

3.8 Ethical considerations:

As this netnography will entail ‘lurking’, the author has referred to the ethical guidelines for carrying out a netnography outlined by Kozinets (2002). Kozinets recommends that: (1) the researcher should state their presence and purpose to members, (2) confidentiality and anonymity should be afforded to each community member, and (3) feedback from members should be included in the research process. Finally, Kozinets (2002) asserts that researchers should be careful in terms of taking a position in the debate as to whether online information is public or private. It was not possible to adhere to all these considerations but the author has taken every step to ensure that the non-participant nature of data collection for this study was carried out in an ethical manner. The HSE You Can Quit administrators were made aware of this research, and were supportive of it. Informed consent and invasion of privacy are negligible in respect of this study, as data was collected from the public profiles of community members – by signing up to Facebook these members will be aware that any comments they make on such a forum is public information (see Kozinets, 1997). However, in protecting the anonymity of the sample, all names were changed so as to ensure confidentiality.

3.9. Research design:

3.9.1 Data collection:

The author captured 1,845 comments and 231 posts relating to the 121 day period from August 4th 2013 at 03:45:33 until April 6th 2013 at 15:32:24 in one sitting on August 5th from the HSE You Can Quit Facebook page using Ncapture for Nvivo. The sample in this dataset represents 531 separate individuals who had posted or commented on this page during this period. This dataset was saved as a PDF file before exporting to Nvivo. This Facebook community presented a 'Big Data' challenge for the author, and the duration of the posts examined was determined by the capacity of the author's computer system.

3.9.2. Data analysis:

Thematic analysis was employed to decipher the important themes relevant to the research questions. This approach is justified because qualitative thematic analysis is a descriptive method that works to reduce, categorise and analyse qualitative data to reveal important concepts, patterns and relationships (Lapadat, 2010; Ayres, 2008). Thematic coding is the means by which data is segmented and sorted for analysis (Ayres, 2008). What the data is coded for depends on the research questions and the information that will provide answers (Marks & Yardley, 2004). The total set of codes is referred to as a coding frame, manual or book (Marks & Yardley, 2004).

Findings are based on thematic analysis of all 1,845 comments and 231 posts during the 121 day period in reverse order from August 4th to April 6th. Only posts and comments were included in the data analysis; photos, links and shares were excluded because they did not provide any information in terms of identifying social support typologies or with regard to classifying members at the various stages of change. The thematic analysis involved multiple rounds of coding. Before coding began, the author in reflecting on the research questions created a node (Nvivo coding category) for all references to quit dates in this first round of coding in order to collect all references to stage of change in one place. At this pre-coding point, nodes were also established for each of the three main social support typologies: motivational support, emotional support and knowledge exchange identified by Newman et al (2011) and Rodgers & Chen (2005) in the literature as being dominant in on-line health sites. Also, prior to coding, a few days were spent reading through the comments and posts to understand the types of exchanges that existed, in terms of their content. This initial analysis facilitated the creation of additional nodes, for well done comments, good luck comments,

praise for the quit community and other community members, request for help, request to know how others are doing and did not smoke as a result of support. A screenshot of the Nvivo coding frame is presented below. The first round of coding entailed reading through each of the 231 posts in the dataset and coding them according to each of these categories. The second round of coding undertook the same process for each of the 1,854 comments in the dataset. During the first and second round of coding, posts and comments which contained information which was irrelevant to this study were excluded. A third round of coding revisited the quit date nodes and established categories for each of TTM's six stages. The majority of posts containing references to quit dates contained explicit references to when each member had quit or when they intended to quit. Users were assigned to each stage of change based on their articulations. As many members posted multiple times at their stages of change, the fourth round of coding involved auto-coding stage of change nodes by usernames. This yielded the number of times each user posted at each stage of change. This data was extracted to excel where it was further distilled. If someone had posted at two or more stages, they were assigned to the most recent stage they had reached, for example someone who had expressed a desire to quit (contemplation) and then later stated that they had quit (action), in such instances members were assigned to the action stage as it represented their most current status. When all coding was complete, the author used the Nvivo software to run matrices to further analyse the data. Matrices were produced for supportive content within posts and comments by members who had identified their stage of change, as well as for four members who emerged in the dataset as leaders or superusers. Frequent word search queries were also ran to identify words that came up frequently throughout the dataset.

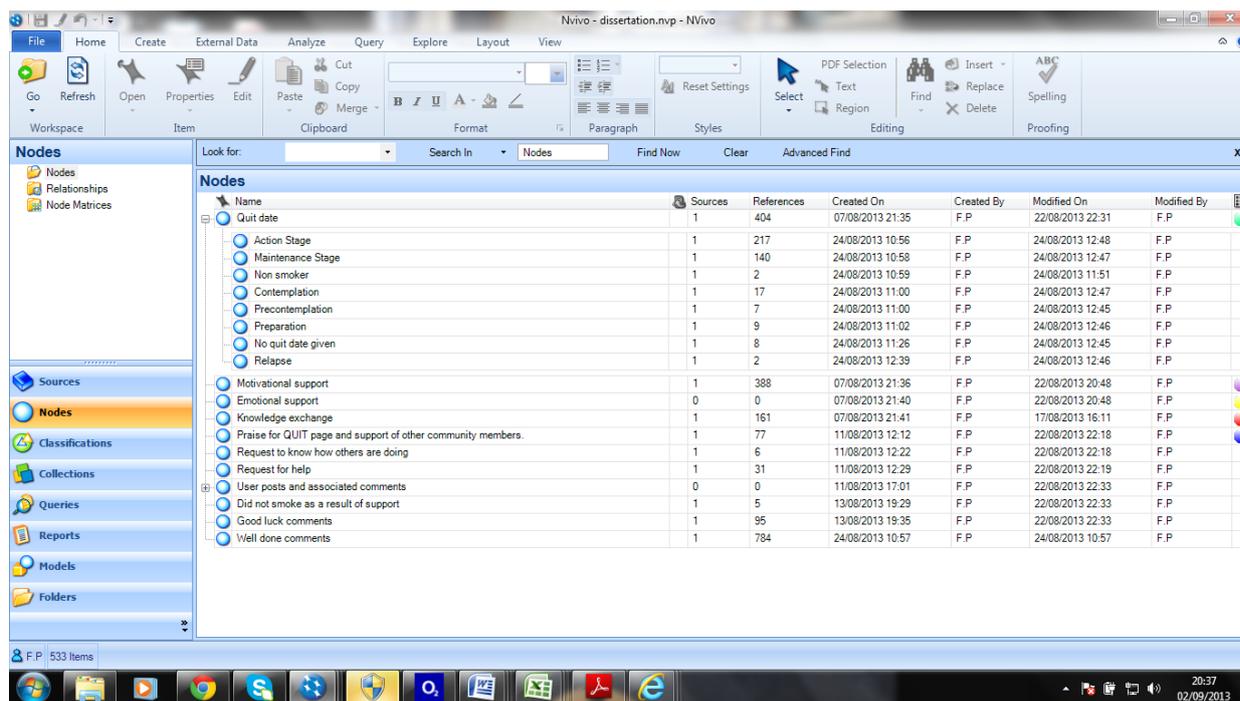


Figure 3.1. Nvivo coding frame

3.10. Trustworthiness of this study:

Credibility is concerned with the accuracy of data and the extent to which it measures the questions it poses (Wahyuni et al., 2012). The author sought the opinions of a number of senior health professionals within the HSE to ensure that the questions posed by this study could be accurately measured. Revisions were made accordingly. The researcher also consulted with the assigned supervisor throughout the process to ensure that the research questions were being addressed. Dependability denotes repeatability – or the extent to which future researchers can replicate the research process (Wahyuni et al., 2012). The author has taken careful steps to ensure that the framework for the research design, data collection and its analysis is outlined in a methodical and reasoned manner. In terms of confirmability or internal validity, the researcher has documented the entire research process; this is available as confirmation of the reliability of this study. The author accepts that additional coders could have lent this study with a greater degree of internal reliability.

3.11. Chapter summary:

This chapter discussed research paradigms, philosophies, and inductive and deductive, and qualitative and quantitative approaches. It justified this study as an interpretivist, inductive, qualitative piece of research. Netnography was introduced and qualified as the research design, and theoretical sampling was presented as the approach to study the research sample. The data collection and analysis process was outlined and ethical and trustworthiness issues were addressed.

The next chapter introduces the findings of this study.

4. Findings Chapter:

4.1. Introduction:

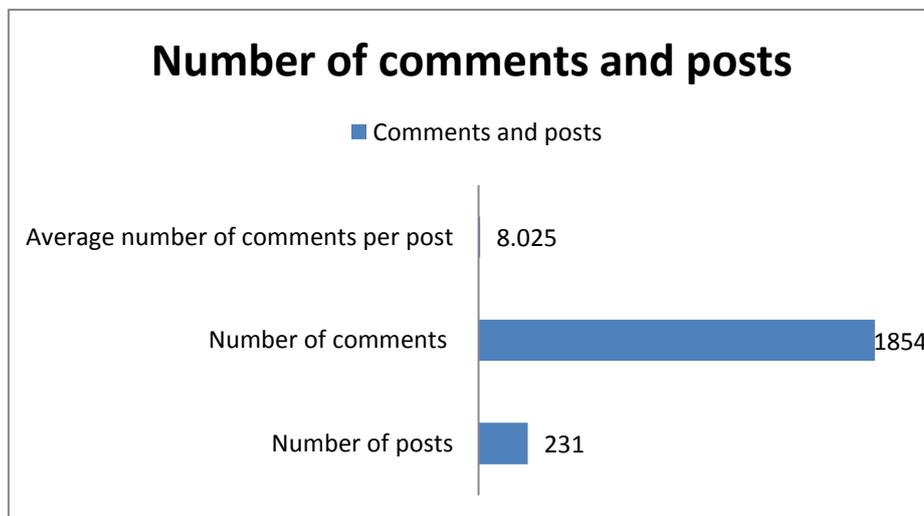
This chapter identifies the stage of change of each You Can Quit community member, who posted a reference to their quit date. Table 4.1 presents the number of members at each of the six stages: action, maintenance, contemplation, preparation, pre-contemplation and relapse. It also identifies any non-smokers who posted within the community. The types of messages posted by members at each stage are detailed, so too is the support these members received as a result of their posts and comments. The author uses numerical, graphical and textual data to support findings in respect of the priority research questions:

1. How has support from QUIT community members aided people in each of TTM's six stages?
2. What types of social support exist in the HSE Facebook community?
3. To explore the social support typologies most beneficial to members.

All quotes have been anonymised to protect the identity of the posters.

4.2 Findings:

4.2.1 Comments and posts on the HSE You Can Quit Facebook page



The author identified 231 posts and 1,854 comments in the complete dataset. Each post yielded an average of 8 comments. A post by the HSE Quit administrators received the highest number of comments (62). Thirteen posts received no comments, however, these

posts typically involved ambiguous expressions such as the posting of a name or a term of exclamation, such as "Never". Only two posts received just one comment each. The average response time to a post was six hours 54 minutes. In terms of gender breakdown, males were responsible for 477 comments and posts (23%), while females contributed 1609 comments/posts (77%). Figure 4.2 visually depicts this gender breakdown (and can be found in the appendix 1).

4.2.2 Stage of Change:

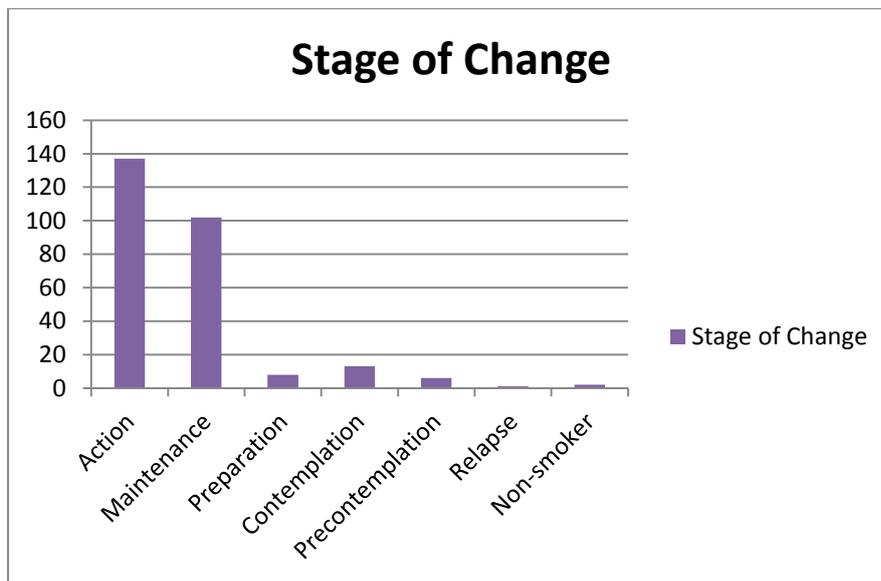


Figure 4.1. Visual representation of expressed ‘Stage of Change’.

Stage of Change	Number of members at each stage	Number of comments
Action	136 (50%)	217
Maintenance	102 (38%)	140
Preparation	8 (3%)	9
Contemplation	13 (5%)	17
Pre-contemplation	6 (2%)	7
Relapse	1 (0.37%)	2
Non-smoker	2 (0.74%)	2
Total	269	394

Table 4.1 No of members who expressed their ‘Stage of Change’.

Table 4.1 shows the breakdown of the You Can Quit Facebook community members in each stage of change and the number of references to a particular quit date per stage. The author used a slightly modified version of Prochaska and Velicer's (1997) Transtheoretical Model (–see appendix 5) to identify members in each stage of change. Members were assigned to the various stages. Smokers who had quit within the last six months were assigned to the action stage. This stage accounted for the largest number of members (137). Posters and those who commented in this stage were typically in the early stages of quitting; those who expressed their quit date in days represented the majority in the action stage. The average number of days this group had been quit for was 12 days. The second largest percentage of action stage members expressed their quit date in weeks; these members were on average six weeks into their quit attempts. Three months was the average quit period for those who expressed the time since they had quit in months. Figure 4.3 (appendix 2) presents a chart representation of average length of time in days, weeks and months of those in the action stage. Smokers who had quit for more than six months were assigned to the maintenance stage; this group represents the second highest percentage of members in the stages of change, with 102 stating that they were over six months quit. Smokers were categorised as being in the contemplation stage if they expressed a desire to quit smoking in the future, although not strictly within a six-month period as in TTM – 13 members fitted this criteria. A further eight members were found to be in the preparation stage. Members in the preparation stage were those smokers who admitted to a previous failure and who stated that they were ready to quit again in the near future. Non-smokers were those who posted comments that they had never smoked – there were two comments from separate individuals in this category. One individual posted that they were glad they never had any interest in smoking – this reflexive message offered no support to the quit community members. However the post from the second non-smoker was of a more supportive nature:

“Just to tell ya all that I never smoked in my life but that I was willing to support friends who are willing to quit smoking:) Good luck to everybody!”

Although this person had never smoked, they took it upon themselves to say that she would support others. Relapsers were those who had failed in their recent attempt – only one member wrote that they had failed in their effort to quit. Members were assigned to the pre-contemplation stage if they expressed no desire to quit smoking at this time. Six members were identified as not been not yet ready to quit. If someone had posted at two or more stages, they were assigned to the most recent stage they had reached, for example someone

who had expressed a desire to quit (contemplation) and then later stated that they had quit (action), in such instances members were assigned to the action stage as it represents their current status. Table 4.1 shows that the large majority of posts and comments on the You Can Quit page community members came from individuals in the action and maintenance stages of change.

The next set of findings outlines the types of support sought and offered by members who had identified their stage of change.

Support Messages	Did not smoke as a result of support	Emotional support	Good luck comments	Knowledge exchange	Motivational support	Praise for Quit page and other community members	Request for help	Request to know how others are doing	Well done comments
Expressed Stage of Change									
Action	1	0	5	29	25	12	6	1	12
Contemplation	0	0	0	1	0	0	4	0	0
Maintenance	0	0	8	17	42	7	0	1	15
Non smoker	0	0	0	0	0	0	0	0	0
Precontemplation	0	0	0	0	0	0	0	0	1
Preparation	0	0	0	1	0	0	4	0	0
Relapse	0	0	0	0	0	0	0	0	0

Table 4.2. Number and type of messages posted by members who identified their stage of change.

4.3 How has support from QUIT community members aided people in each of TTM’s six stages, and exploration of the social support typologies most beneficial to members?

Table 4.2 presents the types of information and support sought and received by members who each expressed quit dates (classified by the author into stages of change categories) in their messages. Emotional support was not in evidence in this data classification, or indeed in the complete dataset. Members in the action and maintenance stages are most prolific among all stages of change members in terms of posting and reciprocating comments of motivational support. Those in preparation, contemplation and pre-contemplation engage least with this medium.

4.3.1 Knowledge exchange:

Knowledge exchange accounts for 29 references made by those who identified themselves as being in the action stage, and 19 references from those in the maintenance stage. Members in preparation and contemplation engaged in two separate messages of this nature. Knowledge exchange is an umbrella heading for all messages seeking and giving advice on a range of

topics including, dealing with cravings, temptation, and coping with bad days. Below are two typical posts by members in the action stage seeking this sort of advice:

“I’m off dem 3 weeks and 4 day im starting to crave now any advice”

“Hi i am off the cigs 6weeks this coming saturday..For the past two weeks my voice has become very raspy or croaky..Is this an effect from quitting and if so how long will it last???”

This second message received eight comments from other members, two stating that they’ve experienced a similar discomfort while acknowledging that the benefits far outweigh it. Another commenter advises the poster to take warm water and honey. Another feature of the knowledge exchanges among members within the action and maintenance stages is references to what worked for them. Several quitting aids receive numerous mentions, most notably ecigarettes (67 references in total dataset), the Allen Carr book (27 references in total dataset) and Champix, a type of medication, which is mentioned 35 times by members. Individual Quit community members and the You Can Quit Page were also cited 12 times by members in the action stage and seven times by those in the maintenance stage as having aided quit efforts. In the total dataset (i.e., including messages where a quit date was not given) these posts and comments account for a total of 161 references from members seeking, giving advice and sharing experiences of how to cope with temptation, cravings as well as what they used in the early stages of quitting. This type of knowledge exchange is generally initiated most often by those in the earlier stages of change (preparation, contemplation and action), the resulting messages from maintenance stage members shows how they achieved their current quit status, and any problem they experienced along the way, which earlier stage members seem to value.

4.3.2 Requests for help:

Action stage members made six requests for help (see table 4.2). Members in the contemplation stage asked for help on four occasions, as did members who were preparing to quit. Two examples of such distress calls are offered below. In the first example, the first of the returning comments of support was not made until two days, 15 hrs and 19 minutes from the post date.

<i>Post</i>	<i>Comments</i>
<i>“2 days already cracking up help!!! I'm very tempted...”</i>	
	<i>“You are going through the toughest part .Hang on in there.”</i>
	<i>“ditto what (member) said hang in there girl you are worth it :)”</i>
	<i>“it is fine to be tempted but amazing to resist. Walk away from temptation each time and your confidence will grow and grow. Please hang on in there I promise it gets easier and is so worth it Best of luck”.</i>

In this next example, the first returning comment of support was received within 20 minutes of posting. In total nine comments of support were reciprocated.

“Day 4, having a few vinos, finding it a bit tough, any tips.? my other half is smoking!!”

The poster of this message reverted the next day to thank everyone for their support, commenting:

“Thanks everyone. I didn't give in, feel great and proud.”

In this instance this action stage member was motivated by the support they received to resist temptation. This message is captured in table 4.2 under the column ‘Did not smoke as a result of support’.

In terms of those preparing to quit, ready advice was also available. The individual below had made up their mind that they wanted to quit as of the post date but was unsure how to achieve this.

“Hi there i want to try stop smoking as of this morning, i am already wondering what ill have with my coffee. i stopped before for 3 yrs but my fitness and my skin are very bad so this is my motivation right now.”

This post received six ‘likes’ and seven comments giving advice and well wishes and was replied to first in just over seven hours. The poster later replied the original comments –

“Thanks all, yes remained smoke free yesterday”.

A smoker in the contemplative stage also received help and advice from the community, having posted:

“I have been smoking for a lot of years and have tried so many times to quit ,patches , hypnotherapy and nicotine tablets ,I do great for a few weeks but then the urge kicks in and I buckle so I would love if any 1 has tips for a weak minded person.”

This poster received nine comments of advice and support urging them to quit using a variety of aids. The first response was received one hour and 25 minutes after the initial post.

4.3.4 Well done comments and motivational support:

Many messages citing how long people have quit also include a couple of lines about how each individual is very pleased with themselves. Below are some typical examples of such posts from people in the action stage.

“Six weeks tonight yippee :)”

“Today is day 2 of no smoking!!! YAY ME!!! Such a great day to be alive :)”

“5 weeks yesterday !! have never felt better !!!”

However, while those in the action stage are obviously pleased that they are on the road to quitting the comments are more tentative than those in the maintenance stage who are more openly forthright and self-congratulatory about their achievements:

“2 years off the smelly smokes today, delighted with myself :-)”

“Two years off them big clap on the back to my self (wink)”

Many people in both the action and maintenance stages of quitting continuously refer to how long they've been quit. Four members in the maintenance stage referred to their quit date 11, 9, 3 and 9 times respectively (see appendix 4 Figure 4.5). This type of self-affirmation seems to reinforce these members' quitting achievements. In addition, these posts and comments also result in lots of well done messages which seem to further motivate and encourage the quitters.



Figure 4.4 Most frequently occurring words from a sample of 500 in dataset

Well done messages, which include phrases like “fantastic achievement” and “congratulations” account for the overwhelming majority of comments in the dataset (784). Image 1 graphically represents this. These messages occur in direct response to the posting by members of their quit date. The following post from a member in the action stage, received nine ‘likes’ and five well done comments, the first within 45 minutes. This thread is typical of such exchanges.

<i>Post</i>	<i>Comments</i>
<i>“holy moly 12 weeks today!!”</i>	<i>“wow well done great going girl your free from nasty nick yay :)”</i>
	<i>“Well done,,”</i>
	<i>“Well done”</i>
	<i>“well done :-)”</i>
	<i>“Fantastic Well done!!!”</i>

While this post yielded messages solely of congratulations, many more posts which express a quit date or milestone are greeted with comments of a more motivational nature. This is especially the case for members in the early action stages of quitting, who express any difficulties with their quit attempt. The following exchange in response to this post from a member struggling in their first week of quitting received five comments of support and one well done message. The first comment was posted within three minutes of the initial post. Three of the comments focus on practical things the poster can do to distract themselves like drinking water and going for a walk. Others urge the quitter on with comments such as “stay strong”, “hang in there” and “you’re doing great”. In this instance, the member who posted this message receives almost immediate help and support from other Quit community who

themselves have been through this journey and who understand how difficult quitting smoking can be.

Post	Comments
<i>“day 5 not doing too good today”</i>	
	<i>“well done, stay strong”</i>
	<i>“Keep it up, you can do it, drink LOADS of water , that help me alot as my mouth use to get dry all the time.”</i>
	<i>“do a little exercise, any exercise , a walk , cycle. any exercise and focus on it while doing it. ya fill up on good endorphins. it'll relieve stress plus longing will ease. loads of websites on endorphins and exercise and stress and it works and its win win ... best of luck and hang in there , one of the best things you'll ever do”</i>
	<i>“Hi, hang in there so worth it to be free,been where you are now it sucks as (member) says it will pass tomorrow we all have bad days ,you will be so proud you didn't cave ,when those nasty gremlins try sneak in kick their butt ,you can do this stay strong girl forward all the way ,it is a great feeling to be free ,your doing great 5 days proud of ya stay on the freedom train great journey :)x”</i>
	<i>“Stay strong, no 1 said it would be easy but you are doin great and it would be a shame to go back after gettin this far”</i>
	<i>“Weekends r always the hardest Keep busy and go for a long walk Today will pass and tomorrow u will be so proud you didn't cave It was never going to be easy Hang on in there u are doing fantastic Unfortunately u have to go through this to come out the other side but it will b worth it I promise x”</i>

4.3.5 Praise for Quit page and other community members:

The following dialogue box contains each post and comment made by members in both the action (12) and maintenance stages (7), which praise the Quit community and other

community members for aiding them in their efforts to quit. In their own words, these members capture the essence of how support from other community members has helped them in their stage of change. Post 1 in the Action Stage column references how this member moved from contemplation, through to preparation and action as a member of the page. The majority of posts and comments below explicitly state that the support they got on the page in the early days helped them make it through. One member describes it as “*the best support system ever*”. Two messages openly thank the HSE for creating the page (Maintenance Stage: numbers 2 and 6). Three messages cite how reading other members’ messages inspired them to get and stay quit (Action Stage: numbers 8, 9 and 10). Overall, the community in the opinions of these members is a very helpful and supportive environment, particularly in the early stages of a quit attempt. Once successfully quit, it appears that keeping in touch with the community and reading others’ inspiring stories motivates members to stay quit.

	Posted by member in Action Stage		Posted by member in Maintenance Stage
1	<i>“i joined this site a year ago but i can finally say i am off them 2 months”</i>	1	<i>“a year and a half of the ciggies people, this site provided me great help to get me through the first 3 or 4 months of not smoking. Also helped a few. Keep supporting each other it really helps!”</i>
2	<i>“5 months today, Thanks for the help!”</i>	2	<i>“One year free today. You can do it. I can be with smokers today and not want a cig at all, actually I felt this way after 6 weeks. People quitting today need to understand that life is just as enjoyable Without cigs. Many thanks to "You Can Quit" and Quitsmokingonline .com”</i>
3	<i>“i survives 1st day over yipee thanks for support today folks”</i>	3	<i>“Hey mr. I wouldn't be a year off the fags only for this page. Best support system ever. :) I'm definitely not going near crack anyway. Lol!”</i>
4	<i>“you are the reason i am 16 and a bit weeks off the dreaded fags,, u helped me so much, and with tat u could be two ton tess which i'm sure ur not”</i>	4	<i>“Well done. Just over one year for me. Can't believe it some days but lots of thanks to guys like you who are ahead and inspire the rest of us”</i>
5	<i>“but this is day 3 on my will power thanking everyone for their continued</i>	5	<i>“Heading to the 2 year mark next month, hardly ever think of smoking now</i>

	<i>support”</i>		<i>, its a great feeling, i use to think i would love a fag but now i think thank god i don't smoke anymore . Give it a go people might be the best thing you ever tried. Thank you to this site it was great when i needed it to rant. X”</i>
6	<i>“I am 3 months off cigarettes. This was a great help”</i>	6	<i>“Im 7 months and 2 weeks off them today. Many thanks to HSE for the Quit page it's been a god sent So to all who are giving up please keep at it we can do it”.</i>
7	<i>“Day 2: First of all I want to thank everyone for their encouraging words and advice. Today I am a lot more confident that I can do this, having survived the first day relatively unscathed.... ;)”</i>	7	<i>“14 months off the smokes and feeling great, Love this page it reminds me to pat myself on the back sometimes !!!”</i>
8	<i>“Dats fantastic, wel done. Ur an inspiration to all new quitters, 14 weeks and counting for me and I can run 5k, just delighted with myself, tink about dem every now and then but just so happy i don't smoke anymore, hope u celebrated your year :) x”</i>		
9	<i>“Well done , 4 weeks off them tomorrow. It's tough going, but when I read stories like yours and others who are doing so well it keeps me focused and determined. X”</i>		
10	<i>“Brilliant and very inspiring and it's people like who and I have been reading all u have to say inspire me and I too am Smoke-Free 3 months now and also NEVER AGAIN after 35 yrs....thanks again for inspiration even though u don't know me....”</i>		
11	<i>“three and half months off the cigs. Doing good been a struggle at times. found this page great to give support.”</i>		
12	<i>“i do agree ...use this site whether having a good day or bad one...the support is fantastic...i am now 11 weeks today off them and i dont think i would have reached</i>		

	<i>that onli for the support on this site....”</i>
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4.4 What types of social support exist in the HSE Facebook community?

Support message typology	Number of references
Motivational support	388
Emotional support	0
Knowledge exchange	161
Praise for QUIT page and support of other community members.	77
Request to know how others are doing	6
Request for help	31
User posts and associated comments	0
Did not smoke as a result of support	5
Good luck comments	95
Well done comments	784
Total	1,547

Table 4.3 Number of support messages (coding references) within total dataset.

Table 4.3 and figure 4.4 (appendix 3) below identify the most frequently occurring support typologies in the overall dataset (this includes messages where no quit date was given). Messages of congratulations in response to statements of quit date or those affirming a milestone achievement, for example “*one year today*” were most prevalent in the dataset with 784 references. These messages are predominantly reactive. Similar to well done messages are good luck comments which typically, (but not always), are expressed in response to a member’s posting of their intentions to quit in the near future, as well in reply to a quit date or milestone achievement message. The good luck messages below were posted in reply to separate statements of an imminent quit date:

“Best of luck and remember everyone here is going through or has been through anything you may face”

“The very best of luck. Wise decision and one I promise you will not regret. Stick with it and you will soon wonder why it took you so long to give them up.”

Such messages are encouraging, they reassure the individuals involved that they are not alone and that they are making the right decision. Ninety-five such messages exist in the total dataset.

Of all supportive messages, motivational messages occurred the second most frequently (388 references). These messages are generally written in replies to early stage quitters. There is a tendency in these messages to urge individuals to keep going, reassuring them that they’re doing great. An individual who posted that they had just completed their second smoke-free day received six motivational comments including *“keep up the good work”*. The individual who initially posted this quit date responded the next day to say:

“thanks everyone for the support it does help”.

Knowledge exchanges were referenced 161 times in the dataset. The nature of these messages were outlined earlier in 5.3.1. Evidence that social support is in existence in the You Can Quit community is visible from the numbers of posts and comments which both praised the page and other members (77 in total) and those individuals who stated that the support they received made them refrain from a temptation to smoke (5). As mentioned earlier emotional support was found to be absent in the dataset. The author also identified four ‘superusers’ in the dataset who between them were responsible for the majority of supportive messages. Figure 4.5 (appendix 4) visually depicts this data. User 1 posted the highest number of well done messages (146) and offered 62 messages of motivational support. User 2 posted 117 well done messages and 24 messages of motivational support. User 3 posted 130 well done messages, however this member was not inclined to offer motivational support. User 4 posted 127 well done messages and offered 98 references to motivational support. These four members, all in the maintenance stage of change frequently referred to their own quit dates and milestones (for example: 16, months, 17 months, 18, months, one year today) when replying to others with messages of support. User 1’s name was mentioned four times in praise for quit page and other community members in gratitude for the support they had given. Similarly, User 4 was thanked on nine occasions for their support and inspiration in the same category. These superusers, in particular Users 1 and 4 have almost assumed a leadership role within the group, and are considered inspirational by others members. Examples are highlighted below –the first two comments are directed at User 4; the third one at User 1:

“Well done User 4, 4 weeks off them tomorrow. It's tough going, but when I read stories like yours and others who are doing so well it keeps me focused and determined. X”

“Loved reading your comment User 4 l,my habits sound exactly like yours were !i have great intentions of giving up almost every night going to bed for next day !!!but ist cig in morning is total habit n have it smoked before i remember my intentions !this page seems really helpful and YES i will really try .Do i pick a certain day or what ??”

“you are great, for all the support you give everyone,,, FREE,,,,,”

New quitters look to these leaders because they know that they have been through the same, and they feel they can turn to them in weak moments because they too have experienced all the ups and downs associated with quitting.

4.5. Secondary data

According to a recent report, smoking is responsible for 6,000 deaths in Ireland each year; it is also considered the largest cause of preventable disease and early death (Phfizer Report, 2009). It costs the State millions each year to provide health services for smokers, and at least one million euro is lost every day in productivity due to smoking related sick-leave (Phfizer Report, 2009). Brugha et al (2009) reports that 29% of the Irish population are smokers; and higher rates of smoking were found among men (31%) than women (27%).

Facebook use in Ireland:

Ireland currently has 2,251,160 Facebook users (SocialBakers, 2012). In addition, there are approximately 350,000 Irish Twitter accounts and YouTube has 400 million Irish views each month (Digital Marketing Institute, 2012). The HSE's smoking cessation Facebook community, QUIT, currently has 48,973 likes and 3,440 people talking about it (Facebook.com/HSEquit, 2013).

HSE QUIT campaign evaluation:

A 2012 Millward Browne omnibus survey found that among smokers who heard or seen at least one element of the HSE QUIT campaign, 43% tried to quit smoking and six per cent visited the Facebook page (www.HSE.ie). Those most likely to visit the Facebook page included ABC1 (61%) C2DE (59%) and those aged between 18-24 (40%) and 35-44 (36%). The survey concluded that that there was low take up of social media and online calls to action.

5. Discussion Chapter

5.1 Introduction:

The findings of this study offer a rich picture of how the social support found in the HSE's You Can Quit Facebook community can assist and aid individuals, most notably at the action and maintenance stages of change. Firstly, as suggested in the literature by Norman et al (2008) this study shows that Facebook provides an effective platform to assist people in quitting and remaining free from smoking. This is mediated through the social support the Facebook community engenders. Secondly, similar to a study carried out by Ploderer, Smith, Howard, Pearse and Borland (2013), the findings demonstrate that people at different stages of change seek and give support in different ways, depending on their individual needs at their own personal stages. In terms of support typologies, motivational support was most significant in the findings. While Newman et al (2011) found motivational support to be a major factor in participating in on-line health communities this study goes beyond this and demonstrates that motivational support has behaviour change implications.

As a platform for a social marketing campaign, the next section considers the technical characteristics of Facebook both generally and with specific reference to the HSE's You Can Quit community. The remainder of the discussion centres on how this Facebook community supports individuals at their various stages of change.

5.2 The efficacy of Facebook as platform for this smoking cessation community:

In the literature, some authors suggested that Facebook had significant social marketing potential in the context of public health campaigns (Hyojung et al., 2011; Vyas et al., 2012). Many more referenced its promise specifically in relation to smoking cessation (Lowe et al., 2012; Ramo & Prochaska, 2012; Cobb et al., 2011; Norman et al., 2008; Saul et al., 2007). In terms of its social marketing potential, the findings of this study support the previous literature that Facebook as a platform for public health interventions including smoking cessation campaigns is effective in a number of ways. Firstly, perhaps the most significant aspect of Facebook as a medium for a large-scale smoking cessation campaign like the HSE's, is the reach it offers. At the time of writing, the HSE's You Can Quit Facebook page had 48,973 likes and 3,440 people talking about it. While these numbers sound impressive, they do not represent the whole story. The You Can Quit Facebook page is a public forum. As such, unless members have adjusted their privacy settings, any messages appearing on the

page will also pop up in their newsfeeds, which Facebook friends will be able to see. This extends the reach of posts and comments on the page. It also allows the page to extend its boundaries through members' existing networks (Cobb et al., 2011) to friends, colleagues and family members who they themselves may not be active members of the page, but who subsequently participate in the community with supportive content.

Secondly, geographic separation is not a barrier to support within this community rather, as outlined by Selby et al (2010) and Stoddard et al (2008) Facebook facilitates connections between individuals regardless of where they are located.

Thirdly, Facebook offers significant benefits as a social marketing medium in this context due to its ready availability (An et al., 2008; Selby et al., 2010). In contrast to off-line support networks like quit-lines, which are limited by set hours of operation, supportive health communities on Facebook like the HSE You Can Quit page are available 24 hours a day seven days a week. Community members accessing this page have ready access to a supportive network at the touch of button. Within, this community, average response times were fairly slow at just over six hours. However, the findings show that many posts were responded to much faster than this, thus demonstrating the relative immediacy of this type Facebook mediated supportive network.

While Plodderer et al (2013) found a low level of questions and responses in the smoking cessation. In contrast, this study found a significant degree of dialogue between Irish members. The much higher ratio of comments to posts is a clear indication of the conversational nature of the You Can Quit community. The difference between Ploderer et al's (2013) findings in this regards and that of this study probably has more to do with the Australian site's much lower member numbers (6,127), than their Irish counter-parts' propensity for talking and discussing their lives and problems. Facebook provides the medium to conduct these large-scale conversations. It is hard to imagine that the same level of interaction between members going through similar stages of change processes on the page could be replicated in off-line interventions.

5.3 Stage-matched intervention:

In addition to the technical capabilities of the You Can Quit Facebook page, the findings show that as a platform it is significant in terms of its capability to host supportive exchanges between members at various stages of change.

The literature suggests that people in the action and maintenance stages are more likely to use behavioural processes of change like helping relationships (Lefebvre, 2000; Prochaska & DiClemente, 1983). In presenting Facebook as a platform for such helping relationships, the findings of this study are consistent with the literature in this regard, with the overwhelming majority of You Can Quit members falling into these two categories; action and maintenance.

5.3.1 Action stage:

Earlier in the literature, Korda and Itani (2013) referred to the depth of engagement as being the foundation to effective social media programmes. Struggling action stage quitters were most vociferous in this community. Having contributed most to this community, by way of comments, posts and conversations, using Korda and Itani's (2013) reasoning, it is safe to posit that action stage members benefited most from this community by way of the help, support and motivation they received. Reflecting findings similar to those of Selby et al (2010), the largest number of first posts came from people struggling in the early 'action' stages of quitting. These members were often forthright in their commitments to quit, seeking advice on coping with their early stage with attempts and the cravings and mood-swings associated with this period, as well as more urgent requests for help and advice. Members in the action stage were also quick to offer comments of a congratulatory and encouraging nature to others. The high level of engagement of action-stage members adds credence to claims in the literature that online social support networks could be particularly useful for smokers requiring urgent assistance with their quit attempts (Selby et al., 2010).

Rodgers & Chen (2005) found information exchange to be among the highest ranking motivating factors for participation in health social networking sites. Those in the action stage were most visible in terms of posting knowledge exchange messages. This is an interesting development. Although there is a huge amount of advice and literature available online and in the real world with regards to quitting smoking, and its associated benefits. Early stage quitters in the You Can Quit community displayed an inclination to seek advice and information from other members about quitting, and what worked for them. Perhaps these members perceived this information to be more qualified, as the responses they received are the direct experiences of former and current smokers who had shared similar experiences. By

participating in the community in this way, early stage quitters were able to learn how to quit through the information they received around the tried and tested approaches of other members who had successfully made the transition.

5.3.2 Maintenance stage

Maintenance stage quitters were the second most prolific stages of change group within this community. Therefore, maintenance stage quitters also gained significantly from this community, albeit to a marginally lesser degree than action stage members. As a platform, this Facebook community provided maintenance stage members with a sounding board to highlight their achievements in a self-congratulatory way. The literature suggests that social support could be particularly helpful in preventing relapse (Lowe et al., 2012; Selby et al., 2010). The findings from the You Can Quit community offer a tentative substantiation of these claims. By remaining in touch with the community, through typically self-affirming messages, this group appear to be spurred on by the onslaught of good-will they received in response to their milestone messages. Facebook as a platform for this group provides ready access to smoking cessation champions – people who are willing to offer expressions of praise and delight in response to the successes of other former smokers. However, the small number of members who stated they had relapsed could be considered in two ways: 1. the support they received on the Facebook community prevented such relapses; 2. members who had failed in their quit attempts were less willing to admit failure to such a public group. It is not known from the findings which of these possible explanations represents the truer reality.

5.2. 3 Contemplation and preparation stages:

Aside from action and maintenance, members at the other stages of change were less visible on the You Can Quit Facebook page. This could be explained by revisiting the TTM model. It is implied in the literature that individuals in the earlier stages of change like contemplation and preparation may rely more on the cognitive processes of change, which focus on gathering information about quitting (Guillot et al., 2004), rather than behavioural ones like helping relationships. True to this, it is evident from the findings, that where present, those in preparation and contemplation were most likely to engage in exchanges around knowledge and requests for help. These members, although engaged in what is essentially a platform for mediating one of the behavioural processes of change (helping relationship) are using it as a medium to facilitate their behaviour change by way of a cognitive process. Perhaps it is for this reason that these members offered among the least motivational or well done messages to others. Perhaps, having not yet successfully quit these members felt unqualified to comment,

whereas action and maintenance stage members had already been through their own journeys and were only too willing to offer words of advice and support to those just setting out.

Perhaps the most significant evidence of Facebook's efficacy as a stage of change platform is highlighted by those members who praised the You Can Quit community and other individual community members. Cobb et al (2011) suggest that an interactive social media environment could motivate smokers to quit, and to cope better when quitting. The findings demonstrate that this was the experience of many members of the You Can Quit community, particularly for those in the earlier stages of their quit attempts: namely, contemplation, preparation and action. Members described how engaging in the community both passively and actively helped them through their early struggles. Some cited how reading other's inspirational messages was enough to get them through. Others were more explicit in their praise for both the page itself and for individual community members. The effect of such motivational support is further evidenced by the subsequent messages from struggling quitters stating that they had not given in to their cravings as a result of the support they received. Overall, community members show in their own words how the You Can Quit community is both a very helpful and supportive environment, particularly in the early stages of a quit attempt. Once successfully quit, it appears that keeping in touch with the community and reading others' inspiring stories motivates members to stay quit.

5.4 Facebook, social support and Stages of Change:

While social support was very much in evidence on the page, the findings in this study differed somewhat from that of others. Newman et al (2011) found that receiving emotional support was the most commonly cited motive for individuals' participation in sharing health information online. Emotional support in this case was entirely absent. A number of factors may explain this. Firstly, the nature of the quitter's experiences as posted by them is by and large not of an overtly sensitive nature, rather the majority of messages either ask for help or advice or post milestone achievements. As such, these messages do not warrant emotional responses. Secondly, due to the nature of this platform, where many members are unfamiliar with each other outside of the page, where needed emotional support is perhaps preferable to members in more private settings and in one to one situations with family and friends.

In terms of social support in this case and that outlined in the literature, a number of similarities also emerge. Newman et al (2011) found motivational support to be a significant factor in participating in online health networks, while Rodgers & Chen (2005) found

information exchange and social support to be the highest ranking motivating factors. Although ‘well done’ comments dominated the thread of conversations on the page, such posts were largely reactionary, where they become interesting is when they are coupled with words of a motivational nature. Of the ‘pure’ social support typologies evident in this community, motivational support was the most notable, both in the overall dataset (Table 4.3), and in messages from those members who identified themselves as being in the maintenance stage of quitting (Table 4.2). The findings show that these motivational messages are typically written in response to early stage quitters’ comments and posts. This reflects the findings of Selby et al (2010) who found that the majority of first responses to early stage quitters came from those who had been quit for two months or more. However in this case, given the stages of change classification used by the author, the motivational responses to early stage quitters were largely contributed by those who had been quit for over six months. Having successfully achieved their own ‘maintenance’ quit status, these members in effect displayed characteristics of brand ambassadors for quitting; they are the most vocal group in terms of telling others that they too can achieve their goals. “If I can do it anyone can” was a commonly occurring phrase, often such smokers had been smoking a pack or two a day for twenty – thirty years in some cases. The author as a smoker can identify with the presumption among many smokers that they are the worst case – one member in the findings described themselves as a “helpless case”. Maintenance stage smokers posting these types of messages allow early stage quitters to see that even heavy long-term smokers were able to quit successfully, in effect they are showing through such messages that it can be done, regardless of the type of smoker an individual is. In this way, such Facebook sharing may improve the self-efficacy, as outlined by Cobb et al (2011) and Bandura (2004) of other early stage members with the group.

As demonstrated in the findings, four community members took on the role of leaders within the group and between them were responsible for the majority of supportive messages. In their findings, Van Mierlo et al (2012) classified such users as “superusers”. In the case of the You Can Quit community, these leaders or ‘superusers’ were the most active and most visible members on the page. Each had achieved maintenance status and showed that they were readily available to provide support and motivation to earlier stage quitters, having experienced all the ups and downs associated with quitting themselves. In turn, early stage quitters seemed to particularly value the insights and advice of these members, often citing their words as inspirational. This behaviour mirroring is similar to findings by Centola (2010)

who suggests that those who seek social reinforcement from multiple neighbours in a network are more likely to adopt the behaviour of health buddies. By empathising with others and supporting them, these ‘superusers’ not only helped improve the self-efficacy of early stage quitters, but also it seems that by continuously referring to their own “journeys” in the course of helping others, provided them with their own self-fulfilling motivation to stay on track. New quitters look to these leaders because they know that they have been through the same, and they feel they can turn to them in weak moments because they too have experienced all the ups and downs associated with quitting. In terms of depth of engagement (Korda & Itani, 2013), these superusers are at the higher end of the scale.

5.5 Movement between stages: Facebook, TTM and social support:

As already discussed, the You Can Quit Facebook community provides a readily available, easily accessible and twenty-four hour support system for smokers in each stage of change. The extent to which it is used by members at each stage has already been discussed, and possible explanations for this presented. In the next section, the attention is focused on how this Facebook page as an interactive community has supported members at each stage of change, and how this may have aided members to transition from one stage to the next.

The findings of this study show that as a medium, as part of a social marketing smoking cessation campaign, the You Can Quit Facebook page provided a platform for quitters at four of TTM’s six stages to express themselves. Early stage quitters typically displayed a requirement for help, advice and encouragement. Later stage quitters are provided with a platform to give themselves a pat on the back for succeeding in achieving certain milestones. These maintenance stage quitters also act as leaders to the early stage quitters, providing much needed motivational support and advice on what cessation aids worked for them and sharing their experiences of dealing with cravings. By interacting in this way, maintenance stage quitters reinforced their own quit efforts as well as helping others.

6. Conclusion Chapter:

6.1 Introduction:

Given the devastating effects of smoking and its often fatal consequences, as well as recognising the difficulties associated with quitting unaided, this study set out to explore a relatively new medium for social marketing campaigns aimed at increasing cessation – Facebook. The literature points to the potential power of health promotion campaigns conducted via social media networks, both in general and with specific reference to smoking cessation. There is general consensus among the various authors that little is known about this new medium and how it can influence behavior change. Armed with this information, the author grounded this study within the theoretical framework of TTM also known as the stages of change. Coupling this with social support – a key feature of online health networks, the author sought to explore the efficacy of the HSE You Can Quit Facebook QUIT community as a stage of change smoking cessation intervention. A second sub-objective was to classify the nature of support within this smoking cessation network, and to identify the types of support most beneficial to quitters at the readiness stages of TTM. In pursuit of this knowledge, three questions were developed, namely:

1. How has support from QUIT community members aided people in the contemplation, preparation, action and maintenance stages of TTM?
2. What types of social support exist in the HSE Facebook community?
3. To explore the social support typologies most beneficial to members.

The author used netnography as the study's qualitative non-participant approach, and content analysis to investigate 1,845 comments and 231 posts during the 121 day period from August 4th 2013 at 03:45:33 until April 6th 2013 at 15:32:24.

6.2. Empirical Findings

This study's main empirical findings were summarised in the Findings and Discussion chapters. This section will now synthesise these findings in respect of each of the three research questions.

1. How has support from QUIT community members aided people in each of TTM's six stages?

Members of the You Can Quit Facebook community in the action and maintenance stages of

TTM contributed most, and as such perhaps benefit most from the community. Members in contemplation and preparation stages sought help to quit – these members received messages detailing what cessation aids were most effective and motivational messages from action and maintenance stage members who have been through similar experiences. Action stage members received motivational support and messages of a congratulatory nature. Maintenance stage members were considered success stories or inspirational by other members and were roundly congratulated for their self-professed milestone achievements. The findings show that members at each of the dominant stages of change identified in the dataset received ready support from other community members, based on the needs articulated by them, be that advice, information, or words of encouragement. Support for each and all stages of change was identified in the dataset. However, as action and maintenance stage members engaged most with the community, they perhaps yielded the most benefits from it. Facebook provides an effective platform for allowing this supportive and nurturing community to develop organically.

2. What types of social support exist in the HSE Facebook community?

Motivational support is the dominant feature of the support typologies found within the You Can Quit community. Members at action and maintenance stages were the quickest to offer this support and earlier stage quitters were the most frequent benefactors of such support. Emotional support was absent in this community. Knowledge exchange was another key feature of this community. Well done and good luck messages were more of an automatic response, and were construed as such, rather than being weighted with too much significance as support typologies per se.

3. To explore the social support typologies most beneficial to members.

In terms of action stage members, motivational support and exchanges of information were demonstrated in the findings to be most helpful to members who were struggling in the early stages of their attempts to quit. Those in preparation and contemplation engaged with the community to a much lesser degree, but when they did, they also received advice and information about cessation aids and dealing with cravings as well as a glut of well wishes and good luck comments. Later stage members benefited from the self-aggrandising and status up-dating nature of Facebook – here they could post messages of a self-congratulatory nature and watch as “well done” and you’re great messages flooded in. These types of exchanges seemed to spur later stage members on. Also, among later stage members, helping

others appeared to help them stay on track and recall the reasons why they too quit in the first place.

Overall this study advances the understanding of how individuals seeking to quit and remain free of cigarettes can be supported in doing so by participating in an online social networking site like the HSE's You Can Quit Facebook community.

6.3 Theoretical Implications:

This study has broadened the concept of TTM by identifying a Facebook community as a helping relationship within its processes of change. By coupling this framework with social support, the author has demonstrated how Facebook provides a platform for a supportive network to develop, which helps individuals at different stages of readiness to quit smoking. The findings of this study are consistent with suggestions that people in the action and maintenance stages are more likely to use behavioural processes among them, helping relationships (Lefebvre, 2000; Prochaska & DiClemente, 1983). The findings show that these two groups contributed most, and perhaps as a result benefited most from this community. However, in seeking advice and information prior to and in the very early stages of quitting, the findings from many early stage members highlight that cognitive processes, which include information seeking, are also a notable feature of how members engage with this community.

Therefore, the author concludes that in addition to action and maintenance stage quitters, those in contemplation and preparation can also benefit from such a helping relationship as this Facebook community. Indeed, this is perhaps not a new revelation as it is noted elsewhere in the literature that information seeking is a key feature of accessing health information online and in such communities (Rodgers & Chen, 2005). However, in terms of its applicability to online health interventions, perhaps TTM needs to be revisited to take account of its applicability to online interventions. Individuals use the Internet and social networks in different ways and for different reasons – the way they behave in these online environments may not reflect their behaviour in the off-line world. The dual features of this social media environment (knowledge exchange, support) highlights that such a community can benefit members in different ways depending on their stage of change. In terms of the support it can host, this study has shown that Facebook is akin to one of TTM's processes of change – a helping relationship. It also provides an avenue for knowledge exchange – a cognitive process. As such, the dual features of this environment can predominantly benefit members in different ways at the action, maintenance, preparation and contemplation stages

of change. Therefore in an online environment, members at the action and maintenance stages, and perhaps preparation and contemplation may gain from an online-supportive network as a stage-matched intervention. This study has also shown that motivational messages account for the dominant support typology in this network. This is consistent with the findings of Newman et al (2011). However, while Newman's findings (2011) were not specific to a smoking cessation community, this study is. Another significant feature of this environment is knowledge exchange, which again is reflective of findings by Newman et al (2011) and Rodgers and Chen (2005). However, emotional support was not in evidence on the page. In terms of a supportive environment for a smoking cessation community, this study presents Facebook as an effective platform to host motivational and knowledge exchanges.

6.4 Implications for practice:

The findings of this study are important for all public health and health promotion agencies seeking to create supportive networks in an effort to change health behaviours, specifically smoking in online social networks. The findings of this study show that Facebook as a medium provides a platform for effective stage - matched smoking cessation interventions, particularly for those in the action and maintenance stages of quitting. To a lesser extent, this study has shown that contemplation and preparation stage quitters can also receive cognitive benefits from such a community. Public health managers need to carefully target and select the relevant groups based on their stage of change that will benefit most from receiving support in this way. The 2012 Millward Browne survey indicated low levels of awareness and take-up of this Facebook community. Improving awareness among target groups should be a priority for the managers of this site.

6.5 Limitations and recommendations for future research:

It takes time for people going through the stages of change for smoking cessation to successfully make the transition from one stage to another. The timeframe for this study was not long enough to effectively gauge how many members had successfully moved from one stage to another, and to what extent the support found on the You Can Quit Facebook page helped mediate such transitions. A longitudinal study could address this. The author also recommends that further research on TTM in online smoking cessation intervention should be conducted, particularly on the extent to which online support networks can benefit preparation and contemplation stage smokers through knowledge exchange.

The extent to which the You Can Quit Facebook page offers passive support to lurkers is unknown, as the author was unable to access Google Insights for the page. The inclusion of this information may have helped explain the low level of interaction of early stage quitters (contemplation, preparation), who as discussed earlier seemed to show a preference for cognitive information. Perhaps simply passively reading the comments on the site provided some visitors with the motivations they needed. However, given the lack of this data, this cannot be explained in this study.

The research objectives, and subsequent questions posed by this study did not seek to understand how different demographics engaged with this community. As such, while data in the findings highlight that the community is overwhelmingly used by females; this data was not explored any further. In terms of discerning the value of such a community as a stage-matched intervention based on demographics, more work is needed in this area.

In addition, given the nature of this research task, the author was reliant on single person coding. The presence of a second or third coder could have lent this study with a greater degree of internal reliability.

6.6 Concluding remarks:

The literature suggested that social media and Facebook have huge potential in terms of social marketing, specifically with reference to public health and health promotion campaigns, including smoking cessation. However, it is also widely accepted that little is known about the efficacy of these new media in this regard. The literature highlighted this as an area for further research. This study has helped to bridge these research gaps, and has greatly contributed to a deeper understanding of social media, specifically Facebook as a new medium for a stage-matched smoking cessation intervention. As outlined at the start of this study, less than 5% of smokers are able to quit on their own (Graham et al., 2008). As social marketing campaigns increasingly venture online in efforts to influence behaviour change, this study has shown that in terms of marketing smoking cessation, Facebook provides a platform for smokers and former smokers to readily access help, support and motivation at the different stages in their journeys to quit and stay quit. This study explicitly highlights the technical capabilities of Facebook in relation to reaching and connecting a wide and geographically separated group of individuals seeking to quit smoking. This study has also explicitly demonstrated that as a platform for this social marketing campaign, Facebook is capable of hosting supportive exchanges – most notably motivational support and knowledge

exchange. Individuals in the action and maintenance stages of smoking cessation were shown to be the most involved in this community and subsequently gain most from it. The legacy of this study is the evidence it provides that as a medium, Facebook is an effective stage-matched intervention for those in early stages of a quit attempt, as well as for those maintaining their quit status. To a lesser degree, this study has also shown that preparation and contemplation stage members can benefit cognitively from exchanging knowledge with members who have successfully quit smoking. Overall, the findings extend the knowledge of online social support in a social network site for smoking cessation. This study offers potentially important guidance to health organisations seeking to increase rates of smoking cessation via online support networks on social media sites.

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Appendices:

Appendix 1.

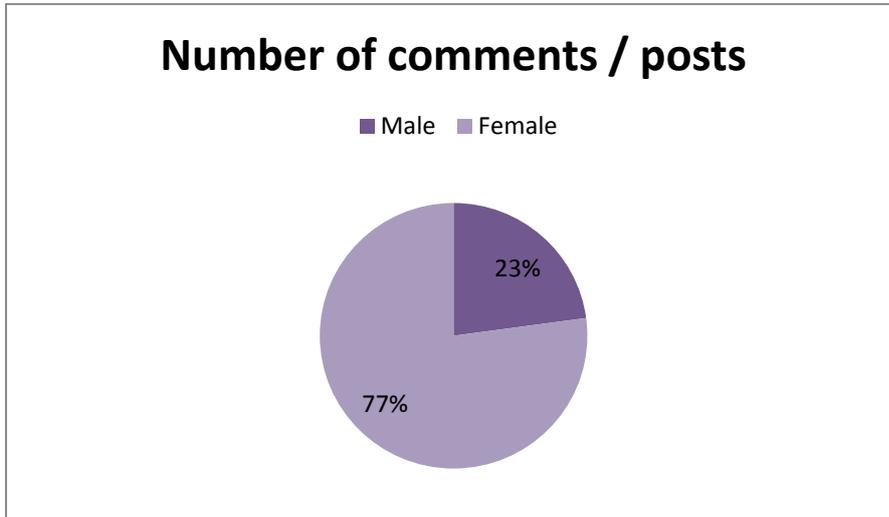


Figure 4.2: % of comments and posts broken down by gender

Appendix 2

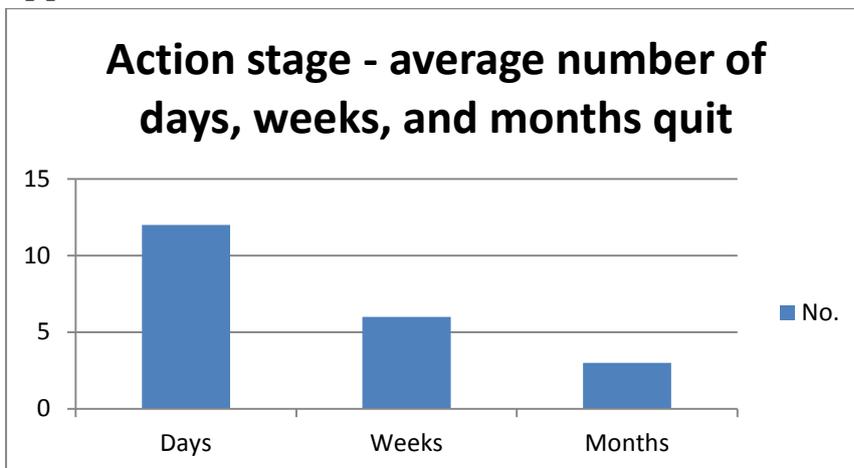


Figure 4.3: Average length of time those in the action stage had been quit

Appendix 3.

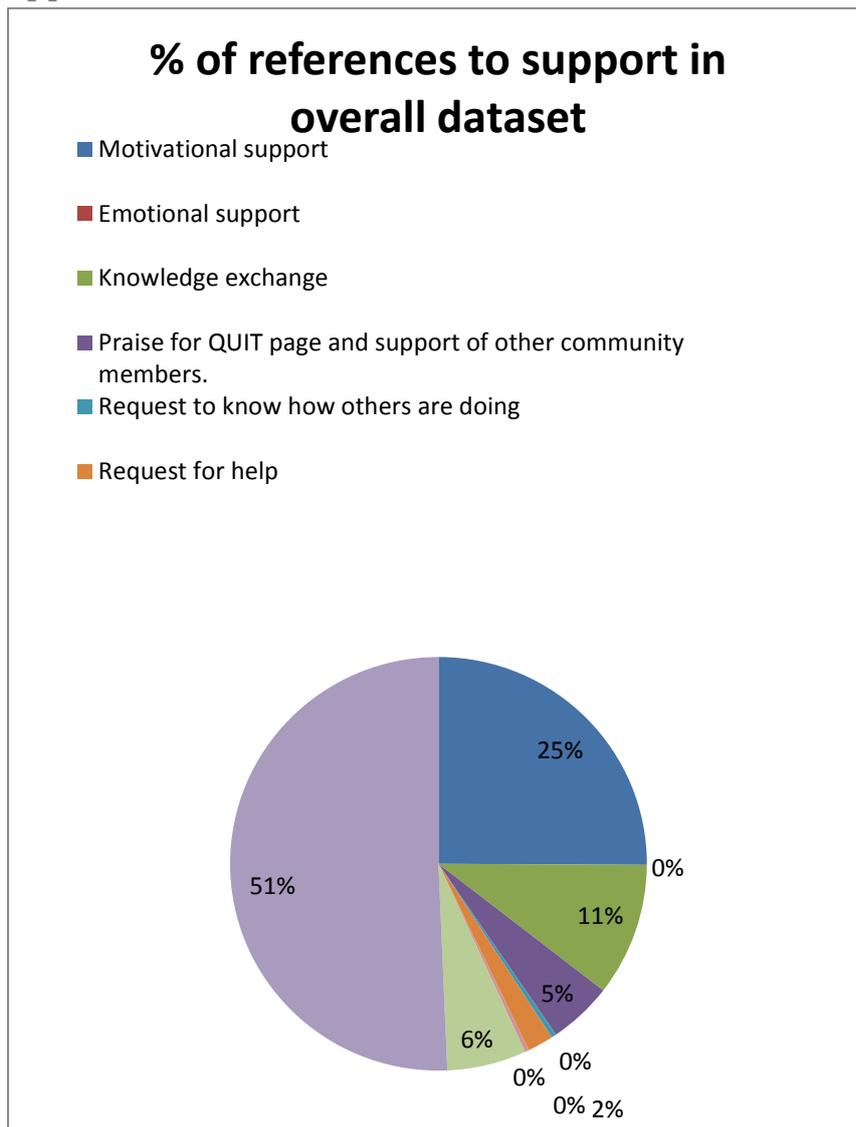


Figure 4.4. Percentage of references to support in overall dataset

Appendix 4.

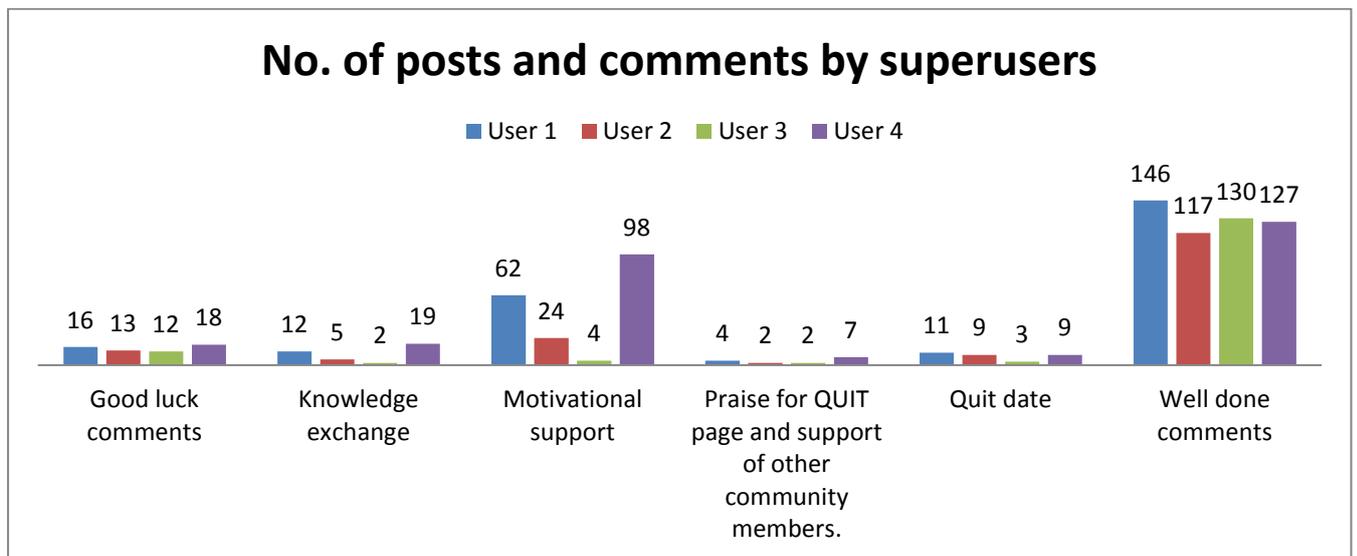


Figure 4.5: Superusers – number of support messages and references to their quit dates.

Appendix 5.

Smoking: Stage of Change (Short Form)

Are you currently a smoker?

- Yes, I currently smoke
- No, I quit within the last 6 months (ACTION STAGE)
- No, I quit more than 6 months ago (MAINTENANCE STAGE)
- No, I have never smoked (NONSMOKER)

(For smokers only) In the last year, how many times have you quit smoking for at least 24 hours?

(For smokers only) Are you seriously thinking of quitting smoking?

- Yes, within the next 30 days (PREPARATION STAGE if they have one 24-hour quit attempt in the past year - refer to previous question... if no quit attempt then CONTEMPLATION STAGE)
- Yes, within the next 6 months (CONTEMPLATION STAGE)
- No, not thinking of quitting (PRECONTEMPLATION STAGE) (www.uri.edu)