An Exploration of the Role of Identity in Smoking, Cessation, Maintenance and Relapse

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DECLARATION

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SECTION A – PREFACE

Since I began my doctorate and Stage 2 health psychology training in October 2004 I have worked full-time as a Research Psychologist at University College London (UCL) in the Health Behaviour Research Centre (HBRC) that is primarily funded by Cancer Research UK. The aim of the HBRC is to advance our understanding of health behaviours and to contribute to the development of interventions to promote healthy lifestyles. The three core research groups of the HBRC are dietary choice, participation in screening programmes and tobacco smoking. I am positioned within the Tobacco Research Group (TRG). For the first three years of this appointment I was based in the NHS South Essex Stop Smoking Service (SESSS). The NHS stop smoking services offer a combination of pharmacological and behavioural support to assist smokers to quit smoking in line with the recommendations based on examination of the research evidence (Raw, McNeil and West, 1998). This context has provided an enriched environment for the development of the competencies required of a health psychologist. It has afforded the opportunity to develop academic skills through close collaboration with experienced researchers including health psychologists, and also to develop clinical skills in the NHS. The work in this portfolio has been assembled to demonstrate my skill development over this six year period of training and to present my competence as a health psychologist.

The portfolio begins with the research thesis. This programme of research aimed to develop our understanding of smoking cessation, maintenance and relapse. Much progress has been made in the development of smoking cessation interventions with the majority of smokers who quit smoking with the NHS stop smoking services succeeding in stopping for at least four weeks. More than 75% of these however, go on to relapse and little is known

about how to prevent this occurring. Following the identification of this gap in our understanding I submitted an application to Cancer Research UK (CRUK) for a small project grant with the support of my workplace supervisor. This grant was awarded and funded the three research studies presented in the main thesis. The first two studies explore the experiences of participants who had quit smoking with the NHS SESSS and reported remaining abstinent for at least six months using qualitative semi-structured interviews. In particular to explore how a smoker's sense of identity changes following smoking cessation among current abstainers and relapse among those who returned to smoking. An interpretative phenomenological approach was taken to elicit in-depth accounts of the participants' understanding of smoking, stopping, maintaining abstinence or relapse. The third study examines the prevalence of some of the findings from the first two qualitative studies in a survey sent to smokers who had quit smoking and successfully completed treatment with the NHS SESSS over a three year period. The findings indicate that smoking is a behaviour that has a significant influence on an individual's sense of identity with transition from smoker to non-smoker involving a gradual process of change. The function of smoking does not appear to be confined to the micro-identity of smoker/non-smoker however, but seen to permeate other identities also. A complex relationship between smoking, cessation, relapse, the stigmatised smoker identity and other identities was observed. These preliminary findings present a number of practical implications particularly for the development of relapse prevention intervention. A secondary aim of programme of research described above was to examine the extent that the experiences of the participants could be explained by the concept of identity as described in PRIME theory (West, 2006). The findings have subsequently led to a refining of the concept of identity within it. The opportunity afforded by this research to be directly involved in the

development of a recent theory of behaviour and behaviour change has been and continues to be an exciting part of my development as a health psychologist.

It is appropriate to mention now the final section of the portfolio, the systematic review, as it further contributes to our understanding of the factors found to influence quit attempts, successful cessation and relapse. In contrast to the main research thesis that provides an in-depth observational exploration of a modest clinical sample, the systematic review provides a birds-eye exploration across large observational studies with general population samples. The review examines the predictors of quit attempts and success of quit attempts in studies where predictors had been prospectively examined. The findings suggest that different factors are associated with quit attempts and quit attempt success and highlight a high level of methodological heterogeneity between studies. The review offers a number of recommendations to reduce this heterogeneity to enable advancement in this area.

The remainder of the portfolio presents five case studies to demonstrate my professional competence in areas other than research. The first case study illustrates my generic professional competence as a health psychologist in training and how my professional practice abides by the legal, ethical, and professional standards of the BPS and also those of the NHS. The case study begins by offering examples of how I have implemented these standards. This is followed by an account of my continuous development as a professional applied psychologist and how I have contributed to this by actively seeking opportunities for growth and also my commitment to developing and promoting the field of health psychology. My professional competence to provide psychological advice, guidance and feedback to others is also presented.

The second case-study presents a piece of consultancy work that I undertook to provide semi-structured interview skills training and introduce thematic analysis to a

research team in Malaysia. I was invited to take on this project following the recognition gained of both the value of qualitative research and the demonstration of my expertise in qualitative methods following the positive outcomes of the first two research studies presented in this portfolio. The positive outcome of this consultancy project led to further requests to train PhD students in semi-structured interviewing and also to provide guidance on analysis. Recognised as the 'qualitative research expert' in our tobacco research team at UCL I have also received consultancy requests to conduct qualitative research projects although unfortunately due to the high demands of this doctorate I have only been able to accommodate two.

The third and fourth case-studies illustrate examples of my competence in teaching and training. As a smoking cessation researcher with clinical experience, I have taught several student lectures and also trained health care professionals and medical students with smoking cessation related skills (e.g. raising the topic of smoking and quitting with patients and supporting them to do so). The first of these case-studies offers an account of training healthcare professions to offer pharmacological and behavioural support to smokers wanting to quit smoking. A reflection on a 20 minute video recording of this training is also included. The second of these case-studies outlines an epidemiology lecture and small group teaching on smoking and the link to respiratory disease that I have delivered to several waves of medical students.

In addition to the core areas of professional competence required of a health psychologist in training described above, two further case-studies are offered to illustrate my competence in two optional areas. The first presents my competence to implement intervention to change health-related behaviour. Whilst based at the NHS SESSS I regularly implemented a 6-week smoking cessation group intervention and also occasionally individual interventions. The case-study explores the evidence base for the

intervention and presents in detail its various components together with examples to demonstrate my implementation of these.

The sixth and final case study presents my competence to disseminate psychological knowledge to address current issues in society. This case study illustrates my competence to do this in a number of different ways and how my ability has grown as a result of my experience. To demonstrate this, an example of the first article "Smoking intentions and mood preceding lapse after completion of treatment to aid smoking cessation" to be published in a peer-reviewed journal from the main research thesis is offered.

This portfolio provides an overview of my competence and development as an applied psychologist. Conducting the Stage 2 training in health psychology over a six year period whilst also working full-time as a research psychologist has afforded several years of experience to advance my level of competence. Whilst my research position at UCL has equipped me with all of the core skills (and some of the optional skills) required by a competent health psychologist, it is meeting the needs of the Stage 2 doctorate training that prompted me to be pro-active and create opportunities to acquire some of these skills (e.g. obtaining grant funding, consultancy, systematic review and teaching). Consequently this has both enhanced my confidence and ability to actively create new opportunities for practice and development. I believe this to be an essential skill for health psychologists and thank the training for encouraging me to develop it. I am confident that this skill will assist me to promote and advance the field of health psychology. I have enjoyed my development as a health psychologist trainee and greatly look forward to continuing my career as a qualified health psychologist and the further opportunities that this will afford.

SECTION B - RESEARCH

Abstract

Objective

A recent theory of motivation (PRIME theory) has proposed that the formation of a 'non-smoker' identity is necessary for long-term abstinence. This programme of research aimed to explore how a smoker's sense of identity changes following smoking cessation and also relapse after a sustained period of abstinence.

Design

Two qualitative, semi-structured interview studies with a purposive sample of individuals who had quit smoking were conducted. An interpretative phenomenological approach was taken to elicit in-depth accounts of the participants' understanding of smoking, stopping and maintaining abstinence. A survey study to examine the findings of the previous studies particularly those of residual attraction and smoker identity in ex-smokers, and 'first lapse' characteristics in relapsed smokers.

Methods

10 participants who quit smoking with the support of an NHS stop-smoking service in England and were still abstinent a year later were interviewed (Study 1) and 10 participants who had relapsed within the year following at least six months of abstinence (Study 2). An interpretative phenomenological analysis of the interview transcripts was conducted. Prospective contextual detail of motivational and other variables pre-quit were also obtained from the clinic assessment form participants completed at the first group

session. A postal questionnaire was then sent to 1390 adults known to have been abstinent 4 weeks after treatment support with the same stop smoking service (Study 3). Time since the end of treatment varied between 6 weeks and 3 years.

Results

In Study 1 a process of identity change was observed towards that of a 'non-smoker', assisted initially by a transient identity of 'team stop-smoker' accompanied by a sense of achievement. All participants retained a residual attraction to smoking suggesting that the process was not complete. Participants labeled themselves as non-smokers regardless of how much transition had occurred.

In Study 2 an identity conflict was seen to precede relapse and an identity re-evaluation observed among those abstinent (i.e. Study 1 participants). Following relapse a distancing of the 'smoker self' from the 'spoiled' smoker identity particularly from perceptions of health irresponsibility was observed with smoking constructed as integral to the maintenance of a socially desirable identity.

Forty percent (40.0%, n=556) of those invited to take part in Study 3 responded of whom 357 (64.5%) were not currently smoking. The proportion of ex-smokers reporting a residual attraction to smoking, a 'smoker identity', and a vulnerability to relapse declined with duration of abstinence (all $p<0.001$), although even among those having 2 years or more of abstinence 37.4% reported some residual attraction and 16.3% retained a 'smoker identity'. By contrast, after 2 or more years of abstinence only 7% thought they would ever return to smoking. Among relapsed responders, at the time of first lapse only 27.1% had made a decision to return to smoking while 48.9% intended to smoke only one or two cigarettes before stopping again. In 45.7% of cases, respondents bought cigarettes to smoke

again. Prior to lapse the majority (53.8%) reported “really needing a cigarette”. Similarly 53.8% reported being miserable at the time, while only 16% were happy.

Conclusions and implications

It appears useful to distinguish two levels of ‘non-smoker’ identity: a surface level comprising the simple label and a deep level made up of often conflicting thoughts and feelings about oneself in relation to smoking. A total coherent ‘non-smoker’ identity does not appear to be necessary for long-term abstinence.

The findings of Study 2 indicate that smoking affects a sense of identity beyond the micro-identity of smoker/non-smoker. Encouraging identity re-evaluation to accommodate the absence of smoking may reduce the identity conflict that appears to precede relapse.

The findings of Study 3 suggest that residual attraction to cigarettes is common among long-term ex-smokers and a significant minority retain a smoker identity. Further studies are needed to determine how far these characteristics are associated with late relapse. The most common pattern of late lapse among relapsed smokers appears to be intending to suspend the quit attempt temporarily in circumstances of needing to smoke and of negative emotional state, and in many cases cigarettes are actually sought out. Promoting strong ‘not a puff’ rules, a non-smoker identity and identifying negative mood as a potential vulnerability are important components of relapse prevention intervention

Introduction

The Problem of Smoking

Smoking and Health

Globally smoking is responsible for over 5.4 million deaths per year (World Health Organisation, 2008) and estimated to cost 6 to 15% of healthcare resources in high income countries (Jha & Chaloupka, 1999) In the UK for example, the National Health Service spends an estimated £1.5 billion annually on treatment for tobacco-related disease (Parrott, Godfrey, Raw, West, & McNeill, 1998). Smoking is still the leading cause of premature morbidity and mortality in industrialised nations with around 81,400 deaths in England attributed to smoking in 2009 (The NHS Information Centre, 2010). Nearly forty diseases or causes of death have been found to be positively associated with smoking including most cancers, cardiovascular disease and respiratory diseases (Doll, 1998). Approximately half of smokers will die from tobacco-related disease with smokers dying approximately 10 years earlier than non-smokers (Doll, Peto, Boreham, & Sutherland, 2004). The earlier a smoker quits smoking the greater the benefit to their health and life-expectancy (Doll et al., 2004).

Smoking Prevalence

Smoking prevalence was at its highest in developed countries in the 1950s and 1960s with smokers constituting over half of the population (Shafey, Erikson, Ross, & Mackay, 2009). In the 1950s five case-control studies were published in the USA and Britain showing evidence of the close association between smoking and various cancers. This raised concern and led to further investigation of the harmful effects of smoking in several countries (Doll, 1998). The pioneering work of the emeritus professor Richard Doll and his research team also began in the 1950s confirming the link of smoking with disease

and premature mortality in a prospective cohort study of British doctors (Doll, 1998; Doll & Hill, 1999; Doll, Peto, Boreham, & Sutherland, 2005). Following the accumulation of evidence indicating the causal link of smoking for several diseases in 1964 the Surgeon general's report (Advisory Committee to the Surgeon General of the Public Health Service, 1964) reviewed the evidence for the attention of the general public. Following this a substantial decrease was observed in smoking prevalence which continued through the decades. Examining smoking prevalence rates in adults annually reported in a national survey (Robinson & Bugler, 2008) showed that smoking prevalence rapidly decreased in the 1970s. The decline then became slow and mainly steady until the last few years where it has remained relatively stable at 21%.

The prevalence of smoking is consistently greatest among the lower social classes and expected to be a significant contributing factor for the increased levels of morbidity and mortality with decreasing social grade identified in industrialised countries (Jarvis, Wardle, Waller, & Owen, 2003; Marmot, 2001; Marmot, 2003). Reducing the inequality gradient is therefore of utmost importance and reflected in the government targets (Department of Health, 2008) but despite these efforts the inequality gradient persists. Findings from a national survey in England indicate that there does not appear to be a sociodemographic difference in the initiation of quit attempts but there is in the success of attempts (West and Kotz, 2009).

The UK commitment to reduce the prevalence of smoking is reflected in its policies and provision of services to encourage and support smokers to quit. These have been identified as the most comprehensive in a survey of tobacco treatment services across 39 countries (Raw, Regan, Rigotti, & McNeill, 2009). Many of the tobacco control policies (e.g. smoking ban) and health promotion campaigns (e.g. television advertisements) employed focus on changing attitudes to smoking so that it is perceived in a negative light

and to de-normalise the behaviour presumably to make individuals less inclined to want to smoke. These policies however have been accused by some authors as perpetuating the stigmatisation of smokers leading to an identity that is spoiled (e.g. (Chapman & Freeman, 2008; Farrimond & Joffe, 2006; Stuber & Galea, 2009). The results of a study that explored levels of social disapproval experienced by smokers found this to be greatest among those from the UK where tobacco control policies are more strictly upheld than in Greece (Louka, Maguire, Evans, & Worrell, 2006). As smoking is most prevalent in the lower social grades the stigma created may also serve to further widen social inequalities rather than reduce it (Bell, Salmon, Bowers, Bell, & McCullough, 2010; Farrimond, Joffe, & Stenner, 2010).

Smoking and Addiction

It is evident from the research into the psychopharmacological effects of nicotine in tobacco, that nicotine is addictive and encourages dependency in most smokers. In the early phase of quitting the motivation to smoke is typically very high because of strong urges to smoke at least partly mediated the central nervous system adjusting to absence of nicotine to which it has become accustomed and partly because of cue-induced urges arising from the 'central reward pathway'(West, 2009). Withdrawal symptoms include irritability, depressed mood, difficulty concentrating, urges to smoke, increased appetite and restlessness. The acute physiological symptoms of nicotine withdrawal typically last for two months (Hughes, Higgins, & Bickel, 1994; West, 2009). In addition to the physiological dependence however, there is also a psychological and social dependence probably reinforced through habit and associative learning over several years of smoking. To stop smoking for life, it is anticipated that all elements of smoking dependence must be overcome.

Smoking and Cognitive Dissonance

The majority (66-70%) of smokers report that they want to stop smoking (Centres for Disease Control and Prevention, 2010; Lader, 2009), with health concern the most common reason reported for wanting to stop (Lader, 2009; McCaul et al., 2006). Health concern is also the most common reason or trigger reported for making a quit attempt (Hyland et al., 2004; Vangeli & West, 2008). Despite the widespread acceptance among smokers that smoking is harmful to health less than half of smokers (25-48%) make a quit attempt in any given year (Centres for Disease Control and Prevention, 2010; Lader, 2009) and of these a small proportion succeed in doing so in the long-term (Stapleton, 1998).

It has been suggested that smokers experience a conflict between the awareness of the harm of smoking and their continued smoking (Tagliacozzo, 1981). The theory of cognitive dissonance (Festinger, 1957) is one way to consider the conflict and has been extensively studied in the smoking cessation field. Cognitive dissonance theory postulates that the presence of discrepancies between an individual's cognitions, attitudes and behaviour (e.g. perceiving smoking as bad for their health and then smoking) creates dissonance. Dissonance is psychologically uncomfortable so the individual attempts to reduce this by changing one of the discrepant elements (e.g. altering their beliefs about the health risk of smoking). Studies examining cognitive dissonance among smokers have found the majority recognise that their risk of developing a smoking related disease such as cancer is elevated through smoking but perceive this risk to be lower than that perceived by non-smokers and ex-smokers (e.g. (Chapman, Wong, & Smith, 1993; McMaster & Lee, 1991)) with smokers perceiving less risk for themselves relative to other smokers (McMaster & Lee, 1991). There is also some evidence to suggest that perceptions of risk are heightened prior to making a quit attempt (Borland et al., 2009; Gibbons, Eggleston, &

Benthin, 1997; Gibbons, McGovern, & Lando, 1991) and decline following relapse (Chapman et al., 1993; Gibbons et al., 1997; Gibbons et al., 1991). A decrease in the number of cigarettes smoked is commonly observed following relapse (Hughes & Carpenter, 2005) suggesting that relapsed smokers may perceive their risk as reduced relative to other smokers through active attempts to minimise the harm.

Smoking Cessation and Relapse

Smoking Cessation Treatment

The UK offers the most comprehensive and easily accessible smoking cessation services in the world providing this free within the National Health Service (NHS) (Raw et al, 2009). The NHS following the guidance of the National Institute for Clinical Excellence (2002) and (2008) takes a predominantly pharmacological approach to smoking cessation intervention but also recognises that a considerable level of motivational support is important. Pharmacological support is discussed with and offered to smokers who express motivation to stop. Nicotine replacement therapy (NRT), Bupropion (Zyban), or Varenicline (Champix) are licensed on the NHS with NRT also available on general sale. Behavioural support is primarily directed towards helping clients to get through the withdrawal symptoms. NHS smoking cessation intervention is delivered in various levels of intensity from brief advice to quit from clinicians; weekly support from a nurse, pharmacist or other health professional; to weekly support in a group of smokers attempting to quit, facilitated by a specialist stop-smoking advisor. In England, over 750,000 smokers accessed NHS smoking cessation treatment to make a quit attempt between April 2009 and March 2010 (The NHS Information Centre, 2010). Of these half were considered to have successfully quit with self-reported abstinence verified biochemically for the majority (i.e. exhaled carbon dioxide reading of <10ppm).

Rates of Cessation and Relapse

Much progress has been made in the development of smoking cessation interventions with treatment programmes increasing success rates (i.e. 6 month abstinence) from 3-6% (Hughes, 1992) when unaided to around 25% when a combination of behavioural and pharmacological support is used (Cahill, Stead, & Lancaster, 2008; Stead & Lancaster, 2005).

The majority of smokers making a quit attempt relapse in the first few weeks of quitting (Hughes et al., 1994). Studies have found that 75% of smokers who achieve 4 weeks of abstinence relapse within the first year (Ferguson, Bauld, Chesterman, & Judge, 2005) and of these a further 30% relapse after that (Etter & Stapleton, 2006). The progress made by the provision of intensive smoking cessation intervention has been largely achieved by boosting success early in the quit attempt so that there is a larger pool of short-term successes that is subject to attrition by relapse.

A systematic review of relapse prevention interventions found evidence to suggest that taking an extended course of Varenicline to aid cessation (i.e. 6 months versus 3 months) may reduce the relapse rate (Hajek, Stead, West, Jarvis, & Lancaster, 2009). The review found that behavioural interventions aimed at reducing the relapse rate had largely done so by focussing on identifying and resolving tempting situations. However sufficient evidence was not found to recommend the use of this or any other behavioural intervention for relapse prevention. The reviewers suggest that the lack of effectiveness of skill-based interventions to reduce the relapse rate may be due to the difficulty of imparting the necessary skills, content limitations and the small number of studies with an adequate power to detect small differences. The lack of effectiveness above standard intervention may also be due to the inclusion of some degree of skill development or at least awareness

of high risk situations within standard treatment. It is also likely to be a reflection of the limited understanding we have about how tempting situations come to be so and how some people are able to remain abstinent when others relapse.

Theories of Behaviour Change and Relapse

There are many models of behaviour change particularly in the field of health psychology. The social cognition models (e.g. health belief model (Becker, 1974), theory of planned behaviour (Ajzen, 1991), protection motivation theory (Rogers, 1983) are dominant in our conceptualisation of health behaviour. These models examine a set of health cognitions held by the individual that are thought to be instrumental in the engagement of health-related behaviour (e.g. behavioural norms, benefits and costs of the behaviour, confidence in ones ability to either carry out or cease the behaviour). The individual is approached as a rational decision-maker weighing up the costs and benefits of engaging in a behaviour often including an assessment of confidence in their ability to do this. The resulting decision is the intention (or not) to change their behaviour which is viewed as a proxy indicator of behavioural outcome. Studies of behaviour change however consistently show that the intention often does not translate into action. A review of intention-behaviour relations for example found that intentions explained only 28% of the variance of future behaviour and suggest the dynamic nature of intention as an explanation for the inconsistency (Sheeran, 2002). This is supported by the finding of intentions to quit smoking to be short-lived (Hughes & Carpenter, 2005).

In addition to the obvious limitation of the intention-behaviour gap, a number of conceptual flaws with social cognition models have been identified (Ogden, 2003). These include the lack of specificity in the constructs and therefore the theories cannot be falsified nor confirmed through hypothesis testing. Another point suggesting the limiting usefulness

of social cognition models is their theoretical focus on analytic truths (i.e. truths by definition) rather than on observation and experience (i.e. synthetic truths) (Ogden, 2003).

Social cognition theories are predominantly concerned with intention to change behaviour and therefore its initiation. A similar approach is taken with maintenance of behaviour change treating it as an extension of the same decision-making process and as such essentially a prolonged action. This blanket approach to behavioural action and maintenance has been argued as constraining the development of intervention strategies for successful long-term behaviour change (Rothman, 2000).

Marlatt's cognitive-behavioural model of relapse prevention. Marlatt and colleagues found that late relapse in alcohol addiction occurs in high-risk situations often characterised by negative affect, interpersonal conflict, and social pressure leading to their proposal of a cognitive-behavioural model of relapse prevention (Marlatt, 1996). In this model, two factors are thought to contribute to relapse: 1) the immediate determinants and 2) the covert antecedents. The immediate determinants are high-risk situations (i.e. situations involving negative emotional states such as anger, anxiety, depression, frustration and boredom, situations involving conflict with others, social pressure and positive emotional states), reduced coping (i.e. low self-efficacy), and outcome expectancies (i.e. more positive outcome expected than negative). The covert antecedents are lifestyle factors (e.g. overall stress level), and cognitive factors such as a sudden impulse or desire to engage in the behaviour which serves to 'set-up' a high-risk situation. The 'set-up' occurs through a combination of covert decisions which alone seem inconsequential but combined can become overwhelming (e.g. the course of action taken allowing the situation to escalate into an argument with a partner creating a high-risk relapse situation).

The theory proposes that when an individual lapses (i.e. violates the abstinence goal by engaging in the behaviour) the reaction to the lapse and the causes attributed to it will determine whether the individual relapses (i.e. fully resumes the behaviour). If the cause is attributed internally then guilt is likely to be experienced and this can lead to further smoking in an attempt to avoid feelings of guilt and failure. The individual is more likely to relapse if they attribute the lapse to stable internal and global factors beyond their control (i.e. willpower) and this is referred to as the abstinence violation effect (AVE). An individual who attributes the lapse to their inability to cope effectively with a specific high-risk situation however, can realise that they could learn to prevent a further lapse from occurring again so are less likely to relapse. The AVE has been closely studied using ecological momentary assessment (EMA) where participants enter their mood and other cognitive factors such as self-efficacy into a palm-held electronic diary at several time-points both prior and after lapse. Decreasing self-efficacy following lapse was found to accompany relapse progression (Shiffman et al., 2000). The intensity of AVE reaction immediately after the first lapse was not found to predict progression to relapse although there was some relationship between feeling like giving up and relapse progression (Shiffman et al., 1996).

Marlatt's theory includes practical recommendations for relapse prevention by teaching abstainers the skills to identify high-risk situations, respond with behavioural and cognitive coping strategies, being wary of the AVE and guidance on managing lapses. This has been the most influential model in the smoking cessation field to date with the majority of relapse prevention interventions focussing on assisting abstainers to identify high risk situations and using coping skills to prevent smoking during these situations (Hajek et al., 2009).

Transtheoretical model. The transtheoretical model (TTM - (Prochaska & DiClemente, 1984)) has been commonly applied in the field of smoking cessation and has even been used to justify the rationing of treatment resources (Littell & Girvin, 2002). The model proposes that a change in behaviour requires progression through a number of pre-change and post-change stages. Relapse to a previous stage is expected although the skipping of stages is not. The pre-change stages (i.e. those of pre-contemplation, contemplation and preparation) are differentiated by intentions to change and the post-change stages (i.e. action and maintenance) according to duration of abstinence. The model identifies 10 processes of change, decisional balance and temptation/self efficacy that are believed to be responsible for movement through the stages. According to the TTM, interventions tailored to promote the processes relevant to the stage the individual is in will help progression toward the next stage. Reviews of TTM based studies however find little evidence to support its value above other models (e.g. addiction) in both predicting and facilitating cessation behaviour (Littell & Girvin, 2002; Riemsma et al., 2003; Sutton, 2001). The TTM has been criticised by many authors on a variety of grounds including the arbitrary distinction of discrete stages (e.g. (Littell & Girvin, 2002; Rothman, 2000; West, 2005)) and the inconsistent measures used to assess individual stages (Littell & Girvin, 2002). Futhermore, the model's failure to explain findings showing a high proportion of smokers quitting without going through the pre-change stages (Larabie, 2005; West & Sohal, 2006) have also cast doubts on the utility of the TTM. Despite the lack of evidence however, the application of the TTM is widespread and its claims treated as if they were empirically based, leading several authors to voice their concern (Littell & Girvin, 2002; Riemsma et al., 2003; Sutton, 2001; West, 2005; Whitelaw, Baldwin, Bunton, & Flynn, 2000). Researchers have recently been urged to abandon the model and develop other theories to enable the advancement of knowledge in this field (West, 2005).

PRIME theory (West, 2006, 2009) is a recent attempt at a more comprehensive model of motivation than has hitherto been available. It is named after five putative layers of motivation: Plans, Response, Impulses, Motives and Evaluation. A hierarchical structure is proposed where the complex cognitions (i.e. plans and evaluations) are further removed from the behaviour (i.e. responses) than the basic cognitions of wants and needs to engage the behaviour (i.e. motives). The individual will choose to refrain from smoking only if the 'wants' (i.e. feelings of anticipated satisfaction) and/or 'needs' (i.e. feelings of anticipated relief) not to smoke are stronger than the competing wants and/or needs to smoke. A key tenant of the theory is its emphasis on the importance of the moment. It proposes that our actions at any one time can only be influenced by our thoughts and feelings at that particular time. To stop smoking successfully the motives to refrain from smoking must be stronger than those to smoke, at all times when the individual is presented with an impulse and opportunity to do so.

PRIME theory therefore offers an explanation for the problem of the intention-behaviour gap observed in health behaviour research previously described. PRIME theory asserts that for evaluative beliefs and plans (or intentions) not to smoke to be effective, they need to be strong enough to generate the motives (i.e. feelings of want or need) to refrain from smoking every time the opportunity to smoke occurs. The motives generated need to be of sufficient strength to overcome the desires and impulses generated by the immediate internal environment (e.g. drive) and external environment (e.g. reminders and triggers).

An important source of wants or needs is our view of ourselves: our 'identity'. PRIME theory recognises an individual's identity as an important source of motives enabling the self-control required to overcome desires and impulses.

Conclusion

Smoking cessation intervention has been demonstrated to be effective in the short tem but the relapse rate is high, even among those receiving optimum treatment. Developing our understanding about the nature of relapse and the maintenance of long-term abstinence is crucial for the design of effective relapse prevention interventions. A more complete understanding of the process of smoking cessation is therefore necessary and the recently developed theory in the field of smoking addiction, PRIME theory, appears to provide a useful framework for which to explore this. In particular, PRIME theory suggests identity to be an important factor in long-term smoking cessation and relapse and it is the examination of this concept that forms the focus of the current research. The concept of identity as defined in the existing literature will be expanded upon in the following section.

Identity and Behaviour

Self and Identity

The term 'identity' has been conceptualised in different ways by researchers (Osborn & Smith, 2006) and appears to be subsumed within or understood to be the same as a holistic 'sense of self'. The self is not a unitary construct but a complex system of different constructs and with the exception of perhaps personality trait theorists, it is generally considered to be dynamic and continuously changing in light of our experiences (Zimbardo, McDermott, Jansz, & Metaal, 1993).

An example of this can be found in the work of the philosopher and psychologist William James who conceived the self as stemming from bodily sensations that change in response to experiences that stimulate sensations that are novel and intense (James, 1890/1891). For James, taking a psychoactive drug (e.g. nicotine from smoking) would induce an intense sensation and thoughts about this would feed into the immediate sense of

self by either adding a new dimension to it or an awareness of loss in the sensation's absence (Gray, 2005). James also made a distinction between the "I" and the "me" parts of the self (James, 1890/1891). The "I" represents the principle form of self organising and interpreting experience subjectively (i.e. self-as-thinker). The "me" refers to the object of our perceptions when we contemplate ourselves (i.e. the self-as-thought about oneself). This includes: 1) the 'material me' (i.e. body, clothes, family and cherished possessions) 2) the 'social me' (i.e. recognition from one's social relationships) and 3) the 'spiritual me' (i.e. inner subjective being or psychic dispositions).

George Herbert Mead whilst influenced by Jamesian theory, conceptualised the self as a cognitive process existing and developing from the interaction in the social world rather than as an individual entity occurring privately inside one's mind (Mead, 1934). Mead believed human interaction to be largely symbolic (i.e. communicating through language and meaningful gesture) and our self-concept as socially constructed through viewing ourselves as a social object from an observer's perspective.

The self conceptualised by James and Mead could therefore be described as holistic, multifaceted and essentially evolving through the course of an individual's life through experiences and interaction with the world. Researchers attempting to understand and predict behaviour and behaviour change however typically take a more differentiated approach. They appear to be primarily concerned with thoughts about oneself as object (i.e. 'me') but approach this 'me' as one consisting of multiple identities that can be examined separately.

Theories of Identity

Identity theories attempting to predict our behaviour differ in their understanding about the original 'source' of our self-concept. Some theories conceptualise identity as

deriving from relatively stable personal characteristics. Self-schema theory (Markus & Wurf, 1987) for example, views the core self to be comprised of knowledge structures developed by the individual to make sense of their own social experiences (i.e. self-schemas) of their most defining attributes (e.g. independence, assertiveness, sexuality). Theories influenced by Mead's symbolic interaction theory understand the self to be more socially defined. Identity Theory (IT) (Stryker & Burke, 2000) for example, proposes that individuals have a role identity for every position or relationship that they occupy in society (e.g. daughter, sister, student, blood donor). Each role has a prescribed set of behaviours expected by others and acting accordingly validates a person's status as a role member and reflects positively on self-evaluation. In a similar vein, Social Identity Theory (SIT) (Tajfel, 1974) proposes that an individual's self concept is derived from the social categories to which one falls and feels that they belong (e.g. British, Female, Psychologist). SIT however, believes behaviour to be more responsive to situational cues than IT and is concerned with how the social attributes of the group to which one belongs affect behaviour towards others particularly to those belonging to a different group (Hogg, Terry, & White, 1995). These theories however, do not examine behaviour following the establishment of an addiction.

Identity development and transformation following recovery from addictive behaviours has been extensively studied in the wider field of drug addiction but largely neglected in that of smoking cessation. This literature suggests that identity development is an integral part of maintaining recovery (N. J. Bell et al., 2009; Biernacki, 1983, 1990; Coonfield, 2009; Hanninen & Koski-Jannes, 1999; Jorquez, 1983; Kearney, 1998; Kearney & O'Sullivan, 2003; Koski-Jannes, 2002; Koski-Jannes & Turner, 1999; McIntosh & McKeganey, 2000; Stall & Biernacki, 1986; Waldorf, Spring 1983). Biernacki (1983) for example, suggests that the process of identity transformation is initiated when the substance

user's identity conflicts with or creates unacceptable problems with their identities in relation to significant others (e.g. partner or employee). Biernacki has proposed there to be three different paths for identity transformation determined by the level of damage to their pre-drug identity. If the damage is irrevocable then a completely new self is constructed (identity emergence), if the pre-drug identity has not been damaged then the earlier identity is resumed (identity reversion) and where this is partially damaged the previous unspoiled identity is understood to be extended through the process of becoming 'ordinary' (identity extension).

Identity Shift Theory (IST) (Kearney & O'Sullivan, 2003) is another theory of behaviour change that encompasses addiction developed following their analysis of the findings of 14 studies. IST proposes that a value conflict develops as a result of increasing distress caused by our behaviours. This distress prompts the initiation of behaviour change and if successful begins to lead to a shift in identity. This has inspired the conceptualisation of identity in PRIME theory (West, 2006) and the expectation that establishing a non-smoker identity would be an important factor protecting against relapse. The theory proposes that the identity label a person holds (assuming retaining the identity is valuable to them) will influence their behaviour through the behavioural boundaries defining it. To achieve long-term abstinence from smoking the new identity must become such that it eliminates the motive to smoke and therefore self-control is no longer necessary to behave within the boundaries. In other words, exercising self-control is understood to be effortful, using up mental resources and therefore difficult to sustain in the long-term. An individual with a non-smoker identity would be expected to involve renouncing smoking as an attractive behaviour, have an absolute no-smoking rule and an emotional commitment to a self-label as a non- or ex-smoker.

Identity and Smoking in Adolescents and Young Adults

Smoking initiation typically begins during early adolescence (Moolchan, Aung & Henningfield, 2003). It has also been found to occur when adolescents enter a new social group (Snow & Bruce, 2003), a time when self-image is of increased significance and vulnerability (Chassin, Presson, Rose & Sherman, 1996). An association between smoking behaviour and social identity (i.e. self-concept derived from social categories to which one belongs (Tajfel, 1974)) has been observed in a number of qualitative studies exploring perceptions of smoking behaviour among adolescents and young adults (Fry, Grogan, Gough & Conner, 2008; Plumridge, Fitzgerald & Abel, 2002; Rugkasa et al., 2001; Stewart-Knox et al., 2005). These studies suggest that smoking is perceived by adolescents to demonstrate membership to a particular social group existing within a social hierarchy. For example, girls and boys who smoke are viewed as socially different to those who do not smoke and often described by other adolescents as being a part of the 'cool' or 'popular' group (Denscombe, 2001; Plumridge et al., 2002; Rugkasa et al., 2001). Adolescents also view smokers as individuals able to cope with taking risks (Denscombe, 2001), more fun-loving and likely to be rule-breakers (Lloyd, Lucas & Fernbach, 1997) than non-smokers.

Identity and Smoking in Adults

There is some indication from national surveys that social identity may affect smoking behaviour in late adulthood. In the UK, for example surveys consistently find that smoking prevalence rates are higher among certain groups for example among men and the lower social grades (The NHS Information Centre, 2010; Robinson & Bugler, 2008). Findings from qualitative interview studies with smokers from deprived areas have highlighted how cultural norms within these social groups are more likely to support

smoking compared to those from non-deprived areas (Chamberlain & O'Neil, 1998; Laurier, 1999). The perception of cessation as a threat to maintaining relationships with other group members (Chamberlain & O'Neil, 1998) further indicates that smoking may form part of a desirable social identity. Despite the clear inequity gradient in health and health behaviours across social economic groups the potential role of social identity has not been directly explored.

Examination of the literature on smoking in adulthood it appears to be primarily concerned with the personal use of smoking in the daily lives of smokers. Among adults, an emotional dependence on smoking is described. For example, in a review of qualitative studies exploring the perspectives of smokers from deprived areas the presence of personal functional roles of healthy and risky behaviours is observed (Graham, 1998). In this review Graham proposes that studies exploring the specific difficulties facing women in disadvantaged areas indicate that smoking is often used to control anger, re-balance the power differential from an abusive partner, and is one of the few resources they have control over.

There are few studies directly examining identity among adult smokers and these do not appear to be based on any existing theories of identity. Generally these have explored identity via questionnaires and have done so by examining self-labelling in smokers (Levinson et al., 2007) or the extent to which smoking is a part of an individual's self-concept (Moan & Rise, 2005; Shadel, Mermelstein & Borrelli, 1996; van den Putte, Yzer, Willemsen, & de Bruijn, 2009). The findings indicate that these self-concepts predict intention to quit smoking and quit attempt initiation (Moan & Rise, 2005; van den Putte et al., 2009) and that abstainer and smoker self-concepts change with time abstinent (Shadel et al., 1996). There is also some evidence of identity change following 6 months of abstinence with perceptions of the typical smoker increasing in negativity among quitters

who had few family/friends who smoked (Gibbons & Eggleston, 1996). These studies suggest that identity change is important for continued cessation but do not examine whether a new identity of non-smoker is assumed. Questionnaire studies afford a limited understanding of concepts of identity as they are necessarily constrained by structure and investigate only the pre-conceived concepts of the researchers. Qualitative research however is not subject to the same constraints offering opportunity for a greater depth of insight. There have been a few qualitative studies investigating continued smoking among adults which indicate an influence of fulfilling the role expectations of parenthood (Bottorff, Oliffe, Kalaw, Carey & Mroz, 2006; Nichter et al., 2007), and social identities (Bush, White, Kai, Rankin & Bhopal, 2003; Kim, Son & Nam, 2005; Lennon, Gallois, Owen & McDermott, 2005). Few qualitative studies however, have investigated smoking cessation and of these only one was primarily concerned with identity change following smoking cessation (Brown, 1996). In this study with older adults the author observed changing views towards smoking, a period of learning to live without smoking and reconfirmation of the decision to be a non-smoker through positive comparison against the former smoking self. This was interpreted as reflecting a process of self redefinition as a 'non-smoker' although the meaning of this for the participants was not explored.

Conclusion

The literature on smoking initiation provides evidence for the significance of smoking for social identity in adolescents and young adults. However, the role of identity on maintaining smoking behaviour, desire to quit, maintaining abstinence or relapse is not understood. Exploring identity and the process of identity change particularly in the first year of cessation where the majority of relapse takes place (Kenford et al., 1994) is the endeavour of this thesis.

Aims and Methods

Aims

The aims of the present research are to address the following questions:

1. How do smokers and ex-smokers make sense of their smoking behaviour?
2. How does an individual's sense of smoking-related identity change following smoking cessation?
    a. To what extent can the accounts be explained by the concept of identity according to PRIME theory?
3. How does a smoker perceive and manage relapse back to smoking following several months of abstinence?
    a. To what extent can the accounts be explained by PRIME theory?
4. To what extent are the key findings observed in questions 2 and 3 present in other smokers who quit smoking?
    a. To what extent can the findings be explained by PRIME theory?

The first two aims are addressed in Study 1, the third in Study 2 and the fourth in Study 3. Achievement of these aims will provide a greater understanding of the role of identity in maintaining abstinence in the long-term and also in relapse. The findings could be used to inform the development of relapse prevention interventions.

Funding and Ethical Approval

A research proposal and application was made to the Cancer Research UK (CRUK) Population and Behavioural Sciences Committee for a small project grant in May 2006 with the support of my workplace supervisor. In June 2006, CRUK awarded £39,000 (Grant C1417/A7346) to cover the cost of materials and conducting the project for 1 year and 3 months.

Ethical approval for the study was obtained from the NHS South Essex Local Research Ethics Committee in July 2006. Study approval was also obtained from the local research and development department in September 2006. The study commenced in October 2006. In October 2007, a substantial amendment was proposed to the National Health Research Ethical Committee to maximise response rate of the final study by sending out reminder study invitation letters and questionnaires to patients. Approval for this was gained in December 2007.

Study 1 and Study 2 Methods

Design

Two qualitative studies were carried out, using individual semi-structured interviews with smokers who were abstinent at the 4-week end-of-treatment point in a smoking cessation service, some of whom had relapsed by the time of the interview 5 to 11 months after treatment. Questionnaire data completed one year earlier (i.e. just prior to quitting) was also retrieved to obtain demographic and pre-quit characteristics.

Participants

Patients falling into one of the two groups below (i.e. purposive sampling) were recruited from the NHS South Essex Stop Smoking Service:

Study 1) 10 ex-smokers who were abstinent at the 4-week end of treatment point and still abstinent by the time of interview 11 months later.

Study 2) 10 current smokers who were abstinent at the 4-week end of treatment point and had relapsed between 5 to 11 months later.

Individuals suffering from advanced stages of tobacco related disease were excluded from participating in the interview study. This was to avoid any distress which might be caused by discussing smoking and any failed quit attempts in their particular situation.

Sample Size

Smith recommends recruiting between six or ten participants when using IPA (Smith, Harre & Van Langenhove, 1995) as this is thought to enable in-depth analysis whilst allowing some representation of the group. A similar number of ten participants per group is recommended by other qualitative researchers as indicated in the CRUK funding recommendation application guidance. A sample size of 10 was chosen for each study to

meet the criteria of both Smith et al. (1995) and of CRUK from whom funding was sought and received.

NHS South Essex Stop-Smoking Service Treatment

This specialist service primarily offered treatment in the form of group intervention. The support provided takes the Withdrawal Oriented Therapy Approach (Hajek, 1994). This includes offering advice and support on the withdrawal symptoms following smoking cessation and the NHS licensed pharmacological aids of NRT, Bupropion and since November 2007 Varenicline. The behavioural support incorporated techniques to promote bonding and sharing of experiences between the group members. Behavioural techniques to boost motivation to remain abstinent through the creation of social barriers to smoking were also applied. These included techniques such as making a pledge to the group that they would not smoke, and betting with the money of another member of the group as well as there own that they would not smoke.

Procedure

Participants were invited to take part in one of the research studies during a routine 12 month telephone follow-up call by one of the advisors at the stop-smoking service.Individuals who quit with the service and were abstinent at the 4 week end of treatment point are routinely contacted by telephone at 6 months and 1 year for follow-up by a stop-smoking advisor. Those who completed treatment 5 to 11 months prior to the recruitment period were briefly introduced to the study and asked if they would like to receive more information about it. The researcher briefed the stop-smoking advisors on the nature of the study and what would be involved in participation. They were also given a script to guide their introduction to the study (Appendix A). This was developed in order to

assist the stop-smoking adviser to encourage the individual to consider participating in a non-coercive fashion. Below the script was a check-list of inclusion criteria and the advisers were asked only to introduce the study to those who were eligible to take part. The follow-up telephone log was re-designed to enable the advisors to record the eligibility of each individual called, whether they had been invited to take part, and if so their response and any additional information. All those who were interested in learning more about the study were sent an invitation pack containing an invitation letter (Appendix B), participant information sheet (Appendix C) and a stamped addressed return envelope to reply if they were interested. The advisors also offered interested participants the opportunity to speak to the researcher about the study if they wished to and the majority took up this offer. Interested participants were screened again by the researcher to confirm eligibility before a date and venue was arranged for the interview.

Interviews were held in a meeting room at the NHS South Essex Stop Smoking Service clinic site most convenient for the participant. Only the researcher and participant were in the interview room to ensure confidentiality. The interview rooms were booked in close proximity to a room with colleagues so that assistance could be quickly obtained should concern for the safety of the participant or the researcher arise (e.g. if the participant collapsed or became violent).

Before the interview began participants were given the opportunity to ask questions before they confirmed their consent to take part by completing and signing the consent form (Appendix D). All consented to both attending a research interview and for the researcher to obtain a copy of the clinic assessment form they had completed two weeks before they quit smoking at the stop-smoking clinic. Participants in study 1 were also offered the opportunity to obtain a measurement of the level of carbon-monoxide (CO) in their expired air. Monitoring CO was used as a motivational tool in the clinics and all ten

participants chose to do this. A reading of <10ppm was obtained for all verifying that they were abstinent at the time of interview. Each participant attended one semi-structured interview and was offered £20 for their time and travel costs. All interviews were audio-taped and lasted for approximately one hour. During the transcription, all identifying information was removed and participants were allocated a pseudonym.

Each interview began with the interviewer introducing herself as a stop-smoking service advisor and researcher. The interviewer explained that the current research was needed as little was understood about how people continue to stay stopped in the long-term and what leads people who stop smoking for a number of months to relapse. Participants were asked to describe their views and experience in as much detail as possible to enable the researcher as someone who is not and has never been a smoker to understand what it was like for them to quit smoking and to stay stopped over the past year (Study 1) or to return to smoking after several months of not smoking (Study 2).

Interview Schedule

Semi-structured one-to-one interviews was the method chosen to collect the data as it is well-suited to rapport building and in-depth exploration of the participant's stories, thoughts and feelings (Smith, Flowers & Larkin, 2009). It is also the preferred means of data-collection among IPA researchers (Reid, Flowers & Larkin, 2005).

The questions on the interview schedules (Appendices E & F) were examined and approved by the researcher's workplace and university supervisors, the peer-reviewers who assessed the funding application and the NHS local research ethics committee. Interviews were semi-structured allowing the participant to introduce the areas that were of most concern to him/her and enabling the researcher to probe further on topics of interest that arose. General exploratory questions were asked first and then specific questions inspired by PRIME theory (i.e. urges to smoke experienced, beliefs about smoking, cessation and identity) asked later where these had not been spontaneously raised by the participant. The interview was structured in this way following a process of funnelling as suggested by Smith (Smith et al., 2009) to allow the interview to be enhanced by exploration of PRIME theory concepts rather than to be steered by them. The questions specifically related to identity were: Do you view yourself any differently now that you are not smoking compared to when you were smoking?; How do you feel when you see another person smoking?; Are you any happier now, less happy or about the same as were when you were smoking?

The areas of experience described in PRIME theory were explored where these had not been spontaneously raised by the participants to capture more of the participant's experience in areas thought to be important in motivating behaviour. It is important to note that the purpose of the interview was not to test the theory. The extent to which PRIME theory concepts explained the experiences interpreted were examined but this was a

secondary aim. The additional benefit of secondary or theory-driven questions in IPA studies is recognised by leading IPA researchers and has been discussed (Smith et al., 2009).

Pre-quit Questionnaire

A Clinic Assessment Form is completed by all smokers attending the NHS South Essex stop-smoking clinics at the first (or second if they were unable to do this at the first) weekly session (i.e. two weeks prior to quit day). The assessment form contains demographic information, the Fagerstrom test of Nicotine Dependence (Heatherton, Kozlowski, Frecker & Fagerstrom, 1991) and some information concerning motivations to quit and situations when they smoked (Appendix G). This information was used to build a contextual summary for each participant shortly prior to quitting smoking.

Interpretative Phenomenological Analysis

IPA was the chosen method of analysis as it aims to explore the personal meaning and sense-making of people who have a particular experience of major significance (Smith et al., 2009). It is therefore particularly suited to research exploring the process of change and identity (Osborn & Smith, 2006). IPA subscribes to phenomenology in that it seeks to enable the expression of human experience as it occurs in the context of a lived process that is situated in the individual's personal relationship with the world (Smith et al., 2009). It is also recognised that a 'double hermeneutic' is necessary to access this expression as the researcher has an active interpretative role in making sense of the participant's interpretation. The researcher's own lived experience and perspectives therefore shape the direction of the findings. As such it is important for the researcher to identify their perspective and to orientate the reader to this (Willig, 2001). IPA was chosen in preference

to other inductive approaches such as grounded theory (Strauss & Corbin, 1990) for its focus on interpretation rather than theory development.

Each interview transcript was read several times with preliminary interpretations noted in the margin and then again to draw out emerging themes. The themes were listed and examined for connections between them. The themes were then organised to reveal possible super-ordinate concepts, producing a master list of themes (for each transcript). These were checked back with the transcripts to confirm that the themes were present and had not become far removed from the data through the process of interpretation. The analysis is cyclical in nature so when subsequent master lists produced any new themes, they were checked back with previous transcripts to see if they were also present there (this process also included searching for deviant cases). A consolidated master list was then drawn-up and its themes considered with respect to the available literature. For each theme, extracts relating to it from each participant were compiled into a table. The analysis continued during the writing-up stage of the research as prolonged engagement with the verbatim transcripts in the themes inspired deeper consideration of the language used by the participants and its significance. During the writing-up stage themes that lacked coherence or added little to our understanding became evident and were dropped.

The analysis was conducted primarily by myself as the lead researcher but meetings were held with my workplace supervisor (a professor of health psychology) to discuss the emerging themes and check that these were grounded in the data. Two meetings at the initial stage of the interview analysis were held with my university supervisor to discuss the initial interpretation of themes. My university supervisor independently examined three interviews from each of the two studies and the themes identified from her analysis compared with mine. The vast majority of the themes shared similar or complimentary interpretations. Where the interpretations appeared to conflict further discussion of the

source of interpretations led to discussion and agreement of that most supported by the data.

In the final stages of analysis, the preliminary findings were orally presented to a seminar group of IPA researchers from Birkbeck University and University College London. After I presented the findings, these were discussed with the group. The interpretations made were well-received and the quality of the interview data obtained praised. A suggestion was also made to orient the reader to the role of PRIME theory before presenting the findings to aid clarity. The discussion in the meeting also reminded me of the importance of reflexivity and making this accessible to the audience. A draft of the first study was given to a leading IPA researcher for comment. Again the data was assessed as good and strong. The interpretations made were judged to be appropriately balanced with the evidence presented. Suggestions to make two of the themes more coherent were also offered.

Validity and Quality of Analysis

The research process and analysis were conducted in accordance with the four broad principles of assessing validity and quality proposed by Yardley in 2000 and its application to IPA as described in Smith et al (2009). These principles are: 1) sensitivity to context, 2) commitment and rigour, 3) transparency and coherence and 4) impact and importance. How these were addressed in the current study will now be discussed.

Smith et al. (2009) argue that *sensitivity to context* is demonstrated throughout the research process in IPA beginning with the rational for choosing to apply it. Being sensitive to the participant's context is also necessary during the interview for good data to be obtained and is therefore reflected in the data itself. During the analysis stage IPA requires the researcher to pay close attention to both the context of the participant and also

be sensitive to the context of their own interpretations. To demonstrate the sensitivity of context to the reader the interpretations made are accompanied by a considerable number of verbatim extracts from the participants. Awareness of similar contexts is also demonstrated in the discussion where the findings are discussed in relation to existing literature.

The demonstration of *commitment* in the context of IPA is argued by Smith et al (2009) to overlap with that of sensitivity to context. The researcher's commitment to making the participant comfortable and recognising the importance of interview skills required (developed over previous semi-structured interview studies) enabled close attendance to the experience of the participants. The *rigour* with which the study is conducted relates to the appropriateness of the sample and methodology chosen to answer the research questions. With respect to IPA, rigour was endeavoured through thorough and systematic engagement with each of the participant transcripts. The findings are presented to convey the themes shared across participants but also to retain considerable idiographic detail. Also the extracts illustrating the interpretations are drawn proportionately from the participants to demonstrate that the interpretations applied across the accounts and not to a small subset.

The stages of the research process have been described in great detail to offer *transparency* to the reader. The *coherence* of the research was endeavoured through careful reading of the themes to present them coherently with any contradictions found adequately explained. The researcher carefully considered the underlying assumptions of IPA at the start of the research and was mindful of these throughout the research process.

The researcher aspired to present the findings that had the most *impact and importance*. Throughout the analysis process themes that did not appear to be as important or useful were not considered further. Where a later stage of the analysis indicated that some of the themes dropped were more important than previously thought they were re-

introduced. The relevance of some of the themes in Study 1 did not become clear until the analysis of Study 2. These initially rejected themes were then re-examined and discussed within and in relation to Study 2. The reader is also orientated to the impact and importance of the findings through detailed discussion of their implications for both practice and theory.

STUDY 1: The Role of Identity in Smoking Initiation and Identity Transitions Following Smoking Cessation – An Interpretative Phenomenological Analysis

Participant summary

All participants had quit smoking with the support of a structured closed-group smoking cessation intervention programme at the South Essex NHS stop-smoking service. They were abstinent at the end of treatment point (i.e. four weeks post-quit) and still abstinent at the time of follow-up and interview approximately 11 months later. Expired CO was measured each week at the clinic and self-reported abstinence verified as a reading of <10ppm for all the participants. All participants also had a CO reading of <10ppm on the day of the interview. Thirteen ex-smokers were invited to take part in the study before ten participants were recruited (i.e. 77% response rate).

All 10 participants were White-British of whom half were male. Their mean age at the time of interview was 58 years (ranging from 34-67) with half in retirement. The majority of participants used to smoke within half an hour of waking indicating a high dependence on nicotine and smoked at least 8 cigarettes a day. A demographic summary for each participant including nicotine dependence, motives for smoking and quitting, determination and confidence in quitting reported prior to quit-day is provided in Table 1.

Table 1. ***Participant Characteristics and Smoking History Two Weeks Prior to Quit-Day (Abstinent)***

	Rebecca (F)	**Gail (F)**	**Glenda (F)**	**Mavis (F)**	**Jodie (F)**	**Warren (M)**	**Jason (M)**	**Ian (M)**	**Paul (F)**	**John (F)**
Age (years)	33	56	64	63	66	39	61	66	54	64
Occupation	Manager	Manager	Retired	Care assistant	Retired	Engineer	Retired	Retired	Manager	Retired
Cigarettes per day	20	20	20	15	20	16	15	20	12	8
Time to first cig	After 1 hour	6-15 mins	31-60 mins	31-60 mins	16-30 mins	16-30 mins	31-60 mins	16-30 mins	6-15 mins	31-60 mins
CO in ppm pre-quit	34	27	20	15	14	21	12	11	28	13
Cessation aid used	Zyban	Zyban	NRT patch	NRT patch	NRT patch	Zyban	Zyban & NRT Lozenge	NRT patch	Zyban	NRT patch
Motivation to smoke	Stress, Boredom, discomfort if don't, control weight	Stress, Boredom, discomfort if don't, enjoy	Stress, Socialise, Boredom, concentrate	Socialise, Boredom, discomfort if don't	Stress, Boredom, enjoy	Stress, Boredom, concentrate, enjoy	Stress, Boredom, concentrate, control weight, enjoy	Stress, socialize, Boredom, discomfort if don't, control weight, enjoy	Stress, Boredom, concentrate, enjoy	Boredom, enjoy
Motivation to quit	Dislike being addicted & Bad example for children	Current Health	Current Health	Current Health	Current Health	Current & Future Health	Future Health	Current Health	Cost, Pressure & Family's health	Dislike being addicted
How determined are you to quit?	Extremely	Extremely	Extremely	Very	Very	Extremely	Extremely	Extremely	Quite	Quite
Confidence to succeed[a]	7	5	9	8	8	10	8.5	9	2	6

F= Female, M=Male, NRT = Nicotine Replacement Therapy. [a]Mark on scale from 1 to 10 where 1=not at all confident to 10=totally confident.

Results

Examining the accounts from the initiation of smoking through to the maintenance of abstinence 1 year later indicated a development and progression of identities. The following five major themes recurred in at least seven of the participant accounts: 1) Developing a relationship with smoking 2) Discomfort with the 'smoker' identity 3) Fostering a temporary identity of 'team stop-smoker' 4) Transition towards a 'non-smoker' identity and 5) Residual attraction to smoking – incomplete transition.

Theme 1 is largely descriptive and examines how participants made sense of their smoking behaviour. It is presented here to illustrate the role that smoking was perceived to have in their lives and how this changed from adolescence to adulthood. The theme also serves as a contextual backdrop for those that follow. Theme 2 explores the growing social and personal discomfort with the 'smoker identity' particularly the perception of health irresponsibility encompassed within it. This discomfort preceded seeking support from and making a quit attempt with the stop-smoking service. Theme 3 examines the formation of a transient identity of 'team stop-smoker' that was seen to create additional motivation to refrain from smoking. Following smoking an identity transition from that of a 'smoker' towards 'non-smoker' is discussed in theme 4 and the remaining attraction to smoking in the final theme.

Developing a Relationship with Smoking

Participants' relationship with smoking developed from behaviour engaged in to project a positive social image to one that became integrated in their lives with many functional values.

Smoking as a social tool to establish a social identity. All participants began smoking in their teens or early 20s. Participants were asked to recall their thoughts on

smoking at the time when they smoked their first cigarette. The majority had regarded smoking as a socially valuable behaviour when they first started smoking. A behaviour that was perceived as "macho", "cool", "glamorous", "big", "grown-up", "naughty", "clever" or "rebellious". Engaging in smoking appeared to facilitate or qualify inclusion into a desired social group. For example Glenda and Jason explain what led them to smoke for the first time:"Because friends at school did it you know you followed suit, you didn't want to be out of the crowd […]. Just having the cigarette alight and being as big as all my friends."(Glenda, L6 and L38). "It was just done more of to be one of the boys type thing*."* (Jason, L39).

In addition to smoking projecting a desirable self-image, the extracts above indicate the facilitation of a sense of belonging as smoking allowed the individual to *be one of* a group or part of *the crowd*. The role of smoking in qualifying existing group membership is indicated in Rebecca's account of persevering with smoking despite disliking the experience initially:

> I remember forcing fags. The first couple were horrible. I know I never wanted them but you force them because you had to do it. It was cool you didn't want to be embarrassed and coughing and everything every time you had a cigarette with your friends so you trained yourself how to smoke.(L51)

Whilst Rebecca and indeed all other participants voluntarily engaged in smoking this often was not presented as a personal wish to smoke but rather a need to conform. For example, in the extract above Rebecca explains that she felt she *had to* continue to smoke despite never wanting to and finding the smoking experience to be horrible. The importance of being perceived as *cool* by her friends led Rebecca to feel it was necessary to practice smoking in private.

As adults however, using smoking to facilitate creation of a desired social identity was not evident from most of the accounts. There was some evidence of this

playing a role at one point in Jodie's adult smoking history when she found herself re-initiating smoking upon entering a new social environment:

> On one occasion I did give it up for 2 years. I probably would never have smoked again but in those days I worked in an office and you could smoke in the office and I went to a new job and everybody you know first day nervous and everybody was smoking round me and the first thing I did at lunchtime was go and buy some cigarettes and started smoking again. (L80)

Above Jodie recalls her feeling nervous when starting a new job. This is a time of social vulnerability as she is entering an established social group alone. Re-initiating smoking may therefore have alleviated Jodie's nerves through increasing perceptions of similarity with the other members of this new social group. Rebecca however, was the only participant for whom smoking behaviour appeared to be strongly influenced by gaining or retaining approval from her existing social groups (i.e. friends and family). Rebecca relapsed after a previous quit attempt following being teased about needing a cigarette to become a calmer person by her family. She also relapsed after another attempt when returning back to the area where her friends lived. Rebecca's decision to quit was also motivated by the behaviour of her friends:

> To be honest when I came to the service [NHS stop-smoking clinic] it was a bet. That there were a group of us that said right. They [her friends] all booked in and they went why can't you come and I went alright (…) and everyone was doing and I thought same as smoking (laughs) everyone was doing it, I'll do it. (L225)

Rebecca's behaviour therefore continues to be motivated by a desire to behave in the same way as her friends which she recognises to be the same motivation as when she started smoking. Throughout Rebecca's account she presents herself and her friendship group as outside of mainstream society with a sense of pride and individuality. Taking the decision to quit lightly and approaching it as a bet reinforces this 'non-conformist' social identity. Although Rebecca felt that quitting smoking provided a good example for her children and freed her from addiction to smoking, these factors were not presented as influential in her smoking behaviour whereas her social groups were.

Smoking as a personal tool. With the exception of perhaps Rebecca, smoking no longer had a primarily social purpose but a personal one. A personal relationship with smoking was seen to develop for every participant once they had become regular smokers. Smoking was perceived by the participants as helping them personally with a number of functions. Paul for example, recalls how smoking helped to calm his nerves before going into a class to train a new group of people: "10 minutes before I was due to start the class, then yeah I would have a cigarette and err go in there nice and relaxed and that." (Paul, L437)

Similarly, the majority of participants perceived smoking as a tool to relieve stress as Jodie (L126) for example explains "I was always in stressful jobs and smoking was part of combating the stress really." Similarly, Mavis did not want her husband to keep asking her about the progress of her quit attempt as this would cause her stress and the temptation to smoke: "So we had this pact that I didn't want to discuss it because if he kept on asking me it would get me wound up and make me want to reach for a cigarette." (L204).

Smoking was also used to control anger. Rebecca describes the rage evoking situation of discovering her son had broken a window in their house and how a cigarette would stop it turning to violence: "It was one of them "I'm gonna kill you! Give me a cigarette! situations." (L755). As she had quit smoking, she did not smoke and explains how she coped with the situation: "I just walked away and went and sat in my bedroom, just walked away to be quite, sat in my bedroom, calmed down, had a cry, come out, sorted it out (laugh)." (L747). The extract shows that in the absence of smoking, Rebecca sat down and cried. This suggests that smoking may not have been used only to her control anger but also to suppress other emotions. Using smoking to control emotions such as depression is also indicated in Gail's account as she experiences a heightened desire for a cigarette when feeling anxious or depressed: "Women's nerves

are a bit bad sometimes or something or I'm a bid depressed and I think 'oh' but I haven't done it [smoke] and I know I won't, I won't smoke again." (L190). Smoking was also perceived by many to be a pleasurable activity in itself as John (L173) for example sums up: "It's quite a relaxing pastime". The extracts above show smoking being used by the participants to calm their nerves, control emotions, increase confidence and a source of relaxation and pleasure. Beyond the temptation to smoke from environmental cues whilst socialising (e.g. the smell of smoke, seeing other people smoking or easy access to cigarettes) a motivation to smoke for social reasons was not evident in the majority of the accounts.

Growing Discomfort With the 'Smoker' Identity

The majority of participants explained that at the time of initiation, smoking was the norm and the health damaging effects were not known or not shared with the public. It was not until much later that they became aware of the associated health risks which later came to be reinforced by the prohibition of smoking in many establishments (e.g. restaurants and hospitals). Having to leave restaurants or hospitals in order to smoke marked out the smokers from the non-smoking majority and for Glenda this was a factor in her decision to stop-smoking:

> To be honest this is another reason why I wanted to give up. You feel an outcast. At a lot of functions [i.e. family parties] you feel an outcast because you have a cigarette like when you went out for a meal and erm no one else smoked and you had to slide out and say "oh I am going to the ladies" but you'd slide out the back door to have a quick cigarette and then come back in again and you think oh this is you know really bad to be in that state that you can't do without a cigarette. (L250)

The extract above shows Glenda sneaking outside to smoke and evaluating her need to smoke as being in a *really bad state*. This suggests that she was ashamed of the extent of her dependence on cigarettes as she attempts to conceal this from others. Mavis also

raised the topic of smoking bans although considered these to be an unfair dismissal of the rights of smokers:

> I think possibly people's rights are being infringed upon. I was in London the other day and I can't bear to see all these people outside on the street outside their offices having a cigarette. I think it looks absolutely awful. I can appreciate them wanting one but I still feel that there should be somewhere for people who want to smoke that can actually go and smoke without affecting other people. (L414)

Other participants described how some non-smokers would theatrically "wave their arms" to diffuse the smoke when in the presence of someone smoking. It is perhaps not surprising that many participants expressed feeling that they were "in the minority", "outnumbered", "outcast", "outsiders" or "banished from everywhere" as smokers. These descriptions indicate two distinct social groups with 'non-smokers' as the dominant majority group and the 'smokers' as an unwelcome minority group lower in the social hierarchy.

As the causal link between smoking, morbidity and mortality was learned by society the 'smoker identity' encompassed perceptions of health irresponsibility. Placing restrictions on smoking in public places to protect others from the effects of smoke epitomises this. Indeed all the participants identified that smoking could be harmful to the health of the smoker without being asked about this. Many also made some attempt to protect children from the potential harm of passive smoking as Gail (L331) for example explains:

> My neighbours daughter rung up "I'm bringing the baby down" and I went "No come over Linda's." 'cos I knew my house would be smoky and I didn't want the baby in the smoke.

In addition to the decline in social standing of smokers already described, a growing personal discomfort with taking health risks was also observed. The majority of participants initiated a quit attempt primarily to protect the health of themselves or a loved one (i.e. by supporting a loved one to quit). With the exception of Rebecca, all participants identified the same primary reason for giving up smoking as they had in the

clinic assessment form one year previously (Table 1). This demonstrates some consistency in the reporting of their experiences.

For the three participants who were not primarily motivated to stop smoking due to health concern, a sense of urgency to stop was not evident in their accounts. The decision to quit was presented as being coincidental rather than reflecting a true desire to quit. As illustrated earlier, Rebecca's decision to quit was not taken seriously but rather was a bet between friends. For John the trigger for quitting was presented as financial reasons to maintain non-smoker insurance rates on his property. Similarly, Paul's decision to call the stop smoking service and make a quit attempt was just something to do:

> I suppose just one day I umm wanted something to do and I phoned them up and (laughs) there you go(…) I didn't have any real expectations from it because I said to my wife. I said I'll give it a go and if I do it, I do it. If I don't, I don't. (L156)

The nonchalant approach to the outcome of the quit attempt shown in the extract above indicates the absence of urgency to quit.

Participants citing health concern as the main motivation to stop smoking described smoking as *foolish, silly* or *stupid* with many wanting to quit for several years. A growing discomfort from feeling increasingly vulnerable to the health consequences of smoking for either themselves and/or others preceded their decision to quit. This was accompanied by a sense of urgency to stop smoking to protect either themselves or a loved one. For example Warren (L353) explains what led to his desire to quit smoking:

> *Warren:* My legs would ache and that in your own mind is why your legs are aching.
>
> *Interviewer:* Mmm what the smoking?
>
> *Warren:* Yeah you know some things you can't, you just know that you shouldn't be doing them. And I thought at 40, my body's warranty is going to expire. So I was running on my own sort of guarantees and the most important thing I could do would be to stop smoking.

Warren's metaphor of a warranty for his body being near expiration indicates that until then he had perceived himself to be protected from the effects of tobacco related disease. Assuming the responsibility for protecting himself from the effects of smoking is indicated by now running on *his own* guarantee. Similarly, Jason initially felt invulnerable to the effects of smoking perceiving that these would not happen to him:

> My reason for stopping basically was health issues. That's what really drove it home for me 'cos I mean I remember the day when my mother had her leg amputated and I can see me there now. But I think you shouldn't be smoking, you're a fool it will happen to you and it was but we all roll on thinking it won't happen to me. It won't happen to me. And when I had this in me leg, this blockage in my vein which is repaired now, then I thought you know well that blockage could have been a year there, build up leads to an amputation. So it's your circulation's bad. So I thought 'No I've got to do something' now that's really what motivated me. (L325)

About four years prior to his quit attempt Jason was diagnosed with diabetes which he believed to be hereditary (from his mother). An increase in Jason's perceived vulnerability to diabetic neuropathy is shown above as he started to feel like it *will happen to him* when his mother's leg was amputated. Then when he experienced a problem with his leg, his vulnerability escalated further and prompted a quit attempt as his ill health continued to mirror that of his mother who continued to smoke and lost her leg. Perception of increased vulnerability to the progression of tobacco related disease in a loved one also motivated a quit attempt. For example Jodie (L168) explains:

> My sister who you are going to interview shortly, has had a lung removed with lung cancer she was still smoking. She has been in remission for I think it is about 11 years now but she had a dreadful cough, she still has to use an inhaler a lot and um quite honestly I could see her deteriorating quite badly and I thought well if I encourage her to come with me to a stop smoking class, more for her than me basically. But I wanted to stop her smoking and I knew she wouldn't stop smoking whilst I was smoking so really that was the whole reason.

Fostering a Temporary Identity of 'Team Stop-Smoker'

The existence of an identity of 'team stop-smoker' over the duration of the group programme was observed in all but one account. Most of the participants recalled enrolling onto a group smoking cessation clinic with the expectation that they would be assisted to quit through hearing about the experiences of others who are also quitting, having the support of the smoking cessation advisors and/or by not quitting alone. The accounts however, indicated the value of stopping smoking with a group extended beyond this by either enhancing an existing identity among those attending with family/friends, or creating a new identity among those attending the clinic alone. Quitting smoking was described as a collective effort that was strongly motivated by an attachment to the other group members. Four participants described this group as 'a team' inspiring the labelling of this identity as 'team stop-smoker'.

The family/friends team. Participants attending the clinic with family or friends had an existing identity of 'wife', 'sister', or 'friend' with quitting smoking approached as a collective goal. Rebecca attended with her friends with successful cessation the aim of a bet made between them. Her continued attendance at the group clinic and also abstinence appeared to be primarily motivated by an attachment to her friends as indicated in the extract below:

> I wouldn't have gone if we [her and her friends] weren't all together I wouldn't have done it. I would have gave up. I would have gone to the first meeting and thought what a load of rubbish and not bothered going again. (L377)

Jodie attended the group clinic primarily to support her sister Glenda to stop smoking, and Gail to support her husband. For example, Gail (L45) explains why she was more motivated to stop smoking this time compared to previous failed attempts:

> My husband doing it with me being determined for him. I wanted him to pack up more than me really. Because his chest was so bad I wanted him to give up smoking and I thought the only way was for us both.

A strong determination to remain abstinent for the benefit of another made not smoking easier. For example when asked "What did you find most difficult about giving up smoking?" Glenda (L296) explains:

> As I say because my sister, I thought no I can't let her down she's doing it for my benefit she's giving it up, she's willing to give it up although she wants to do it herself, basically its down for me so I thought no I can't. No I can't honestly say it was hard at all.

The stop-smoking group team. For the participants attending the clinic alone, a determination to quit for others appeared to be manufactured through the creation of a social connection between the group members. This determination played a significant role in their quit attempt with the end of the group programme described as a time of particular difficulty for Mavis, Ian and Jason. The participants perceived their own behaviour as influencing the success of the other group members and expressed a desire to protect them as Mavis (L135) for example explains:

> The group therapy thing made it from my point of view made it better because you think if I, you don't want to go next week and say sorry I've had a ciggie. It was the embarrassment you know and feeling like I would have felt that I had let everybody down and it is quite. I felt it would have destroyed other people perhaps.

The strength of Mavis's feeling of connection to the group is highlighted in her perception that her behaviour carried a potential threat of existential proportion as it *would have destroyed other people*. Jason shared the concern of not wanting to let the other members of the group down, and recognised the weekly group meetings as a source of strength:

> We're meeting on a Friday, well I think by Thursday you're looking forward to meeting. You're getting a little bit weak, and then when you meet you have the talk and everybody's getting

> through it and you feel like we're all. I can't be the first one to give up 'cos I'm letting the whole team down. Then by Friday night you're strong again. You're a braver person next week. (L504)

Throughout the interview Jason used the imagery of battle which would be lost at the first sign of weakness to describe his experience of resisting temptation to smoke. This echoes through the extract above and reflects the significance of the group for him in that it gave him *strength* and made him *braver* to continue with this battle.

Paul and John demonstrated the lowest level of determination and perceived importance in quitting amongst the participants both on the pre-quit questionnaire (Table 1) and in the interview accounts a year later. Creating an identity of 'team stop-smoker' and a feeling of responsibility to other group members appeared to have been particularly significant, as it provided a strong motivation to remain abstinent in the absence of another. For Paul this motivation was also manifest by fostering a sense of achievement for stopping smoking which had previously been absent:

> You seemed to have achieved more. Um you've not only helped yourself to pack up smoking but you have helped other people to pack up smoking as well. So you get that sense of achievement there. Um but when you sort of like going it alone you know, you're not really achieving anything here you know. (L553)

The end of the clinic sessions marked the end of maintaining abstinence as a team effort for those who attended the clinic alone and therefore the end of the 'team stop-smoker' identity. The sense of achievement however continued long after the clinic ended and was still present at the time of the interview. For Jason this also brought confidence to conquer other challenges:

> I'm proud that I've done what I've done. I feel as if now at least I mean I've actually set me soul and achieved something I wanted to do. I really have and I feel good about that. I feel really good. So I look at m'self from the point of view that - Right I've done that so err if I ever wanna do anything now I feel as if, if I put my mind to it I can do it. I can do it. 'Cos I suppose it's made me more confident in m'self. (L803)

The threat of losing what had been achieved and having to start again, appeared to be the driving motivation to stay stopped. For example Ian (L466) explains that the memory of how he felt during a previous quit attempt when he smoked after 2 months of abstinence now motivated him remain abstinent:

> I went back on to them [cigarettes] and I was annoyed afterwards that I'd gone through all that and went back on to cigarettes and that's was another thing that made me stronger for the second attempt on this course. I definitely remember that, I'm not going to be upset by starting smoking again because I remember I was the first time I gave up.

Retaining this sense of achievement appeared to be the driving motivation to maintain abstinence even among those for whom the stop-smoking team was still present:

> I mean mentally now unless something dreadful happens that really pushes me back into it I feel I never ever want to smoke again you know I have really made up. I am quite proud of myself actually because I am proud of myself I am proud of her [Glenda] you know for us it is quite an achievement so I don't want to lose that [by smoking] if you understand what I mean. (Jodie, L677)

Jodie's extract above indicates that although the 'team stop-smoker' identity is still present as indicated by her feeling proud of both her and her sister, it is the sense of achievement which now appears to be driving her motivation to never smoke again.

Transition Towards a 'Non-Smoker' Identity

Most participants described that their urges to smoke had lessened or become easier to dismiss over time indicating a process of transition following cessation. A period of transition to 'non-smoker' was anticipated in some of the accounts. For example, Ian (L458) explains:

> I think I wasn't erm 100% in when I tried it on my own. I wasn't erm, I think you need to, I think you've got to start the course with commitment - I'm going to become a non-smoker.

The extract above suggests that Ian had anticipated an active process towards (i.e. *to become*) rather than an abrupt shift (e.g. *to be)* a non-smoker. The participants who

appeared to identify most strongly with non-smokers found it easy not to smoke. Paul, Glenda and Jodie for example, now rarely felt drawn towards smoking and declared that they "*haven't looked back"* since they stopped indicating that smoking is confined to the past. This suggests a shift of identity as they are no longer concerned with their past smoking self. A commitment to a new identity of 'non-smoker' was indicated by their greater positive regard for non-smokers relative to smokers as observed in the extracts below:

> *Interviewer:* Do you view yourself any differently now that you are not smoking compared to when you were smoking?
>
> *Paul:* Umm probably for want of a better word, one of the better people [Laughs]. (Paul, L443).

> I think when I see women doing it [smoking] now, I think of it just doesn't look nice at all. Just that hand keep going up to the mouth and then smoke it (...) I think oh dear I used to be like that. Never again, never again. (Glenda, L332).

The downward social comparisons made against smokers point towards the forging of an emotional attachment with non-smokers and also a distancing from smokers. Some affiliation with the smoker identity however although weak was still present:

> It still comes now when you think you are doing a certain thing and you think oh I miss my cigarette when I do this and it's not as, it's hard to explain as time goes on it gets easier that urge it's not err, you can sort of throw it out you know 'go away I'm not listening to your, you know argue with yourself. (Glenda, L359).

Above Glenda indicates the presence of two conflicting selves in relation to smoking. The progressive ease with which the non-smoking self overpowers the smoking self suggests that the process of transition may reflect that of identity from 'smoker' to 'non-smoker'.

Other participants found not smoking to have become easier over time but still required some effort. Most viewed smokers more critically now that they did not smoke. However they did not express perceptions of superiority and some expressed

the desire to be infrequent or "casual smokers". This seeking of a middle ground may reflect movement towards a non-smoker identity whilst remaining attached to the smoker identity. These participants also felt less happy now that they did not smoke and described a sense of loss. For example Gail (L199) explains what she found most difficult with stopping smoking:

> The most difficult thing is not having that cigarette isn't it? You know I mean it is difficult not to smoke it's that urge, that feeling of emptiness, that feeling that you've got to substitute it that's the, and I've still got that.

The feeling of emptiness suggests a lost self possibly marking a point in the transition process where the 'smoker' identity is being left behind but the 'non-smoker' identity had not yet been assumed. Although this feeling of emptiness is still present Gail describes it as reducing over time, indicating some transition towards 'non-smoker'. Similarly, John (L233) explains that he is 99% happy with his new lifestyle of not-smoking and eating healthily but is not totally happy as he misses smoking:

> *Interviewer:* What do you miss about it?
>
> *John:* I don't know. Its erm as somebody said at the session we used to go to it's almost like a bereavement, like losing somebody or losing something. Cos it's been with you all your life.

John's comparison of stopping smoking with *bereavement* indicates a significant and permanent sense of loss at the absence of smoking in his life.

Contrary to the experiences of the other participants not-smoking had grown increasingly difficult over time for Mavis and Warren suggesting that little if indeed any transition to 'non-smoker' had occurred. A strong 'smoker' identity was observed in Mavis's account for example in her response to the question "How do you feel now about smoking?"

> How do I feel about it, erm we [smokers] all know it's not good for us. I think erm, I don't quite know how to say this but I think possibly people's rights are being infringed upon […] I do feel that people it's a freedom of choice, and I do feel as long as its not affecting other people, people should have somewhere to smoke. (L413)

Mavis raising the subject of smoker's rights and immediate defence of them suggests a strong continued emotional connection with smokers. Including her with the smokers whose rights she is defending in that *we all know it's not good for us,* indicates that despite not smoking for over a year, her identity remains that of a smoker. Warren had expected a process of identity change to 'non-smoker' after he quit smoking and was disappointed to find that this had not occurred:

> I'd brainwashed myself into thinking that at some point it [wanting to smoke] would all dissolve, it would be gone and that would be that and I'd be a happy non-smoker but it just doesn't appear to be that way. Its always niggling at ya and to think that I've gone through a year and I've just gone through a three week period of wanting a cigarette is beyond my umm realm of thought to be honest.(L390)

Warren's expectation for his desire to smoke to naturally *dissolve* away and for him to emerge into *a happy non-smoker* had not been met. Its failure to occur within one year of continued abstinence is met with disbelief and accompanied by sense of hopelessness. His use of the metaphor of being *brainwashed* points towards a 'smoker' self that been forced to abstain through psychological manipulation and hope rather than having undergone any transition to 'non-smoker'. Interestingly, despite not feeling that he had undergone this transition, Warren presented himself as a 'non-smoker' throughout the interview. Indeed although none of the participants were asked to define their smoking status during the interview the majority of participants assigned the label of 'non-smoker' to themselves, regardless of the level of transition that had occurred. How an individual identifies themselves in relation to smoking may not necessarily reflect their identity but merely be a classification of smoking status. As suggested by Warren's account the distinction perhaps resting on whether one has become a *happy non-smoker.*

Residual Attraction to Smoking

All participants to varying extents demonstrated a residual attraction to smoking in that smoking was still perceived to be desirable as it had some functional value (explored earlier in theme 2), particularly beliefs about combating stress and assisting relaxation. For example, Ian (L120) describes his continued attraction to cigarettes:

> It's definitely, ahhh [slow exhalation] like a nice relaxing thing but, and you still remember that and I still remember it now but you've just got to get on with something and take your mind off it really.

The extract above shows that it is necessary for Ian to employ the coping technique of distraction to avoid thinking about smoking in times of stress. Retaining positive beliefs about the benefits of smoking therefore allowed relapse in the future open to possibility. This was particularly evident for Mavis and Warren who demonstrated little progression towards the formation of a 'non-smoker' identity described in the previous theme. They perceived themselves as having a high risk of relapse and this was accompanied by a sense of diminished control. For Mavis this was characterised by instability:

> I do [feel that I could relapse] very easily, very, very easily but I'm determined not to because I've gone this far but it's a very fine line that I tread. I do know that. (L110)

This suggests that for Mavis abstinence is unstable requiring constant vigilance to maintain the necessary balance which could very easily be lost. For Warren both the desire to smoke and also relapse were beyond his control:

> But it still just, I think it just periodically creeps up. Umm I suppose you could look at it like, if your body is a PC and you've got a programme that's been shut down and stored. Something every now and again will execute it and it will just go up into starter mode. If you don't have one it will just die off. If you do: bingo it's up and running. (L404)

Above Warren describes his desire to smoke as unpredictable and acting without his or even human agency but rather to be controlled by an automaton. Similarly, it is the non-

human entity of *life* that controls whether he smokes or not suggesting an element of inevitability:

> I've got no intention of smoking but at the same point I think there could be a, life could throw at you a, the correct umm how can I describe it, series of events to put one in your hand if you like. (L429)

For Mavis and Warren therefore, a clear and strong attraction to smoking is evident together with a heightened vulnerability to relapse. For the other participants however although some continued attraction to smoking was observed it was accompanied by little perceived vulnerability to relapse. Paul for example considered relapse in the future as conceivable but not likely:

> I think it would have to be under very extreme circumstances, you know if I did [smoke again]. Umm but at the present moment no, I can't see myself going back to it again. (L493)

Some continued attraction to smoking was accepted by most participants and anticipated to remain. Jason (L870) for example explains.

> I don't think even now after a year you're completely over it. I'd say I'm 95%. I always think that there's a chance of a weak moment could take over. Err but I think I'm there now, I really do.

This percentage may reflect how far Jason perceives himself to be in the process of transition to 'non-smoker' identity. This may also be as far as he expects to go as he is *there now*.

Discussion

The aim of the current study was to explore the smoking-related identity of individuals who were still abstinent, one year after quitting smoking. The accounts examined the role of smoking in the participants' lives from the time of smoking initiation to late adulthood. The findings indicate that for the majority, smoking was engaged in initially to gain membership to or acceptance from a particular social group. In adulthood a primarily personal relationship with smoking was observed. Growing

discomfort with the 'smoker' identity, particularly the feeling of minority and increased vulnerability to the health risks of smoking was seen to precede quitting. Following cessation, an identity transition from 'smoker' towards 'non-smoker' was indicated in most of the participant accounts with the process assisted initially by a transient identity of 'team stop-smoker'. Allowing the participants to describe from their own perspective their experience of quitting smoking and maintaining abstinence over the year, exposed incongruence between the identity label of 'non-smoker' with which they presented themselves and that reflected in their accounts.

The majority of participants began smoking during adolescence or as young adults, the period where most smokers report starting smoking (e.g. GHS 2008). In line with the growing research base taking a social identity approach to understanding smoking behaviour in adolescents (Fry et al, 2008; Plumridge et al, 2002; Stwart-Knox et al, 2005; Rughasa 2001), the current study found that smoking behaviour was seen to demonstrate membership to a 'cool' or 'popular' social group. In adulthood however, smoking was no longer considered to be socially desirable but rather had progressed to an undesirable behaviour that defined a social identity in its entirety. This transcendence of the behaviour of smoking to a social group of 'smoker' is probably facilitated by two factors. Firstly, the pharmacological action of nicotine leads to addiction and continued smoking even when the social group it demonstrated membership to, is no longer present, significant or desirable. Secondly, since the health damaging effects of smoking to both the individual and those around them have been discovered a culture of identifying people who smoke has arisen. As with the social identities of sex and socio-economic status, smoking has become a socio-demographic variable of interest. Being asked to reveal smoking status is common in the medical (i.e. updating clinical records), financial (e.g. insurance), residential (e.g. flat sharing and renting property) and relationship (e.g. dating) sectors. This has led to the labelling

and repeated identification of oneself as either a ‘smoker’ or ‘non-smoker’ creating a social division into 2 largely distinct categories. There is sometimes a third category of ‘ex-smoker’ but this is often collapsed into the ‘non-smoker’ category.

Although the perception of two distinct social identities of ‘smoker’ and ‘non-smoker’ were observed, the accounts indicated that the relationship with smoking in adulthood was not primarily social. Motivation to smoke involved a personal relationship as the participants described functions that smoking performed in their lives (e.g. to calm themselves down, cope with stress, feel more confident). The development of a primarily personal relationship with smoking may be inevitable given the physiological dependence created by nicotine addiction. Many of the perceptions of the idiosyncratic role smoking has in their lives are related to the physiological consequences of nicotine ingestion (e.g. dopamine release) and its withdrawal (e.g. irritability, urges to smoke, loss of concentration). For example, the perception of relaxation or calm experienced when smoking may simply reflect the experience of physiological relief from nicotine withdrawal. It is with these that smoking cessation and relapse prevention theories and interventions are primarily concerned (i.e. pharmacological aids and behavioural skills based interventions).

The perceived inferiority in social status of the ‘smoker’ identity and the associated health risks that continued smoking posed to them or a loved one appeared to cause discomfort with the ‘smoker’ identity. The participants expressed feelings of exclusion or stigma as smokers, from mainstream society. The topic of the interviews, the interviewer being a ‘non-smoker’ and the interviews being conducted in the months running up to the UK smoking ban in public places legislation in June 2007 may have made this feeling particularly salient. Since the health risks of smoking have been made public a cultural shift in Western countries towards the denormalisation of smoking has been observed by several researchers and led to the perception of the ‘smoker’ identity

as one that is spoiled (e.g. Kim, 2003; Bayer, 2006). Chapman and Freeman (2008) identify a number of markers of this 'spoiled identity' including common perceptions of smokers as malodourous, selfish and thoughtless, addicts, and excessive users of public health services.

Discomfort with the 'smoker' identity particularly that of increased perceptions of vulnerability to tobacco-related disease for themselves or others preceded quitting in the majority of accounts. High perceptions of personal risk to the effects of smoking have been found to precede quit attempts and cessation (Brown, 1996) particularly among individuals seeking treatment to stop-smoking (e.g. Borrelli, Hayes, Dunsiger & Fava, 2005). Two participants in the current study were motivated to quit to encourage a loved one perceived as vulnerable to the effects of smoking to quit. This suggests that discomfort with the 'smoker' identity from perceived vulnerability may extend beyond oneself to significant others.

All participants quit smoking with the support of a group-based smoking cessation programme over 6 weeks, which included techniques to promote bonding between those attending the group. Creating or enhancing an identity of 'team stop-smoker' may therefore not be particularly surprising. This identity is clearly social in nature and could therefore be conceptualised as a social identity (Tajfel, 1974) with quitting smoking as the norm behaviour. It could also and perhaps more comfortably be conceptualised as the adoption of a new and salient role identity (Stryker & Burke, 2000) of 'team stop-smoker' among those who attended the group alone with remaining completely abstinent to support the other as expected role behaviour. For those who quit with loved ones, the group programme appear to promote the salience of the existing role identity of 'sister', 'wife' or 'friend' and the behavioural expectation to act supportively or as a team (i.e. by not smoking). Interestingly the 'team stop-smoker' identity created in those attending the clinic alone simulated a determination to stay

absent comparable to those quitting to support and protect loved ones even in those who had little motivation to quit and a heightened sense of achievement at having done so. There is some evidence to suggest that stop-smoking intervention in groups is more effective than individual (Bauld, Bell, McCullough, Richardson & Greaves, 2009; McEwen, West & McRobbie, 2006) and the formation or enhancement of a 'team stop-smoker' identity may contribute to this.

A transition of identity towards 'non-smoker' was observed in most of the accounts involving the development of a 'non-smoker' self-concept whilst the 'smoker' self-concept was still present. The co-existence and strengthening of the 'abstainer' self-concept (i.e. comfort with possible non-smoker self) and weakening of the 'smoker' self-concept with time abstinent has also been found in a prospective study examining identity over 14 weeks (Shadel et al., 1996). In the current study the process of change to 'non-smoker' appeared to be almost complete for many but for two participants little or no transition appeared to have taken place. The majority of participants described themselves as 'non-smokers' regardless of how much transition had occurred indicating that self-labelling may reflect smoking status rather than their experienced self-concept. This discrepancy points towards the distinction of two different levels of identity in relation to smoking: a surface level which is a self-label reflecting smoking status or perhaps the identity one is attempting to assume, and a deep level made up of thoughts and feelings about oneself in relation to smoking. Although self-labelling is generally involved in all theories of identity, this important distinction has not been recognised. Further qualitative research is needed to explore the meaning individuals assign to the identity label with which they present themselves, their understanding of what it means to be a 'non-smoker', 'ex-smoker' and 'smoker' and their experience of identity transition.

To What Extent Can the Accounts Be Explained By the Concept of Identity According to PRIME Theory?

PRIME theory (West, 2006) proposes that enforcing the self-control needed to abstain from smoking is effortful and cannot be maintained in the long-term. An individual with a 'non-smoker' identity would no longer require self-control as he/she would be expected to renounce smoking as an attractive behaviour, have an absolute no-smoking rule and an emotional commitment to a self-label as a 'non- or ex-smoker'. All participants in the current study however, continued to have an attraction to smoking. Whist it is possible that assuming a 'non-smoker' identity as currently defined in PRIME theory may be necessary for life-long cessation, it does not appear necessary for long-term cessation of at least a year. The accounts also indicate that the transition to 'non-smoker' may involve a slow process of change for some individuals rather than a more abrupt shift as suggested in PRIME theory. A gradual process of change in identity is also indicated in Brown's (1996) findings as becoming a 'non-smoker' was seen to involve a period of learning.

A residual attraction to smoking was expected by some of the participants to remain and to always be mindful of. This raises the question of whether the identity transition that has occurred is not to 'non-smoker' but rather to 'ex-smoker'. This 'ex-smoker' identity may involve some residual attraction to smoking and a firm but not necessarily absolute rule; whereby smoking in the future is conceivable but not probable. This 'ex-smoker' identity may act as an intermediary in the process to 'non-smoker' or perhaps be as far as some individuals are able to go. The participants had smoked for a minimum of nine years with the majority smoking for over 40 years. Thus, it is possible that retaining some appreciation for smoking and the 'smoker' identity may offer a protective function perhaps facilitating acceptance for who they had been in the past.

Sample Considerations and Further Research

This study has examined the experiences of 10 participants to allow in-depth exploration of smoking related identity. Participants were White-British and at least 30 years of age with most over 55 and in retirement. A particular age group was not specifically targeted for recruitment, but is likely to reflect that older smokers are more likely to attend stop smoking clinics (Gilbert, Sutton & Sutherland, 2005). Although there was no evidence of systematic selection bias as only three people who had been invited to take part chose not to, the sample is not intended to be generalisable.

All participants reported maintaining complete abstinence over the year with the exception of Ian who reported smoking one cigar nine months earlier. Current abstinence was validated by obtaining a carbon monoxide reading of <10ppm shortly before the interview commenced. Whether the participants had remained completely abstinent over the year cannot be verified but the interviewer asked questions to elicit this in the middle of the interview after rapport had been built, and to allow the participant to realise that reporting smoking would be respected and not judged.

The interviews involved the retrospection of events over the previous year, and thus the memory of particular events or their course may have become distorted. The intention of this study however is not to ascertain any cause and effect but rather to explore the participants' own understanding of their quitting experiences and their current relationship with smoking. Prospective qualitative research is needed to examine more closely how the process changes over time. In-depth interviews over multiple time points (e.g. prior to quitting, and three months, six months, one year, two years, three years post-quit) with individuals who quit smoking and maintain abstinence is recommended. It may then be possible to design prospective quantitative studies examining the formation of a 'non-smoker', 'ex-smoker' and 'smoker' identity over time and whether they can be used to predict abstinence/relapse.

Conclusion and Implications

The study has afforded a first in-depth examination of smoking beliefs and the concept of smoking-related identity among long-term abstainers. It has explored the mechanisms by which group smoking cessation treatment appeared to facilitate quitting. The formation of a transient 'team stop-smoker' identity was seen to provide motivation and determination for participants to abstain from smoking initially and also a heightened sense of achievement which was present at interview one year later. The NHS specialist smoking cessation services are given increasingly high targets of 4 week quitters to achieve each year regardless of the declining smoking prevalence rates. As such, the provision of stop-smoking group intervention has come under threat in many services as it is more costly and reaches fewer smokers than individual intervention from community advisers (i.e. pharmacists or practice nurses). Although group intervention assists a smaller number of smokers, the findings of the current study suggest that this intervention is a particularly valuable resource for smokers encouraging smokers to stop smoking through the creation of a shared group identity. The costs of withdrawing its provision should therefore be carefully considered.

A process of identity change from 'smoker' towards 'non-smoker' was interpreted from the accounts, with all participants retaining at least some residual attraction to smoking. Interventions designed to facilitate identity transition to 'ex-smoker' may confer additional benefit than aiming for a 'non-smoker' identity at least in the initial months of cessation. An 'ex-smoker' identity may act as a bridge reconciling the transitioning non-smoking self with the past 'smoker' self and warrants further exploration.

Key Findings to Explore Further in Study 3

A brief cross-sectional survey was designed to explore whether some of the key findings were applicable to a larger and more diverse sample (Study 3). The following areas identified in the research guided the design of the structured questionnaire:

1. Residual attraction to smoking
2. 'Smoker' and 'non-smoker' self-labelling
3. A feeling of loss following smoking cessation.

STUDY 2: Identity Reconciliation in Smokers Following at least 6 Months of Abstinence – An Interpretative Phenomenological Analysis

Aim

The aim of the current study is to examine how participants perceived and made sense of their relapse and the role of identity change following cessation. It explores the participants' experiences from the time of smoking cessation to the time of interview approximately 12 months later. Participant experiences prior to cessation were comprehensively explored in the previous study and as such will not be explored again here to avoid repetition. Following analysis of the relapsed participant accounts some of the themes previously identified in the analysis of the ex-smokers accounts became relevant. These themes were not included in the original findings of Study 1 as these did not recur across the majority of accounts. The pertinence of these themes to the findings of relapsed smokers however, prompted an additional aim for the current study. As such the accounts of the ex-smokers were revisited to address the following research question "How do ex-smokers make sense of quitting smoking when presenting a salient identity characteristic for which this behaviour would appear to be incongruent?"

Participant Summary

Nine participants quit smoking with the support of a 6-week NHS group smoking cessation programme. One participant (i.e. Sarah) quit smoking at her local general practice. Sarah received individual support over six weeks from a nurse, trained as a community stop-smoking advisor by the South Essex NHS Stop-Smoking Service. Details of motivation at the time of quitting and quitting history are not available for Sarah as this is not recorded by the community advisors. All participants were abstinent at the end of treatment point (i.e. four weeks post-quit) verified by an expired CO

reading of <10ppm, and reported maintaining abstinence for between six to ten months prior to relapse. Sixteen eligible relapsed smokers were invited to take part before ten participants were recruited (i.e. 63% response rate).

All ten participants were White-British of whom six (60%) were female. Their mean age at the time of interview was 49 years (ranging from 32 to 65) with half in retirement or not working due to disability. Similar to the participants of Study 1, the majority smoked their first cigarette of the day within an hour of waking indicating a high dependence on nicotine and smoked a minimum of 10 cigarettes per day. A summary of the clinic assessment questionnaire completed by the participants prior to quitting is provided in Table 2.

Table 2. ***Participant Characteristics and Smoking History Two Weeks Prior to Quit-Day (Relapsed)***

	Sophie (F)	Laura (F)	Jenny (F)	Marian (F)	Bert (M)	Mike (M)	Thomas (M)	Brenda (F)	Amanda (F)	Sarah (F)
Age (years)	32	41	35	53	50	63	65	51	61	45
Occupation		Student	Mid-day assistant?	Unemployed-disabled	Groundsman	Unemployed - disabled	Retired	Unemployed - disabled	Retired	Estate Agent
Cigarettes per day	20	40	15	15	(50gm tobacco)	20	15	20	20	10
Time to first cigarette		Within 5 minutes	6-15 minutes	6-15 minutes	31-60 minutes	6-15 minutes	16-30 minutes	Within 5 minutes	6-15 minutes	31-60 minutes
CO in ppm pre-quit	16	48	21	14	35	24		44	34	21
Cessation aid used	NRT	Zyban	Zyban	24hr Patch	Zyban	Zyban		NRT (gum)	24hr Patch	Zyban
Motivation to smoke		Stress	Stress	Stress	Bored	Bored	Socialise	Stress	Stress	Stress
		Concentrate	Socialise	Socialise	Concentrate	Enjoy	Bored	Socialise	Bored	Bored
		Enjoy	Concentrate	Bored	Discomfort		Enjoy	Bored	Enjoy	Concentrate
			Weight down	Enjoy	Enjoy			Weight down		Weight down
			Enjoy							
Motivation to quit		Being addicted	Pressure from others	Current Health	Current Health	Future Health	Future Health	Future Health	Being addicted	Current Health
How determined are you to quit?		Very	Extremely	Very	Very	Extremely	Very	Very	Very	Extremely
How important is it for you to quit?		Very	Desperately	Very	Very	Desperately	Very	Very	Very	Desperately
Confidence to succeed[a]		9	8	7	6	10	10	5	8	10

F= Female, M=Male, NRT = Nicotine Replacement Therapy. [a]Mark on scale from 1 to 10 where 1=*not at all confident* to 10=*totally confident*.

Results

Two major themes relating to identity change following cessation recurred across seven or more of the accounts of participants who had relapsed to smoking: 1) Self-protection – minimising the harm of smoking and 2) Identity conflict. The third major theme comes from further analysis of the accounts of quitters in the first study: 3) Revision of the competing identity.

The first theme, examines how participants appeared to protect themselves from perceptions of health irresponsibility through continued smoking, by rationalising their own risk as reduced. Theme 2 explores how the function of smoking appeared to be inextricably linked to the participants' sense of self. Quitting smoking was presented as conflicting with a salient identity characteristic (e.g. placid bloke, strong mother). The subthemes explore how relapse appeared to enable 1) The restoration of a valued identity or 2) The expression of a salient identity. The third theme, examines the presence of potentially conflicting identities amongst the accounts of the participants in Study 1. The survival of the identity threatened by smoking cessation was accompanied by a revision of the identity to accommodate the absence of smoking. The two methods of identity revision observed will be explored in the two subthemes: 1) Asserting the identity through alternative behaviours and 2) Quitting in a manner that complimented/reflected the identity.

Minimising the Health Risks of Smoking - Protection of the 'Smoker Self'

A growing discomfort with the 'smoker identity' was seen to precede the decision to make a quit attempt in the majority of participant accounts. This was also observed for the participants who had maintained abstinence, explored in-depth in the first study. Following relapse, reconciliation with this uncomfortable aspect of the

'smoker identity' was therefore necessary, particularly perceptions of health irresponsibility for continued engagement in behaviour considered to be harmful. This reconciliation appeared to be assisted through minimisation of the perceived health risks of smoking. The methods used by participants to enable this will be explored in the current theme. The emphasis of these in reducing the personal risk of the participant as a smoker rather than to smokers in general, points towards a protection of the 'smoker self'.

The majority of relapsed participants referred to the health damaging effects of smoking in the interview. Many also described smoking as *foolish, idiotic, pathetic* or *ridiculous* behaviour with two participants equating smoking with *poisoning* or *killing* themselves. Six of the nine participants (i.e. 66.7%) who completed a clinic assessment form prior to quitting smoking had reported current or future health concern as the main reason for wanting to stop and rated quitting as 'extremely' or 'very' important to them (Table 2). A return to the 'smoker identity' for most therefore, involved an embracing of the smoker self that they had attempted to move away from. Protection for their smoker self was observed in all accounts through strategies to reduce the health threat of smoking. The most common strategy was one of reducing the harm of smoking through decreasing the number of cigarettes smoked or switching to cigarettes with lower tar content following relapse. For most this was a conscious effort to control their smoking intake. Thomas for example explains:

> Oh yes [it is a conscious decision to smoke less] I don't want to smoke a lot, I just don't, I just don't put myself when I need a cigarette you know I, I keep myself busy and erm I just don't smoke. One thing, I've taken on an allotment and that's for health reasons as well so I go there and I'm digging and I'm playing about over there and I'm not smoking cos I can't stop and roll a cigarette so I can be over there about 5 or 6 hours and not smoke a cigarette at all. (L542)

Working on an allotment assisted Thomas to reduce his smoking intake, increase his activity level and also potentially improve his health via consumption of the fresh vegetables/fruit produced. Presenting these changes allows Thomas to claim back some health responsibility despite his continued smoking. This is as he has taken steps to improve his health by moderating his cigarette intake and compensating for those that are left, by engaging in health promoting behaviours.

The participants' connection of smoking reduction with harm reduction was also suggested by the conciliatory tone with which it was presented. Mike for example explains (L495):

> I was having quite a few [cigarettes] when I first went back on it [relapse] and I thought this is a bit silly and I knocked it down since but the wife doesn't smoke as much as she did either. So we have gone some ways.

Mike's perception of having *gone some ways* suggests an attempt of him and his wife to limit their smoking and as such its harmful consequences. This together with Mike's motivation to quit to protect his future health (expressed both in the interview and in the clinic assessment form where he also rated quitting as 'extremely' important to him (Table 2) indicate that the steps taken are for the purpose of moderating the health consequences of continued smoking.

A reduction in smoking following relapse was not always presented as a conscious decision but as occurring naturally. Jenny for example explains that her smoking intake had reduced as she no longer enjoyed it.

> If I am at home maybe 10 [cigarettes] cos I am not enjoying them, they are just making me feel quite sick really. Maybe 10 or 12, obviously it has gone down. In the last couple of weeks it has definitely gone down as well, cos obviously well for some reason I am just not enjoying them. They are not having the same effect. (L409)

Jenny notices her smoking intake significantly decreasing over the couple of weeks prior to the interview. This coincides with the 12 month follow-up telephone call (and introduction to the study) from the stop-smoking advisor. This call may have triggered her discomfort with continued smoking interfering with her enjoyment of cigarettes. Jenny's presentation of this reduction as occurring naturally suggests a psychological transition towards making another quit attempt. Jenny however later explains (L423) "I think I am turning a corner but I just need that extra boost" indicating the absence of an intention to quit and as such casting doubt on whether a transition has occurred or if this is merely a self-protection strategy.

Some participants did not reduce their smoking but instead compared themselves favourably in relation to heavier smokers as seen for example in Marian's account below (L26):

> Possibly about 10 or 12 [number of cigarettes smoking now] so it's not an awful lot. Erm when I went to the non-smoking group my reading that I blew into was 13, erm where a lot of people were 30 or 40 but I knew I wasn't bad bad. I mean its all bad smoking but I knew I wasn't sort of up to 30 or 40.

Marian's statement *I knew I wasn't bad bad* indicates a perception of her smoking and the associated risks as reduced relative to other smokers. This also provided justification for her relapse as she explains: "I wasn't smoking as much as a lot of other people so in the end I, that's why I thought to myself I'm not smoking that much so you know, you think I might as well start again." (L490).

Other strategies observed for some participants involved a denial of the health risks of smoking and/or belief that smoking was more beneficial for their health than not smoking. Amanda for example used smoking to combat stress and argues that stress is a more significant causal factor for disease than continued smoking:

> During the war people smoked untipped cigarettes [without a filter tip] and there was never the sickness or cancer or heart disease that there is today and that's got to say something. Erm I had the argument with the doctor once over this: I think stress also is one of the biggest killers if not the biggest killer. (L206-210)

Laura demonstrated the most extreme viewpoint as she did not accept that smoking posed any health threat at all and dismissed the accuracy of public health messages: I'm not being funny 30 years ago they were blaming cancer on everything other than smoking. They have gone through quite a few things before they have actually stopped at smoking. I daresay that you know give it another decade and they will find something else to blame it on. (L41-47). Laura takes this further in her perception of cessation to be worse for her health than continued smoking:

> They say smoking is bad for you but not smoking is bad for me. Two stone on my frame just doesn't work and the blood pressure thing [raised]. I mean it got to the stage where I could feel my heart beating nearly all the time and you know I was getting dizzy and I was really feeling quite ill and to be honest it was why I started smoking again so something has got to give. (L91)

Laura's denial of the health risks and believing her health to have deteriorated as a result of cessation frames smoking as necessary to restore her health and as such a health-protecting behaviour.

The strategies discussed appear to shield the 'smoker self' from perceptions of health irresponsibility that are connected with the 'smoker identity'. The moderation of personal risk (through reducing number of cigarettes smoked or positioning their smoking as reduced relative to other smokers) enables some diffusion of this irresponsibility, and the denial of health risks its disassociation. The following theme will explore how smoking cessation was seen to conflict with the maintenance of a salient identity characteristic. Elevating smoking to behaviour upon which a salient sense of self is dependant that goes beyond their identity as a smoker, may also serve to diffuse some of the perceived irresponsibility of continued smoking.

Identity Conflict

Similar to the accounts of the successful quitters explored in Study 1, the relapsed participants used smoking as a personal tool on account of its perceived functional value (e.g. assisting them to relax, be in control or be strong). Following examination of the accounts of the relapsed smokers however, some of these functional beliefs about smoking appeared to be inextricably linked to their sense of self. Smoking was presented as affecting their identity and in most cases this was in relation to a particular identity characteristic. The identity characteristic was either explicitly asserted by the participant (e.g. I'm a placid bloke) or an impression stemming from the participant's repeated presentation of their behavioural choices in a consistent and particular manner (e.g. rebellious). A struggle between remaining abstinent and maintaining this identity was observed. This challenged abstinence and as such threatened and possibly prevented the development of a 'non-smoker' self observed in the participants who had remained abstinent (Study 1). Indeed many of the relapsed participants expressed a return to smoking as feeling normal or natural:

> It (relapse) was like being back to normal to be quite honest because I had smoked for so many years (Laura, L69). See I'm used to being a smoker its no different for me now. It was different for me when I wasn't smoking. (L484)

> It just felt natural, it did its something I've always done and I'm back with how I should be or how I have always been. I've got a fag in my hand that's me. (Bert, L359)

> I didn't feel like a non-smoker, I felt like a smoker that had quit. (Jenny, L727)

The extracts above indicate an absence of transition towards the creation of a 'non-smoker' self but rather a temporary suspension of the natural or normal 'smoker' self.

Relapse was presented as either fundamental for the restoration of a valued identity or an inevitable expression of a salient identity as will be explored in the subthemes that follow. To illustrate how identity conflict was present in the participant accounts considerable description and sometimes lengthy extracts are necessary, particularly when the conflicting identity characteristic was not explicitly stated. To fully capture the range of manifestations of identity conflict, the accounts of all seven participants in which this was observed will be explored.

Relapse to restore a valued identity characteristic. Some participants described becoming a different person following the cessation of smoking with most disliking the person they had become. For these, relapse was presented as a deliberate decision to return back to the person they had been prior to stopping smoking. Mike attended the NHS stop-smoking service with his wife with both succeeding in stopping smoking and remaining abstinent for seven months. Mike explained that returning to smoking had been on his mind for a long time prior to relapse following a change in himself that was not congruent with his valued identity characteristic of *'I am a very placid bloke'*. Mike (L102) describes how this led him to make the decision to return to smoking:

> *Mike:* I am a very placid bloke really but I was finding that I wasn't very placid and I wanted to take on the world, I was bad tempered and all sorts, I really was terrible and then I got pressure from the wife and she was working like mad to try and help her mum and I wasn't helping at all and we were virtually fighting each other in the end. And I said to her this is no good. She said no, I'm under a lot of pressure. Well I said I know you are and so am I really with it all. Well we were doing what we could for her [very ill mother-in-law] you know and I went down the road one day and I said have a fag for goodness sake see if it helps and it did.
>
> *Interviewer:* What you said to your wife?
>
> *Mike:* Yeah. We both started again and it did calm me down and calmed her down as well.
>
> *Interviewer:* Help me understand how it helped you, how it calmed you down.

Mike: Well I was just a different person overnight basically.

Above we see that Mike perceived the problems in his marital relationship to have been exacerbated by and possibly caused by this different bad tempered person he had become in the absence of smoking. It also suggests that his wife was suffering a similar character transformation as she was applying pressure on him and she too needed to calm down. Mike's decision to initiate a return to smoking to apparently ease the tension in his marriage was supported in his wife's decision to relapse with him. It is clear from Mike's account of the situation of relapse that smoking does not perform a simple functional behaviour (e.g. helping him to calm down) but rather has the power to transform him (and perhaps his wife also) into *a different person overnight.*

Similarly, Brenda relapsed six months after quitting and describes becoming more emotional, irritable and less able to control her emotions (e.g. insulting unhelpful customer service staff) following cessation. This led to her decision to return to smoking:

> Yeah [made the decision to relapse] cos I thought I am fed up of feeling like this you know. I get stressed and I get tearful with it you know and that's what puts me back [to smoking] in the end. (L995)

The perceived effect of smoking absence on her sense of self was damaging and intolerable: "But I end up I can't live with myself. […] I feel I don't want to be around myself." (L1003). For Brenda therefore, a return to smoking represented more than a personal tool to deal with stress and negative emotions but rather a return to the emotionally controlled person she valued and was comfortable to be.

For Jenny her identity as a mother and possession of the characteristic of being strong for her son was presented as the greatest priority at the time of relapse than remaining a 'non-smoker'. Jenny's son needed to have an operation to remove a brain tumour caused by an earlier operation. Jenny felt herself becoming more and more

depressed at this time and perceived that smoking would stop her depression from spiralling out of control and not to "top herself" (L701). As with Mike and Brenda, smoking was perceived as having the power to transform her into a different person. An example of this is seen when she describes her return to smoking in the days leading to her son's operation:

> I was just in a mess and she [her friend] gave me a fag... That one just completely calmed me down and I was smiling, happy, chatty. I was just transformed from a nervous wreck to someone who could cooperate, communicate. (L75)

Above Jenny describes that smoking *transformed her from a nervous wreck* and as such afforded Jenny the emotional strength to help her son through his operation. The importance of this identity characteristic was also expressed as her motivation to continue smoking during that time. "I need to be able to be strong enough for him [her son] during that time to keep me going so that's what I did [i.e. smoke]." (L842).

Laura presented herself as an individual who was in tune with her body's needs. This was strong throughout the account leading to the interpretation that this was a valued identity characteristic for her. For example she explains (L379): "Your body tells you what you need and when you need it. If you understand your body you know that anyway. You know I am not going to deprive it of what it needs." Laura also describes (L553) how her body naturally stopped her from smoking or drinking alcohol whilst pregnant:

> I didn't crave it [smoking], I didn't need it, I didn't want it. You know there was no cravings, no withdrawal nothing. It just happened really natural. It was like the body was saying right now its time to stop because she don't want, the baby doesn't want you smoking. I have got three children, my eldest two I couldn't drink. A drop of alcohol I would be violently ill. Even the smell of alcohol and I was like urgh and that's how I was with cigarettes with her.

Health professionals in the UK advise their patients against smoking and excessive alcohol consumption during pregnancy due to the increased health risks for the foetus

(NICE guidelines, 2008). Despite Laura's dismissal of this advice by continuing to smoke throughout two pregnancies and drink alcohol in another, her three children were born healthy[1]. As such her belief that her body knows what it needs remains unchallenged. Stopping smoking when Laura's body had not *naturally* led to her to do so was going against her body's needs and met with resistance in a form of rebellion:

> You know my body I do think is actually used to it [smoking] and it rebelled (laughs) you know that's it. I didn't do it, it wasn't done naturally. It was done through drugs and all that. To be quite honest I think you will find there will be a lot of people out there who will say it didn't agree with them quitting smoking." (L542)

Similarly, Laura explains that her body reacted to her attempts to use smoking cessation aids. She discontinued the use of Zyban as she felt low and teary on this and at a previous quit attempt discontinued the use of nicotine patches following allergic reaction at the site of application. In this most recent failed attempt Laura explains that she had reinitiated smoking following her realisation that she had put on weight and her blood pressure had become raised over the ten months she had been abstinent. Laura continuing to abstain following this physical rebellion from her body was therefore in direct conflict with maintaining her self-attribute of being in tune with her body. In the extract above Laura's assertion that the reason for her body's rebellion was that *I didn't do it* indicate that her body's decisions may reflect those of her true (smoker) self.

Relapse as the inevitable expression of a salient identity. The majority of self-attributes seemingly compromised by the absence of smoking were ones for which the participant placed a positive value such as those already explored of being calm, strong

[1] The health risks of smoking whilst pregnant are not apparent at the time of birth. Maternal smoking is associated with increased risk of ill health (e.g. development of respiratory problems and behavioural disorders).

or in tune with my body. For others however, the conflicting identity characteristic although salient was not particularly valued.

Marian repeatedly described her life as boring, lonely and felt that she was of little value or concern to others indicating low self-esteem and essentially building an impression of herself as an insignificant person. Her decision to quit smoking was made when she was feeling "really good about myself" (L187) and whilst not smoking she felt proud of her achievement, healthier and happier. The process of quitting smoking with the stop-smoking group was enjoyable for Marian as she explains below:

> I did think it was so much better going to a group and I think I look forward to that every week and erm it was more or less like you were making everybody a promise not to take a puff and I felt if I had of done I would have been letting everyone down. (L148)

This suggests that quitting with the group gave Marian enjoyment, company, and a feeling of self-worth and significance as her abstinence behaviour had an impact on others. Marian continued to meet with her stop smoking group after the programme ended. When the group stopped meeting, the social purpose of her abstinence was lost as Marian (L158) explains:

> I find it personally erm if you make, well I've been like it all through my life, if you make someone a promise you must never break it. Erm I mean even my children, I promise to do this and I get angry with them so if I make a promise I've got to you know erm really do it and for that time I was making a promise erm and I was keeping to it and after it all fell to pieces [the group] there's no one there to sort of make that promise to. Erm so I felt I'm not letting anybody down so I might as well have a cigarette.

Above we see that from Marian's perspective, once the group ended a compelling reason to remain abstinent was no longer present as her behaviour was not significant to others. Her description of the group's end as *after it all fell to pieces* indicates a sense of helplessness as the significance of her fell apart and with it her perception of self-worth. Marian's parents had died and her children did not live with her. Her dog was

her companion for 17 years and losing him triggered depression and subsequently relapse. Marian goes on to explain:

> I remember thinking to myself I had enough of this I can't take anymore, I mean I had felt everything I had loved had been destroyed so I am going to have a cigarette. It was more or less like giving up on myself that's what I felt like, why am I doing this? What have I got to live for because I was very depressed and I had been through a lot. (L130)

The extract above indicates that Marian's self-worth plummeted following the loss of an important part of her life, the companionship of her dog. This is reflected in the emotive language Marian uses. Feeling that *everything she loved had been destroyed* (interestingly despite her children being alive and well) suggests a feeling of helplessness and a sense of persecution leading Marian to believe that she is not worth fighting for, with relapse representing *giving up on herself*. As such relapse appears to be the inevitable expression of a return to her insignificant self.

Sarah frequently described herself as "an opportunist" (L587) and her smoking behaviour as driven by opportunism. Smoking was her "secret society, my own secret little club" which offered her a sense of control when this was lacking from her life:

> I'm an opportunistic smoker as well. […]Because I don't smoke around any of them [her family]. So if suddenly, purft they're all out of the house, must nip out there in the garden, have one while they're out. It's almost like being a naughty child. I think thing goes, things go on in life generally and sometimes life goes a bit out of control. And you can almost use that [smoking] as: well I can control this. If I want to do it, I'll do it, and if I don't, I won't. It, it, it almost becomes a part of something you can control. (L139)

Above, Sarah begins to describe her smoking behaviour as opportunistic. This is accompanied by an air of compulsion as she *must nip out* and smoke when faced with the opportunity to do so. Similarly, comparing herself to a *naughty child* suggests a childlike quality guides her behaviour, thus lacks emotional restraint, seriousness and good sense. Despite Sarah's illustration of smoking as a behaviour over which she has

little control, she then goes on to explain how smoking helps her to regain a sense of control. This perception of control however, applies the simple rationalisations one might expect from a defiant child or opportunist *If I want to do it, I'll do it and if I don't, I won't.* Sarah's indulgence in smoking when the opportunity arises and the resulting sense of control therefore appear to be an expression of her identity as an opportunist.

For Bert the manner with which he stopped smoking conflicted with a prominent identity characteristic and was presented as the reason for his relapse:

> I'd been nagged, to be honest with you, as I say I had my heart attack and I was getting peer pressure, although not peer pressure because its my kids are having a go at me, so I thought I'll have a go for the kids which I since found out by my own belief that that's that don't work its got to be you that wants to pack up not what other people want and I am a very stubborn person you know, you tell me to do something and I don't want to do it you've got no chance you know [laughs], I'm one of those, I'm a Taurean I dig my heels in.(L116)

Above, Bert describes himself as a *stubborn person* who does not respond well to being told how to behave and therefore did not maintain abstinence. He also explains earlier in the interview that he had enrolled onto the next group stop-smoking programme to make another quit attempt. Rationalising smoking cessation as failed on account of the motivation to quit clashing with this *stubborn* identity characteristic also provides hope for success as the motivation to quit now does not conflict as it comes from himself.

Self-Attribute Adaptation

Following the identification of identity conflict as preceding relapse in the accounts of relapsed smokers, the accounts of the quitters explored in Study 1 were examined more closely with respect to potentially conflicting identities. The current theme explores how the absence of smoking appeared to be reconciled with these

competing identity characteristics among quitters. Examination of the accounts pointed towards a re-definition of the conflicting identity to accommodate the absence of smoking. This was observed in two forms: 1) Decreasing salience of the competing identity 2) Identity expression through the manner of quitting.

Decreasing salience of the competing identity. This subtheme illustrates how participants appeared to re-define potentially conflicting identity characteristics by incorporating abstinence into an identity characteristic of greater salience. The participants who had maintained abstinence presented themselves with similar identity characteristics as those who relapsed. The incongruence between stopping smoking and a salient identity characteristic was noted by some participants. Jason for example described himself as a very laid back person and quitting smoking was not in line with this:

> It [stopping smoking] was the toughest battle in my life I think. I would say, well it probably was. With my mind and me determination because I'd been… I've been… I am a very laid back person me, very laid back and it is tough for me some… to like get the grips to do something like that and say I'm gonna do this. I am gonna do this. (L487)

Jason above suggests that quitting smoking was particularly tough for him as a result of this laid back identity characteristic. The strength of mind and determination required to quit smoking did not come naturally and this presented for Jason *the toughest battle of his life*. This battle appeared to involve the suppression of this *very laid back* identity characteristic, reflected in Jason's confusion when identifying himself. This confusion shows his identity characteristic initially confined to the past *(I'd been)*, brought forward to include the present moment (*I've been)* and then firmly into his current sense of self *(I am a)*. Whilst Jason eventually claims *I am a very laid back person*, its initial restriction to the past suggests a reduction in its salience as it is not immediately

affecting his present. Its salience may have been demoted by the emergence of a new health driven identity. A strong sense of Jason taking responsibility for his health and becoming a healthy person was observed throughout the account. Following cessation for example, Jason found that he had put on a lot of weight and believed this had affected his diabetes causing him to feel unwell. In the extract below, Jason (L791) explains how concern for his poorly controlled diabetes led to further lifestyle changes:

> And me readings [blood glucose] were getting that little bit high and I was starting to like concern m'self about that. I said look I've gotta start and do the right things again and just try and control my eating a lot better. So I started to buy the right stuff and eat the right stuff you know, not eat so much. I'll make small dinners, well have the right stuff, the healthy stuff. Little meals at 10 o'clock. A balanced diet and it went off me, the weight went off me. But before you see I've been, well me being a diabetic I was breaking the rules of being a diabetic really and I wasn't feeling well and it was starting to make me feel a little bit ill, that was on the diabetes side, but now I've got over all that. My weights dropped, I feel 100%, I really do I feel well!

These lifestyle changes led to better control of his blood glucose levels and a loss of both the half a stone in weight that he had gained following cessation and a further half stone on top. An impression of a new salient identity of a *healthy person* is suggested in the extract above as he now abides to the rules of being a diabetic whereas before he used to break them. This suggests that although smoking cessation is incongruent with his identity of being *laid back*, it is a crucial part of this new and seemingly more salient identity characteristic of being a healthy person.

Some of the female participants presented themselves as highly anxious or tense individuals with smoking as instinctive behaviour. The salience of this identity characteristic for Jodie presented a strong challenge for abstinence. As such Jodie took steps to deny herself the opportunity to smoke by not allowing cigarettes to be left in the house and explains: "I am a person that lives on my nerves a bit, so consequently if I am

a bit stressed about something I could then smoke and that's when I don't want them in the house because you know, I might do it." (L301). Jodie appeared to have a strong motivation to remain abstinent to support her sister as seen for example in the extract below:

> One of the things that would stop me in my tracks [from smoking] is because I can't let her [Glenda] down you know and I think that's probably an awful lot of it now too because I feel well you know I know if I picked up a cigarette today she would. (L666)

The extract above indicates that Jodie's identity as a sister has been re-defined to incorporate abstinence as behaviour integral to fulfilling her supportive role (or identity characteristic) of protecting her sister from relapse. This identity is presented as a key determinant of her behaviour and as such inhibits the behavioural expression of her identity as an individual who *lives on her nerves* (i.e. smoking*)*.

Identity expression through the manner of quitting. As observed in the previous theme with relapsed smokers, the identity was not always stated explicitly but drawn from the participant's presentation of their behavioural choices and attached emotions. Rebecca for example presented herself as a person who does not conform to rules (e.g. "I used to bunk off school" L120), and is not interested in the opinion of others building an impression of herself as a rebellious individual. Smoking is frowned upon by society and as such continued smoking would be more congruent with the maintenance of a rebellious identity. The tone of rebellion however continued throughout Rebecca's account with quitting smoking further enabling its expression. Rebecca for example, enrolled onto the stop-smoking group programme as a bet with her friends rather than to make a serious attempt to quit. Her continued attendance at the group despite her impression of it as "a load of rubbish" (L378) was dependant upon the impact of friendship group:

> It was a good group [her and her friends], we were a bunch of nutters. There was the two gentlemen who were gay and they were proper queens so everywhere they go everything is a stage and we had some characters in the group and it made it good fun every week going along. (L246)

The extract above shows Rebecca and her flamboyant friends approaching the sessions as a stage for their performance. She identifies her friendship group as a *bunch of nutters* thus affording them a distinct identity away from the other individuals attending the group sessions. An air of rebellion is detected in the extract above as her group appear to have overpowered the routine "load of rubbish" sessions to *make* them fun.

Similarly, Paul managed to preserve his happy-go-lucky identity by defining his behaviour change in a way that did not threaten it.

> I've always been sort of happy-go-lucky person... when I packed up smoking I did sort of dip a little bit and once I got over the sort of initial giving up phase then that started to go back up again. Yeah I'm still the same jolly happy-go-lucky person but I've always been. (L497)

Stopping smoking took a great deal of effort for him to change and therefore it may be argued that this is not a typical behaviour of a happy-go-lucky person. However, the way he presents his decision to quit is done in a casual unconsidered way that is more in line with this identity "I suppose just one day I wanted something to do and I just phoned them (i.e. the stop smoking service) up." (L156). He also defines his engagement in other health behaviour changes of eating vegetables, purchasing a bicycle and cycling to work as occurring by chance since quitting smoking rather than requiring a conscious effort. This is observed for example in Paul's explanation for eating a healthier diet:

> I enjoy eating my food more. Umm I mean there's certain foods that I eat now that I never used to because I didn't like the taste of them. Umm so yeah taste buds have improved dramatically, so there's certain, you know what I mean I was never, I don't like my vegetables. I don't love my greens. I mean I now eat broccoli, I'll eat brussels and cabbage. (L335)

In the extract above Paul appears to be explaining that he now eats vegetables following an improvement in his sense of taste. He then goes on to assert *I don't like* vegetables or greens yet he now eats them indicating that some effort may be involved in eating vegetables. Framing the behaviour changes as coincidental and generally effortless promotes the survival of his *happy-go-lucky* identity.

Discussion

The current study examines how participants made sense of relapse and its relation to smoking-related identity. Similar to the participants of the previous study, a growing discomfort with the smoker identity was seen to lead to a quit attempt. Following relapse, reconciliation with the smoker identity was observed. This involved minimizing their perceptions of health risk from smoking and perceiving smoking as integral to a salient identity characteristic for which cessation conflicted. How these perceptions appeared to reconcile a return of the smoker self through creating a distance between it and perceptions of health irresponsibility associated with the spoiled smoker identity will be discussed. Some of the participants from the first study who had remained abstinent since quitting smoking a year earlier, also appeared to have potentially conflicting identities. An adaptation of the conflicting identity to accommodate cessation or decrease its salience was observed. Enabling participants the opportunity to describe their experiences of cessation and relapse showed that for most, some form of identity re-evaluation was involved in making sense of their smoking behaviour.

The majority of participants made a quit attempt following a growing discomfort with the smoker identity. Discomfort with the perceived inferiority in social status of smokers relative to the non-smoker majority and also with the health risks associated

with smoking was seen in the accounts. This was comparable to the discomfort explored in the accounts of continued quitters and discussed in Study 1 and as such the results were not presented again. An important point that merits emphasis however, is that in UK as with most other Western countries, the smoker identity has become stigmatized and therefore spoiled (e.g. (Chapman & Freeman, 2008; Farrimond & Joffe, 2006; Stuber & Galea, 2009). This stigmatization may stem from the intensely moralized subject of smoking in Western countries where health is considered to be a social value (Crawford, 1994). Discourses on smoking indicate that health is perceived to be both the responsibility and duty of the individual to pursue and as such choosing to smoke a moral violation (Rozin, Lowery, Imada, & Haidt, 1999). This emotionally charged context may explain the discomfort with the smoker identity and the associated perceptions of health irresponsibility seen to precede cessation in the current studies. This is in line with the evidence of national surveys (e.g. (Hackshaw, McEwen, West & Bauld, 2010) and a secondary analysis of several data-sets (Kim & Shanahan, 2003) finding that an increase in the social unacceptability of smoking leads to an increase in quit rates, or a large decrease in tobacco consumption that is on a par with a sizeable increase in tobacco taxation (Alamar & Glantz, 2006). This lends support to the de-normalizing public health policies (e.g. smoking bans) and promotion (e.g. advertisements presenting smokers as undesirable, under the control of cigarettes or responsible for their early death) that perpetuate social unacceptability of smoking in order to deter people from smoking.

The social discomfort evident in most of the participant accounts was social exclusion. Most described feeling outcast or banished from society and for some a desire to be included in society fuelled their motivation to quit. Some researchers however, view the social exclusion of smokers perpetuated by anti-smoking legislation

and promotion as a form of social control and question whether encouraging cessation in this way is ethically and morally justified (Bayer & Stuber, 2006; Burris, 2008). There is also a suggestion that stigmatizing smokers may serve to increase inequalities between the higher and lower socio-economic (SES) groups. The widening of the gap is anticipated due to the sanctioning of the social exclusion of smokers, who are most prevalent in the low SES groups and already at a social disadvantage (e.g. (Bell et al., 2010). Also, the findings of a large qualitative study indicated the existence of a social gradient in how stigma is experienced, with lower SES smokers most likely to accept and internalize stigmatized aspersions which may de-motivate behaviour change (Farrimond et al., 2010). A study of sociodemographic differences in smoking using data from a UK national household survey found a SES gradient in the success of quit attempts but not in the rate of attempts to stop (Kotz & West, 2009). As such, if smoking-related stigma perpetuates social inequalities in health as hypothesized by Farrinmond and Joffe (2010), then it is likely to impede the success of attempts to change behaviour, not their initiation. Bridging the gap in health inequalities is of paramount importance for a fair society and reducing the social gradient in smoking a primary objective. This is reflected in the UK government's commitment to tackle inequalities in health (Department of Health, 2008). Whilst attempts have been made to reduce the prevalence of smoking among the lower SES groups, the inequality gradient persists. If stigma contributes to failure of success in the lower SES groups, then this is something that intervention could attempt to rectify. Further research to understand stigma particularly in relation to SES are therefore needed.

The majority of participants reported health concern as the main motivation for quitting smoking. This is in line with the findings of national surveys where health concern is cited as the most common reason for wanting to give up smoking (Lader,

2009; McCaul et al., 2006) and also the most common trigger or reason for making a quit attempt (Hyland et al., 2004; Vangeli & West, 2008). Upon relapse particularly after several months of cessation, smokers must return to the smoker identity that they had attempted to move away from. Strategies were observed in the participants of the current study, to reconcile the discomfort of this identity through reducing the health threat of their own smoking behaviour. Some reduced the number of cigarettes they smoked which has been found to be common among smokers who relapse (Hughes & Carpenter, 2005). It is important to note that whilst participants made an attempt to reduce the harm from smoking through decreasing their cigarette consumption or switching to cigarettes with lower tar content this may not necessarily translate into a reduction of harm in practice. Smokers regulate their nicotine intake to obtain the amount of nicotine they need to sustain their addiction (National Cancer Institute, 2001). When smokers reduce the number of cigarettes they smoke, they are able to increase their nicotine dose (and as such all the chemicals in a cigarette of which there are more than 4000) by blocking the air-vents on the cigarette filter with their fingers and/or inhaling more deeply (National Cancer Institute, 2001). The review by Hughes and Carpenter (2005) found evidence that some compensatory smoking (i.e. smoking cigarettes more efficiently as described above) occurred with a reduction in the number of cigarettes smoked although significant declines in carbon monoxide exposure indicated that this compensation was not complete. The review also found however, that the reduction in number of cigarettes smoked dissipated over time. The reduction in smoking reported by the participants of the current study may therefore be short-lived and as such raises the question of whether this is an interim stage serving to ease transition back into the smoker identity. Conducting a follow-up qualitative study of the relapsed smokers was beyond the scope of this thesis. The findings of the current

study indicate that further research to understand the nature of relapse and the process of returning to the smoker identity is needed. It is recommended that future research involve in-depth exploration of the experiences of relapsed smokers both shortly after they relapse and several months later. This would enable examination of the changes over time in their perceptions of smoking and risk, and also modifications in their smoking behaviour.

Other methods of reducing the perceived risk of harm from smoking were also observed in the participant accounts. These included perceiving one's smoking risk as modified through comparison to heavier smokers or questioning the validity of the health risks posed by smoking. This is in line with the findings of studies examining perceived health risk in smoking cessation clinic samples. These found perceptions to be high at baseline (i.e. prior to quitting) and to decrease significantly by the follow-up six months after cessation (Gibbons et al., 1997; Gibbons et al., 1991) among those who had relapsed. Studies investigating risk-minimising beliefs (e.g. not convinced that smoking causes cancer) found that smokers are more likely to hold them than ex-smokers (Chapman et al., 1993) and subscribing to less risk-minimizing beliefs to be predictive of making a quit attempt by a follow-up point several months later in a large international cohort survey (Borland et al., 2009). However, Borland and colleagues (2009) did not find risk-minimising beliefs held prior to making a quit attempt to be predictive of success. This suggests that risk-minimising beliefs may protect smokers who are not ready to make a quit attempt from perceptions of health risks that are associated with smoking. Investigating whether these beliefs increase following relapse would be a useful contribution for future research.

The reduction of perceived health risks of smoking observed in both the current study and the survey studies discussed above to some extent resonates with Festinger's

(1957) theory of cognitive dissonance as has also been noted by other authors (e.g. Gibbons et al., 1997). From this perspective the observed decrease in risk perception among smokers and relapsed smokers may be explained as the alteration of beliefs serving to reduce cognitive dissonance. The findings of the current study however, point toward an underlying role of identity and sense of self in both the establishment and amelioration of cognitive dissonance. It is proposed that the change in cognitions observed in the current study served to protect the smoker self following relapse. Firstly, by creating a distance between the smoker self and the spoiled smoker identity (e.g. by demonstrating health responsibility through 'moderate' smoking intake, or engaging in other health behaviours). Secondly, through the establishment of smoking as integral to an identity characteristic that was salient to them (e.g. placid or strong).

The act of over six months of smoking cessation whether still abstinent or relapsed involved changes in participants' perceptions of their identity. This is perhaps unsurprising given the strength of the social differentiation between smokers and non-smokers, with smokers as already discussed the stigmatised minority. The observation of an identity transformation following cessation is consistent with the qualitative clinical and sociological drug addiction literature on for example recovery from heroin use (e.g. (Biernacki, 1983; Jorquez, 1983; McIntosh & McKeganey, 2000; Waldorf, 1983). The accounts of the abstinent participants explored and discussed in Study 1, indicated a transition from a 'smoker' identity towards the formation of a 'non-smoker' identity following smoking cessation for most. This resonates with Stall and Biernacki's (1986) identification of the underlying process in recovery to be the construction of a new non-stigmatised identity following their literature review of spontaneous remission of several addictive behaviours including smoking. The accounts of the participants in the current study also indicated a change in identity. For these participants,

reconciliation with the stigmatised identity was necessary and appeared to involve a distancing of the smoker self from this.

The role of harm reducing strategies in protecting the smoker self from the spoiled smoker identity has already been discussed. The establishment of smoking as behaviour not exclusive to the smoker identity but also responsible for the maintenance of an identity that was socially desirable or provided diminished responsibility was also observed and how this offered a protection for the smoker self will now be discussed. The majority of the participants in the current study indicated that smoking cessation either suppressed or conflicted with their sense of self or more specifically a salient identity for which smoking was instrumental. Smoking for some participants enabled a return to a valued identity characteristic such as being placid or strong. This suggests that presenting smoking as integral to the maintenance of identity characteristics for socially valued responsible identities (i.e. calm rational individuals, strong mother and to some extent listening to your body's health needs) may serve to distance their smoker self from the spoiled smoker identity. Participants' integration of smoking with responsible identities offers some protection for the smoker self through the addition of responsible dimensions to it.

For other participants smoking appeared to be described as an inevitable expression of an identity characteristic that was central to their sense of self (i.e. being insignificant, stubborn, or an opportunist). Whilst these are not characteristics associated with socially valued identities, these may serve as a distraction from the spoiled smoker identity through the presentation of a strong desire to change but an inability to do this via reducing their accountability for continued smoking. In Marian presenting herself as insignificant for example, sympathy for her predicament is invited that to some extent absolves her of the responsibility of behaviour change (at least from

her perspective). Similarly, although Sarah labelled herself as an opportunist that may at first seem socially undesirable, the manner with which she presented this characteristic indicated smoking as an uncontrollable compulsion and therefore may also invite sympathy. The only exception was Bert who presented cessation as conflicting with his stubborn identity characteristic, a characteristic not anticipated to be particularly socially desirable or to invoke a sense of diminished responsibility for continued smoking. Bert however, was different to all other participants who had relapsed as he had enrolled onto another stop-smoking group programme and was preparing to make a quit attempt. The positioning of his smoker self as distant from the spoiled smoker identity is already implicit in his initiation of another quit attempt. Both a pronounced personal discomfort with the risk of harm to his health from continued smoking and discomfort with the spoiled social identity (e.g. "I [as a smoker] class myself as a leper." (L235)) was apparent throughout his account providing support for the earlier exploration of elevated discomfort preceding cessation. For Bert therefore, it is suggested that the presentation of relapse as an expression of his stubborn identity does not serve to distance the smoker self from the smoker identity (as this is demonstrated in the initiation of another attempt to quit) but rather affords an opportunity for the integration of successful cessation with his stubborn identity (i.e. by the decision to quit coming from himself rather than forced upon him by others).

Smoking was presented as integral to either maintaining or an inevitable expression of their salient identity characteristics by the majority of participants but not all. This suggests that smoking is not necessarily integral to identity for all relapsed smokers. This supports the findings of a recent Q-methodological study examining smoking identities (Farrimond et al., 2010) whereby a group of *no big deal smokers*

were identified for whom smoking was an accepted and habitual part of everyday life not part of their core self-identity.

Re-examination of the participant accounts in Study 1 found evidence of identity characteristics that could potentially conflict with smoking cessation among some of the participants. Participants either reasserted this competing identity in ways other than smoking, or lowered the salience of the smoker identity through the creation of or enhancement of another identity for which cessation was a key behaviour. These processes of identity adaptation share similarities with the observations made by Biernacki (1983) in his exploration of the experiences of heroin addicts in recovery. Biernacki proposes that the availability of identity materials (e.g. vocabularies or social roles) is crucial in the creation of a new and more desirable self. The accounts of the abstinent participants explored in the current study used particular vocabularies that asserted a salient identity characteristic despite the potentially conflicting behaviour of cessation. For example, Paul labelled himself as happy-go-lucky and described quitting smoking, eating more healthily and cycling to work using language that was consistent with this. The avoidance of language pertaining to the commitment and effort usually involved in changing these behaviours allows them to be framed as coincidental happenings. Other participants drew upon existing social roles to support their non-smoking self and decrease the salience of competing identities. To provide an example, the salience of Jodie's identity characteristic of being weak and dependant upon smoking was demoted by establishing cessation as crucial to the maintenance of a more salient social role identity of sister.

The current findings show most participants constructing their smoking and cessation behaviour in a manner that was consistent with their identity over and above the micro-identity of smoker. This together with the importance of language and social

roles in identity re-evaluation suggests that the participant's narrative may be instrumental to identity formation of both relapsed and ex-smokers. In the field of addiction, narratives have received considerable attention and approached as influential in the creation of identity change or stability over time (e.g. (Bell et al., 2009; Biernacki, 1983; Coonfield, 2009). These studies however, focus on the narratives of individuals in recovery from heroin or other illegal drugs. In the few studies to include an examination of the narratives of ex-smokers, a story of *mastery* was observed (Hanninen & Koski-Jannes, 1999; Koski-Jannes & Turner, 1999). The mastery story was one in which the protagonist defeats the enemy Nicotine thus emerging the hero earning glory and self-respect (Hanninen & Koski-Jannes, 1999). The types of stories presented by those abstaining from alcohol, heroin or other addictive behaviours were seen to involve dramatic changes to their identity. This probably contributed to Koski-Jannes' expectation for smoking to have a limited impact on identity presented in a subsequent paper (Koski-Jannes, 2002, p185):

> Because this kind of addiction [smoking] does not seriously affect a person's role in society or his or her core self schemata, the change in identity may be limited to the acquisition of a nonsmoker's self concept and related improvements in his or her self-esteem and self-efficacy.

Perceiving smoking as without *serious* consequence for a person's identity may provide an explanation for its neglect in the field of smoking cessation. If this is the case then it is hoped that the findings of the current study will prompt addiction researchers who share this opinion to reconsider.

In the current study, smoking behaviour was found to affect participants' sense of identity beyond the simple smoker and non-smoker self-concept although it is acknowledged that this may not be as pronounced as the identity change observed in

those recovering from addictions such as heroin or alcohol. Smoking was incorporated into the participants' constructions of other identities. Turning to the qualitative literature on smokers, a link between smoking and other identities can be found. Graham (1998) in her interviews with women for example, observed that smoking was often used to control their anger and prevent them from being aggressive toward their children. This indicates that smoking may be integral to the women maintaining their identity as *good/fair* mothers. Conversely, moral identity to be a good mother has also been identified as providing motivation for pregnant smokers to make a quit attempt (Nichter et al, 2007). The relationship between smoking and other identities is therefore a complex one. To return back to the findings of the current study, it is proposed that in constructing smoking as integral to socially desirable identities or an inevitable expression of a salient stable identity the relapsed smoker (i.e. protagonist) shields them from some perceptions of health irresponsibility from both themselves and others. This may preserve self-esteem through the avoidance of guilt and also affords some detachment of the smoker self from the spoiled smoker identity.

Through the narratives and harm reduction strategies described in the current study, the participants were able to demonstrate some adherence to the moral ideology of pursuing health for oneself and society as a whole that is particularly championed in the UK (Louka et al., 2006). These narratives are inevitably shaped by the social context and who is listening and as such it is important to be sensitive to these. The research interviews were positioned within the smoking cessation service, conducted by a smoking cessation adviser and researcher who has never been a smoker. This emotionally charged and cessation promoting social context may have prompted participants to justify continued smoking in a way that was consistent with a moral duty to pursue health. If the listener had been a tobacco activist and the interview held in an

office owned by a cigarette manufacturer, then the story told is likely to have been considerably different. Whilst presenting their smoking in a manner perceived as acceptable in light of the context emphasising cessation may have been important to participants, it also helps them to reconcile their identity following a failed attempt. The moral pursuit of health for example is perhaps particularly salient for this group of participants as they had attempted to move away from the smoker identity and had succeeded in doing so for more than six months.

To What Extent can the Accounts be Explained by the Concept of Identity According to PRIME Theory (2006)?

It is proposed in PRIME theory that abstaining from smoking is effortful and cannot be maintained long-term unless a non-smoker identity is established. Assuming a non-smoker identity generates an important source of motives to remain abstinent and a commitment to following the *no-smoking rule*. Hence, once the period of nicotine withdrawal is over, it is no longer necessary to exercise the self-control required to resist the desire to smoke every time they are presented with the opportunity to do so. As such PRIME theory would expect the first cigarette smoked following a long period of abstinence to be an impulsive response to the immediate situation when the desire to refrain from smoking is not strong enough to overpower the desire to smoke. An individual making a serious attempt to stop smoking will have some commitment to the no-smoking rule but this is proposed to be flexible when the non-smoker identity has not been assumed. As such, the first cigarette smoked is expected to have involved a temporary suspension of the no-smoking rule rather than a decision to return to abandon it and relapse.

In line with PRIME theory's expectations, all the participants in the current study, related the cigarette of first lapse to a specific situation where the desire to smoke was stronger than the desire to abstain. However, smoking was not always an immediate response to the situation as some went out and bought the cigarettes in order to smoke following a growing struggle to remain abstinent. Similarly, whilst some participants presented their intention at the time of first lapse to smoke one or two cigarettes and then stop again (i.e. to temporarily suspend the no-smoking rule) others had made the conscious decision to return back to smoking. PRIME theory does not appear to capture these participants' experiences. It must be emphasised however, that the current study examines only how participants made sense of their relapse and does not attempt to determine the actual course of events. This is not therefore a dismissal of the proposals in PRIME theory but invites the examination of other possibilities.

PRIME theory recognises that our identities are important and shape our behaviour. It also recognises that smoking may also form part of an attractive identity. A depressed individual such as Marian for example, with low-self esteem and an identity characteristic of being insignificant or worthless would be expected to relapse as smoking could bolster her self-esteem and therefore the value of her identity. PRIME theory does not however specifically examine the relationship between identities that may conflict with cessation. The current study indicates that this could be a potentially important dimension to develop our understanding on further and if useful add to the theory.

Sample Considerations and Further Research

The primary participants of this study were 10 smokers who had quit smoking with pharmacological and behavioural NHS support one year previously. All reported

remaining abstinent for at least six months. These participants were similar in demographic characteristics to those of Study 1 who also acted as the secondary participants in the current study. All were White-British and above 30 years of age with the majority in their 50s or 60s. The high proportion of older smokers is expected as they are more likely to attend smoking cessation groups than younger smokers (Gilbert et al, 2005). The intention of the current study is to offer an in-depth understanding of the experiences of a few participants and not to be generalisable.

The primary participants had quit smoking a year previously and relapsed between 2 and 6 months prior to interview. The events recalled are therefore open to bias and cannot be used to derive causal explanations. The purpose of the current study is not however, to ascertain the causal role of identity in relapse but rather to gain insight into how participants made sense of smoking, cessation and relapse in relation to their identity. The current study noted a transition in identity relative to relapse but whether this led to relapse or was a response to it is not clear. Prospective, qualitative research is needed and strongly recommended to examine this. It is suggested that in-depth qualitative analysis of narratives of smoking related perceptions are conducted at multiple time points (e.g. pre-quit, 1 month, 6 month, 8 months, 12 months post-quit). The emphasis narratives is suggested as these appeared to have an important role for the interlinking of smoking behaviour and identity. Particular attention should be given to understanding the role of stigma, risk-minimisation and whether the position of smoking in relation to other identity characteristics changes over time.

Conclusions and Implications

This study offers a first and important in-depth exploration of smoking beliefs and identity among smokers who had remained abstinent for several months but then

relapsed. How the participants made sense of their relationship with smoking, cessation and relapse was examined. As with the participants in Study 1, a discomfort with the smoker identity was described prompting them to engage in a quit attempt. As such relapse following several months of abstinence involved reconciliation with the smoker identity they had attempted to move away from. A distancing of the smoker self from the smoker identity was observed particularly the perception of health irresponsibility that it encompassed. Strategies were observed that served to minimise the personal risk posed by smoking through harm reduction techniques (i.e. reducing number of cigarettes smoked, switching to cigarettes with lower tar content, increasing other health behaviours), perceiving their smoking intake as moderate relative to other smokers or questioning the evidence for the health risks of smoking. The construction of smoking as integral to the maintenance of another identity characteristic that was socially desirable or at least not socially frowned upon also offered some protection for the smoker self from reproach.

The findings suggest that following relapse, the smoker must reconcile their return to the spoiled smoker identity. Displacing the function of smoking into other identities may facilitate this, although whether this has a role to play in relapse cannot be obtained from this cross-sectional study. If this is confirmed in future studies then our approach to relapse prevention would benefit from the consideration of identity compensation. Understanding how the narratives of smoking beliefs, their relationship to both the smoker identity and other identity characteristics change over time according to cessation, maintenance and relapse will provide a foundation upon which to develop relapse prevention intervention. Similarly, a greater understanding of the role of stigma in perceptions of the spoiled smoker identity is needed. If this appears to encourage

identity compensation then health promotion campaigns perpetuating stigma through undesirable images of smokers may also need to be rethought.

The current study took the opportunity to examine the presence of potentially conflicting identity characteristics among the participants of Study 1 who had continued to remain abstinent over the previous year. Evidence indicating their presence was found in some of the accounts. This suggests that the construction of smoking with other identities is not merely a response to relapse but common among smokers generally. The participants who maintained abstinence were seen to re-define this competing identity to accommodate the absence of smoking. This provides an indication of strategies that relapse prevention interventions could attempt to foster in quitters to help them resolve issues of identity conflict.

Key Findings to Explore Further in Study 3

The following areas identified in the current study guided the design of the structured questionnaire to enable further exploration amongst a larger and more diverse sample (Study 3):

- The situation of first lapse (i.e. the first cigarette smoked following a prolonged period of abstinence). Intention to relapse, mood, and affect preceding first lapse.
- A sense of loss following cessation
- Desire to make another quit attempt
- Confidence that they will be able to succeed in stopping smoking in the future

STUDY 3: Exploring Residual Attraction to Smoking and Smoker Identity in Ex-Smokers and the Circumstances of First Lapse in Relapsed Smokers – A Survey Study

Introduction

The aim of this thesis is to develop our understanding about the nature of relapse and the maintenance of long-term abstinence. The first two studies have contributed an in-depth exploration of the role of identity in smoking cessation, maintenance and relapse. The current study aimed to further develop this understanding by conducting a self-administered postal survey to explore the findings among a larger and more diverse sample. A brief questionnaire format was applied to maximise the response rate (Edwards et al., 2002) and as such only the key findings that were most amenable to examination via a few simple questions were included. Prior to presenting the methods and results of the survey study, this chapter will begin with a summary of the findings from the two earlier studies and how these inspired the content of the questionnaire, a focused literature review and an examination of the issues from the perspective of PRIME theory.

The Application of Findings from Study 1 and Study 2

The first study was based on interviews with 10 participants who had quit smoking with the NHS South Essex Stop Smoking Service a year earlier and were still abstinent. A process of identity change was observed in the majority of participants from a smoker towards that of a non-smoker. All participants retained a residual attraction to smoking and considered relapse in the future open to possibility. One of the objectives of the survey study was therefore to gain a better understanding of

smoker identity, residual attraction to smoking and perceived vulnerability to smoking in the future among ex-smokers and whether this was associated with duration of abstinence. In Study 1 participants labelled themselves as non-smokers regardless of the transition demonstrated in their account indicating that this non-smoker label may reflect only a surface level of identity. As such, an examination of identity self-labels that included an indication of comfort with the non-smoker identity and continued affiliation with the smoker identity was endeavoured in the current study (i.e. *Definitely a non-smoker; A reluctant non-smoker; A smoker who is not smoking*).

The second study was primarily based on the accounts of 10 participants who had also quit smoking a year earlier with the support of the stop smoking service but had relapsed following abstinence of six months or more. Smoking was presented as integral to the maintenance or expression of a salient identity characteristic (e.g. placid). As a result an identity struggle appeared to precede relapse and for some this involved a conscious decision to return to smoking. Re-examination of the accounts of participants in Study 1 indicated the presence of potentially conflicting identities among abstainers. For these, an identity re-evaluation was observed whereby the conflicting identity was modified to accommodate cessation or its salience was demoted for another more valued identity (e.g. creation of a healthy identity). The exploration of competing identities and identity re-evaluation is beyond the scope of a brief questionnaire. An indicator of the significance of smoking on identity as observed in Studies 1 and 2 was the experience of a great sense of loss following smoking cessation. Similarly, an indicator of transition to a healthy identity is the adoption of other health behaviours (e.g. healthier diet and increased physical activity) that was again observed in the accounts of participants from both studies. Examination of these indicators is possible within the confines of a brief questionnaire. Similarly, whilst it was not considered

possible to explore identity conflict directly, an examination of the resulting thoughts and feelings at the time of the initial lapse (i.e. first cigarette smoked following cessation) appeared viable. It also affords exploration of whether the cigarette had been obtained passively (it had been offered to them or was available at the time) or actively (i.e. had been bought in order to smoke) and whether this had been a cigar rather than a cigarette. The characteristics of the *first lapse* cigarette is of particular interest since it is well known that a lapse will lead to a return to regular smoking in the large majority of cases (Kenford et al., 1994; Sutherland et al., 1992) and as such could be important to an understanding of relapse. Desire to successfully quit smoking in the future and confidence in the ability to do so were also of interest. The survey was therefore designed to examine loss, post-cessation health behaviour change, the situation of the first lapse and also desire and confidence to quit in the future.

In summary, the areas identified for examination in the current study were (1) the experience of a great sense of loss among both currently abstinent and relapsed responders; (2) post-cessation health-related behaviour change among both currently abstinent and relapsed responders; (3) residual attraction and vulnerability to smoking and smoker identity of ex-smokers; (4) feelings, intentions and availability of cigarettes at the time of first lapse of relapsed smokers; (5) desire to stop smoking in the future and confidence in their ability to do so among relapsed smokers.

Review of Studies Examining the Areas Raised

As discussed in the earlier chapters the role of smoking, identity and identity transition following smoking cessation has been largely neglected. Some researchers have suggested that an identity shift may be important for successful behaviour change (including that of smoking cessation) (Kearney & O'Sullivan, 2003; Ogden & Hills,

2008; West, 2006). Ogden and Hills (2008) observed an identity crisis and the reinvention of a healthier self in the accounts of individuals who had lost weight or stopped smoking. Large population surveys investigating the clustering of health risk behaviours find smokers more likely to be less active and eat less healthily than non-smokers or ex-smokers (e.g. (Chiolero, Wietlisbach, Ruffieux, Paccaud, & Cornuz, 2006; Osler et al., 2002)). A positive association between health behaviours and time since cessation has also been observed with ex-smokers becoming increasingly similar to non-smokers in their food consumption (Morabia, Curtin, & Bernstein, 1999; Osler et al., 2002; Thornton, Lee, & Fry, 1994). These studies indicate that smoking cessation may be associated with other health behaviour changes although this cannot be determined from their cross-sectional design. No studies examining the experience of loss in the absence of smoking were found.

The smoking-related perceptions of ex-smokers have received little research attention, although there is some evidence that ex-smokers who feel worse off than when they were smoking (Dijkstra & Borland, 2003; Dijkstra, Borland, & Buunk, 2007) and have low abstinence self-efficacy (Dijkstra & Borland, 2003; Gwaltney et al., 2001; Herd & Borland, 2009) are more likely to relapse. More commonly, attraction to smoking has been examined in terms of "cravings" or "desire" to smoke. In these studies 37%-74% of ex-smokers reported craving cigarettes 6 months after stopping smoking (Gritz, Carr, & Marcus, 1991; Hughes, 1992; Hughes, Gust, Skoog, Keenan, & Fenwick, 1991) and 17-59% after 6 months (Gritz et al., 1991; Hughes, 1992). An international prospective survey study investigated daily urges to smoke and found that they were reported by 13% of ex-smokers who had stopped smoking between 6 months to 4 years previously (Herd & Borland, 2009). In an internet survey, a similar proportion of ex-smokers who had quit smoking one to five years previously

reported having a desire to smoke at least monthly (Hughes, 2010). The notable differences among prevalence rates in the studies may be attributable to the range of survey methods used and populations studied, but indicate nevertheless that a continued attraction to smoking is common after six months of abstinence.

Although the role of identity has been explored in adolescence and young adulthood particularly in smoking initiation and maintenance (Kishchuk, Tremblay, Lapierre, Heneman, & O'Loughlin, 2004; Plumridge et al., 2002), its role in smoking cessation has received little attention. A few studies have investigated a smoker's identity in terms of the desirability of "smoker" and "abstainer" concepts for the individual. These have been found to predict both the intention to quit and quit attempts (Moan & Rise, 2005; van den Putte et al., 2009). A smoking cessation intervention study examined changes in self-concept over the first three months of quitting and found that the abstainer self-concept increased with time abstinent and the smoker self-concept decreased. There is also some evidence of a change in the abstainers' perceptions of the "typical smoker": these perceptions increased in negativity by six month follow-up among abstainers who had few family/friends who smoked (Gibbons & Eggleston, 1996). These studies indicate that the desirability of abstainer and smoker self-concepts are associated with abstinence but do not examine whether a new identity of non-smoker is assumed.

Marlatt and colleagues found that late relapse in alcohol addiction occurs in high-risk situations often characterised by negative affect, interpersonal conflict, and social pressure (Marlatt, 1996). This led to their cognitive-behavioural model of relapse prevention that has been influential in the smoking cessation field and directed attention to the influence of the immediate situation and emotional state on relapse. Since then many researchers have examined dynamic differences (i.e. within-person variations in

momentary states (e.g. negative affect, self-efficacy)) in relapse. Most notably, Shiffman and colleagues have undertaken a series of studies on lapse and relapse early in the quit attempt (i.e. changes in momentary mood, stress, self-efficacy and the immediate environment) indicating the importance of proximal influences on behaviour (Shiffman, 2005). These studies used Ecological Momentary Assessment (EMA) methods to examine changes in momentary mood, stress and self-efficacy and the immediate environment (i.e. the presence of cues, availability of cigarettes) of relapse crisis situations (i.e. where actual or near lapses in abstinence occur). In these studies participants were instructed to complete a questionnaire on an electronic palmtop diary directly after a lapse and also at random intervals when prompted to do so by the diary. Whilst not entirely ecological due to the frequent directing of attention to the evaluation of urges to smoke and mood state, they do afford some insight into changes in momentary states particularly at the time of first lapse. In these studies, smoking cues (i.e. others' smoking, consumption of alcohol or coffee) (Shiffman & Gwaltney, 2008) were found to have an effect on lapse. Negative affect states (e.g. miserable, irritable, angry, tense) had an effect on lapse (Shiffman, 2005; Shiffman & Gwaltney, 2008) and this diminished the effect of smoking cues (Shiffman & Gwaltney, 2008). Analyses of negative affect scores shortly before lapse compared to those after lapse found that negative affect preceded lapse and was not a result of the lapse itself (i.e. not biased by retrospection) (Shiffman & Waters, 2004). In these studies a "lapse" was defined as an occasion of smoking following cessation and "relapse" as smoking five or more cigarettes per day for three consecutive days. The criterion of 24 hours of abstinence was applied do define cessation. Much therefore is known about factors triggering relapse early in quit attempts but less about what might be termed *late relapse*- after, for example, a month of abstinence.

Relapse after several months of abstinence is likely to be qualitatively different from that of early relapse considering that several of the acute physiological symptoms of nicotine withdrawal are negative affect states (i.e. irritability, depressed mood and anxiety) and subside within a couple of months (Hughes et al., 1994). Asking participants to complete EMA entries over several months and years would not be appropriate and likely to lead to participant fatigue and a high attrition rate. Therefore, despite the limitations of survey studies in that there is a reliance on memory, this is the most viable method available to examine the dynamic nature of late relapse. Retrospective examination of first lapses via standardised telephone interviews have included participants who achieved longer periods of abstinence but do not differentiate between early and late lapses (Brandon, Tiffany, Obremski, & Baker, 1990).

PRIME Theory (West, 2006) Assessment of the Areas of Interest

The PRIME Theory of motivation provides a comprehensive account of the mental processes driving behaviour that can be applied to address the areas of interest in the current study. A core tenet is that all goal directed behaviour results from the momentarily strongest of potentially competing 'wants' and 'needs'. Wants involve feelings of anticipated pleasure or satisfaction, and needs involve feelings of anticipated relief. These are generated by stimuli present in the immediate environment interacting with past experience. It proposes further that deliberate behaviour change, such as smoking cessation, involves invoking a 'personal rule' and maintenance of that change requires that the want or need to adhere to that rule is more powerful than competing wants and needs at every moment when the opportunity to engage in the old behaviour pattern is present. Long-term maintenance of a deliberate decision to change behaviour requires a change of 'identity' in which the old behaviour becomes untenable so that

active self-control is no longer required. Establishing a strong 'non-smoker' identity is proposed to be an important factor protecting against the momentary want or need to smoke that could lead to late relapse.

Under the PRIME Theory hypothesis therefore, a residual attraction to smoking and retention of a smoker identity should be rare in long-term abstainers. For ex-smokers who retain these relapse is predicted within a few months. The theory also suggests a number of expectations for the first cigarette smoked after a period of abstinence. These are 1) the first lapse will often be impulsive, that is, it will be a response to a heightened want or need to smoke triggered by the immediate situation where tobacco is readily available, 2) The intention at first lapse will often be to temporarily suspend the 'no-smoking rule' rather than to abandon it completely, and 3) negative mood would heighten the need to smoke given that smokers retain the belief that smoking makes them feel happy, relaxed and able to manage depressed mood (Dijkstra and Borland, 2003).

Aims

The current study sought to explore the presence of the findings of Study 1 and Study 2 in a large sample of individuals who had quit smoking for a minimum of four weeks with support of the NHS stop smoking service. The objectives fall into three sections.

1) To examine the extent of loss experienced and health-related behaviour changes following cessation and whether these are associated with smoking status.
2) To examine the extent of residual attraction and vulnerability to smoking, and smoker identity self-labelling among ex-smokers and whether these are associated with time abstinent.
3) To examine the circumstances at the time of first lapse in relapsed smokers and whether these are associated with length of time before lapse. In particular: (a) general affective state (i.e. miserable or happy); (b) whether there was an intention to return to smoking; (c) how the first cigarette was obtained; (d) whether the consequences of smoking had been considered at the time and (e) whether they felt they needed to smoke. Also to explore the extent of desire to stop smoking and confidence to do so.

Methods

Study Design

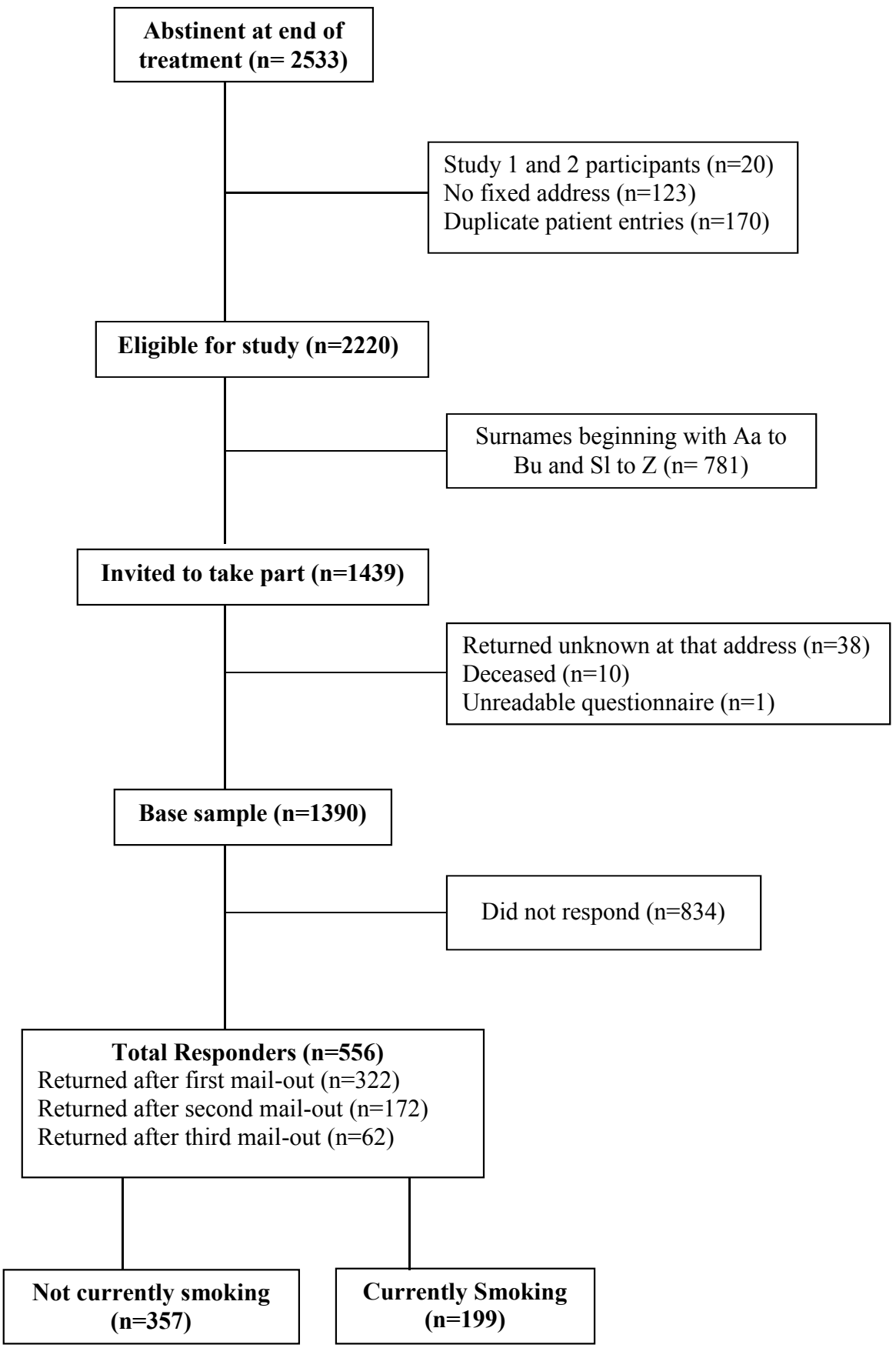
A postal questionnaire was sent in December 2007 to patients who had set a quit date with the NHS South Essex Stop Smoking Service between September 2004 and September 2007, and who reported being abstinent at the end of a 4-week treatment programme. The majority (88.9%) attended the group treatment programme. In 72.9% abstinence was validated by attending at the clinic and providing a carbon monoxide (CO) reading of <10ppm. The remaining 27.1% had not attended for CO verification. Although it was intended to sample all patients within this period (n=2220), invitation letters were sent to only 65.1% (n=1439) due to a computer error. This meant that patients with a surname beginning with Aa to Bu and Sl to Z were omitted and as such produced an essentially random selection. There were no significant differences in age, sex, ethnic origin or socio-economic status between those omitted and those invited (all $p>0.05$).

Sample

Contact and demographic details of individuals who quit smoking were obtained from the NHS South Essex stop-smoking service clinic database of which there were 2533 entries. Figure 1 outlines the sample selection and data-collection process. The 20 participants of Study 1 and Study 2 were removed from the file and also the 123 individuals who did not have a fixed address (i.e. traveller site address or no address). The 170 duplicate entries for patients who quit smoking with the service on more than one occasion were removed with the details of the most recent attempt retained. Of the 1439 questionnaires sent out, 38 were returned as not known at that address, 10 had died, and 1 completed questionnaire was unreadable, leaving a base sample of 1390.

Five hundred and fifty-six (40%) of questionnaires were returned completed after 3 mail-outs. 57.9% (n=322) participants responded to mail-out 1, 30.9% (n=172) to mail-out 2, and the remaining 11.2% (n=62) to mail-out 3. There was no association between the mail-out responded to and sex, age, ethnicity or socio-economic status (all $p>0.05$). A significant linear association was seen for mail-out response and current smoking status $\chi^2(1, N=556) = 18.09$, $p<0.0001$. Almost two-thirds of responders to mail-out 1 were abstinent (72.0%, n=232), decreasing to 54.1% (n=93) at mail-out 2, and further still to 51.6% (n=32) at mail-out 3. Responders were approximately 5.6 years older than non-responders $t(1388) = 7.828$, $p<0.05$ (two-tailed). There was no association between responders and non-responders on sex, social status or ethnicity (all $p>0.05$).

Figure 1. **Sample Selection and Data-Collection Process**



Questionnaire Design

An existing questionnaire or individual questions from it that examined the areas of interest was not found. As such a new questionnaire was constructed to address these in the current study (Appendix H). This was designed to fit on one double-sided A4 sheet as short questionnaires are found to have higher response rates (Edwards et al., 2002; Nakash, Hutton, Jorstad-Stein, Gates, and Lamb, 2006). Similarly questionnaires that use coloured ink (Edwards et al., 2002), have a simple layout and are appealing to look at (Boynton, 2004) demonstrate increased response rates. As such the questionnaire was designed with a simple layout, was professional printed on glossy paper with questions in green ink and responses in red. In line with the recommendations of questionnaire design made by Fallowfield (1995) particular care was taken with wording and the phrasing of the questions and response options to make it accessible to individuals with low literacy skills. Similarly an adjectival scale was applied to questions relating to attitude to permit continuous judgements. A dichotomous categorical response format was only used with statements that either matched or did not match the responders' situation.

The importance of piloting the questionnaire is emphasised in good practice guidelines (e.g. (Boynton, 2004; Fallowfield, 1995)). The current questionnaire was examined for face validity by a team of experts. It was also tested for feasibility and content validity with a sample of smokers from the target population.

Questionnaire Content

The questionnaire consisted of four sections. The first and last sections were for all responders to complete. The second section invited responders who were not currently smoking and the third only those who were currently smoking. The sections

were divided in this way to enable the second and third most key sections to each be positioned entirely on one side of the page. This was anticipated to ease completion through increasing the simplicity and appeal of the questionnaire. At the end of the first section, the participants who were currently smoking at the time of questionnaire completion were instructed to skip to question 13 (i.e. the third section of the questionnaire) and continue through to the end of the questionnaire. Those who were not currently smoking were instructed to continue to the second section (questions 6 to 12) and then skip to question 18 for the final section of the questionnaire to complete some demographic details.

Section 1 Items (For All Responders)

Smoking status. This was obtained with the question: "Do you currently smoke at all?" with the dichotomous response option of "Yes" or "No".

Change in smoking status. To examine whether there had been any changes in smoking status since they last quit with the stop-smoking service, responders were asked to indicate which of the following applied to them: "I stopped at the clinic and have not smoked since"; "I went back to smoking but have tried to stop since"; or "I went back to smoking but have not tried to stop since."

Loss. Loss was examined with a question that began with the following observation made from the two previous interview studies: "Some smokers say that they felt a great sense of loss when they stopped smoking" and then asked "Did you experience this at any point" followed by the response options "Yes a lot", "Yes a little", "No not really", or "No not at all". A dichotomous variable for loss was created with the first two response options combined to form a 'yes' category, and the last two options combined to form a 'no' category.

Health behaviour change. Changes in health behaviours following cessation were examined by inviting participants to respond "Yes" or "No" to the following statements: "I have made an effort to eat more healthily (e.g. more fruit or vegetables)"; "I have found myself eating more healthily without trying"; "I have found myself eating less healthily (e.g. more fatty or sugary foods)"; "I have made an effort to be more physically active"; "I have found myself being more physically active without trying."

11.69% (n=65) responded "yes" to both making an effort to eat more healthily and to eating more healthily without trying. Similarly, 7.90% (n=44) responded "Yes" to making an effort to be more physically active and also to doing so without trying. In order to create composite three category variables for healthy eating and also increased activity these were recoded to as follows: (1) Healthy eating: Responders indicating "Yes" to the statement "I have made an effort to eat more healthily (e.g. more fruit or vegetables)" were coded into the first category. Those responding "Yes" to "I have found myself eating more healthily without trying" but had not also responded "Yes" to the previous category statement were coded into the second. Those responding "No" to both statements or did not respond to either of them made up the third category. (2) Increased activity: Responders indicating: "Yes" to "I have made an effort to be more physically active" were coded into the first category. Those who responded "Yes" to "I have found myself being more physically active without trying" and had not responded "Yes" to the previous category statement were coded into the second category. The third category consisted of those responding "No" or did not respond to either of the statements.

Section 2 items (For Responders Not Currently Smoking)

Residual attraction. Residual attraction to smoking was examined via 3 questions: whether they still missed cigarettes; whether smoking had any attraction for them now ("yes a lot", "yes a little", "no not really" or "no not at all"); whether they would return to smoking if it was not harmful; ("definitely", "probably", "probably not" or "definitely not"). To ensure adequate cell sizes for statistical analyses, the first two response options were combined to form a 'yes' category, and the last two options were combined to form a 'no' category. A dichotomous composite item, indicating any evidence of a residual attraction was computed as 'yes' if there was a positive response on any of the 3 items.

Smoker self-label. A continuing smoker self-label was assessed by asking the question: "How do you think of yourself?" The response options offered were "definitely a non-smoker", "a reluctant non-smoker", "a smoker who is not smoking". The latter two categories were combined to indicate a smoker self-label.

Vulnerability to smoking relapse. Vulnerability to smoking relapse at some time in the future was obtained with the following two questions: whether they thought that they would ever smoke again; whether they thought that something could ever happen that would push them back to smoking (possible responses were "Definitely", "Probably", "Probably not" or "Definitely not"). Again, the first two response options were combined to form a 'yes' category, and a composite item was calculated to indicate any vulnerability.

Duration of abstinence. Duration of abstinence was obtained by asking how long it was since their last cigarette. To examine with sufficient numbers the prevalence of residual attraction, vulnerability to relapse and smoker self-label in relation to length

of time abstinent, 3 abstinence periods were used: 1 year or less, more than 1 year to 2 years, more than 2 years.

Section 3 (For Responders Currently Smoking)

To explore the situation of first lapse (i.e. mood, availability of cigarettes and intention) three questions were asked with regard to the first time a cigarette or cigar was smoked after the most recent quit attempt made.

Mood. Mood at the time of first lapse was examined by asking how they were feeling just before they smoked the first cigarette. The possible response options were: "I really needed a cigarette"; "I was happy"; "I was miserable."

Availability of cigarettes. Availability of cigarettes was ascertained by asking from where they had obtained the first cigarette or cigar they had smoked. Response options provided were: "I was offered the cigarette or cigar by someone"; "In order to smoke I bought cigarettes or tobacco"; "There were cigarettes or tobacco around at the time."

Cigar smoked. This was obtained by asking participants to respond "Yes" or "No" to the statement: "The first thing I smoked was a cigar."

Intention. Their intention at the time of first lapse was obtained by asking them what was going through their mind when they smoked the cigarette. Response options included: "I had decided that I would go back to smoking"; "I was not thinking about the consequences"; "I thought I could smoke one or two cigarettes and then stop again"; "I just lit up and smoked before I realized what I was doing"; "I just gave up on trying to stop."

Caring about the consequences. Caring about the consequences was assessed with a "Yes" or "No" response to the statement "At the time I did not care about the

consequences" in relation to what was going through their mind when they smoked the cigarette of first lapse.

Desire and confidence to stop. Respondents were asked if they still wanted to stop smoking and offered the response options "Yes very much", "Yes somewhat", "Not really", "Definitely not". They were also asked whether they thought they would be able to stop smoking in the future and given the response options "Definitely", "Probably", "Probably not", "Definitely not."

Duration of abstinence prior to the cigarette of first lapse. Duration of abstinence was obtained by asking how long they had lasted before having the first cigarette after they stopped with the stop smoking clinic. To examine with sufficient numbers the prevalence of the characteristics of first lapse in relation to length of time abstinent, 3 abstinence periods were used: less than 3 months, 3 to 6 months, more than 6 months.

Procedure

A questionnaire constructed to meet the research aims of the current study was presented to a multidisciplinary research team of mainly psychologists, a statistician, an information technology specialist and a nurse (UCL Tobacco Research Group (TRG)) several of whom were experts in survey research. This afforded the opportunity to make improvements to the wording and structure of some of the questions prior to pilot testing with individuals drawn from the target population. Data-input codes were also added next to each response box in small subscript font to facilitate the process and accuracy of data-entry onto the computer. The revised questionnaire was examined and approved by the TRG team and my doctorate supervisor prior to pilot testing.

A website was created with an online version of the questionnaire http://www.attitudestohealth.co.uk/smoking/. This was locked so that only individuals invited to take part in the study could do so. The invitation letters were addressed to the individual invited to take part as studies with personalised invitation letters demonstrate higher response rates (Edwards et al, 2002). The invitation letter and questionnaire sent to each participant were also personalised with a unique participant identification number prefixed with the online entry code for those choosing to complete the questionnaire online.

Inviting participants to take part in through repeated mail outs of the questionnaire have been found to significantly increase response rates (Edwards et al., 2002). In the initial research proposal one invitation to participate was to be sent to eligible individuals as it was not feasible to conduct more invitations within the confines of the small programme grant budget. Concern was raised in the TRG meeting that without further mail-outs the expected response rate would be very low limiting the usefulness of the findings. As such, further funding was secured to extend the study and accommodate the costs of a further two mail-outs.

Piloting the Questionnaire

An invitation letter, questionnaire and short evaluation form were sent to the 15 participants of Studies 1 and 2 who expressed interest in participating in this second phase of the research. Participants were asked to complete the questionnaire and evaluation form either online or by completing the paper copies enclosed and to return it in the freepost addressed envelope provided. The invitation pack was sent approximately one year after the interviews of the first phase had been conducted. As some of the participants who were abstinent at the interview phase may have relapsed

by this second research phase, the questionnaire and evaluation form were completed anonymously to encourage participation.

Eleven participants (73%) completed the questionnaire of which three chose to do this online. The time taken for participants to complete the questionnaire ranged from two to six minutes. Ten participants rated the questionnaire as "Very easy" to complete and one as "Neither easy nor difficult." None of the participants found the questions to be unclear or difficult to answer. This indicated that the instructions, phrasing of questions and the response options offered were appropriate. All questions had been fully completed with the exception of one that had only been partially completed by some participants. Upon examination it became clear that the structure of the question did not focus the responder's attention to its various components (i.e. mood, intention, availability of cigarettes at the time of first lapse). The question consisted of a block of thirteen statements for responders to consider, that may have caused confusion or fatigue resulting in some statements being missed. The question had been constructed in this way to conserve space but following the findings of the pilot, the question was divided into three separate questions to focus the responder's attention on its components. The response format was also changed from "Tick if applies" to prompting a "Yes" or "No" response for each statement to encourage participants to consider each one. Similarly, the format of another question was altered to invite responders to tick "Yes" or "No" beside each statement.

Main Study

Ethical approval for the substantial amendment of re-contacting patients to offer them two further opportunities to participate in the study was sought in October 2007 and granted in December 2007. A study invitation letter (Appendix I), participant

information sheet (Appendix J), and questionnaire (Appendix H) were initially sent out in December 2007 (mail-out 1), followed by a reminder letter and questionnaire in February 2008 (mail-out 2) and another in March 2008 (mail-out 3). Questionnaires were anonymous, identifiable only by the form-code given by the researcher to enable reminder invitation letters to be sent only to those who had not already taken part and to prevent duplicate participant entries. Following completion of the invitation stage of the research, the personal details of all patients were deleted from the database (i.e. names, addresses and clinic number). The anonymous database retained the demographic details of age, sex, ethnicity and socioeconomic status to enable comparison of responders and non-responders for these demographic characteristics. Data from questionnaires returned by post were entered into SPSS and the 37 data entered online by participants merged into this.

Data Preparation

Once entered into SPSS the data were explored using frequency distributions and scatter plots to identify and correct erroneous entries. The data file was also examined for duplicate entries but none were found.

Statistical Analysis

All analyses were conducted in SPSS with descriptive statistics applied to explore the data. Associations between sense of loss and health behaviour change relative to smoking status were examined by Chi-square.

Univariate comparisons of residual attraction, vulnerability to relapse and smoker self-label over time were by linear Chi-square. Pearsons correlations were used to assess associations between the primary characteristics and logistic regression was

used to examine predictors. Proportions and 95% confidence intervals were also calculated.

For each of the first lapse items, the data was coded as '1' for those who responded "Yes", and '0' for those who answered "No" or did not tick either option. The item "The first thing I smoked was a cigar" was not analysed further due to the small number responding "Yes" (i.e. n=9). Univariate comparisons of the first lapse items over time were by linear Chi-square.

Results

The majority (64.5%) of responders were not currently smoking (i.e. abstainers). The age, SES and ethnicity of responders who relapsed were similar to those who abstained as shown in Table 3. A slightly higher proportion of male responders reported being abstinent than relapsed but the difference was not significant $\chi^2(1, N=556) = 1.62$, $p=0.203$.

Table 3: ***Characteristics of the sample according to smoking status, sex, age and socio-economic status (SES)***

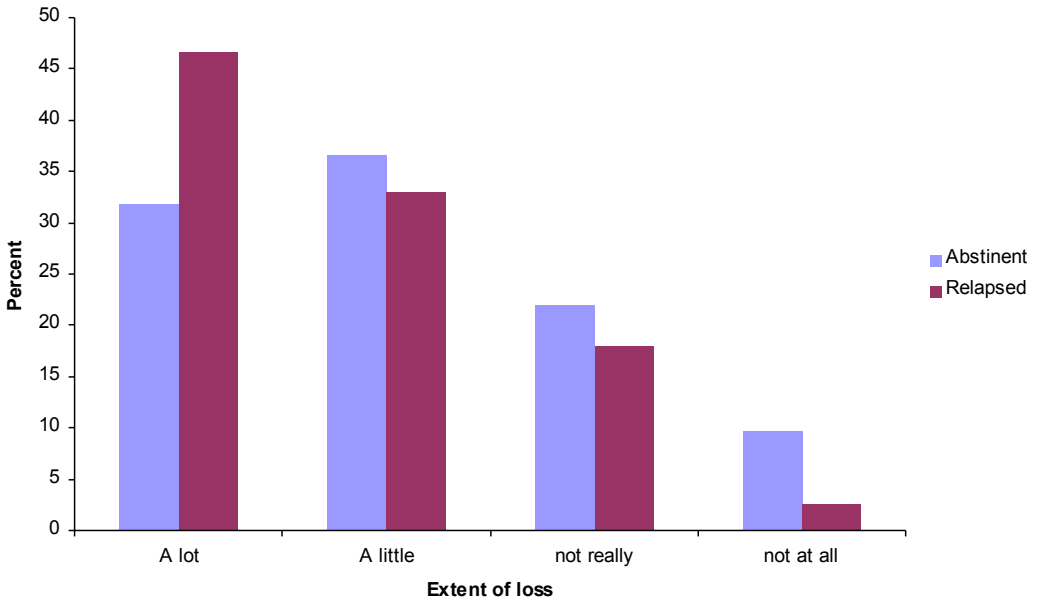
	Abstinent (n=357) % (n)	**Relapsed (n=199) % (n)**
Sex		
Male	44.3 (158)	38.7 (77)
Female	55.7 (199)	61.3 (122)
Age (years)		
Mean	53.12	50.34
Standard Deviation	12.38	12.22
Range	23-87	19-81
SES[a]		
1.Managerial/Professional/Intermediate	44.3 (158)	43.7 (87)
2.Routine/Manual/Unpaid Home Carer/Unemployed for over a year	26.3 (94)	29.1 (58)
3.Full-time student/Retired/Other	29.4 (105)	27.1 (54)
Ethnicity		
White British	93.6 (334)	96.0 (191)
White other	4.2 (15)	1.5 (3)
Black/Asian or Mixed Race	1.4 (5)	1.0 (2)
Unknown	0.8 (3)	1.5 (3)

[a]SES classified according to the NHS gold standard monitoring guidelines (condensed into 3 categories)

Loss

Experiencing a great sense of loss following cessation was reported by the majority of responders (71%, n=395) with this being most pronounced in relapsed smokers as shown in Figure 2.

Figure 2. **The Extent of Loss Experienced According to Smoking Status (N=546)**

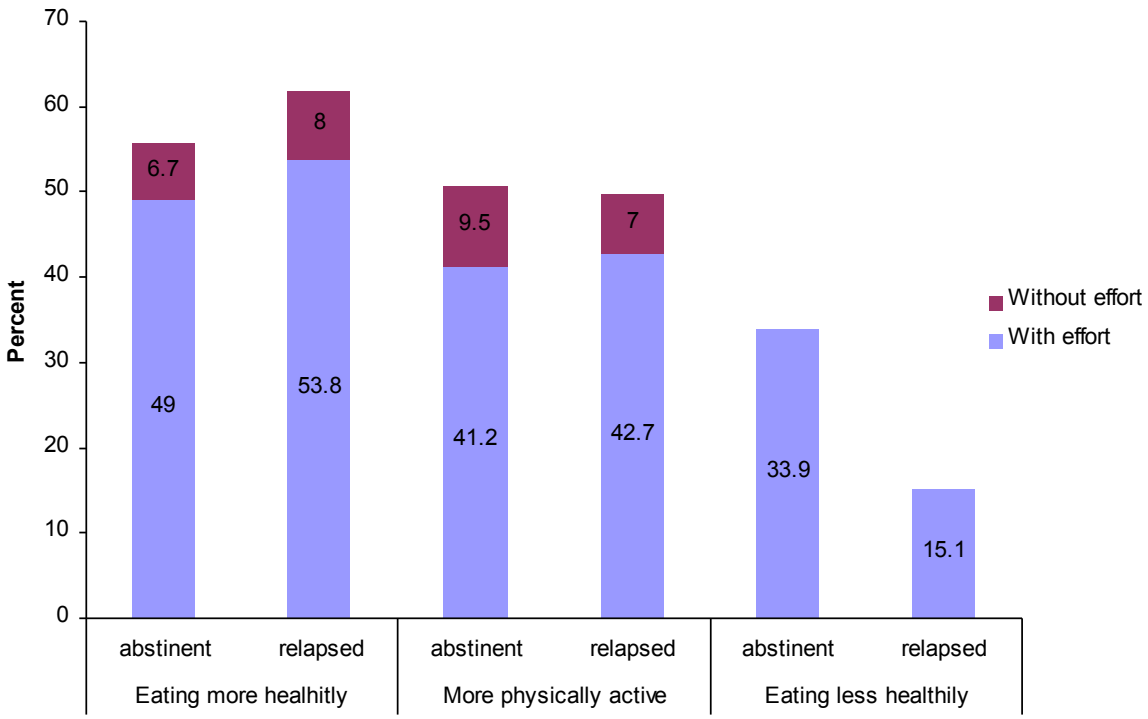


A greater proportion of relapsed responders experienced loss (79.4%, n=154) than those who were abstinent (68.5%, n=241), $\chi^2(1, N=546) = 7.448$, $p<0.01$.

Health Behaviour Change Following Cessation

Overall, more than half of responders reported eating more healthily or becoming more physically active following cessation with this change requiring an effort for most as shown in Figure 3.

Figure 3. **Health Behaviour Changes According to Smoking Status**



A slightly higher proportion of responders who had relapsed reported eating more healthily (61.8% n=123) following cessation than those who were abstinent (55.7%, n=199) although this was not significant $\chi^2(1, N=556)=1.93$, $p>0.05$). Abstainers were twice as likely to eat less healthily than those who had relapsed $\chi^2(1, N=556) = 22.87$, $p<0.001$.

Residual Attraction, Identity Self-Labelling and Vulnerability to Smoking

Data from the 357 responders who reported not currently smoking (64%) are presented in the current section. Of these, 87.5% (310) had maintained abstinence since treatment and 13% (47) had relapsed and stopped again by the time of the survey.

Of the 357 ex-smokers, 146 (40.9%) had been abstinent for 6 weeks to 1 year after treatment (mean = 6.6 months), 110 (30.8%) had been abstinent for more than 1 year to 2 years (mean = 19.5 months) and 101 (28.3%) had been abstinent for more than

2 years (mean=2.8 years). These proportions are similar to those expected from previous longitudinal studies of long-term smoking cessation, suggesting there was no substantial bias in the rate of responding for those with shorter or longer abstinence (Ferguson et al., 2005; Stapleton, 1998). There was no evidence that the three groups differed on any of the baseline characteristics shown in Table 3 (all $p > 0.25$).

Table 4. ***Residual Attraction and Vulnerability to Smoking, and Identity Self-Labelling***

		Duration of abstinence			
Characteristic	All subjects (n=357)	1 year or less (n=146)	More than 1 year to 2 years (n=110)	More than 2 years (n=101)	Linear χ^2 p-value
Residual attraction to Smoking					
Do you still miss cigarettes? (% yes, n)[a]	48.4 (170/351)	66.7 (96/144)	42.6 (46/108)	28.3 (28/99)	35.9 <0.001
If smoking was not harmful would you go back to it? (% yes, n)[b]	40.9 (144/352)	51.4 (74/144)	39.8 (43/108)	27.6 (27/98)	14.2 <0.001
Does smoking have any attraction for you now? (% yes, n)[c]	28.1 (99/352)	39.3 (57/145)	28.7 (31/108)	11.1 (11/99)	22.7 <0.001
Any residual attraction to smoking (% yes, n)	58.1 (204/351)	75.7 (109/144)	53.7 (58/108)	37.4 (37/99)	36.3 <0.001
Smoker Identity self-label (% yes, n)[d]	37.3 (131/351)	53.1 (77/145)	35.2 (38/108)	16.3 (16/98)	34.0 <0.001
Vulnerability to smoking relapse					
Do you think you will ever smoke again? (% yes, n)[e]	5.4 (19/351)	9.0 (13/144)	4.6 (5/109)	1.0 (1/98)	7.5 .006
Could something ever happen to push you back to smoking? (% yes, n)[f]	23.5 (82/349)	37.3 (53/142)	21.3 (23/108)	6.1 (6/99)	32.0 <0.001
Any vulnerability to smoking relapse (% yes, n)	24.7 (86/348)	39.4 (56/142)	21.3 (23/108)	7.1 (7/98)	33.2 <0.001

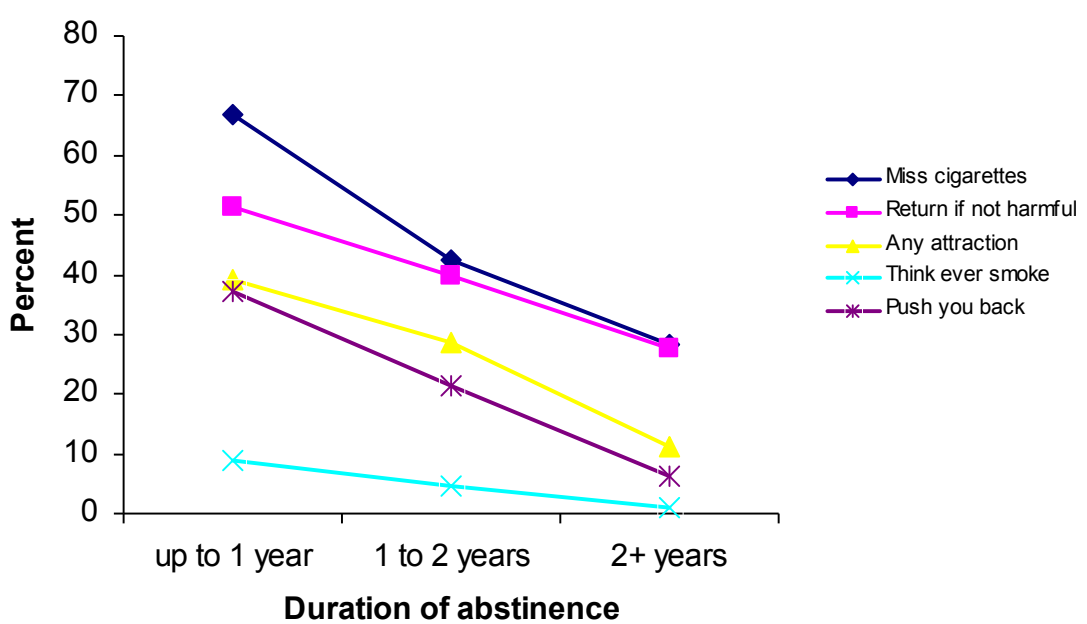
[a]6 non-responders; [b]5 non-responders; [c]5 non-responders; [d]6 non-responders; [e]6 non-responders;[f]8 non-responders.

When all subjects were considered regardless of length of time abstinent, 58.1% (95% C. I. = 53.0 % to 63.3%) indicated that smoking still presented an attraction to them (Table 4, column 1). The most prevalent residual attraction was missing cigarettes

(48.4%, 95% C.I. = 43.2% to 53.7%). Also, 37.3% (95% C.I. =32.3% to 42.4%) retained a smoker identity and 24.7% (95% C.I. = 20.2% to 29.2%) thought themselves vulnerable to future relapse.

There was strong evidence that the proportion of positive responses to all items declined linearly with the length of time abstinent (all $p<0.01$) (Table 4, columns 2-4). The decline of the individual residual attraction and vulnerability to smoking items according to time abstinent across is demonstrated more clearly in Figure 4. The three residual attraction items were most common across all duration of abstinence categories particularly that of missing cigarettes. Believing they would ever smoke again was present in a minority of abstainers and rare among those who had quit for two or more years. Believing that something could push them back to smoking however, was more prevalent.

Figure 4. **Residual Attraction and Vulnerability to Smoking Items According to Duration Abstinent**

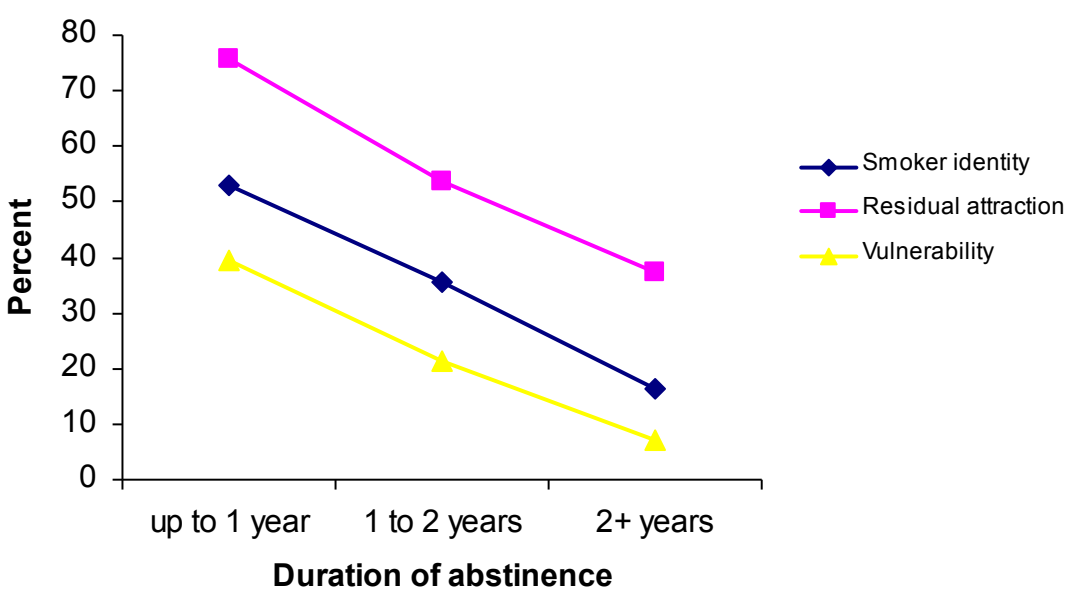


Despite the decline even after 2 years of abstinence the prevalence of residual attraction to smoking (37.4%, 95% C.I. = 27.9% to 47.7%) and smoker identity (16.3%, 95% C.I. = 9.6% to 25.2%) remained substantial. Fewer believed they were still vulnerable to relapse after more than 2 years (7.1%, 95% C.I. = 2.9% to 14.2%). Interestingly, the decline in the prevalence of vulnerability was similar regardless of the presence or absence of a residual attraction to smoking (χ^2 (2, N=348) =1.3, p = 0.25 or a smoker identity χ^2 (2, N=348) = 0.8, p=0.37, i.e. there was no interaction. The proportions feeling vulnerable to relapse after more than 2 years of abstinence were 8.1% (3/37) for those retaining a residual attraction to smoking and 6.3% (1/16) for those retaining a smoker identity.

Relationship Between the Primary Characteristics

The rate of decline in the prevalence of smoker identity, residual attraction and vulnerability to smoking across duration of abstinence were similar (Figure 5).

Figure 5. **Smoker Identity, Residual Attraction and Vulnerability to Smoking According to Duration of Abstinence**



Residual attraction was moderately correlated with smoker identity (r=0.41), and vulnerability (r=0.33), and smoker identity with vulnerability (r=0.31) (all p<0.01). In multiple logistic regression models, smoker identity was predicted by greater length of time smoking (OR=1.03, C.I.=1.01 to 1.05, p<0.01). There was no evidence of any other associations between smoker identity, residual attraction and vulnerability with the characteristics shown in Table 3. There was also no evidence in interaction models that the prevalence declines with length of abstinence were associated with any characteristics.

Availability, intention and mood at the time of first lapse

The current section presents analyses for the 199 participants who reported currently smoking. Of these, 54.1% (n=105) had returned back to smoking and tried to stop again since and 45.9% (n=89) reported that they had not tried to stop again since. The majority of relapsed responders (87.9%, n=175) reported that they still wanted to stop smoking and 74.4% (n=148) thought that they would be able to stop smoking in the future. Table 5 shows responses to questions about the first cigarette smoked (i.e. "When you smoked for the first time after the most recent quit attempt:…").

Table 5. ***Proportions of 'Yes' Responses for Each First Lapse Item (N=199)***

	Percent responding yes % (n)
Where did you get this first cigarette from?	
I was offered the cigarette or cigar by someone	22.6 (45)
In order to smoke I bought cigarettes or tobacco	45.7 (91)
There were cigarettes or tobacco around at the time	31.2 (62)
The first thing I smoked was a cigar	
Yes	4.5 (9)
What was going through your mind when you smoked it?	
I had decided that I would go back to smoking	8.0 (16)
I thought I could smoke one or two cigarettes and then stop again	48.7 (97)
I just lit up and smoked before I realized what I was doing	8.5 (17)
I just gave up on trying to stop	19.1 (38)
At the time I did not care about the consequences	34.7 (69)
How were you feeling just before you smoked it?	
I really needed a cigarette	53.8 (107)
I was happy	16.6 (33)
I was miserable	53.8 (107)

Overall, 45.7% of those who relapsed bought the first cigarette and 54.3% either accepted the cigarette from someone else or cigarettes were available to them at the time. Almost half of responders reported that at first lapse, a temporary return to smoking was the intention (i.e. to smoke 1 or 2 cigarettes and stop) while a further 8.5% had no particular intention. The majority of responders reported feeling miserable prior to first lapse (53.8%) and a small proportion felt happy (16.6%). More than half reported that they really needed a cigarette.

Association Between the Characteristics of First Lapse and Duration Abstinent

Of the 186 responders who gave information on the duration of abstinence prior to lapse, over half reported the first lapse as occurring within 3 months post treatment (48.7%, n=97), a quarter (24.1%, n=48) between 3 to 6 months and the remaining 20.6% (n=41) lapsed after 6 months (Table 6). Duration of abstinence post-treatment ranged from 0 days to 2 years with the median value of 3 months.

How the first cigarette was obtained, and intention to relapse according to duration of abstinence are also demonstrated graphically in Figures 6 and 7.

Table 6. ***Proportions of Four Characteristics of First Lapse According to Duration of Abstinence (N=186 unless stated otherwise)***

	Duration of abstinence prior to lapse			
First Lapse Characteristic	**Less than 3 months (n=97) % (n)**	**3 to 6 months (n=48) % (n)**	**More than 6 months (n=41) % (n)**	**Linear χ^2 *p*-value**
How the first cigarette was obtained[a]				
I was offered the cigarette or cigar by someone	15.5 (15)	25.0 (12)	36.6 (15)	0.006
In order to smoke I bought cigarettes or tobacco	53.6 (52)	45.8 (22)	36.6 (15)	0.064
There were cigarettes or tobacco around at the time	30.9 (30)	37.5 (18)	26.8 (11)	0.810
Intention to Relapse[a]				
I had decided that I would go back to smoking	9.3 (9)	10.4 (5)	4.9 (2)	0.481
I just gave up on trying to stop	29.9 (29)	12.5 (6)	4.9 (2)	<0.001
I thought I could smoke one or two cigarettes and then stop again	42.3 (41)	56.3 (27)	58.5 (24)	0.052
I just lit up and smoked before I realized what I was doing	9.3 (9)	6.3 (3)	7.3 (3)	0.621
Affect				
I was happy	16.5 (16)	18.8 (9)	12.2 (5)	0.628
I was miserable	53.6 (52)	52.1 (25)	58.5 (24)	0.661
I really needed a cigarette	56.7 (55)	54.2 (26)	58.5 (24)	0.911

[a]The response items were not mutually exclusive so the totals may not add up to 100%

Figure 6. **How the Cigarette of First Lapse was Obtained According to Duration of Abstinence**

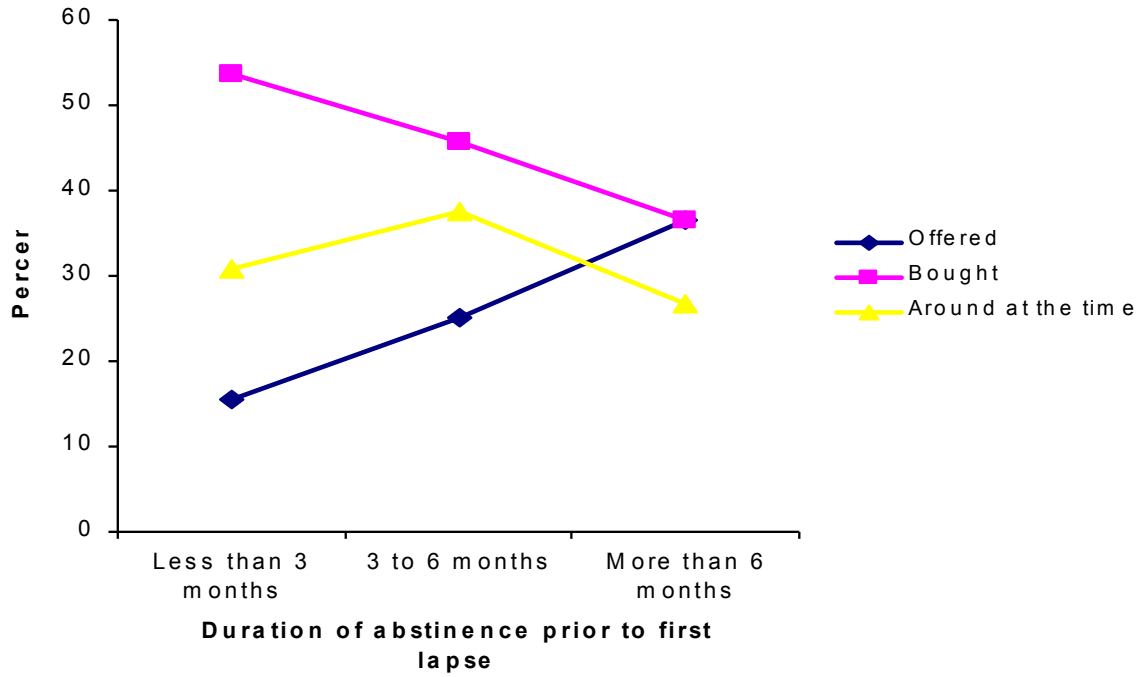
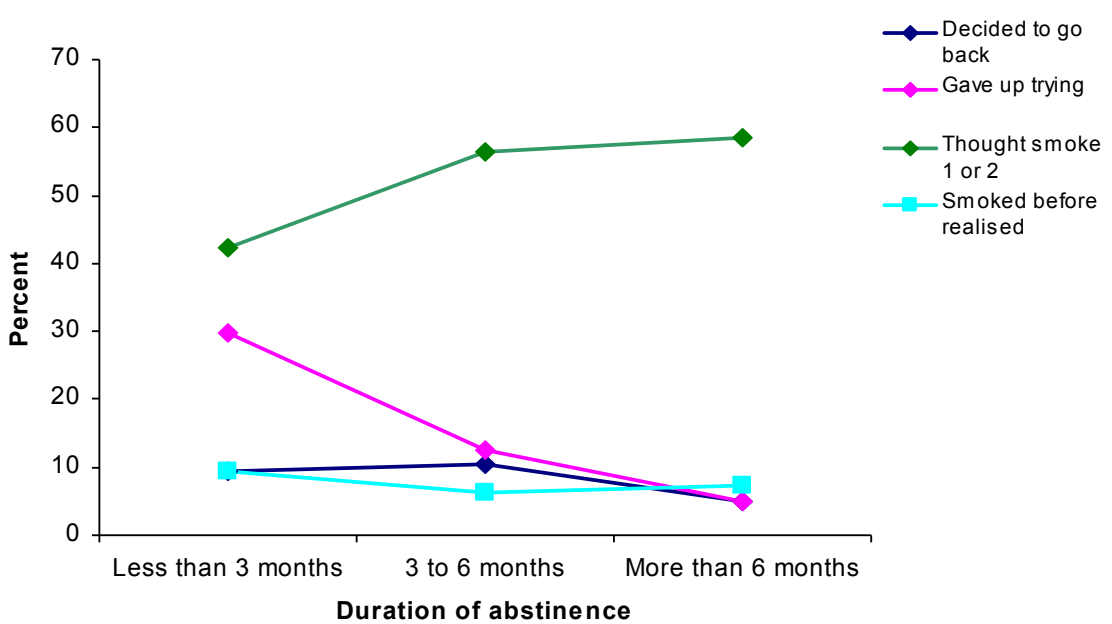


Figure 7. **Intention to Relapse According to Duration of Abstinence**



There was a small and non-significant trend for earlier lapsers to buy their cigarettes $\chi^2(1, N = 186) = 3.426$, $p=0.064$. Accepting offer of a cigarette was more common for late relapsers $\chi^2(1, N = 186) = 7.510$, $p<0.01$.

A temporary suspension of the rule of abstinence (i.e. to smoke one or two cigarettes and then stop) was the most commonly reported intention, regardless of time to lapse although there was a marginally significant trend towards a higher proportion of lapsers reporting this intention with longer time to lapse $\chi^2(1, N = 186) = 3.760$, $p=0.052$. The proportion of lapsers with the intention to give up on trying to stop smoking at the time of first lapse was lower the longer the duration of abstinence $\chi^2(1, N = 186) = 12.961$, $p<0.001$.

Feeling miserable prior to first lapse and needing a cigarette at the time was reported in more than half of responders and feeling happy in a minority irrespective of time abstinent. Not caring about the consequences of smoking showed a significant but non-linear association with duration of abstinence.

Recall Bias

The examination of first lapse characteristics involved the recall of events and feelings that happened months or years previously and this raises the possibility that recall bias may have influenced the results (Shiffman, 1997). To examine the effect of length of time over which subjects were asked to remember, the responses of those who reported their first lapse to have been less than 6 months before completing the questionnaire (26 subjects) were compared with those who first lapsed 6 months or more before completing the questionnaire (160 subjects). The 13 subjects who did not give the date of their first lapse were excluded. It was not possible to examine shorter

recall times due to the small number of subjects who first lapsed closer to the date of questionnaire completion. When these two groups were compared on the responses to the questions shown in Table 4 there was no evidence that responses differed according to length of time since the first lapse had taken place. For the 10 items shown, all χ^2 values were less than 3 and all p-values were greater than 0.1.

Discussion

This study is the first to explore loss and health behaviour change following cessation, residual attraction and smoker identity in ex-smokers and first lapse characteristics following a period of prolonged abstinence in relapsed smokers. The observations made in the previous two studies were supported in the current larger sample. A great sense of loss following cessation was reported by the vast majority of responders and other health behaviour changes were also common. Residual attraction to smoking and smoker identity was prevalent among abstinent responders and declined with increased duration of abstinence. In relapsed responders the decision to temporarily return to smoking in the context of negative affect was the most common pattern of first lapse.

Loss and Health Behaviour Change Following Cessation

The experience of a great sense of loss at some point following smoking cessation was reported by the majority of responders. The high prevalence regardless of current smoking status supports the findings of Studies 1 and 2 that smoking is behaviour of particular significance with its absence accompanied by a heightened sense of loss. A parallel between a sense of loss and identity has been observed as far back as the nineteenth century (James 1890/1891). Whilst it is not possible to conclude from

this study that smoking has a profound affect on identity from the experience of loss alone, it does not provide evidence to the contrary. As such, studies designed to explore the association between loss and identity merit research attention.

In the current study more than half of all responders irrespective of smoking status reported eating more healthily or becoming more physically active following cessation. This suggest that the re-invention of a healthier self observed by Ogden & Hills (2008) to accompany successful and sustained behaviour change may extend at least in part to those who have relapsed. Most of the relapsed responders also reported a desire to stop-smoking in the future and confidence in their ability to do so. Studies that have examined multiple health behaviours in relation to smoking status do not differentiate relapsed smokers (i.e. late relapse) from smokers who have not attempted to quit or were unable to sustain abstinence for a minimum of one month. The findings of the current study indicate that designing surveys to apply this distinction would be useful. In Study 2, the harm reduction strategies observed and the social and moral expectation for individuals to take responsibility for their own health by pursuing health behaviours was discussed. Modifying studies that examine the association between dietary nutrient intake and smoking status (e.g. Dyer et al, 2003) to consider "late relapsed smokers" (i.e. relapse following at least a month of abstinence) separately from other current smokers may offer some indication as to whether this pursuit of health is a social buffer from the stigma associated with continued smoking or a genuine reflection of engagement in healthier diet.

Residual Attraction and Smoker Identity

This study found that residual attraction to smoking, smoker identity and a vulnerability to relapse were prevalent among ex-smokers who had been abstinent for between 6 weeks, and 3 years and 4 months. These prevalence rates declined substantially with length of time abstinent. Residual attraction reduced by about 50%, smoker identity by about 70%, and vulnerability by about 80%. However, both a residual attraction to smoking (37%) and smoker identity (16%) remained in a substantial minority of those who had been abstinent for more than 2 years. Most persistent after two years were feelings of missing cigarettes (28%) and wanting to return to smoking if smoking was not harmful (28%).

Despite these findings, only 7% still reported being vulnerable to relapse after 2 years of abstinence and, in particular, only 1% thought they would ever smoke again. As expected, residual attraction, smoker identity and vulnerability were associated, but none were related to the baseline characteristics with the exception of identity which was predicted by the length of time spent smoking. The decline in these characteristics with time spent abstinent was not predicted by any of the demographic characteristics measured in this study. The association of smoker identity with length of time smoking indicates that a smoker identity may become more established with time as a smoker. This raises the question of whether the process of identity change from a smoker to a non-smoker would be expected to take longer among those with a longer smoking history and warrants prospective examination.

The current study examined any residual attraction to smoking and assuming that experiencing some craving/desire to smoke is an indicator of this, the prevalence of residual attraction and some craving/desire to smoke are comparable. Residual attraction to smoking was reported by 45.9% of those abstinent for more than a year.

This is double that found in a survey of unaided quitters (Gritz, 1991) and possibly a reflection of sample differences as clinic attendees are likely to be more dependent smokers (Gilbert, 2005). The prevalence of residual attraction is similar to that of desire to smoke found in an internet survey population (i.e. 59%) and also similar to perceptions of relapse vulnerability in those abstinent for more than a year (i.e. 17%) compared with 14.5% in the current sample. This internet sample is likely to include less dependant smokers than a clinic sample (Hughes, 2010) but the similarity in prevalence may be due to the more inclusive questioning with desire to smoke recalled over the previous 12 months rather than current attraction to smoking used in the current study.

Both the prevalence of residual attraction and smoker identity decreased with time abstinent. This is in line with the findings of small prospective studies examining changes in the strength of 'smoker' self-concept (Shadel, 1996) and the increasingly negative view of the 'typical smoker' with time abstinent (Gibbons & Eggleston. 1996).

Characteristics of First Lapse

The most common pattern of first lapse after the end of treatment was found to be a decision to temporarily suspend the 'no-smoking' rule in the context of needing a cigarette and feeling unhappy. In these circumstances respondents commonly reported buying cigarettes in order to lapse. However, other patterns were also present, including a decision to resume smoking and impulsively smoking when not needing a cigarette and when happy. As time from the quit date increased, seeking out cigarettes became less common as did giving up on the quit attempt. However, negative mood and needing a cigarette remained as dominant factors. Only a small minority reported that they

smoked without realising what they were doing and the prevalence of this behaviour was not related to length of abstinence.

The proportion of responders who bought cigarettes in order to smoke was twice that reported in the only other study to examine it and accepting an offered cigarette 10 times more likely (Brendon et al 1990). That study was smaller and followed a different methodology which may account for the difference.

Almost half of relapsed smokers reported a temporary return to smoking as their intention at the time of first lapse with many actively buying cigarettes in order to do so. This suggests that a substantial proportion of quit attempts may fail in late relapse due to the perception that abstinence can be briefly suspended and then resumed again without high risk of relapse. There is also some evidence that this confidence in being able to temporarily suspend abstinence increases with time abstinent prior to the first lapse as did the likelihood of accepting an offered cigarette. This raises the question of whether smoking a cigarette obtained in a passive way (i.e. offered from someone else) is perceived by quitters as posing a reduced threat to their ability to briefly suspend their rule of abstinence than when the cigarette has been actively sought (i.e. bought).

Similar to studies examining early lapse, the majority of first lapses were preceded by negative affect (Shiffman & Waters, 2004). The finding that needing a cigarette remained important regardless of time abstinent suggests that anticipated relief remains a dominant smoking motive long after the quit attempt and long after the end of the withdrawal syndrome. This is supported by Dijkstra and Borland's (2007) findings that although residual outcome expectancies of smoking predicted late relapse this effect was completely mediated by craving.

Limitations and Future Research

The present study had limitations. First, less than half of those invited to take part in the study chose to do so (i.e. 40.0%) and whilst this compares favourably with other postal surveys on clients who used the NHS smoking cessation services (e.g. May, Arnoldi, Bauld, Ferguson, Stead, McEwen 2009) it is possible that a non-response bias may have been in operation. Indeed it is evident from the relatively low relapse rate among responders that a disproportionate number of those who had relapsed did not respond to the survey. Although the possibility of a non-response bias influencing the results cannot be ruled out, there appeared to be little evidence of this from an examination of demographic differences between responders and non-responders. The only exception is that responders were slightly younger than non-responders. Second, due to our cross-sectional design it is not possible to establish to what extent, if any, the observed declines in the prevalence of residual attraction, smoker identity or vulnerability resulted from relapse among ex-smokers who retained these characteristics. The alternative remains possible, that residual attraction, smoker identity and vulnerability have little or no role in relapse and that for an individual their prominence fades with increasing time spent abstinent. Finally, the results examining events that occurred in the past (i.e. first lapse) might be expected to have been affected by recall bias as it involved recall of events that happened months or years ago. In subsidiary analyses however, there was no evidence that the length of time over which subjects had been asked to recall events and feelings had influenced their responses.

Having established in this study that the characteristics of residual attraction to smoking and retention of a smoker identity are prevalent even after years of abstinence, a large prospective study is needed to establish to what extent, if at all, these characteristics are important in maintaining a successful smoking cessation attempt.

Such a study should also explore the ways in which long-term ex-smokers retaining these characteristics are able to protect themselves from relapse.

Future studies could examine the perceptions of quitters (both those who have been abstinent for some time and those who relapsed) regarding the effort required to obtain a cigarette and threat to temporary abstinence.

To What Extent Can the Findings Be Explained By PRIME theory?

It is clear from the results of the current study that for at least a sizeable group of smokers, long-term cessation is possible without full adoption of a 'non-smoker' identity and while continuing some attraction to smoking. For the majority there are also no feelings of vulnerability to relapse. One possible explanation for this phenomenon is that these ex-smokers have adopted a powerful 'no smoking rule' which is sufficient to prevent any feelings of attraction towards smoking or lack of non-smoker identity from causing them to relapse or even feeling vulnerable to relapse.

The findings support the hypothesis that late lapse is predominantly associated with an intended suspension of the 'no smoking rule' rather than abandonment of it and that it is associated with negative mood. The finding that needing a cigarette remained important suggests that anticipated relief remains a dominant smoking motive long after the quit attempt and long after the end of the withdrawal syndrome.

Conclusion and Implications

Smoker identity, residual attraction and vulnerability to smoking were common among ex-smokers and declined with time abstinent. The persistence of these factors beyond two years of smoking indicates that the non-smoker identity may not be necessary for long-term cessation. If this decline is found in prospective studies then it would suggest a gradual process of transition towards a non-smoker identity (as observed in Study 1). Smoking cessation interventions could address this by grounding smokers' expectations to accommodate the possibility of a gradual process of identity transition marked by a continued attraction to cigarettes. Making smokers aware of this may facilitate acceptance and identity transition.

This study also suggests that a substantial proportion of quit attempts may fail at a later stage due to a perception that abstinence can be briefly suspended and then resumed again without high risk of relapse. If briefly suspending abstinence is also found to be the case in other relapsed smokers, relapse prevention interventions could be designed to focus on challenging beliefs about temporary abstinence. Interventions could benefit from focusing on 1) promoting strong 'not a puff' rules and non-smoker identity to counter the tendency for smokers to think that they can suspend their no-smoking rule, and 2) helping smokers to identify negative mood and occasions when they will feel that they need a cigarette as vulnerable times, and equipping them with coping mechanisms that do not involve smoking.

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Publications Based on Findings from the Current Research

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Research Appendix A: Recruitment procedure

Inclusion Criteria

Whilst conducting the routine follow-up call, you should be able to ascertain whether the person meets the following inclusion criteria. Do not worry about the third point as I will screen all the interested people, but if they tell you that they are in the advanced stages of lung cancer, COPD, or recently had a series of strokes/ heart attacks for example, then note this down (you wouldn't need to introduce the study to these cases). If in doubt note it down, then introduce them to the study anyway.

- **Managed to stay quit (lapses are allowed) for at least 6 months before relapsing.**
- **Over 18 years of age.**
- **Not suffering from severe stages of tobacco related illness.**

If patient meets the criteria then please introduce the study to them. *See guide below.*

E.g. Study Introduction

We are carrying out a research study **to help us to understand more about the process of stopping smoking** and what influences whether a person relapses back to smoking. Understanding more about this will help us to develop more effective support programmes.

To do this we need the help of people like you who **successfully quit smoking with us for 6 months or more,** to share your experiences of what it was like for you to stop smoking and trying to stay stopped with our researcher, Eleni.

We are **looking for both people who have returned to smoking and people who are still quit to attend one interview** to share their thoughts and experiences of stopping smoking.

Your role in the research would **just involve talking to Eleni for about an hour** about your experience of giving up smoking. You will be offered a payment for travel expenses and your time.

Would you be interested to receive more information about the study in the post?
Then if you are still interested you can send back the freepost reply or give Eleni a call.

If yes ask them to confirm their address and note this down on the spreadsheet.

12 month Follow-up Call Spreadsheet

Date
Write the date that you spoke to the person.

Under 18?
Answer Y or N.

Still Quit
Answer Y or N.

How long after quit day did they relapse?
Ask them how long they managed to stay quit before going back to smoking and note how many months or weeks this was here.

Suffering from advanced smoking related illness?
Answer Y or N. Then write the name of the illness in the notes section.

Invited to study?
Answer Y or N.

Would like to Receive Information Pack?
Answer Y or N.

Address
If they would like to receive the information pack, write their address here.

Notes
Please write in this section of the spreadsheet anything that you think might be helpful for me to know. E.g. type of advanced smoking related illness, mobility problems, moving away soon, could not contact them, reason they offer you for not wanting to take part etc.).

South Essex Stop Smoking Service

Mapline House, 14 Bull Lane, Rayleigh, Essex SS6 8JB, Tel: 01268 464511, Fax: 01268 464552

Research Appendix B: Patient invitation sheet

UNDERSTANDING THE CAUSES AND PROCESSES OF RELAPSE TO SMOKING

University College London is carrying out a research study to help us to understand more about the process of stop smoking and the factors which influence whether a person relapses back to smoking. To do this we need the help of people like you who successfully quit smoking with our service over the past year, to share your experiences of stopping smoking and trying to stay stopped with the researcher. We are looking for 20 people to come in for an interview. I am enclosing the patient information sheet about the study, which you might like to read.

Although your help would be very much appreciated, taking part in the research is voluntary and if you prefer not to do so, nobody will be upset and your treatment will not be affected.

If you would like more information about the research study or are interested in taking part, please contact Eleni Vangeli by returning the reply slip below in the FREEPOST addressed envelope provided, by calling **020 7679 6590** or **0777 0736 519** or via email on e.vangeli@ucl.ac.uk

Thank you for taking time to read the enclosed information.

Yours sincerely,

South Essex Stop Smoking Service

--I am interested in hearing more about the study

Name:
Address:

Telephone Number: E-mail address:

South Essex Stop Smoking Service

Mapline House, 14 Bull Lane, Rayleigh, Essex SS6 8JB, Tel: 01268 464511, Fax: 01268 464552

Research Appendix C: Patient Information Sheet

UNDERSTANDING THE CAUSES AND PROCESSES OF RELAPSE TO SMOKING

Invitation
You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with friends, relatives and your GP if you wish.

- Part 1 tells you the purpose of this study and what will happen if you take part.
- Part 2 gives you more detailed information about the conduct of the study.

Ask us if there is anything that it not clear or if you would like more information. Take time to decide whether or not you want to take part.

What is the purpose of the study?
Not enough is known about the reasons why people relapse back to smoking or the factors that help people not to relapse. The aim of study therefore, is to gain a better understanding of the causes and processes involved in relapse to enable the development of more effective support programmes.

Why have I been chosen?
We are inviting all patients who quit with the South Essex Stop Smoking Service over the last year who were successful quitters at the end of the programme. We are looking for 10 people who have returned to smoking and 10 people who are still quit to attend one interview to share their thoughts and experiences of stopping smoking.

Do I have to take part?
No, taking part is voluntary. If you do decide to take part, we will ask you to sign a consent form and give you a copy of the information sheet and consent form to keep. Even after you have agreed to take part, you have the right to withdraw from the research, at any time if you so wish, even during the interview. You do not need to give a reason, nobody will be upset and please be assured that the standard of care you receive will not be affected.

What will happen to me if I take part?
You will be asked to attend an interview at one of the clinics or offices of the South Essex Stop Smoking Service most convenient for you. The researcher will be asking you to talk about your experience of giving up smoking, staying stopped and the support of the services. The interview will last about 1 hour and will be audio-taped. However, all identifying features will be removed to ensure that you stay anonymous. Everything discussed will remain completely confidential and will not be repeated to any of the stop smoking service staff or to your GP. You will be given £20 for your time and travel expenses.

What do I have to do?
We would be grateful if you could complete the interview and be audio-taped.

What are the possible side effects of taking part?
The research study consists of just one interview. You will not be pressurised into discussing anything that you do not want to.

What are the possible benefits of taking part?
We do not expect there to be any immediate benefits for you in taking part. However, by taking part in an interview, you will be helping us to understand your experiences of giving up and staying stopped. The insight gained could guide changes in the services to better support people in a way to help protect them from relapse.

What if there is a problem?
Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information about this is given in Part 2.

Will my taking part in the study be kept confidential?
Yes. All the information about your participation in this study will be kept confidential. The details are included in Part 2.

Contact for further information
If you have any further questions or are interested in taking part please call the researcher **Eleni Vangeli** on **020 7679 6590.**

This completes Part 1 of the Information Sheet.
If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

Part 2
What is something goes wrong?
This study is considered to be low risk. If you feel upset as you talk about your experiences of smoking or failing to quit you will be able to take a break from the interview. If you feel unduly stressed and, require counselling, arrangements will be made for a local referral. UCL has cover in place arrangements in place for non-negligent harm cover in the event that you are harmed by taking part in this research project.

What if there is a problem?

Complaints:
If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer you questions (please call Eleni on **020 7679 6590)**. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from your Primary Care Trust. If you wish to complain about any aspect of the way you have been approached or treated during the course of this study, you may contact the Research Governance Sponsor of this study, University College London. Please write to UCL

Biomedicine R&D Unit, Rowland Hill Street, London NW3 2PF quoting reference BRD/06/095

Will my taking part in this study be kept confidential?
No one apart from the researcher will know that you have decided to take part.

All identifying features will be removed from the interview records and your real name substituted for a code name. The results of the study may include some word for word quotes of what you said in the interview but will be presented with a code name. This is so that no one other than the researcher can link anything said in the interview back to you. Again be assured that everything discussed will remain completely confidential. If something is discussed causing the researcher concern about serious harm coming to yourself or others then this will be raised with you and confidentiality may no longer be guaranteed.

With your permission we will make a copy of the clinic assessment form you filled in when you attended the stop-smoking clinic (containing details about your smoking habits and carbon monoxide reading). Again all identifying information will be removed and your name replaced by a code name.

The code-named version of your transcript from the interview and clinic assessment form will be stored on computer to allow us to look at it closely. It will be stored in accordance with the data protection act and you will have the right to view it. Any data with your name on it will be stored for 6 years and then destroyed.

What will happen to the results of the research study?
The results of this interview study will be used to guide the design of a postal-questionnaire to look at the experiences of other people who quit smoking with the service. Shortly after the questionnaire study is completed, a copy of the summary of findings will be sent to you. The results will be reported in professional publications and meetings, but again you will not be identified by name. The research will also be used as part of an educational qualification.

Who is organising and funding the research?
The research is being funded by Cancer Research UK and organised by University College London.

Who has reviewed the study?
The South Essex Local Research Ethics Committee has approved this study.

What do I do now?
Thank you for considering taking part in this research. If you are interested in taking part or would like more information, please return the form on the letter in the pre-paid enveloped provided. Alternatively, please call the researcher Eleni on **020 7679 6590.**

South Essex Stop Smoking Service

Mapline House, 14 Bull Lane, Rayleigh, Essex SS6 8JB, Tel: 01268 464511, Fax: 01268 464552

Research Appendix D: Participant Consent Form

Study Number:
Participant Identification No:

CONSENT FORM

Understanding the Causes and Processes of Relapse to Smoking.
Researchers: Professor Robert West & Ms Eleni Vangeli

	Please initial box if you agree
1. I confirm that I have read and understand the information sheet dated 16/11/06 Version 1.1 for the above study and have had the opportunity to ask questions.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.	
3. I understand that an anonymous copy of the clinic assessment form I completed when I quit with the service will be taken by the study's researchers from University College London. I give permission for these people to access my records.	
4. I agree to take part in the above study.	
5. I agree to the use of audio-taping, with possible use of direct quoting of what I say (understanding that my identity will not be disclosed).	

Name of participant	**Date**	**Signature**
Researcher	**Date**	**Signature**

Research Appendix E: Interview Schedule (Abstinent)

- **How old were you when you started smoking?**
- **Tell me about the first time that you smoked a cigarette.**
  - What situation led to this? What was going through your mind at the time?
  - How did you see a smoker back then?
  - What did you know about smoking?
  - Did you enjoy it?
- **What experiences of giving up smoking did you have before quitting with the service X months ago?**
  - How long did they last?
  - Was there anything different about them?
- **Thinking to when you quit with the group/service last. What led you to decide to quit at that time?**
  - Was this planned?
  - What attracted you to use the service?
- **Tell me about what it was like for you to quit.**
  - How did you feel?
  - Did you use any medication to help you to stop? How long used it?
  - Were there any times when you had a puff of a cigarette?
    - How did you feel afterwards?
- **What did you find most difficult about giving up smoking?**
  - What made it difficult?
  - How did you cope with this?
  - Did you make any changes to your lifestyle?
- **Were there any aspects of giving up smoking which you found to be easier than you had expected?**
  - What made it easier?
- **Did you feel any different when you had stopped smoking?**
  - Did you view yourself any differently?
  - When did these changes occur?
  - Do you feel completely free from temptations to smoke?
- **What was your experience of urges to smoke?**
  - How long did these last?
  - Were they linked to any particular situations?
  - Have there been any changes over time?
- **Have you smoke at all since you quit smoking X months ago?**
  - What led to this?
  - Was it what you expected it to be like?

    How did you feel after you had it?
- **How do you feel when you see another person smoking?**
  - What goes through your mind?
- **How do you feel now about smoking?**
  - Could you see yourself easily returning to smoking?
  -
- **Are you any more happy now, less happy or about the same as you were when you were not smoking?**

Research Appendix F: Interview Schedule (Relapsed)

- **How old were you when you started smoking?**
- **Tell me about the first time that you smoked a cigarette.**
  - What did it mean to you?
  - How did you see a smoker back then?
  - What did you know about smoking?
- **What experiences of giving up smoking did you have before quitting with the service ___ months ago?**
  - How long did they last?
  - Was there anything different about them?
- **Thinking to when you quit with the group/service last. What led you to decide to quit at that time?**
  - Was this planned?
  - What attracted you to use the service?
- **Tell me about what it was like for you to quit.**
  - How did you feel?
  - Did you use any medication to help you to stop? How long used it?
  - Were there any times when you had a puff of a cigarette?
- **What did you find most difficult about giving up smoking?**
  - What made it difficult?
  - How did you cope with this?
  - Did you make any changes to your lifestyle?
- **Were there any aspects of giving up smoking which you found to be easier than you had expected?**
  - What made it easier?
- **Did you feel any different when you had stopped smoking?**
  - Did you view yourself any differently?
  - When did these changes occur?
- **What was your experience of urges to smoke?**
  - How long did these last?
  - Were they linked to any particular situations?
  - Have there been any changes over time?
- **Did you smoke at all between the time you quit and before returning back to smoking?**
  - What led to this?
  - Was it what you expected it to be like?
    - How did you feel after you had it?
- **Tell me about how you returned to smoking?**
  - Situation, how did you feel?
  - Did you see it coming?
  - Did you decide to be a smoker again?
- **How do you feel now compared to when you were not smoking?**
-
- **Are you any more happy now, less happy or about the same as you were when you were not smoking?**

Research Appendix G: Clinic assessment form

STOP SMOKING SERVICE
ASSESSMENT

Client No: Date: Screened by:

Title: Mr Mrs Ms Miss *(please circle)*	
Name:	
Date of Birth:	Age:
Address:	Full post code:
Telephone Home: Work: Mobile:	
Contact details of a person we can contact if we cannot contact you.	
GP's name: GP's address: GP's telephone number:	

Demographic details

These questions are to help monitor the service

1. Are you: *(Circle one answer)*	Male Female
2. Does anyone else in your household smoke? *(Please circle)*	Yes No
3. Are you in receipt of free prescriptions *(Circle one answer)*	Yes No

4. What is your ethnic group? *(please tick box)*

White – British	☐	White – Irish	☐	White – any other background	☐
Mixed – White & Black Caribbean	☐	Mixed – White & Black African	☐	Mixed – White & Asian	☐
Mixed – any other mixed background	☐	Asian or Asian British - Indian	☐	Asian or Asian British – Pakistani	☐
Asian – Bangladeshi	☐	Asian or Asian British – any other Asian background	☐	Black or Black British – Caribbean	☐
Black or Black British – African	☐	Black or Black British – any other Black background	☐	Chinese	☐
Turkish	☐	Any other ethnic group (Please state)			

5. What is your occupation? *(please describe occupation giving the full job title)*
for example: Retail Store Manager; Building Contractor; Secondary Teacher; Electrical Engineer; Builders Labourer; Printing Machine Operator; unemployed; housewife, retired.

…….

6. How did you hear about the clinic? *(please circle)* *If you saw or heard an advertisement please state where:*

GP
Hospital Doctor
Practice Nurse
Friend/Family
Help-line
Advertisement
Newspaper/magazine
A leaflet or poster
Other *(please specify)*

About your smoking

1. How many cigarettes per day do you usually smoke?*)*
_____ per day

2. How soon after you wake up do you smoke your first cigarette? *(Circle one response)*
Within 5 minutes
6-15 minutes
16-30 minutes
31- 60 minutes
After 1 hour

3. Do you find it difficult to stop smoking in no-smoking areas? *(Circle one response)*
No
Yes

4. Which cigarette would you hate most to give up? *(Circle one response)*
The first of the morning
Other

5.	Do you smoke more frequently in the first hours after waking than during the rest of the day? *(Circle one response)*	No Yes
6.	Do you smoke if you are so ill that you are in bed most of the day? *(Circle one response)*	No Yes

7. Do you smoke hand-rolled cigarettes?	No Yes
If Yes: 7a. How many do you usually smoke per day?	
7b. How much tobacco do you usually use per week?	ounces/grammes
8. Do you smoke a pipe?	No Yes
If yes: 8a. How much tobacco do you use?	ounces/grammes
9. Do you smoke cigars?	
If yes: 9a. How many do you smoke a day?	

Smoking Motives

This next set of questions tells us what you are likely to miss most about smoking when you stop.

1.	Do you use smoking to help you cope with stress? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all
2.	Do you use smoking to help you socialise? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all

3. Do you use smoking to give you something to do when you are bored? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all
4. Do you use smoking to help you to concentrate and stay alert? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all
5. Do you smoke because you feel uncomfortable if you don't? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all
6. Do you use smoking to help you to keep your weight down? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all
7. Do you enjoy smoking? *(Circle one response)*	Yes very much Yes quite a bit Yes a little Not really Not at all
8. How do you find the smell of other people's cigarette smoke?	Very pleasant Moderately pleasant Slightly pleasant Neutral Slightly unpleasant Moderately unpleasant Very unpleasant
9. Does the smell of other people's cigarette smoke make you want to smoke? *(Circle one response)*	Very much Moderately Slightly Not at all

Past quit attempts

These questions are to help us determine your smoking history

1. How many times have you tried to stop smoking in the last 5 years? *(If you have tried please write the number of times in the space)*	Not at all ……..times

2. What is the longest time you've succeeded in giving up smoking in the last 5 years? *(Circle one)*	Few hours 1 day 2-3 days 4-7 days 1-3 weeks 1-3 months More than 3 months Not tried
3. Have you ever tried nicotine chewing gum? *If yes, how many pieces did you use altogether?*	No Yes _____pieces
4. Have you ever tried nicotine skin patches? *If yes, how many patches did you use altogether?*	No Yes _____patches
5. Have you ever tried nicotine nasal spray? *If yes, how many bottles did you use altogether?*	No Yes _____bottles
6. Have you ever tried nicotine inhalator? *If yes, how many cartridges did you use altogether?*	No Yes _____cartridges
7. Have you ever tried nicotine microtab? *If yes, how many tablets did you use altogether?*	No Yes _____tablets
8. Have you ever tried nicotine lozenges?	No Yes _____lozenges
9. Have you ever tried Zyban? *If yes, how many weeks did you use it for?*	No Yes _____weeks

Motivation to stop smoking

This next set of questions tells us about your motivation to stop smoking

1. How important is it to you to give up smoking altogether at this attempt? *(Circle one response)*	Desperately important Very important Quite important Not all that important
2. How determined are you to give up smoking at this attempt? *(Circle one response)*	Extremely determined Very determined Quite determined Not all that determined

3. Why do you want to give up smoking? *(Circle only one reason)*	Because my health is already suffering I am worried about my future health Because smoking costs too much Other people are pressurising me to For my family's health Because I don't like being addicted Smoking is antisocial Smoking sets a bad example to children
4. If you try stopping now with clinic help, how confident are you of succeeding? *(Circle one number below)* Not at all confident → 1 2 3 4 5 6 7 8 9 10 ← Totally confident	

About your health

1. How many times have you consulted you GP in the last 12 months?	times
2. How many times has a hospital doctor or other specialist seen you in the last 12 months?	times
3. How recently has your GP advised you to stop smoking? *(Circle one response)*	In the last year More than a year ago Never
4.a. Are you pregnant?	Yes No
4.b. Are you breast-feeding?	Yes No
4.c. Are you trying to conceive?	Yes No

5.a. Have you EVER suffered from these illnesses? *(Circle one)*			&	5.b. Are you STILL being treated? *(Circle one)*		Name of any medicine you are STILL taking
Heart disease or Condition?	Yes	No		Yes	No	
A Stroke?	Yes	No		Yes	No	
Cancer?	Yes	No		Yes	No	
Bronchitis?	Yes	No		Yes	No	
High Blood Pressure?	Yes	No		Yes	No	
Emphysema or COPD?	Yes	No		Yes	No	
Asthma?	Yes	No		Yes	No	
Alcohol problems?	Yes	No		Yes	No	
Drug Problems?	Yes	No		Yes	No	
Depression?	Yes	No		Yes	No	

Bi-polar(high-low)Depression?	Yes	No		Yes	No	
Any form of psychosis?	Yes	No		Yes	No	
Skin allergies or eczema?	Yes	No		Yes	No	
Nasal Problems or nose bleeds?	Yes	No		Yes	No	
An Eating disorder?	Yes	No		Yes	No	
Liver or Kidney disease?	Yes	No		Yes	No	
A Brain Tumour?	Yes	No		Yes	No	
A Head Injury?	Yes	No		Yes	No	
Fits or Seizures or Epilepsy?	Yes	No		Yes	No	
Diabetes?	Yes	No		Yes	No	
Malaria?	Yes	No		Yes	No	

Other CURRENT illnesses not listed above:	Name of other medicines / tablets / injections not listed

6. Do you drink alcohol? Yes No

If yes, please specify what and how many units you would consume in a week (e.g. glass of wine / half of beer / single spirit are each equal to 1 unit). ---------- units

Research Appendix H: Questionnaire

Form Code:

Smokers Clinic Follow-up Questionnaire

We would be very grateful if you could fill in this questionnaire. The aim is to find out more about your experiences so that we can find better ways of helping smokers to stop.

1. When did you last attend the service to stop smoking? *(Please give month and year)*

Month ☐ Year ☐

2. Do you currently smoke at all? *(Please tick box that applies)*

Yes 1☐ No 2☐

3. Which of the following applies to you?

(Please tick box that applies)	(✓)
I stopped at the clinic and have not smoked since	1
I went back to smoking but *have* tried to stop since	2
I went back to smoking and *have not* tried to stop since	3

4. Some smokers say that they felt a great sense of loss when they stopped smoking. Did you experience this at any point? *(Please tick box that applies)*

Yes a lot 1☐ Yes a little 2☐ No not really 3☐ No not at all 4☐

5. Do any of the following apply since you attended the stop smoking clinic? *(Please tick)*

I have made an effort to eat more healthily (e.g. more fruit or vegetables) ..	Yes 1☐	No 2☐
I have found myself eating more healthily without trying.....	Yes 1☐	No 2☐
I have found myself eating less healthily (e.g. more fatty or sugary foods) .	Yes 1☐	No 2☐
I have made an effort to be more physically active	Yes 1☐	No 2☐
I have found myself being more physically active without trying.....	Yes 1☐	No 2☐

If you are CURRENTLY SMOKING please skip to Question 13.

Please answer the question 6 to 12 below if you are NOT CURRENTLY SMOKING.

6. How long ago was it since your last cigarette? *(Enter a number in whichever box below is most suitable)*

Days ☐ or Weeks ☐ or Months ☐ or Years ☐

7. Do you still miss cigarettes? *(Please tick box that applies)*

Yes a lot 1☐ Yes a little 2☐ No not really 3☐ No not at all 4☐

8. If smoking was not harmful, would you go back to it? *(Please tick box that applies)*

Definitely 1☐ Probably 2☐ Probably not 3☐ Definitely not 4☐

9. Does smoking have any attraction for you now? *(Please tick box that applies)*

Yes a lot 1☐ Yes a little 2☐ No not really 3☐ No not at all 4☐

10. Do you think you will ever smoke again? *(Please tick box that applies)*

Definitely 1☐ Probably 2☐ Probably not 3☐ Definitely not 4☐

11. Do you think something could ever happen that would push you back to smoking? *(Please tick box that applies)*

Definitely 1☐ Probably 2☐ Probably not 3☐ Definitely not 4☐

12. How do you think of yourself? *(Please tick box that applies)*

Definitely a non-smoker 1☐ A reluctant non-smoker 2☐ A smoker who is not smoking 3☐

Now please answer Questions 18 to 20.

Please Turn Over

If you are CURRENTLY SMOKING please answer the questions 13 to 17 below.

13. When you stopped with the stop smoking clinic, how long did you last before having your first cigarette? *(Enter a number in whichever line below is most suitable)*

☐ **Days** or ☐ **Weeks** or ☐ **Months** or ☐ **Years**

14. How many cigarettes per day do you smoke now? *(Enter in the box that applies)*

☐ **Cigarettes per day**
☐ **Cigars per day**
☐ **Grams or** ☐ **Ounces of tobacco per day**

15. When you smoked for the first time after the most recent quit attempt:

a. Where did you get this first cigarette or cigar from? *(Please tick)*

I was offered the cigarette or cigar by someone	Yes ☐1	No ☐2
In order to smoke I bought cigarettes or tobacco	Yes ☐1	No ☐2
There were cigarettes or tobacco around at the time	Yes ☐1	No ☐2
The first thing I smoked was a cigar	Yes ☐1	No ☐2

b. What was going through your mind when you smoked it? *(Please tick)*

I had decided that I would go back to smoking	Yes ☐1	No ☐2
I was not thinking about the consequences	Yes ☐1	No ☐2
At the time I did not care about the consequences	Yes ☐1	No ☐2
I thought I could smoke one or two cigarettes and then stop again	Yes ☐1	No ☐2
I just lit up and smoked before I realized what I was doing	Yes ☐1	No ☐2
I just gave up on trying to stop	Yes ☐1	No ☐2

c. How were you feeling just before you smoked it? *(Please tick)*

I really needed a cigarette	Yes ☐1	No ☐2
I was happy	Yes ☐1	No ☐2
I was miserable	Yes ☐1	No ☐2

16. Do you still want to stop smoking? *(Please tick box that applies)*

Yes, very much ☐1 **Yes, Somewhat** ☐2 **Not really** ☐3 **Definitely not** ☐4

17. Do you think you will be able to stop smoking in the future? *(Please tick box that applies)*

Definitely ☐1 **Probably** ☐2 **Probably not** ☐3 **Definitely not** ☐4

Please answer questions 18 to 20. TO BE COMPLETED BY EVERYONE.

18. Age: ☐ **years**

19. Are you? *(Please tick box that applies)*

Male ☐1 **Female** ☐2

20. How old were you when you started smoking regularly?

☐ **years**

Thank you for taking the time to complete this questionnaire. Please return to Eleni Vangeli, Health Behaviour Unit, University College London, 2-16 Torrington Place, London WC1E 6BT in the **FREEPOST envelope provided (a stamp is not needed)** within the next three weeks.

South Essex Stop Smoking Service
Mapline House, 14 Bull Lane, Rayleigh, Essex SS6 8JB
Tel: 01268 464511, Fax: 01268 464552

DEPARTMENT OF EPIDEMIOLOGY & PUBLIC HEAL
HEALTH BEHAVIOUR UNIT

Ms name surname
address 1
address 2
address 3
postcode

Research Appendix I: Participant Invitation Sheet

UNDERSTANDING THE CAUSES AND PROCESSES OF RELAPSE TO SMOKING

date

Dear name,

University College London is carrying out a research study funded by Cancer Research UK. The goal of the research is to help us to understand more about the process of stop smoking and the factors which influence whether a person relapses back to smoking. To do this we need the help of people like you who successfully quit smoking with our service over the past few years, to share your experiences of stopping smoking and trying to stay stopped. I am enclosing the patient information sheet about the study, which you might like to read.

It is important that we reach **all types of smokers quitting** with the service. We need both people who managed to stay stopped and those who are smoking again. Even if you made other quit attempts since using the service, or are smoking and are not interested in giving up again, your views and opinions are very important to us.

To help us with this research please could you fill in the enclosed questionnaire. The answers you give will be anonymous and treated with the strictest confidence. It will take **less than 5 minutes to complete** and can be done in one of the following ways:

1) Through the internet on http://www.attitudestohealth.co.uk/smoking/ . The website will ask you to enter a form code, so please enter **CPR123**.
2) By completing the questionnaire enclosed and posting it back to us in the FREEPOST envelope provided (you do not need to add a stamp).

If you would like more information about the research study or have any questions, please contact Eleni Vangeli by calling **020 7679 6639** or via email on e.vangeli@ucl.ac.uk.

Thank you for taking time to read the enclosed information.

Yours sincerely,

Service Manager

South Essex Stop Smoking Service

Mapline House, 14 Bull Lane, Rayleigh, Essex SS6 8JB, Tel: 01268 464511, Fax: 01268 464552

Research Appendix J*:* Patient information sheet

UNDERSTANDING THE CAUSES AND PROCESSES

OF RELAPSE TO SMOKING

Invitation
You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with friends, relatives and your GP if you wish.

- Part 1 tell you the purpose of this study and what will happen if you take part.
- Part 2 gives you more detailed information about the conduct of the study.

Ask us if there is anything that it not clear or if you would like more information. Take time to decide whether or not you want to take part.

What is the purpose of the study?
Not enough is known about the reasons why people relapse back to smoking or the factors that help people not to relapse. The aim of study therefore, is to gain a better understanding of the causes and processes involved in relapse to enable the development of more effective support programmes.

Why have I been chosen?
We are inviting all patients who quit with the South Essex Stop Smoking Service over the last three years who were successful quitters at the end of the programme.

Do I have to take part?
No, taking part is voluntary. If you do consent to taking part, please complete the questionnaire and return it in the freepost envelope provided. The questionnaire is anonymous so please do not write your name on it. If you would like us to contact you, please call Eleni on 0207 679 6639 or by email e.vangeli@ucl.ac.uk. A decision not to take part will not affect the standard of care you receive.

What will happen to me if I take part?
If you decide to take part, you need to complete the questionnaire enclosed and post it back to us in the FREEPOST envelope provided. The questionnaire will take less than 5 minutes to complete. Everything stated on your questionnaire will remain anonymous so no one will be able to trace any of your answers back to you.

What do I have to do?
Complete the questionnaire enclosed, and send it back to us in the FREEPOST envelope provided.

What are the possible side effects of taking part?
No side effects are expected.

What are the possible benefits of taking part?
We do not expect there to be any immediate benefits for you in taking part. However, by filling out the questionnaire and sending it back to us, you will be helping us to understand your experiences of giving up and staying stopped. The insight gained could guide changes in the services to better support people in a way to help protect them from relapse.

What if there is a problem?
Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information about this is given in Part 2.

Will my taking part in the study be kept confidential?
Yes. All the information about your participation in this study will be kept confidential. The details are included in Part 2.

Contact for further information
If you have any further questions or are interested in taking part please call **020 7679 6643** and ask for **Eleni Vangeli.**

This completes Part 1 of the Information Sheet.
If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

Part 2

What if there is a problem?

Complaints:
If you have a concern about any aspect of this study, you should ask to speak with the researchers who will do their best to answer you questions (please call **020 7679 6639** and ask to speak to **Eleni Vangeli)**. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure. Details can be obtained from your Primary Care Trust. If you wish to complain about any aspect of the way you have been approached or treated during the course of this study, you may contact the Research Governance Sponsor of this study, University College London. Please write to UCL Biomedicine R&D Unit, Rowland Hill Street, London NW3 2PF quoting reference BRD/06/095

Will my taking part in this study be kept confidential?
No one will know that you have decided to take part, except for the researcher.

The questionnaire data will be stored on computer to allow us to look at it closely and will be completely anonymous. If you sent back the reply or contact form (with your

details on) this will be detached from your questionnaire and securely stored for 6 years before being destroyed.

What will happen to the results of the research study?
Shortly after the questionnaire study is completed, a copy of the summary of findings will be sent to you if you have asked us to do so. The results of the study will also be reported in professional publications and meetings.

Who is organising and funding the research?
The research is being funded by Cancer Research UK and organised by University College London.

Who has reviewed the study?
The South Essex Local Research Ethics Committee has approved this study.

What do I do now?
Thank you for considering taking part in this research. If you are interested in taking part or would like more information please return the form on the letter in the pre-paid enveloped provided. Alternatively, please call **020 7679 6639** and ask for the researcher **Eleni Vangeli.**

SECTION C - PROFESSIONAL PRACTICE

Core Unit 1 – Generic Professional Competence

Supplementary Report

Since I began my stage 2 training in October 2004 I have held the position of Research Psychologist at University College London. Throughout this period I have practiced in accordance with the legal, ethical and professional standards of the British Psychological Society (BPS) and also those of the NHS. I have actively sought opportunities to develop and establish myself as a professional applied psychologist and also provided guidance to students, health professionals and clients. This case study outlines and reflects upon how I have implemented these standards and developed as a health psychologist over the course of my training.

1.1 Implement and Maintain Systems for Legal, Ethical and Professional Standards in Applied Psychology

As a member of the BPS I am committed to following the BPS code of conduct (British Psychological Society, 2000; 2006; 2009). This code has formed the basic foundation of my professional practice that is driven by the four ethical principles of *respect*, *competence*, *responsibility* and *integrity*. My practice has also abided by the legal, ethical and professional standards imposed by the NHS. I attended a "Good Clinical Practice" (GCP) course to familiarise myself with the guidelines for conducting clinical research within the NHS.

Ethical approval from the NHS Research Ethics Committees (NHSREC) and local Research and Development (R&D) department was sought and granted prior to commencing the programme of research. I also sought approval to amend the recruitment procedure of the third study so that clients who had not yet decided to take

part could be sent two reminder invitation letters. Whilst obtaining the necessary additional approval caused significant delay to the study it was important to do so to ensure that the research did not infringe upon the rights of clients. The process of obtaining funding for the study and particularly completing the comprehensive ethics and R&D application forms focussed my attention on the specific details to ensure that client's rights are respected. The recruitment procedure for the interview studies for example, was designed to coordinate with a routine follow-up call conducted by a smoking cessation advisor so that clients were not contacted again to be invited to the study. In addition, whilst I was available to speak to clients who wanted more information I only contacted them when they had asked for me to do so to prevent clients feeling pressured or under any obligation to take part.

Data from clients were kept in accordance with the Data Protection Act (1998). These were stored securely in a locked filing cabinet, on a password protected computer at UCL and on an encrypted mobile hard drive. At the end of the recruitment and data-collection process of the survey study all sensitive information (i.e. names and contact details) and clinic identification numbers (to ensure the anonymity of responders and non-responders) were deleted from the database and replaced with the participant identification number allocated for the purposes of the study.

For the first three years of my training I was based primarily in the NHS South Essex Stop Smoking Service (SESSS) to conduct a large Randomised Controlled Trial (RCT) comparing the efficacy of smoking cessation aids as an adjunct to group behavioural support. The successful running of the RCT required the assistance of the other members of the multidisciplinary team who had little or no research training. To do this I drew upon and further developed a number of professional skills. These included establishing that I was a competent research psychologist available to

supervise them through the research process but also an asset to the team in general (i.e. beyond the running of the research project). My competence as a research psychologist was initially established through demonstrating an in-depth understanding of smoking cessation aids in terms of their mechanism of operation, side-effects, contra-indications for use, and the smoking cessation intervention evidence-base. I took great care to train the relevant team members in the recruitment process (including the ethical considerations involved) and provided flow-charts to assist them with this (Research Appendix A). The advisors were trained to screen participants for contra-indications to any of the smoking cessation aids and to re-introduce the study and invite the clients who were eligible to take part to do so (all clients had been introduced to the study in an invitation letter and participant information sheet a week prior to attending the clinic). Advisors completed a form for each client, noting down the reason the client was not eligible or if eligible whether they were interested in taking part. Those who were interested in participating were referred on to me to complete the recruitment process where appropriate. Where clients referred to me had been screened incorrectly, had not understood the nature of the study or appeared to be volunteering out of a sense of obligation I did not recruit them onto the study. After each clinic I monitored the recruitment forms completed by each advisor and where appropriate I discussed incorrect screening or referrals with the advisor to avoid their reoccurrence. I also took the opportunity to direct their attention to client's right to be invited to participate where they were eligible and also not to feel pressured into doing so if they did not want to. Initially, it was necessary to provide considerable guidance to advisors following each review but this reduced after the first few months indicating that the outcomes of previous reviews had been understood and effectively utilised.

An important skill of establishing oneself as a competent health psychologist is to be aware of and correctly define the boundaries of ones own competence and also of those who work with them. Whilst I encouraged the advisors to adopt some ownership of the research and thus accept some responsibility (Schein, 1999) I made it clear that the responsibility of client participation in the study was mine and as such I must be consulted if there were any significant changes in the course of their quit attempt (e.g. stopping medication because of a side-effect) or if the participant had any queries in relation to the research. I also made it clear that the participant's GP held the medical responsibility as it was they who prescribed the medication. Of the 322 participants recruited onto the trial two had suffered an allergic reaction to the smoking cessation aid Bupropion and another had a suspected adverse effect to it and threatened to sue the service. On these occasions I sought advice from the senior researchers involved in the trial and also the stop-smoking service clinic manager on how I should approach the situation.

I believe that clearly defining the boundaries of my own competence and those of others facilitated the smooth running of the trial at my site that was on a par with the site run by the senior researcher responsible for the multi-centre trial. The two other sites required additional funding and time to organise the participant data and get the trial back on track. At one of these trial sites the lead researcher had assigned many of the research tasks over to the staff soon after the trial had begun indicating an that the research competence of the staff may have been overestimated and therefore inadequately monitored and supervised.

1.2 Contribute to the Continuing Development of Oneself As a Professional Applied Psychologist

Over the first two years of the Stage 2 course at City University monthly training workshops across the competencies were offered. These were useful as they afforded the development of new and existing professional skills across the range of competencies in a supportive environment. I also learned the importance of conducting regular reviews of my practice and to seek feedback from relevant others to further improve it. Actively seeking feedback or advice where appropriate from colleagues has become second nature to me and I feel that this been a catalyst for my skill development and strengthened my professional practice. My quest to obtain feedback on a draft of one of the qualitative studies from a Professor of qualitative psychology has led to an opportunity to collaborate together on an exiting new programme of research.

Working at UCL with a team of researchers including recognised experts in the field of smoking cessation research has allowed me to develop my research skills in an enriched learning environment benefiting from the experience and knowledge of accomplished researchers. The supervision provided by my workplace contact (a Professor of Health Psychology) has proved invaluable in the development of my research skills particularly those of making grant applications, writing papers for publication, and theory development. I have also had the privilege to work closely with another senior member of the research team with the benefit of this additional feedback and supervision affording the development of my skills in the process of conducting research trials, database management and statistical analysis. The feedback obtained from my City University supervisor and also from a professor recognised for his expertise in qualitative research, on the findings of my qualitative studies has supported the development of my skills in qualitative research.

I have also been committed to broadening my knowledge of research and best practice in the field of smoking cessation and health psychology in general by attending

several conferences. These include the annual conferences of the Society for the Research in Nicotine and Tobacco, Division of Health Psychology and UK National Smoking Cessation Conference (UKNSCC). To develop my skills and understanding of Interpretative Phenomenological Analysis (IPA) I joined an IPA interest group at City University, a joint UCL and Birkbeck University IPA seminar group and have also attended IPA seminars at Birkbeck University. In addition to attending these conferences and seminars to maintain my awareness of the research in these fields, I also attend to network with researchers working in similar areas and to present my own research findings. Presenting research findings to other researchers and health professionals in the field provides a platform to test the coherence and relevance of my findings and also to benefit from comments or questions raised by others.

I have also been fortunate to work in an excellent NHS smoking cessation service with a competent and supportive team at its helm. In the three years I spent working there I developed not only my research and team management skills but also had the opportunity to acquire new skills in delivering smoking cessation intervention and training health professionals. I was able to learn many techniques from observing the advisors conducting group behavioural support interventions that I implemented to improve my intervention delivery skills. I was also afforded the opportunity to develop my intervention skills by attending a three-day *Specialist Smoking Cessation Training Programme*, a one-day *Motivational Interviewing Course* and also my training skills in a three-day *Training the Trainers Course*.

In addition to actively seeking opportunities to develop myself as an applied Psychologist I am also committed to developing and promoting the field of Health Psychology. Since 2008 for example, I have been a committee member of the British Research And Training in Health Psychology initiative (BREATHE) that is allied with

the BPS Division of Health Psychology. BREATHE hosts workshops to provide additional training support for early career health psychologists and to promote collaborative working relationships between them.

1.3 Provide Psychological Advice and Guidance to Others

As a Research Psychologist and Stop-Smoking Advisor I have frequently provided psychological advice and guidance to NHS patients, students, researchers and health care professionals. In the current section, I will outline and reflect upon the areas of development that have not been discussed in detail in other case-studies (i.e. Implementing Intervention, Teaching and Training, and Consultancy).

Over the six year duration of my journey as a trainee health psychologist my professional skills have greatly developed and received recognition from the other research team members. As a consequence I have become the team expert in qualitative research and research methods. I am often consulted for my advice and guidance on conducting semi-structured interviews by PhD students. One of the student projects involved several telephone interviews with smokers and during the course of this encountered challenging situations. The smokers were recruited via a newspaper advertisement and some of the participants would ask the student for advice or information during the interviews on harm reduction techniques and quitting. Drawing upon my experience of conducting research telephone interviews with clients from the stop-smoking service, I offered advice on how to deflect these questions to the end of the interview where these could be addressed without influencing the interview. As the student had no training in conducting intervention I recommended offering a simple statement of the position of the research evidence in relation to the question and then encourage them to contact the stop-smoking services or quitlines as appropriate for

further information. The student fed back that she had followed this advice and found it had helped and increased her confidence to deal with such questioning.

As a professional applied psychologist, the research I conduct has an applied focus and is designed with a view to improving intervention as well as theory. To share my findings and their implications for best practice I endeavour to present my research findings at the relevant conferences. The UKNSCC is a smoking cessation conference with an applied focus thus has a large audience of health professionals in addition to researchers. Presenting research at this conference makes the findings accessible to front-line smoking cessation staff and policy makers. In 2008 I gave an oral presentation of the findings of Study 1 in a parallel session. A conference organiser who was in the audience congratulated me on my presentation and looked forward to hearing the findings of the other research studies. To my surprise I was later invited to give a plenary presentation at the next UKNSCC conference in 2009. To be asked to give a presentation as an early career researcher is a privilege and indicates that my programme of research is recognised as having the potential to benefit practice. I accepted and presented the findings of the three research studies in this doctorate to an audience of over 750 health professionals. Aware that I was presenting my findings to an audience who could immediately implement my recommendations into their practice I was careful to explain that these were based on the suggestion of preliminary evidence and to state that further studies are needed. I also took the opportunity to reassert this when asked about how best to incorporate the findings into practice in the questions following the presentation.

The psychological advice offered in my presentation was received well as indicated in both the formal and informal evaluations. Feedback from my colleagues at UCL, and the SESSS who were at the conference was extremely positive. At least five

other speakers made reference to my talk in their presentations particularly that of the importance of identity in cessation indicating that the findings had been understood and had an immediate impact on how researchers considered the area. Throughout the conference smoking cessation specialists approached me to explain how the findings resonated with the comments made by smokers and ex-smokers in their practice and that they felt their practice would benefit from this insight. At the end of the conference, delegates were asked to evaluate the conference through completion of an evaluation form. The conference organisers sent an email to inform me that my talk had been listed as a conference highlight by several delegates and also as a speaker they would like to see again. In addition, I was invited by the organisers of the NHS Annual London Tobacco Control Conference to give another plenary presentation of the same talk. Prior to this experience I doubted whether I possessed the advanced skills required to present research findings in the coherent and engaging fashion necessary to inspire change as a health psychologist. The overwhelmingly positive feedback from the talk has shown me that I have the potential to develop these skills and to recognise that presenting at conferences can be an effective platform form providing psychological advice and guidance to health professionals.

In addition to providing psychological advice and guidance based on my research through both oral and poster conference presentations I have also disseminated the findings through publication in respected peer reviewed journals. Whilst I have found writing papers for publication to be a real challenge and at times upsetting when reviewers ask for substantial amendments I realise that often making these amendments benefits the paper. Publishing research findings in scientific journals allows the research to form part of the scientific evidence base to inform best practice. It also

affords the opportunity for the research findings to be incorporated into the research of others and this is necessary if our knowledge in the field is to be advanced.

1.4 Provide Feedback to Clients

Over the course of my journey as a health psychologist in training, I have had the opportunity to provide feedback to clients often in my capacity as a trainer, manager or smoking cessation advisor. Verbal feedback is the most immediate and informal form of feedback so is the most common form in my practice as trainer or manager. In my role as a researcher however, written feedback is often most appropriate as the feedback needs to be well-defined and recorded. I have provided written feedback in the form of article reviews and observation reports with constructive suggestions for students to facilitate improvements in their research interview skills.

Conducting an RCT in a large NHS Stop Smoking Service required continuous monitoring of staff and providing feedback on their performance to ensure that it was run smoothly. In addition to the screening and study invitation process outlined in a previous section the advisors were also asked to obtain completed questionnaires from each participant at each weekly session and also to obtain a DNA sample (i.e. cheek cell swab). In a busy clinic where time is often short a few of the advisors failed to collect the necessary data. Verbal feedback was given to praise and express gratitude when the advisors had conducted the research correctly. Verbal feedback was also used to empathise with the advisors situation and to highlight the consequences of its oversight (e.g. having to contact the participants by telephone to complete the questionnaire over the phone). This was followed by a discussion of a possible ways to prevent this from happening again (e.g. placing the questionnaires at the front of the clinic folder rather

than the back). Whilst initially overlooking the research demands occurred several times it quickly became rare indicating that this feedback management style was effective.

In the last couple of years my profile as a research psychologist in smoking cessation with expertise in qualitative research and an interest in relapse has risen. This is possibly as a consequence of delivering plenary talks at the UKNSCC and the tobacco control conference, networking with other researchers in the field and from the beginnings of a publication record. As such I have been invited to review a number of articles for peer reviewed journals and even a grant application. I initially felt uneasy about this as I was unsure whether I was sufficiently qualified to judge the work of other researchers particularly as I had not yet obtained my doctorate qualification. Seeking advice of more senior colleagues and my workplace supervisor I was reassured that I was adequately qualified but that I should only review the articles that were within my area of expertise. For the first review my workplace supervisor examined both the article and my review of it and offered positive and constructive feedback to present the issues raised in the assertive style that is customary of reviews. I have conducted two subsequent reviews since then and I now feel confident that I am qualified to do this when the topic falls within my areas of expertise. Indeed the process of reviewing articles has resulted in an increase in my self-confidence as it has highlighted that my research expertise is considerably advanced.

As part of the Tobacco Research Group at UCL we have weekly meetings where a member of the team presents a draft of an article that they are preparing for submission to a peer-reviewed journal, grant proposal or a report for an organisation. Prior to the meeting the rest of the team review the article. The strengths and weaknesses of the article or research methods are fed back to the author and a discussion follows. Initially, I found these meetings uncomfortable particularly when

the article belonged to a junior researcher as the nature of the meetings is to be critical and often ends in advice to make major revisions. I found it difficult to contribute critical feedback at first, afraid that I might reduce the researcher's confidence particularly as my confidence in my own writing skills was quite fragile and had been crushed after a meeting on my own work. Later, I recognised that critical comments are important for a researcher's development and strengthens the articles submitted for publication. As such, with time I have come to realise that these meetings are a valuable resource and allow the articles to benefit from the insights of experts in the field prior to submitting for publication. It has also taught me that the world of scientific research is a necessarily harsh one to foster the rigor required to advance knowledge.

References

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Core Unit 3 – Consultancy Case Study

Providing Semi-Structured Interview Skills Training and Introducing Thematic Analysis to a Team of Researchers in Malaysia

3.0 Background to Consultancy Request

In June 2007 I was invited by my manager to comment on the design of the interview schedules for a study to be conducted in Malaysia (in English) as part of a PhD project. I recommended a number of changes to the interview schedules to make them easier to apply and also the re-phrasing questions to minimise social desirability bias and encourage more in-depth responses. The revised interview schedules were then piloted by the Malaysian researchers and the interviews transcribed.

Concerned by the quality of the interviews as shown in the transcripts my manager asked for my impression of these. Upon examination of the transcripts it became apparent to me that the research team did not have the necessary skills to conduct semi-structured interviews as they followed the probes on the interview schedule rigidly and did not encourage the participant to share an in-depth account of their experience. In addition, the spontaneous questioning by the interviewer did not encourage the participant to elaborate but rather suggested complete understanding. In order to come up with suggestions of how this could be improved I first consulted the literature with the intention to find a useful guide on semi-structured interviewing techniques to assist the Malaysian research team. These guides however focussed on general question construction (e.g. Marks & Yardley, 2004; Robson, 2000; Smith, Harre, & Van Langenhove, 1995) rather than interview communication skill development.

My manager requested a meeting with me to discuss the obvious discrepancy between the interview data generated in these pilot interviews compared to those collected in my own research. I presented my understanding of this discrepancy as due to the interviewers not having specialist skills in active listening and responding to participants in an encouraging and non-judgemental manner which are needed to generate illuminating and in-depth accounts. Asked for my opinion as to what could be done to equip the interviewers with the necessary skills, I recommended that they seek and attend a short course on interview skill development as the skills are difficult to develop from reading books alone particularly as I was unable to find a useful book with which to direct them. I was asked whether providing the necessary training was something I would be both able to and interested in providing for the research team via SKYPE (i.e. video call via the internet). Whilst I expressed interest in providing the training I explained that I would not be able to do this via the proposed medium as this would not be conducive to skill development due to its restriction on interactive teaching and group work (Wajda-Johnston, Smyke, Nagle, & Larrieu, 2005). I explained that I would be happy to provide the training in person if the team were able to come over to the UK or if I travelled to Malaysia.

3.1 Assessment of Request for Consultancy

Identification of the clients is an important part of the consultation process assisting the consultant to include input from the relevant clients and also to consider the potential impact of the consultancy work (Schein, 1999). Applying Schien's definitions, the following types of clients were identified:

Contact Client: The manager who contacted me with the consultancy request and was also involved in the planning, funding and evaluation of the consultancy.

Primary Client: The Malaysian PhD researcher who owned the problem and required the training, and her research team.

Ultimate Client: The research participants for the interview study whose welfare needed to be considered in the planning and implementing of the consultancy.

In August 2007, I was approached by the contact client with a consultancy request to train the research team in Malaysia. Some time could be released from my normal working duties to enable me to do this and funding could be obtained from both the University College London and the Ministry of Health in Malaysia to cover my travel expenses. I provisionally accepted the consultancy request as I had already been involved in identifying the training needs and was confident that I had the necessary experience and skills to conduct this.

I arranged a SKYPE meeting with the primary client to learn of her expectations, needs and requirements from the consultancy and also the financial and material resources that would be available to conduct this. The Malaysian research team had nursing, secretarial or public health backgrounds but no previous experience of qualitative methods. My assessment of the proposed consultancy (i.e. semi-structured interview skills training) was both feasible and appropriate but the meeting identified an additional need for comprehensive training in qualitative analysis. I fed this needs assessment back to the contact client and discussed the possibility of extending the training to include a workshop in qualitative analysis. The contact client agreed that comprehensive training in qualitative analysis would be beneficial but releasing the time required for me to provide this was not feasible within my current workload. Furthermore, its provision was considered to be beyond the scope of his collaboration in the research. It was negotiated however that an additional two days of my work-time

could be released to enable me to provide the Malaysian researchers with a general introduction to conducting a qualitative analysis.

Assessment of the communication with the Malaysian researcher and also the pilot interviews indicated that differences in understanding of the English language could act as a potential barrier. The English spoken by the Malaysian researcher and particularly that of participants in the pilot study was not the same as that spoken in the UK. A striking difference in sentence construction was observed in the interview transcripts with Malay-style English being short and direct and the interviewer assuming the role of the expert health professional. This type of communication and relationship is not conducive to qualitative research as it does little to empower interviewees to share their experiences without fear of judgement. The primary focus of the skills training would therefore be to foster an open and encouraging communication style where the participant is the expert rather than the interviewer.

In addition to releasing time from my existing duties and having my expenses covered, the only materials necessary to conduct the training were access to a computer and printer in Malaysia and also a seminar room to hold the training in. These were discussed in the needs assessment SKYPE meeting and their availability for the training confirmed.

3.2 Plan the Consultancy

The theoretical basis applied in the consultancy changed as the project developed using the consultancy models as described in Schein (Schein, 1999). It began with the *doctor-patient model* as I was initially approached by the contact client for my professional expertise in qualitative research methods to examine the quality of pilot interviews and to recommend solutions for how these could be improved.

Following my identification of a need for training I was approached again this time with a request to train the research team. Recognising that I possessed both the necessary skills and experience to design and deliver the training I considered the *expert model* of consultancy to be the most appropriate. In line with the expert model I had my own clear objectives and plans for the training (e.g. its primary focus as described earlier). Whilst I applied this model primarily, I also took a *process consultation approach* to the design of the training and contract to promote joint ownership with the clients of the training content and also to develop strong collaborative working relationships that would both maximise the impact of the training and aid future collaboration.

The planning of the training was developed in the needs assessment interviews. Following the needs assessment meeting with the contact client I proposed a preliminary plan for the structure and content of the training according to the identified objectives. The primary client agreed with the objectives and plan requesting only one modification. This was that I demonstrate conducting interviews with true research participants recruited for their study rather than through role-play with trainees. It is recognised that such experiential methods are important for communication skills training particularly in the medical research literature where these are encouraged as a core part of training (Rollnick, Kinnersley, & Butler, 2002). As such I agreed to incorporate this into the training explaining that as only one day was available to practice the techniques this would limit the training to one or possibly two trainees. The primary client preferred this to role-play skill development for all the trainees. It was negotiated that I would demonstrate one interview in this way and then observe two further interviews conducted by trainees to provide feedback on their skill development. I agreed to spread this training day across 2 or 3 days to fit in with the primary client's participant recruitment strategy. The agreed objectives were:

i) To design and deliver a 1 day interactive training workshop on how to conduct semi-structured interviews for qualitative research, to a team of 5 Malaysian researchers.
ii) To conduct an interview with one study participant (i.e. smoker attending the stop-smoking clinic volunteering to take part in an interview) to demonstrate the skills.
iii) To observe two interviews with research participants conducted by trainees and provide feedback.
iv) To design and deliver a 1 day training workshop in how to conduct thematic analysis.

Only one day of training was possible for the introduction to thematic analysis workshop. Considering the trainees had no prior experience in and little knowledge of qualitative analysis, I proposed that the training focus on the skills of theme generation and development as these are the fundamental starting blocks for conducting any type of thematic analysis. Recognising that the training would be most beneficial if it was based on the interview transcripts from the training interviews (rather than an example from my own research) I presented the option of having the second workshop two weeks later to allow time for the interviews from the first training to be transcribed. The primary client valued this opportunity and it was agreed that the workshops be spaced in this way and I would take some annual leave in between to make this possible.

Following the negotiation of the content of the training workshops, the financial material and time-frame requirements of the consultancy through meetings, a formal contract outlining the aims of the consultancy, schedule and the responsibilities of the consultant and client was drawn up and agreed by all (Consultancy Appendix A) prior to the consultancy being implemented.

3.3 Establish Develop and Maintain Working Relationships With Clients

Individual meetings (in person or via SKYPE) were arranged and conducted in the planning of the consultancy to allow the clients both input into the design of the training programme and an opportunity to raise any concerns. Minutes of these meetings and other communications with the clients can be found in Consultancy Appendix B. Although I had been consulted for my professional and technical expertise this collaborative approach to planning the training promoted the development of strong working relationships.

The primary client requested a considerable change to the programme of interview skill development in the first workshop as already described. Negotiating this change to accommodate the clients request and also what I considered to be necessary for optimum skill development (i.e. trainees conducting an interview under my observation and receiving my feedback) enabled the client to shape the training without compromising its quality. This was important in establishing a good working relationship with the client.

During the course of the training the client encountered recruitment problems affecting the implementation plans of the consultancy. The primary client had gone to great lengths to develop a good working relationship with me through her endeavour to make my stay in Malaysia a pleasant one. In the interest of maintaining this relationship I was flexible with the days scheduled for the training and conducted an additional demonstration interview following a first compromised attempt resulting from the participant's difficulty in understanding English.

3.4 Conduct Consultancy

Upon my arrival in Malaysia I asked to read the participant information sheet and consent form for the study that would be used to recruit participants in the interview training. Reviewing the documents I realised that these did not fully apply some of the key ethical principles that I adhered to as a researcher and trainee health psychologist. I discussed the importance of informed consent, confidentiality, and making the participant aware that they had the right not to take part or to withdraw from the study without this affecting their treatment. The primary client revised the consent form according to my recommendations and modified the research process (e.g. replacing real names with pseudonyms on transcripts) to comply with these ethical principles. Had the client not agreed it would have become necessary for me to decline involvement with the real life research interviews and offer the original idea of developing interview skills through role-play.

Difficulty recruiting interview participants fluent in English on the days allocated for the skills training imposed changes to the implementation plan. A great degree of flexibility was necessary to accommodate the clients request for practicing skills in the real setting which took up more time than allocated for the consultancy.

At the end of the first workshop I gave the primary client a copy of a journal article by Braun and Clarke (2006) to be read by trainees before the next workshop. This described different approaches to conducting a thematic analysis and suggested steps for how to conduct one. This second workshop was held on the 22nd November and attended by two of the trainees fluent in English. At the start of the workshop I described the purpose of qualitative research and the steps of conducting a thematic analysis as outlined by Braun and Clarke (2006). For the rest of the workshop the

trainees worked through the first few steps of analysis with my guidance on an interview transcript.

On the 23rd November a meeting with the primary client was held to evaluate the training and close the consultancy. Similarly on the 19th December the contact client completed an evaluation questionnaire on the process and outcomes of the consultancy (Consultance Appendix C). Whilst my involvement in the client's research continued long after the training these evaluations marked the end of the consultancy project.

3.5 Monitor the Process of Consultancy

Client feedback was encouraged throughout the consultancy and influenced its process. Firstly, through meetings with the clients to agree on the content and design of the workshops and secondly, during the workshops as the primary client was also the primary trainee. Both the design of the workshop and its implementation were altered in light of the primary client's expectations, needs and requirements during the consultancy. As previously described the participant interviews were conducted over five days instead of three due to the client's need for this to be included in the training and their difficulty to recruit smokers fluent in English. By monitoring the client's recruitment documents during the consultancy I was able to request the revision of the participant consent form and transcribing procedures. This allowed implementation of control mechanisms to ensure that the ultimate clients' participation in interviews and the resulting data were protected according to the code of conduct, ethical principles and guidelines that members of the British psychological society are expected to adhere.

In addition to adapting flexibly to situation changes I also included a worksheet towards the end of the first day of training to monitor whether the key points I had attempted to convey during the training had been understood by the trainees and also to

provide an indication of how well they could apply some of the interview techniques taught (e.g. probing, paraphrasing and summarising) (Consultancy Appendix D). This worksheet was completed by each trainee individually and followed by group discussion of possible responses to participants. This enabled me to monitor their level of understanding and also to alter the training to readdress the areas that were not well understood by all. This also served as a platform for the trainees to further practice the interview techniques in the group discussion that followed.

3.5 Evaluate the Impact of Consultancy

The primary objective of the consultancy was to deliver semi-structured interviewing skills training. Two methods of evaluation for the training were discussed in the meetings with the contact and primary clients. The first method was to receive feedback from the primary client about the content of the workshops and the extent to which the training had developed the research team's knowledge and skills in relation to the objectives of the consultancy. The second method was to receive feedback from the contact client upon examination of the quality of the transcripts conducted by trainees during the training.

The evaluative meeting with the primary client took place on 23rd November in Kuala Lumpur with the primary client (see Consultancy Appendix B for minutes of this meeting). Her evaluation of the first workshop was positive as she felt that she had learned a new and more in-depth approach to interviewing and was now more aware of her role in the interviewing process. She felt that this style of interviewing was more challenging but also more satisfying as greater detail was gained of the participants experiences. The primary client evaluated the introduction to thematic analysis workshop as useful but also overwhelming as she now recognised how demanding

conducting this would be but had only been able to practice the first few steps. In the meeting I reminded the client that the objective of the workshop was to provide an introduction to thematic analysis and not intended to be a complete training. I also attempted to reassure her that I would be available to provide some guidance via email and SKYPE for the next stages involved in the analysis when she had reached them.

Upon my return to the UK I presented the contact client with the interview transcripts conducted by the primary client in the workshop and two of the initial pilot interview transcripts to enable comparison and also a consultancy evaluation questionnaire for him to complete (Consultancy Appendix C). The contact client evaluated both the outcomes and process of the consultancy very highly. He strongly agreed that the data generated by the workshop interviews had improved in relation to the pilot interviews. He also agreed that the aims of the consultancy had been met and would recommend this training to others. Indeed in 2009 he approached me with a request to provide a similar training for one of his PhD students and a few months later I received a similar request from another colleague.

In addition to the client evaluations I also conducted an informal evaluation on the training outcomes of the first day via examination of the worksheets completed by each trainee. These indicated that overall the trainees demonstrated a good understanding of the key issues and techniques involved in semi-structured interviewing (Consultancy Appendix E).

In light of the client evaluations, the understanding demonstrated by the trainees in the worksheets and further requests to conduct the training I feel that overall the consultancy was successful.

Reflection

The semi-structured interview skills training workshop exceeded my expectations of success as it led to further requests to provide similar training. All the learning objectives of the workshop and practical skills training were met with more open and less leading interviews being conducted after the training.

Although overall the consultancy was a success there are aspects of the consultancy that I would approach differently in the future. For example, the consultancy project was conducted over a short period of time and I had not taken the necessary time to fully consider the potential cultural differences in approach to conducting research. As such I did not request to see the specifics of the recruitment procedure and the participant documents (e.g. information sheet and consent form) until after I had arrived in Malaysia. Fortunately, I reviewed the documents prior to recruitment and the necessary revisions were made but in the future I will take greater care to arrange this before accepting the consultancy.

Similarly, whilst I expected the introduction to thematic analysis workshop not to be as comprehensive as necessary for the trainees, I had not appreciated fully the extent that prior training and possibly cultural differences presented on the ability of researchers to draw out themes from interview data inductively. The trainees struggled to create themes particularly the primary client who suggested only themes driven by the theory guiding her PhD. This improved during the training with my guidance but unfortunately the primary client reverted back to the deductive approach to analysis after the training. Subsequently, there was a great demand on my time after the consultancy ended to offer guidance. I was aware at the assessment stage of the consultancy that the introductory workshop would have been inadequate. Therefore, on reflection I should have negotiated more strongly for time to prepare and conduct a

comprehensive training as this would have resulted in less time providing guidance after the consultancy had ended. Taking the time to deliver a comprehensive training would have been more fruitful and would have required less of my work-time overall than providing only introductory training. If a similar situation were to occur again I would now have the confidence to assert that unless the researchers have comprehensive training in qualitative analysis (from prior training or if necessary from me) I would decline a request to be involved in the research.

I enjoyed the process of conducting this piece of consultancy and found that I was able to develop and maintain strong working relationships easily by taking a collaborative approach to the planning and evaluating of the training. An area I need to develop is finding a level of approachability that allows the client to influence the consultancy process where necessary but does not result in compensation with my own unpaid time.

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Consultancy Appendix A: Contract

Providing Training in Qualitative Methods for a Research Team in Malaysia

Contact Client: Professor [redacted]
Primary Client: Mrs [redacted]
Consultant: Ms Eleni Vangeli

BACKGOUND
Mrs [redacted] is a [redacted] at the Ministry of Health in Malaysia and will be conducting a qualitative research study with her team of 4 assistants. This study will form part of her PhD in [redacted] which is part-supervised by Professor [redacted] at University College London. Given her expertise in qualitative research, Professor [redacted] invited Ms Vangeli (a Trainee Health Psychologist and member of his research team) to join as a collaborator on the qualitative study. It was then identified that to further progress with her study Mrs [redacted] and her research team required substantial further training in conducting semi-structured interviews and their subsequent analysis. Ms Vangeli was commissioned to provide this training in Malaysia.

OBJECTIVES
i) To design and deliver a 1 day interactive training workshop in how to conduct semi-structured interviews for qualitative research, to a team of 5 Malaysian researchers.
ii) To conduct an interview with one of the participants recruited to Mrs [redacted]'s study (i.e. smoker attending the stop-smoking clinic) to demonstrate the skills.
iii) To observe two interviews with research participants and provide feedback.
iv) To design and deliver a 1 day training workshop in how to conduct Thematic Analysis.

CONSULTANT REQUIREMENTS
- A suitable room(s) in which to conduct the workshop and research interviews, and travel between these and hotel to be provided by Professor [redacted] on the days of the training.
- Access to a laptop and printer in Malaysia so handouts and other training materials can be printed before the training sessions.
- The team of trainees attending the first semi-structured interview skills workshop will be asked to complete an assessment form for both skill development and evaluation purposes.
- Research participants who will also be interviewed for the training purposes must speak and understand English well and give their signed consent to take part in the study.
- At least one of the participant research interviews to be conducted during the training must be transcribed verbatim prior to the second workshop commencing 1.5 weeks later on conducting Thematic Analysis.

TIMEFRAME
The consultant will take 2 days to research the training and propose an outline for the workshop and discuss the plan with each client face to face, in person or via Skype in October. When the plan has been agreed the consultant will spend 3 days designing the workshop and preparing the training materials for the two workshops. The consultant will travel to Malaysia on the 1st November 2007 and the first workshop will take place on the 5th November 2007. On three days during the rest of the week visits to clinics will be made for the interviewing of research participants.

CONDUCT
The trainee health psychologist will carry out the service in accordance with the British Psychological Society.

CONFIDENTIALITY
During the course of the services the trainee health psychologist may have access to, gain knowledge of or be entrusted with information of a confidential nature. In signing this contract, the principal investigator agrees, unless expressly authorized by a senior authorized person to do so, will not disclose to any unauthorized person or organization such confidential information. The trainee health psychologist agrees to store and process information in accordance with the Data Protection Act 1998.

INTELLECTUAL PROPERTY
Materials provided for the training cannot be reproduced without the consultant's permission.

COST
- Professor [redacted] will release 10 days of the consultant's time from her normal working duties and the travel costs to and from Malaysia.
- Mrs [redacted] will provide 10 nights hotel accommodation for the consultant and provide a bursary stipend to cover the cost of living expenses and travel in Malaysia RM2000.

PAYMENT
The airfare and travel insurance will be paid directly by UCL. The accommodation costs and airport transfers in Malaysia will be paid directly by the Ministry of Health and the bursary stipend issued in Malaysian Ringgets to the consultant whilst in Malaysia.

Signature…….. Date……..…….
Ms Eleni Vangeli
Trainee Health Psychologist

Signature…….. Date……...
Mrs [redacted]

Signature…….. Date……...
Professor [redacted]

Consultancy Appendix B: Minutes of meetings and emails log

RE Project: To provide semi-structured interview skills training and an introduction to qualitative analysis to a research team in Malaysia

EV – Consultant (Eleni Vangeli), CC – Contact Client, PC – Primary Client

Date	Form	Outcome
18/06/07	Meeting with CC	• CC invited EV to examine interview schedules to be used in a PhD project to be conducted in Malaysia and to comment on their construction.
20/06/07	Meeting with CC	• EV proposed recommendations to improve the interview schedules. • CC agreed that the proposed structural changes to make the interview schedule easier to apply would be beneficial and adopted. • CC also agreed to apply the suggested changes to the phrasing of questions. • EV suggested that some of the more specific theory-led questions be removed to avoid over-steering the interview but CC preferred to retain these as it was important to find out this information. EV suggested moving these specific questions to the end of relevant sections (i.e. funnelling) to minimise the risk of limiting exploration only to anticipated areas of specific interest. CC agreed.
25/07/07	Email from CC	• CC request for EV to examine pilot interview transcripts as they do not appear to be useful.
03/08/07	Meeting with CC	• Discussed the poor quality of the interview transcripts. • EV felt the poor quality was due to the absence of semi-structured interviewing skills among the interviewers. • CC asked what could be done to solve the problem. EV recommended that the interviewers attend a training course in semi-structured interviewing skills. • CC invited EV to consider providing this training for the Malaysian research team via SKYPE. • EV declined this invitation explaining that the SKYPE medium would not be conducive to skill development. EV would consider conducting the training in person if the trainees came over to the UK or if she went to Malaysia.
06/08/07	Email from CC to PC (primary client)	• CC fed back to the Malaysian PhD researcher that conducting the interviews was harder than he thought and the team needed specialist training. CC suggested the possibility of EV travelling to Malaysia to conduct this to be discussed in a SKYPE meeting.
14/08/07	Meeting with CC	• CC invited EV to consider a request to go out to Malaysia and train the team. The proposal was for 5

		days to be released from EV's current work duties to prepare for and conduct the training and pay for flights. LH would obtain funding from the Ministry of Health for accommodation and subsistence. • The objectives of the training were discussed as were EV's ideas for the format of the training and areas to cover. - Explain rational for semi-structured interviewing particularly the importance of the participant being the expert. - Teach interview and communication skills that I have used and found to be helpful. - Practice these skills through role-play under my observation and develop them from my feedback. - A 2-day workshop would be needed. One day for didactic teaching and practicing individual interview skills with an assessment to monitor the understanding of the trainees and alter the training day to address the weakest areas. Another day for practicing and developing the skills through role-play interviews. • CC agreed with the training ideas suggested and also EV's request for a further 2 days off her work duties in order to achieve this. EV proposed that 3 days of preparation time would be necessary to research and design the programme and training materials and a further 2 days for meetings, evaluation and travel to and from Malaysia.
24/08/07	SKYPE meeting with PC	• EV presented the objectives for the training as understood by both CC and EV. • PC agreed with these objectives and had no additional ones to add. • EV presented a draft teaching plan based on these objectives and outlined in the minutes of the meeting dated 14/08/07. PC was happy with this except was keen for interview demonstrations to be in the real setting rather than through trainee role-play. PC had wanted me to demonstrate a few interviews but I explained that rather that observe me several times it was more important that they develop their skills under my observation for my feedback. • EV explained that only 1 day was available to demonstrate and practice the interviews which would limit this part of the training to one or two trainees. This was discussed and PC felt strongly that this was preferable to role-play as only one or two of the trainees required the training. EV agreed to modify the plan in this way. • The professional background of the trainees was

		discussed and none of them had any prior experience or training in qualitative methods. This revealed an additional need for training in qualitative analysis. • The possibility of an additional workshop was raised by EV and PC was keen for this to be included if possible. • Materials, venues, accommodation and local travel in Malaysia needed to conduct the consultancy were discussed and their availability confirmed.
24/08/07	Meeting with CC	• Discussed need for provision of training in qualitative analysis • CC agreed this would be beneficial but only a further 2 days could be made available to do this. This would allow a 1 day brief introductory training with 1 day preparation. • The training would be most useful if it was based on the analysis that will be used. CC explained that they did not know which analysis to use and thought perhaps I could teach them the method of analysis I used in my research as it had been very fruitful. EV proposed that a simpler form of analysis be used as IPA is likely to be too advanced for researchers new to qualitative methods. • EV suggested that the introduction workshop be based on thematic analysis as this is a flexible form of analysis that can be tailored to suit the type of analysis the researcher requires provided that the approach is described. CC agreed.
04/09/07	Email to PC	• Proposing the time-frame for conducting the two workshops and the terms of the contract. • Requesting confirmation for accommodation, airport transfers and other necessary expenses before commencing the consultancy.
06/09/07	Email from PC	• Confirmation that PC agrees to the proposal and the terms of the consultancy.
30/09/07	Meeting with CC	• I prepared a consultancy contract listing the objectives and format of the training, the time-frame and the responsibilities the consultants and clients. • These were discussed and agreed. • CC and EV signed the contract. • After the meeting the 2 signed copies of the contract were posted to Malaysia for PC to sign.
10/10/07	SKYPE meeting with PC	• I presented a detailed plan for the training and PC was happy with the plan. • Meeting, travel and accommodation arrangements were finalised.
18/10/07	Post from PC	• One copy of the consultancy contract was received by post with PCs signature added.
23/11/07	Meeting with PC	• PC discussed her evaluation of the workshops. - *RE: interview skills workshop*

		- Very happy with content, structure of the workshop - PC felt that she and her team learnt a new and more in-depth approach to interviewing - PC now recognises her role in the interviewing process - SSI is more challenging as requires more thought before asking the participant any questions but also more satisfying as the participants reveal more. - *RE: Introduction to qualitative analysis workshop* - PC had mixed feelings in her evaluation of this workshop. She felt that she had learnt what was involved in conducting a thematic analysis but was not sure she had the skills to conduct this and therefore felt overwhelmed. - PC was concerned that she had only had the opportunity to practice the first two steps and had found these difficult - EV reminded PC that the objective of the workshop was an introduction to the analysis and not to provide a comprehensive training. - EV reassured her that learning to conduct a new type of analysis takes time and is a skill that needs to develop. EV would also be available by email and SKYPE to provide guidance for the rest of the steps when she reached them - PC felt that all the objectives of the training had been met and was satisfied with the process of the consultancy
19/12/07	Meeting with CC	• Prior to the meeting EV presented CC with the transcripts of the pilot interviews and the interviews conducted in the training for his examination and asked CC to complete the evaluation questionnaire • CC commented on the marked improvement in quality of the transcripts and this was discussed in the meeting • EV presented her evaluation of the effectiveness of the trainings and CC returned his completed evaluation form • Consultancy closed

Consultancy Appendix C: Evaluation form

CONSULTANCY EVALUATION FORM

Project: To provide semi-structured interview skills training and an introduction to qualitative analysis to a research team in Malaysia

Please complete this evaluation form honestly as your opinions on the outcome of the consultancy project and the consultant's overall performance will be used to assess the quality of the service and guide future projects.

Please rate the following statements with reference to the following criteria:

The outcome of the consultancy project

The objectives of the consultancy were met

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

The quality of the interview transcripts improved following the training

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

The interview skills of the research team improved following the training

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

I would recommend this training to others

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

If you did not agree/strongly agree with one or more of the statements above please indicate the reason(s) for this below:

The consultant's overall performance

The consultant conducted the project in a timely manner

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

I felt adequately involved in the consultancy process

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

The consultant's overall performance continued…

The consultant had the necessary skills to conduct the consultancy

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

The consultant listened effectively

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

The consultant provided satisfactory verbal and written communication throughout the project

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

I would hire the consultant to work on projects again in the future

1. Strongly disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly agree
				x

If you did not agree/strongly agree with one or more of the statements above please indicate the reason(s) for this below:

If you have any suggestions or comments please note this below:

This was a very useful piece of work

Client name:	**Client Signature:**
Date: 19/12/07	

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS EVALUATION

Consultancy Appendix D: Interview skills worksheet

1. **What are the benefits of using semi-structured interviews in qualitative studies?**

2. **What is social desirability bias?**

3. **What types of questions encourage social desirability bias?**

4. **What can you do to build rapport with the participant?**

5. **Below are extracts taken from interview with a smoker who quit smoking with the clinic but relapsed 7 months later. After each extract you will be asked to how you might respond to this using a particular interview/counseling technique.**

I: what were you like during that week?
P: to be quite honest I didn't miss it too much because I was busy all the time.
I: right
P: because I had them there with me erm you know I don't see them that often. Because I was busy all the time I didn't get bored erm I didn't get fed up I wasn't sitting by myself in the evening and things like that I had company all the time, I think that's something to do with it as well if you've got people around you or you're busy or you can do something you get on with it and you don't think about it but if you sitting there by yourself watching television thinking oh god I'm bored with this then that's when I think oh well what the hell. I'm sitting here to do nothing I might as well smoke that's another reason why I started again because I wasn't occupied enough.

a. Please paraphrase this to show you are listening and to check that you have understood correctly.

I: so with the last quit attempt with the service, what was it what made you decide to come to the service, call the service up?
P: I think it was, I think after I saw all the adverts on the television and erm and I thought yes I must really get back to that I really want to stop smoking so I was half there anyway cos I wanted to really do it but then with the adverts and everything I thought yeah, I can do this again, I can do this again and I think you know I thought right that's it I'll go out and find out about it and go out and find some sort of group erm, I did think it was so much better going to a group and I think I look forward to that
I: right
P: every week and erm it was more or less like you were making everybody a promise not to take a puff and I felt that if I had of done I would have been letting everybody down and then after the, I think it is the 6 week course or whatever it is there is nothing, there is no support or anything after that and erm we decided about a dozen of us to have our own little group which we met about 4 times at the last post in Southend, and we would all discuss it amongst ourselves so we actually carried on the group in our own time and after a while people used to drop out never used to come and it dwindled down and down and that all phased out and I used to look forward to that it was like carrying on the group that you had a bit more support and you know I think to myself that is what I missed as well and there's nothing there. And I think it is the after support you get which you don't get any.

b. What question might you ask to probe this issue of support further.

I: ok that's fine. What experiences of giving up smoking did you have before you quit with the service?
P: experiences. Erm. (PAUSE) what you mean?
I: of trying to giving up smoking. Had you ever tried before coming to the group?
P: yes I had tried before. Erm I had given up probably about 7 months beforehand. Erm, 7 or 8 months beforehand. I had cut down an awful lot as well but then when you hit an obstacle you start again and when that would calm down and relax about it then I wouldn't smoke so much but I seem to think when there's something in front of me that I can't deal with pick up a cigarette that will help. Erm, erm (PAUSE) erm I mean I think I needed a cigarette when I picked up the phone if I was going to phone someone or deal with something even something like that. I had an awful lot of trouble, with bits and pieces, so it was the fact that I'd stopped and something would happen and then I would start again and then I would cut down and stop again. Erm I mean sometimes I would go for days, I'd go for a day without a cigarette at all. Erm even now, erm you know the next day I'm thinking oh a cigarette, erm but I have had a lot of ups and downs in my life so I think I'll always go back to a cigarette that will help. I know its all in the mind, (LAUGHS)

c. Please show how you would summarise to the participant what she has just said and then ask a question to encourage her to elaborate.

Consultancy Appendix E: Evaluation of trainee understanding and skill development

Five trainees attended the workshop. Three of the trainees understood and spoke English well and two had limited English. In the second half of the one-day workshop the trainees were asked to complete an interview skills worksheet individually (appendix 1). Once completed, the trainees were instructed to use a different coloured pen before working through the questions together as a group and discussing the possible phrasing of questions in response to the example statements in the worksheet. The use of a different coloured pen allowed for any notes made by the trainee during the group discussion to be identifiable from their original response.

This worksheet was designed to evaluate to what extent the key points delivered in the training had been understood and to examine whether the techniques explained in the workshop could be applied by the trainees. It was primarily designed to evaluate their understanding and skill development but also as a platform to further practice applying the interview techniques in the group discussion session that followed. The trainees' worksheets were scored following the workshop. The results are shown below:

Table 1: The total score and percentage correct for each trainee

	Total Score	**Percentage correct**
Trainee 1	12	86
Trainee 2	10	71
Trainee 3	8.5	61
Trainee 4	8.5	61
Trainee 5	7	50
Maximum	**14**	**100**

Overall the trainees showed a reasonable understanding of both the knowledge and techniques evaluated in the worksheet. Tables 2 and 3 examine the responses to the knowledge and skill sections separately. The maximum score possible for each question is shown below each table.

Table 2: Individual and total scores for the knowledge based questions for each trainee

	Benefits of SSI	**Social desirability bias (SDB)**	**SDB questions**	**How build rapport**	**Total trainee score**	**Percentage correct**
Trainee 1	3	0.5	2	2	7.5	83
Trainee 2	3	0.5	1	3	7.5	83
Trainee 3	2	0.5	1	2	5.5	61
Trainee 4	2	0.5	0	2	4.5	50
Trainee 5	1.5	0.5	1	1	4	44
Maximum	**3**	**1**	**2**	**3**	**9**	**100**

Table 3: Individual and total scores for the skill based questions for each trainee

	Paraphrase	Probe	Summarise and probe	Total score	Percentage correct
Trainee 1	2	0.5	2	4.5	90
Trainee 2	0	0.5	2	2.5	50
Trainee 3	2	0.5	0.5	3	60
Trainee 4	2	0.5	1.5	4	80
Trainee 5	1.5	0	1.5	3	60
Maximum	**2**	**1**	**2**	**5**	**100**

All trainees demonstrated understanding of the knowledge based questions ranging 44 to 83% and similarly 50-90% of the skills questions.

Tables 2 and 3 indicate that the trainees acquired both knowledge and skills from the workshop. Most trainees showed understanding of the benefits of using semi-structured interviews in qualitative studies and how to build rapport with participants.
Social desirability bias was only partly understood by the trainees indicating that I may not have addressed this adequately initially in the training. Notes made by trainees during the discussion (in another colour pen) indicate that what social desirability was and type of questions which encourage it were understood by the end of the workshop.

Table 2 shows that trainees demonstrated some competence in the techniques of paraphrasing, summarising and using general probes for further detail. Constructing questions to probe a particular part of the participants experience however, was only partially achieved by most of the trainees. Constructing this question required the pulling together of two techniques which is more difficult. The discussion session led to discussion of this in the group and the trainees practiced using more than one technique at once and demonstrated the ability to do this by the end.

Core Unit 4 – Teaching and Training Case Study 1

Training Healthcare Professionals in Level 2 Smoking Cessation

The South Essex Stop-Smoking Service provides smoking cessation training (a one day workshop) for healthcare professionals to become advisors to assist clients to stop smoking via provision of one-to-one support. I was able to negotiate with the service manager that I would be a trainer on some of these workshops in return for the service paying the fees and accommodation for me to attend the 3-day *Training the Trainers* workshop.

4.1a Assess training needs

Prior to planning and designing my section of the training, I observed a workshop run by the two previous trainers. At the start of the day, the trainees were all asked what they hoped to get from the training which I documented (see logbook) and then at the end what they felt they had learned from the training. I felt that the training provided was very good, meeting the objectives of both the service and the trainees. The trainees had varying degrees of medical knowledge and very little understanding of factors affecting motivation and smoking cessation.

My assessment of the existing training was that it could benefit from focussing on a few basic psychological support techniques which could be used to support a person through a quit attempt. This would promote the motivational role of the healthcare professional and be more empowering for the client. On discussion with the Service Manager and the other trainer it was agreed that I would lead the training on the topics of addiction, medication and behavioural/psychological support (given my knowledge of the medications and health psychology).

4.1b Identify Training Programme Structures and Content

The limited psychological understanding of the trainees meant that providing simple ways of engaging with the client and supporting them would be a priority. Exploration of four key motivational interviewing principles (i.e. ask open-ended questions, listen and reflect back, affirm, summarise) and keeping these as a running theme throughout the session is anticipated to encourage basic support skill development. The structure of the session would be very similar to the standard training but incorporate more detail of psychological principles (e.g. self-efficacy and motivation) and on how to apply basic motivational interviewing techniques. These plans were discussed with the acting service manager who agreed that these changes could enhance the training and fit well with the service's objectives of the training.

4.1c Select Training Methods and Approaches

The previous workshops involved a combination of teaching techniques (i.e. oral presentation, group discussion, brainstorming ideas, video demonstration of a GP consultation, and role-play) which seemed to work well for the trainees and were suitable given the time allocation. The teaching methods were selected with the aim to impart the necessary knowledge in a way that involved active participation of the trainees without putting them in difficult or competitive situations. This is particularly important given the varying backgrounds and prior medical knowledge or client interaction experience of the trainees. As such a similar teaching plan was followed but with the content slightly modified to enhance basic motivational interview skill development, and less time exploring the physiological basis of addiction.

4.1d Produce Training Materials

The cessation service had an appropriate set of training materials available. I was able to select the relevant slides I required from this to assist me with the more didactic section of the training (Teaching Appendix A for the teaching outline). The existing handouts were very comprehensive and provided a source of further information on the topics discussed in the workshop (available in the logbook). Improvements could be made to the handouts particularly their presentation (i.e. organising them into clear sections to complement the order of the training programme outline) and more included on self-efficacy and motivation. However, as the existing handouts were of suitable quality and given that I had little time to dedicate, it was not possible for me to do this.

4.1e Use Appropriate Media to Deliver Training Materials

An overhead projector was used to deliver some of the training as this was readily available at the venue. Using *Powerpoint* as a visual aid to the presentation sections of the training would have been preferable as it can be more visually stimulating. This however was not possible as the service would have needed to purchase a projector and transport this together with a laptop to and from the venue. The absence of Powerpoint was not perceived as affecting the training given that the workshop used a variety of teaching methods (video, group work and facilitated discussions aided by a flip-chart).

4.2(a-b) Implement Training Methods and Facilitate Learning

The other trainer and I arrived at the venue an hour early to prepare the room, flip chart paper (with headings and instructions for the group tasks) and to check that

television, video recorder and overhead projector were working. The knowledge that I obtained from my job and training courses gave me the necessary skills to facilitate learning. This will be explored further in the reflexive commentary accompanying the recording of a section of the training.

The method I used to facilitate the group role-play task developed after the first workshop that I led. The task was for each group of three or four trainees to examine the medications given to them and then to role-play to the rest of the class how they would explain the advantages, disadvantages and how it should be used to a client. The first time I led this session the trainees listed the points rather than role-playing them. My attempts to steer them to role-play did not work sufficiently and I often had to re-frame their answers into role-play style myself. This still worked well in the sense that they learnt about the medications and heard ways of presenting them to the client. However, it did not have the added benefit of the trainees practicing the skills and obtaining feedback on this. At the subsequent workshops, I provided the group task instructions verbally as I had done previously but also in written form (on the flip-chart). When facilitating the small groups with their preparation I reminded them to think about how they would present what they had learnt to a client. This worked very well as the trainees fed back to the class in a role-play style as intended. This then afforded the opportunity to offer them feedback on both the content of the information they had given and also the manner with which they had delivered it. I was surprised with the ease with which I was able to give feedback to trainees in an encouraging way even when having to correct them. This skill has probably developed through my experience of conducting group smoking cessation intervention. My knowledge of how the medications work, smoking cessation research, health psychology and experience of

working as an advisor allowed me to give them valuable feedback and to answer all of their questions comfortably and effectively.

4.3 Planning and Implementing Assessment Procedures

There is no service provision or capacity for an assessment procedure for the current training. An official qualification cannot be given and the trainees obtain a certificate of attendance. The trainees are asked to complete a short evaluation form at the end of the training but this does not demonstrate whether the trainees had actually learned anything from the workshop.

Although a formal assessment is not required or provided for, I felt that it was important to include this in some way. Therefore, I redesigned the evaluation form (Teaching Appendix B),to incorporate three questions (i.e. questions 3-5) to assess whether some of the key points from the training had been understood by the trainees. By combining this assessment with the evaluation questionnaire, no extra cost or time would be added to the training. The proposed assessment questions and evaluation form were discussed with the acting service manager and agreed. It was decided that the questionnaire would remain anonymous to encourage honest feedback for evaluation. This was also appropriate for the assessment questions as the objective was not to assess each trainee individually but to examine whether the trainees had understood some of the key points of the training.

4.4a Evaluating Training Programme Outcomes

This was approached in two ways. First, by encouraging feedback throughout the sessions to enable modification of teaching style or content if needed during the programme for the trainees. The trainees were encouraged to ask questions and

feedback to the trainers during the sessions if they did not understand something or felt that the pace was not right. This allowed the trainers to adapt the teaching pace and the detail of information offered to suit the needs of the trainees. The second method was to obtain a formal evaluation of the programme by asking trainees to complete a form at the end of the workshop.

After the first two workshops I realised that we were obtaining limited feedback from the evaluation form used by the service. Therefore, I devised a new evaluation form and obtained permission from the acting manager to pilot this at the third workshop (Teaching Appendix B). This evaluation form elicited more information about the trainees learning objectives, how confident they felt they were to conduct Level 2 intervention and whether they felt the training helped them to meet their objectives (i.e. questions 1,2, 6-9). The trainee evaluations showed that all their personal objectives for the training had been met and did not identify that any improvements to the training were needed (see logbook for the completed evaluation forms). Trainee confidence in their ability to deliver stop-smoking support varied ranging from 2-8 (1 *not all confident* to 10 *extremely confident*) at the start of training. The level of confidence increased for all trainees ranging from 6-10 by the end of the training indicating that the course had developed the trainees skills to deliver stop-smoking support.

4.4(b-c) Identifying Factors Contributing to Training Programme Outcomes and Identify Improvements for the Design and Delivery of the Training.

Factors contributing to the training programme outcomes were identified after each workshop as demonstrated in the practice log and some have been discussed previously in this case-study. Feedback from the trainees and discussions with the co-

trainer immediately after the workshop facilitated this. This also identified improvements that could be made to both the course design and to the delivery of the training. To present an example, a small group of trainees (in the second workshop, I trained on) showed no interest in exploring the information about the medication (in a group task) as they did not see this as their role but that of the prescriber/dispenser. This small group of trainees were colleagues and formed a group which may have made it easier for them not to engage in the group task. It is important that medications are covered in the training as stop smoking advisors in the NHS are likely to be supporting patients using medications. The advisors are therefore required to have some knowledge about these medications to be able to support the patient effectively. In future trainings, I would take care to separate any trainees who are not motivated to engage in a group task to reduce de-motivating group cohesion. The time allocated for this group task may benefit by being reduced as it seems a little drawn-out. I have made this recommendation to the trainers who will be leading future trainings.

The reflective commentary on a 20 minute recording of the training and also the report of my City University supervisor who observed and recording the training follows this case-study. These identify and discuss factors relating to my delivery of the training that were seen to contribute to the training programme outcomes.

Reference

Prochaska, J. O., & DiClemente, C. C. (1984). Self change processes, self efficacy and decisional balance across five stages of smoking cessation. *Progress in Clinical Biological Research, 156*, 131-140.

Reflexive Commentary on Video Recording of the Training

Training on the Level 2 Smoking Cessation Programme is the first comprehensive training experience I have had. Prior to this I had only been involved in training medical students to respond to common questions about smoking cessation and medications which patients may ask them. Before co-leading the Level 2 training, I went on an intensive 3-day *Train the Trainers Course* which developed both my skills and self-confidence to conduct training in an interactive way.

The recording shows approximately 20 minutes of the training in the session referred to as *The Issue of Smoking* on the programme timetable (Teaching Appendix A). This session was immediately after a coffee break so I begin by recalling briefly what was learned in the previous session to link in with the current one and follow with a brief introduction to setting up a support service. I explored the various points with the aid of simple examples and tips to make it more interesting and to stimulate thought and preparation. This is followed with a group task inviting half the trainees to think about the reasons that people start smoking and the other half to think about the reasons that people find it difficult to stop. All trainees engaged with the task without resistance, indicating that the task instructions were clear and the trainees were comfortable to take part.

The video shows the first group reporting their thoughts back to the class and how I facilitated this. I employ the techniques of listening, reflecting back and summarising to positively reinforce the contribution of the trainees to facilitate the session. This skill has been developed through my experience of supporting people to give up smoking both individually and in groups. A few of the trainees however, did not engage in reporting back the results in this group task. I was able to draw them into

the reporting of the second group task to the class as they were in groups of 3 so it was more appropriate and comfortable asking them to contribute (not shown on the video clip as this is later on in the workshop). This was facilitated through asking them their thoughts whilst they were in their small groups and valuing their contributions.

Following on from this, I invite the trainees to discuss their thoughts on what the key elements of smoking are and factors necessary to lead to a quit attempt. This worked well as I feel that the humour encouraged group cohesion and made the teachings of the session more memorable. Again however, the quieter trainees did not contribute to the session. Encouraging quieter trainees to share their thoughts amongst a large group of trainees before establishing rapport through small group work is an area that I feel I must develop.

The following section draws the recording to a close. It is an introduction to the Transtheoretical Model (Prochaska and Diclemente, 1984) where I describe the model in a simple way to illustrate that people can experience a variety of stages with respect to motivation for behaviour change.

The delivery of the training involved both didactic and interactive teaching styles as demonstrated in the video. I was surprised to find interactive teaching to be easier and more enjoyable than the didactic teaching. Previously, I had been cautious of interactive teaching as the session relies heavily on the contribution of the trainees and requires the trainer to be adaptable with the course content. Being adaptable in training involves skills which I was not sure that I possessed. After leading training in an interactive manner however, I discovered this to be more rewarding as it provided continuous feedback that the trainees were listening. It also allowed me the freedom to use spontaneous humour to make the session more enjoyable, and hold the attention of the trainees.

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Stage 2 Training in Health Psychology/ Doctorate of Psychology

Teaching and Training Observation Report

Trainee Details

Name: Eleni V
Chartered Health Psychologist Supervisor Catherine Sykes
Audience (health care professionals) pharmacists, school nurses, practice nurses

Please circle the appropriate response and make comments

Appropriate resources and material were used **YES**/NO

Delivery of material Poor Fair Good **Excellent**

Responded effectively to problems, queries and issues during the training **YES/**NO

Supported students through the learning programme **YES**/NO

Provided encouragement and accurate feedback to learners during training **YES**/NO

Appropriate evaluation methods were used **YES**/NO

Comments

Eleni's warm and engaged style stood out in the delivery of this training. She used humour appropriately to connect with the audience while remaining very professional.

I particularly liked the practical tips she gave for increasing a smoker's confidence. The explanation of the Stages of Change model was excellent, clear and jargon-free with a visual aid to help understanding.

Eleni managed to keep the audience's attention. They all seemed alert and interested in what she was saying. I think this was helped by Elen's positive reinforcement of the audience's contributions. She seemed to have a genuine interest in what they had to say and managed this in a way that she was able to keep in control of the delivering of her material.

Well done – excellent.

Declaration
I am of the opinion that the above named trainee has completed the teaching and training competence to a high professional standard and is able to act autonomously in this competence.

Signature: …… Date: ……

Core Unit 4 – Teaching and Training Case Study 2

Smoking and the Link to Respiratory Disease

In August 2006 I was approached by my manager to consider taking on the responsibility of designing and co-ordinating the delivery of a lecture and small group teaching on Epidemiology and Respiratory Disease for the coming year. This is taught to four waves of medical students in their third year of the MBBS course at the University College London each year. I have now delivered this lecture 5 times and taught the small group teaching 7 times over a period of 2 years.

4.1a Assess Training Needs

After examining the teaching material used by the previous lecturers it was clear that several of the slides were in an area that I was unfamiliar with (i.e. air-pollution and the measurement of exposure effect). Concerned that my knowledge of a substantial portion of the existing lecture was inadequate, I arranged a meeting with my manager to discuss whether the lecture could be altered significantly or if it would be necessary to cover all the topics presented. To teach the lecture in its existing form would involve considerable research time in an area outside of my expertise. If this was the case, then it may be more appropriate for another lecturer to do this. I suggested that if the air-pollution section was not central to the lecture then this could be substituted with a section on the role of the clinician in giving brief stop-smoking advice and effectiveness of smoking cessation treatments. This would be relevant to the topic area by demonstrating the clinical application of findings from epidemiological studies. My manager agreed that this would be most valuable and appropriate for the students particularly given my clinical skills and training. The learning objectives were modified

and proposed to the module co-ordinator to confirm whether this fit with the training needs of the students.

4.1b Identify Training Programme Structures and Content

Once the objectives had been agreed by the module co-ordinator a lecture was prepared with respect to the limited research skills and psychological knowledge of undergraduate medical students. With this in mind the lecture included definitions of some key epidemiological terms before exploration of key epidemiological methods (i.e. time trends in a population, case-control studies and cohort studies) demonstrating the link between smoking and some major respiratory diseases. Doctors have an important role in smoking cessation with brief advice from a general practitioner generating a quit attempt in around 40% of smokers leading to an increase of 12-month sustained abstinence rates by 1-3% (Stead, Bergson, & Lancaster, 2008). The students have briefly explored smoking cessation advice in an earlier module but a recap with a more clinical focus is likely to reinforce the importance of their role and encourage communication skill development for delivering smoking cessation advice. The teaching plan was discussed with my manager (and a colleague who would also be delivering this lecture) before I finalised the lecture slides.

Involving the students in decisions about the structure and delivery of the lecture was considered, as this is likely to facilitate learning by enabling the lecture to be prepared and presented in a style preferred by the majority of students. In the context of an undergraduate course however, the content of the lectures are pre-defined by the curriculum rather than the preference of the students. Lecturers who regularly teach the students have the opportunity to discuss various aspects of lecture plans informally before delivering them but as a guest lecturer this is often not possible. Modifications to

the structure and delivery for subsequent lectures are made in light of the student feedback. The procedure of the university is to ask students to complete a short evaluation form about the teaching at the end of the session. Visiting lecturers are often formally observed by senior lecturers and offered feedback. Whilst a senior lecturer had been scheduled to observe my delivery of the lecture the observing lecturer was needed to deliver another lecture at the same time.

4.1c Select Training Methods and Approaches

Given the limited 2-hour allocation for the teaching and the expectation for between 50 and 80 students to attend, the format applied in previous teachings was considered to be the most appropriate. A didactic approach (i.e. lecture) followed by a smaller group interactive teaching session with the assistance of three other lecturers was therefore selected.

A 3-day training workshop I had attended in 2006 explored in detail the four learning styles proposed by Honey and Mumford (Honey & Mumford, 2000) and how various teaching methods could facilitate or hinder learning accordingly. With this in mind I incorporated a range of teaching methods in an attempt to facilitate learning for students with different learning styles. The lecture slides (Teaching Appendix C) provided all the key information for students with a *Theorist* learning style, with direction to the research papers and a list of useful references (Teaching Appendix D) for the students with a *Reflector* style. The practical group session (Teaching Appendix E) would appeal to those with an *Active* or *Pragmatic* learning style. After teaching this a few times I realised that the lecture had to be fast paced to cover all the content which some students may find difficult to follow and is challenging to deliver. Some of the lecture material was reduced and a brief doctor-patient role play (with an observer) was

incorporated as were two video clips, in an attempt to vary the lecture style and engage the students more.

4.1d Produce Training Materials

The presentation slides used during the lecture were also provided as a handout for the students to facilitate learning by relieving the necessity for comprehensive note-taking and to enable greater concentration on listening. Some of these slides were retained from those prepared by previous lecturers and supplemented with new ones. It was not considered necessary to change the training materials used for the group work by the previous lecturers. The existing group work materials were comprehensive, encouraging critical thinking about research design and an opportunity for students to practice calculating odds ratios and relative risk (Teaching Appendix D). A reference list to supplement the lecture was also included however (Teaching Appendix E), to direct students to useful journal articles and smoking cessation resources for health professionals and patients.

4.1e Use Appropriate Media to Deliver Training Materials

Powerpoint presentation equipment was available in the lecture hall and given the large number of students this was used to aid the lecture. For the small group work, the students were split into four groups and allocated to different rooms. They work from worksheets and the teacher facilitates discussion and offers feedback to the students as they complete them.

4.2(a-b) Implement Training Methods and Facilitate Learning

There was a lecture immediately prior to this one so I emailed the Powerpoint presentation to the module co-ordinator beforehand to ensure that the computer technicians had what they needed to set up the lecture as soon as the room became available. Unfortunately, this did not always run smoothly and sometimes resulted in the lecture starting 10 minutes late and on two occasions the sound could not be enabled resulting in the video clips being omitted from the presentation. All the handouts were photocopied and delivered by the module co-ordinator before the lecture began.

The lecture topic was not all on an area of my expertise so much preparation was necessary. Before delivering the lecture I also consulted an epidemiologist and a statistician for clarification on the necessary parts of the lecture and group work for which I lacked confidence (e.g. the theoretical basis and practice of calculating odds ratios rather than relative risk in research studies). Obtaining clarification where needed and verification that I had understood the subject matter, alleviated my concerns of teaching the students incorrectly and increased my confidence to deliver the teaching.

4.3 Planning and Implementing Assessment Procedures

The assessment procedure for this module is a multiple choice exam for the module overall and the questions are set by the module leader. Individual assessment of the lecture was therefore not required. The main objectives of the lecture and group work were to raise awareness about the epidemiological studies demonstrating links between morbidity and health behaviour, and to skills which would be assessed more generally (i.e. understanding and interpretation of research findings).

4.4 Evaluating Training Programme

The standard evaluation form used on the module was very basic and only obtained general feedback. I therefore requested permission from the module co-ordinator to substitute this with an evaluation form that I had designed (Teaching Appendix F) to obtain feedback on whether the teaching objectives had been met and also on the teaching style. Permission was granted for this to substitute the standard evaluation form for up to 2 occasions but then completion of the usual feedback form would be required. The majority of students felt that their knowledge had improved as a result of the lecture (63.5%, n=34). Over half (51.9%, n=27) felt that they were better equipped to raise the topic of smoking with patients but just over a third (38.4%, n=20) felt that their knowledge of epidemiology had improved and similarly only 30.7% (n=16) reported an improvement in understanding the link between smoking and respiratory illness. The teaching was rated highly by the majority of the students with 65.4% (n=34) reporting that the teaching material was presented clearly and coherently, but only a third (36.6%, n=19) agreed that the depth of information presented was just right. Additional comments provided by some of the students suggested that much of the material covered in the lecture had been covered previously. I provided a report of the evaluation to my manager and the module co-ordinator (Teaching Appendix G) and requested that a meeting be held to discuss revision of the module. A meeting with the module leader and other lecturers on the module was held and the outcome was to keep the lectures as they were for the following year and to continue monitoring them. The module leader felt that although the students have been taught some of the material before, it is important to teach it again as many students do not understand the concepts as reflected in their exam performance the previous year. The repetitive nature of much

of the lecture was addressed at the start of subsequent lectures to make the students aware that this was the intention.

Reflection

When I first delivered the main lecture and small group practical I found them both difficult to teach. This is because much of the literature covered was new to me and involved critical appraisal of epidemiological research studies investigating links between putative risk factors and morbidity. These studies are different in nature to those with which I am most familiar with and accustomed to critically appraising (e.g. intervention and exploratory studies). It was also necessary to learn about the differences between the statistical properties and calculations of odds ratio and relative risks and to understand these enough to teach them to large audiences. Consulting researchers with more expertise in epidemiology and statistics enabled me to do this. Leading the small group teaching became easier after the first few times but delivering the main lecture remained a challenge. The majority of students evaluated both my teaching presentation style and approachability for the lecture highly (i.e 65.4% (n=34) and 86.5% (n=45) respectively) indicating that I had delivered the lecture competently. A greater number of students felt that they were better equipped to raise the topic of smoking with patients compared with the knowledge improvement reported in the other areas. The role of the clinician in smoking cessation falls within my area of expertise and I feel both confident and passionate about teaching these communication skills. As more students experienced knowledge gain in this section, it is likely that my enthusiasm for teaching this topic facilitated learning.

Undertaking this teaching has increased my awareness and understanding of epidemiological studies demonstrating the links between smoking and respiratory

disease. It has highlighted that my strengths lie in delivering an interactive style of teaching (i.e. facilitating discussion and skill development in groups) rather than a didactic style (i.e. lecture) particularly when it is in an area where I feel my expertise is limited. I find it difficult to teach a large audience of students who have already been taught much of the lecture before as I have not yet mastered the ability to adapt the delivery of a lecture in response to the behaviour of individual students (i.e. appearing confused by the content or disengaged). On one occasion I attempted to adapt the lecture in response to some students looking confused so encouraged them to ask questions which consequently left little time to teach the final section (i.e. the role of the clinician). If I am asked to deliver this lecture again, I will need to negotiate the removal of much of the content to allow the delivery of the lecture at a slower pace. In contrast, as my confidence with the material has grown, the small group teaching sessions are a pleasure to teach. The group facilitation skills I have developed through conducting smoking cessation interventions assist me to build rapport with the students quickly and engage them all in discussion in a relaxed manner, even those who appear to be disinterested initially which is particularly rewarding.

References

Honey, P., & Mumford, A. (2000). *The Learning Styles Questionnaire 80-item version*. Maidenhead, UK: Peter Honey Publications Ltd.

Stead, L. F., Bergson, G., & Lancaster, T. (2008). Physician advice for smoking cessation. *Cochrane Database Systematic Reviews*(2), CD000165.

Teaching Appendix A: Level 2 Training Guide (Sections I delivered)

23rd February 2006

Text in bold is written on overhead projector (OHP) slides.

11:30am – 12:30pm
Raising the Issue of Smoking

OHP slide 1
Physical setting – Privacy
Equity
Supportive – Do not judge or dismiss, suggest don't tell, giving up is not easy
Courtesy – Be polite, listen, answer questions
Expectations – Realistic (what is patient expecting – magic cure? This goes for you too – not going to get everyone to quit)
- Inform them: recovery symptoms, cravings
Problems – Right time to quit? GP/HCP and patient relationship
Context – What is patient presenting with? Is raising the issue relevant (advice is more likely to be heard if linked).

OHP slide 2
Communication skills
Ask Open-Ended Questions – How, When, What…. This encourages the smoker to think about their smoking
Listen and Reflect Back – Never assume understanding, way to check and reinforce aspects of what is said
Affirm – Statements of appreciation and empathy
Summarise – Way to reinforce what is said and point out ambivalence

Group Work
Split trainees into 2 groups and give each group a flipchart paper with one of the following questions to write their thoughts on:
Group 1 – WHY DO PEOPLE SMOKE?
Group 2 – WHY DO PEOPLE FIND IT DIFFICULT TO STOP SMOKING?
Put up completed flipcharts and explore the responses with each group to the rest of the class. Facilitate discussion of similarities and implications for successful quitting.

On flipchart – WHAT ARE THE THREE ELEMENTS OF SMOKING?
Ask trainees to identify what they think the three elements are.
Emotional/psychological addiction
Physiological addiction
Habit
These elements require different intervention approaches. Ask trainees for their ideas on how could approach these.
Physiological (e.g. stop-smoking aids – NRT, Zyban); **Psychological** (e.g. awareness, choice not to smoke, develop new stress coping strategies); **Habit**

(e.g. changing routines to diminish triggers, remove cigarettes from the environment, avoid the pub)

On flipchart – WHAT DO YOU THINK ARE THE KEY ELEMENTS A PERSON NEEDS TO QUIT AND CHANGE BEHAVIOUR?

IMPORTANCE & CONFIDENCE ------ MOTIVATION

To assess these elements ask smoker to identify where they are on a scale of 1-100. Ask how could move up the scale?

You can help them to move up the scale by explaining that many smokers manage to quit successfully. Using a stop-smoking aid doubles their chances of succeeding. Being supported by a healthcare professional double their chances again. Coming to see you is a big step and they have already jumped over the first hurdle.
Grab opportunities to build on their prior successes.

OHP slide 3

Stages of Change Diagram – Prochaska and DiClemente 1984

- Briefly describe each stage. Smokers are not all in the same stage of readiness to change their behaviour. Offers ideas to increase readiness depending on stage.

Pre-contemplation – Not interested in changing their risky behaviour. Technique – Raise awareness and offer support

Contemplation – Weigh up pros and cons (can take just minutes to years!)

- Technique – Explore ambivalence and thoughts about cessation support and medications. Short-term motivators are as important as long-term if not more

Preparation – Important stage. Benefits outweigh costs. Start to think its possible that can change.

- Technique – May need extra knowledge, skills and support to move into action.

Action – Attempts to quit

- Techniques – Change parts of lifestyle (habit). Start medication. Implement strategies to help quit. Reassurance. Reward.

Maintenance – Habits are broken, new ways of behaving established. This stage can remain a struggle requiring constant vigilance and support to avoid relapse

Relapse – Old habits return – costs/benefits balance shift.

- Technique - explore reasons with smoker and provide reassurance that relapse is normal and to learn from this.

3pm – 4pm Stop-Smoking aids

Introduce the smoking cessation aids available. The mechanisms of action, side-effects, contraindications, how to use them.

Facilitate group work and provide feedback to trainees: Split trainees into groups. Give them each a different product and ask them to role-play introducing the product to a smoker wanting to quit with their support. After 10 minutes each group nominates one of their group members to present this to the rest of the class.

Teaching Appendix B: Assessment and Evaluation Form

Training Outcomes and Evaluation

Section 1: To be completed before the training begins.

1. What are your expectations from, or the key learning objectives you hope that the training will meet?

_____
_____
_____
_____

2. How confident are you in your ability to support an individual to make a quit attempt with the skills you already have? Please indicate by circling a number on the scale below.

1	2	3	4	5	6	7	8	9	10
Not at all confident									**Extremely confident**

Section 2: To be completed at the end of the training.

3. What are the 3 elements of smoking addiction?

_____
_____
_____

4. Please list 3 of the common withdrawal effects of stopping smoking.

_____
_____
_____

5. Name 2 techniques you could use to support an individual in their quit attempt.

_____
_____
_____

6. How confident are you in your ability to support an individual to make a quit attempt now? Please indicate by circling a number on the scale below.

1	2	3	4	5	6	7	8	9	10
Not at all confident									**Extremely confident**

7. How far do you feel that your expectations or learning objectives were met by the training today? Please circle.

None were met **Some were met** **All were met**

8. If any of your expectations or learning objectives were not met please explain which these were below.

_____
_____
_____
_____

9. Please feel free to add any other comments here.

_____
_____
_____

Thank you for taking the time to complete this form.

Teaching Appendix C: Lecture presentation slides

UCL

Epidemiology - Respiratory Disease

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UCL

Objectives

1. Prevalence and Incidence in epidemiology
2. Odds ratio, relative and absolute excess risk
3. The advantages and disadvantages of some epidemiological research methods
   - population time-trends
   - case-control studies
   - cohort studies
4. The evidence for the links between smoking and 3 major respiratory diseases
   - Asthma, COPD and Lung Cancer
   - General impact of smoking
5. The role of the clinician in smoking cessation

UCL

What is Epidemiology?

- The study of epidemic (wide spread and large scale) disease
- *The study of the incidence, distribution and determinants of health-related diseases in populations with a view to identifying their causes and enabling their prevention*

1. Prevalence and Incidence in Epidemiology UCL

Incidence

- Number of ***new*** cases that occur in a defined population in a specific period of time.
  - Often expressed as a rate; e.g. X per 1000 persons a year or as a percentage per year

Prevalence

- Number of cases present in a defined population at a given time
  - Point
  - Period

2. Odds ratio, relative and absolute excess risk UCL

Relative Risk

- Probability of something (e.g. disease) occurring in a group with a suspected risk factor divided by the probability of it occurring in a comparison group (i.e. without this risk factor)

  » $\frac{\text{Incidence of those exposed to risk factor}}{\text{Incidence of those not exposed}}$ $\frac{\mathbf{0.18}}{\mathbf{0.15}}$ = **1.2**

Absolute Excess Risk

- Calculated to measure how much of disease occurrence is due to a risk factor in a particular population

  » Incidence of those exposed to risk factor – Incidence of those not exposed **0.18-0.15 = 0.03**

2. Odds ratio, relative and absolute excess risk cont… UCL

Odds Ratio

- The odds of some event is the number of occurences divided by the number of non-occurences
- Odds are not the same as probability
  - Odds of getting heads in a coin toss are 1/1
    - » whereas the probability is 1/2
  - Odds of getting a 1 on a die roll are 1/5
    - » whereas the probability is 1/6
- An odds ratio is the odds of a something occurring (e.g. having a given disease) in a group with risk factor exposure divided by the odds of something occurring in a comparison group without exposure

Odds Ratio vs Relative Risk

Odds not dependent on sample size / disease prevalence

	Oc	¬Oc	Total
Exp	18	820	*838*
¬Exp	15	850	*865*

OR= Oexp/O¬exp = (18/820) / (15/850) = 1.24

RR= Rexp/R¬exp = (18/838) / (15/865) = **1.238**

Odds have better algebraical properties:

• Not constrained
  – Risk between 0 and 1; Odds between 0 and inf
  – Log(risk) between –inf and 0; Log(odds) between –inf and inf

Odds ratio used in important statistical tests (e.g. logistic regression) and more commonly reported in medical journals

Epidemiological methods

- Time trends in a population: trends in disease rates over time may throw light on causes, by comparison with trends in behavioural or other risk factors
- Case-control studies: comparison of frequency of a putative risk factor in patients with a disease compared with hospital or population controls
- Cohort studies: prospective follow-up of a cohort to establish the association of mortality and morbidity with risk factors assessed at baseline

Time trends in a population

- **Advantage**
  – Allows formulation of hypotheses through revealing general increases or decreases in disease prevalence through comparison with risk factor prevalence over time
- **Disadvantage**
  – Different populations are used so only indirect inferences can be made
  – Observed link may be confounded, therefore usually followed by studies to investigate the link directly

Epidemiological methods

- Time trends in a population: trends in disease rates over time may throw light on causes, by comparison with trends in behavioural or other risk factors
- Case-control studies: comparison of frequency of a putative risk factor in patients with a disease compared with hospital or population controls
- Cohort studies: prospective follow-up of a cohort to establish the association of mortality and morbidity with risk factors assessed at baseline

Case-control approach

- **Advantages**
  – Relatively inexpensive
  – Conducted within a short time-scale
  – Suitable for rare diseases
- **Potential disadvantages**
  – Who to use as controls? General population, or hospital patients?
  – Measurement of exposure may be unreliable or biased
  – Confounding
  – Directional Causality

Epidemiological methods

- Time trends in a population: trends in disease rates over time may throw light on causes, by comparison with trends in behavioural or other risk factors
- Case-control studies: comparison of frequency of a putative risk factor in patients with a disease compared with hospital or population controls
- Cohort studies: prospective follow-up of a cohort to establish the association of mortality and morbidity with risk factors assessed at baseline

Cohort approach

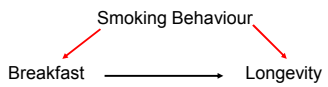
- **Advantages**
  - Can investigate multiple outcomes
  - Suitable for common diseases
  - Accurate assessment of risk exposure status
- **Potential disadvantages**
  - Takes a long time and is therefore expensive
  - Loss to follow up is high
  - Restricted to cohort and not suitable for rare diseases where large samples would be required
  - Cannot simply infer causality

The problem of causality

- *Direction*: Stay middle class to avoid schizophrenic episodes!?

Socioeconomic Status → Schizophrenia

- *Higher order variables*: If you want to live long, eat breakfast!?



Asthma

- **Definition**:
  - Chronic airway inflammation associated with airway hyper-responsiveness leading to symptoms such as
    - Wheeze, breathlessness, chest tightening, cough and airways obstruction (variable/characteristically reversible)
- **Aetiology**:
  - Genetic Factors
    - Many gene subunits implicated as having a moderate effect on susceptibility (disturbing function of IgE and cell receptors)
  - Environmental
    - House dust mite aero-allergens
    - Fungal spores
    - Air pollutants
    - Tobacco smoke

Health Survey for England (HSE) 2001

- Representative household sample
  - Annual cross-sectional survey with two stages: individual home interview followed by nurse visit
- Respiratory symptoms questionnaire
  - Including questions on wheezing, shortness of breath, doctor diagnosis of asthma
- Data collected on demographics
  - Including smoking history and objective measure (cotinine)
- Effective sample size
  - 6966 men and 8681 women

Doctor diagnosed Asthma (HSE 2001)

- Incidence (i.e. diagnosed within last 12 months)
  - 0.5% men, 0.9% women; 0.7% Total
- Prevalence
  - 13% men, 16% women; 15% Total
- Higher diagnosis for women across all age groups and decreased with age for both genders

Asthma and Smoking

- Prevalence of asthma among smokers similar to non-smoking population
- Smoking has not been found to be a main cause of asthma
- Smoking and cessation has an effect on the metabolism of drugs (e.g. corticosteroids)[1]
- Findings reported in HSE 2001 indicate that smoking and even passive smoking increase risk of wheezing problems

1. Livingstone E, Thomson NC, & Chalmers GW (2005). Impact of Smoking on Asthma Therapy. A Critical Review of the Clinical Evidence. *Drugs 65(11):* 1521-1536

Wheezing Occurrence and Smoking

- There was a significant increase ($p<0.001$) in reported wheezing over the last 12 months according to smoking status in both men and women
- Compared to never regular smokers the odds of wheezing increased by:
  - 1.34 (CI* 1.14-1.57) in ex-regular smokers
  - 2.28 (CI 1.91-2.73) in smoking <20 cigarettes per day
  - 2.98 (CI 2.73-3.62) in smoking ≥20 cigarettes per day

CI*- 95% Confidence Interval means that there is 95% chance of the actual value being within the range.

COPD

Chronic Obstructive Airways Disease (COAD)
Chronic Obstructive Pulmonary Disease (COPD)
Chronic Obstructive Lung Disease (COLD)

A syndrome consisting of

- Wheezy breathlessness, cough
- Excessive sputum production
- Low lung function (FEV_1, FVC)
- In contrast to asthma breathlessness is persistent and deteriorates on exertion
- Is irreversible

Risk Development of COPD

Poor parental education and social economic circumstances, maternal smoking and parental lower respiratory illness

Biological Programming
Low birth weight
Poor infant growth
Raised risk of lower respiratory illness in the first 2 years of life

Development of social & health capital
Poor education
Poor health related habits in terms of smoking and nutrition
Greater likelihood of prolonged exposure to atmospheric pollution at work and at home

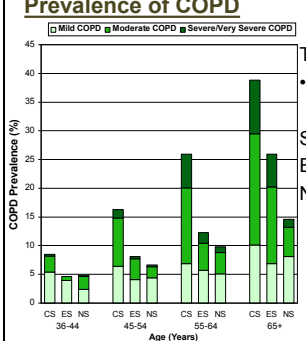
Poor adult respiratory function and raised risk of lower respiratory illness

Spirometric 'diagnosis' of COPD

- Following the so called GOLD standard defined by
  - FEV_1/FVC ratio <70% after bronchodilator has been used

- GOLD classification of severity:
  - Mild: FEV_1 >=80% of predicted value
  - Moderate: FEV_1 50%-79% of predicted value
  - Severe/Very Severe: FEV_1 <50% of predicted value
- Measured in HSE 2001
  - Five times each of FEV1, FVC and best test used
  - Included data for 35+; effective sample in analysis 8215

Prevalence of COPD



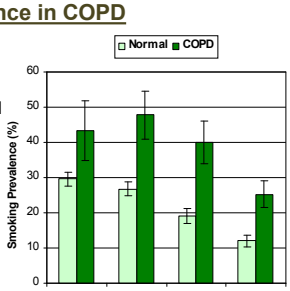
Source: Shahab, L., Jarvis, MJ., Britton, J., West, R. (2006).

Total sample:
- 13.3% (95%CI 12.6-14.0)

Smokers (CS): 19.3%
Ex-smokers (ES): 15.2%
Never-smokers (NS): 8.7%

Smoking Prevalence in COPD

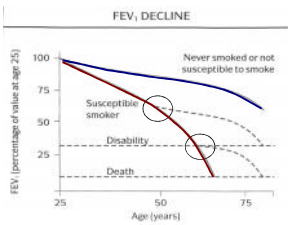
- Current smokers:
  - 34.9% in COPD
  - 22.4% in Normal
- Peaks at 48% in middle age in COPD group versus steady decline in normal.



Source: Shahab, L., Jarvis, MJ., Britton, J., West, R. (2006).

Cohort Study: Fletcher and Peto, 1977

- 1961 – 1969
- Men aged 30-59 yrs working in West London
- Effective sample: 776
- Tracked for 8 years and seen every 6months collecting data on:
  - Mucus Hypersecretion (i.e. phlegm production)
  - Bronchial Infections
  - Airflow Obstruction (FEV_1)



- Smoking most important risk factor for COPD; cessation can delay onset of disability and death
- Two key findings are useful in identifying smokers susceptible to COPD: A relatively low FEV1 by middle age and a rapid annual decline in function.

Figure taken from: Brooker R (2005) Chronic obstructive pulmonary disease and the NICE guideline. *Nursing Standard 19(22)*, 43-5.

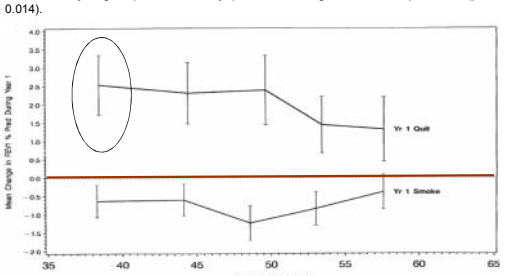
Cohort Study: Effect of Smoking Cessation on COPD Progression

Lung Health Study[1]

- **5,887 participants**
- **30-60yrs old (Canada and USA)**
- **Followed annually for 5 years**
  - **Self-report, expired CO measure, FEV_1, cotinine**
- **Conditions**
  - **1959 randomised to intensive smoking cessation programme only**
  - **1964 randomised to usual care**

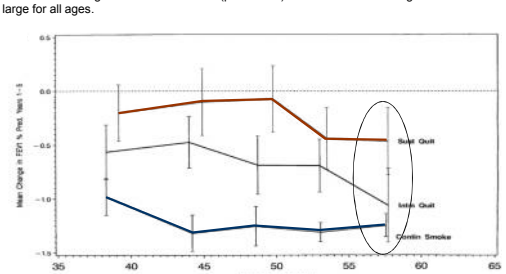
1. Scanlon PD, Connett JE, Waller LA, et al. Smoking cessation and lung function in mild-to-moderate chronic obstructive pulmonary disease. The Lung Health Study. *Am J Respir Crit Care Med 2000; 161*, 381-390.

Figure 1: Baseline to Year 1. Illustrating the mean change in FEV_1 from baseline lung function. The youngest quitters ranked by quintiles had the greatest initial improvement (p = 0.014).



Source: Scanlon PD, Connett JE, Waller LA, et al. Smoking cessation and lung function in mild-to-moderate chronic obstructive pulmonary disease. The Lung Health Study. *Am J Respir Crit Care Med 2000; 161*, 381-390.

Figure 2: Year 1 to Year 5. Illustrating the mean change in FEV_1. The oldest continuing smokers had the greatest functional loss (p = 0.0021). The benefit of smoking cessation was large for all ages.



Source: Scanlon PD, Connett JE, Waller LA, et al. Smoking cessation and lung function in mild-to-moderate chronic obstructive pulmonary disease. The Lung Health Study. *Am J Respir Crit Care Med 2000; 161*, 381-390.

LUNG CANCER

Incidence

- New cases diagnosed in 2004

  Males: 23,245 Females: 15,165

- Crude rate per 100,000 population

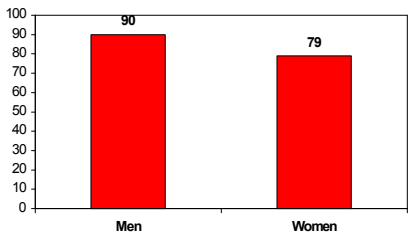
  Males: 81.6 Females: 50.3

- Biggest cancer killer

  Approx. 33,000 die from lung cancer each year

Source: Cancer Research UK statistics April 2004. Lung cancer and Smoking -UK

Estimated percentage of lung cancer deaths attributable to smoking



Source: US Dept. of Health & Human Services, 1989

Health fascism

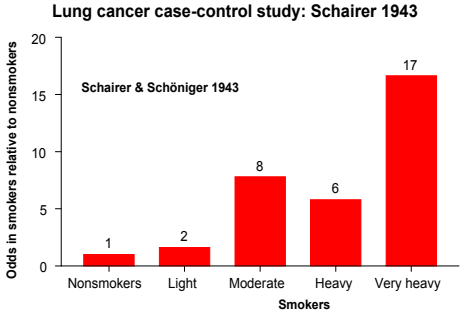
- The link between smoking and lung cancer was first described in Nazi Germany, but this was largely forgotten, and when Richard Doll began to investigate lung cancer in 1949 he thought air pollution was the most likely cause

Case-control study: Schairer and Schoniger (1943)

- 195 lung cancer cases seen at Pathological Institute, Jena 1930-1941
- Questionnaire to assess smoking habits sent to relatives (56% returned)
- 700 male population controls matched for age (39% returned)
- Also to relatives of patients who died from stomach, colon, prostate, oesophagus and tongue cancer

http://ije/oupjournals.org/cgi/content/full/30/1/24

Lung cancer case-control study: Schairer 1943



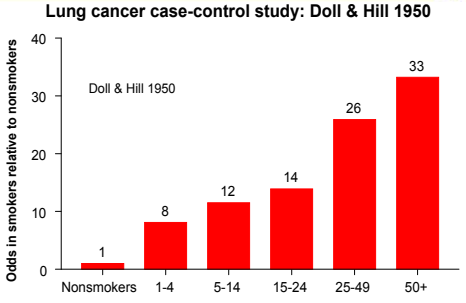
Cases	3	11	31	19	29
Controls	43	98	57	47	25

Case-control study: Doll & Hill (1950)

- 709 lung cancer cases admitted to 20 London hospitals 1948-1949
- 709 non-cancer controls, age and sex matched
- Smoking habits ascertained by individual interview with patient

Doll & Hill BMJ 1950 ii 739-747

Lung cancer case-control study: Doll & Hill 1950

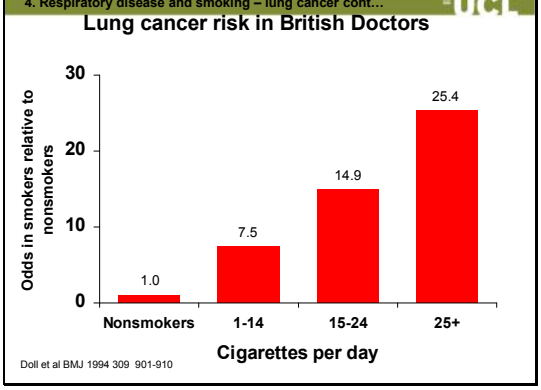


Cases	2	33	250	196	136	32
Controls	27	55	293	190	71	13

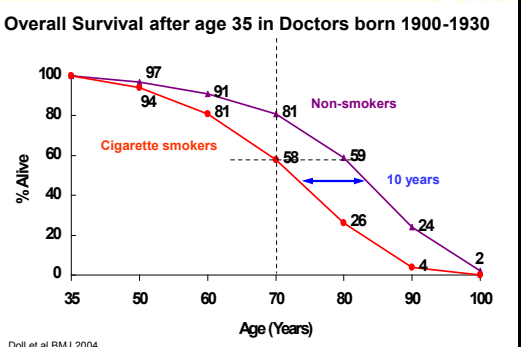
Cohort-study: British doctors study

- Questionnaire sent to all men and women on British medical register in October 1951: 34,439 men and 6,194 women enrolled
- Smoking habits ascertained in 1951, 1957, 1966, 1971, 1978, 1991, 2001
- mortality follow-up over 50 years

Doll et al BMJ 2004 328 1519-1527



Doll et al BMJ 1994 309 901-910

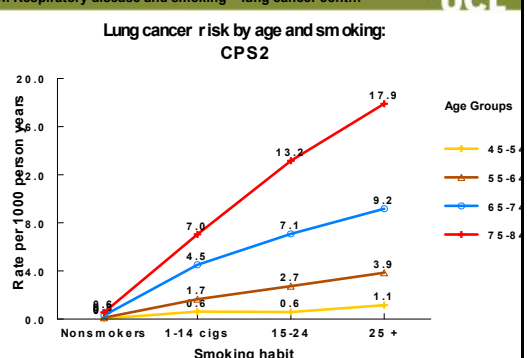


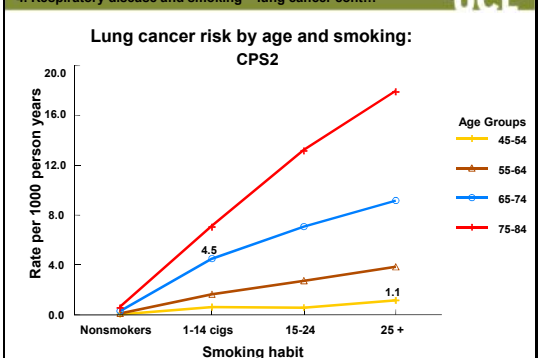
Doll et al BMJ 2004

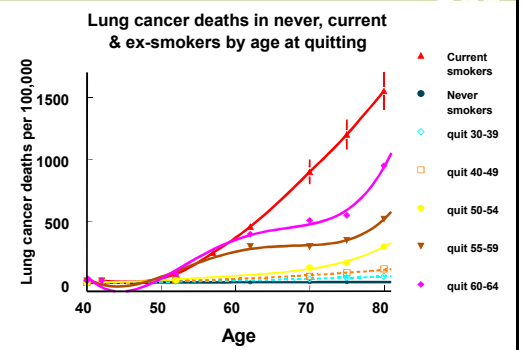
Cohort-study: American Cancer Society studies

- CPS I (Cancer Prevention Study 1) over 1 million participants recruited in 1959
- CPS II 1.2 million participants recruited in 1982
- Participants: friends, neighbours, acquaintances of ACS volunteers
- Follow up every other year

Thun et al Am J Public Health 1995; 85: 1223-30

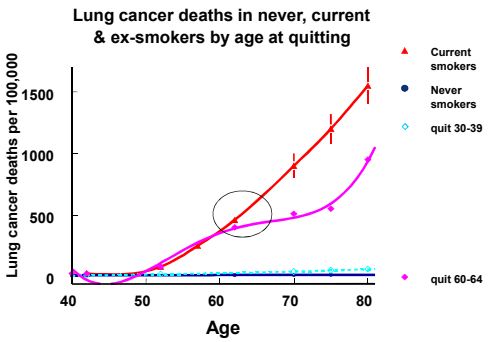






Halpern JNCI 1993: CPS2 data

4. Respiratory disease and smoking – lung cancer cont…



Halpern JNCI 1993: CPS2 data

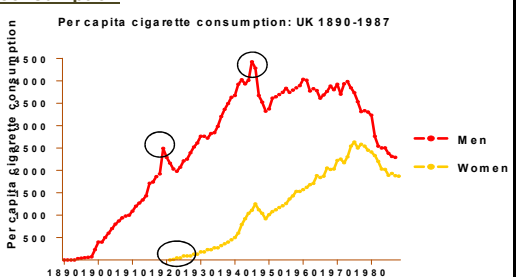
4. Respiratory disease and smoking – lung cancer cont…

Lung cancer time trends in the population

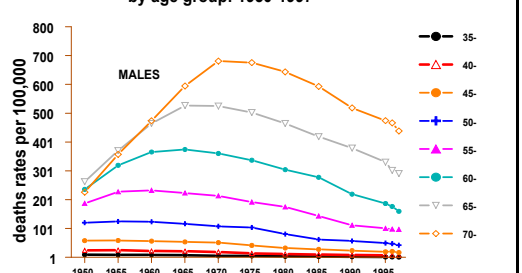
- Lung cancer rates map on to changes in smoking prevalence with a time lag of about 20-30 years
- Lung cancer is a rare disease in never smokers
- Lung cancer rates can be used to indicate rates of smoking related disease generally

4. Respiratory disease and smoking – lung cancer cont…

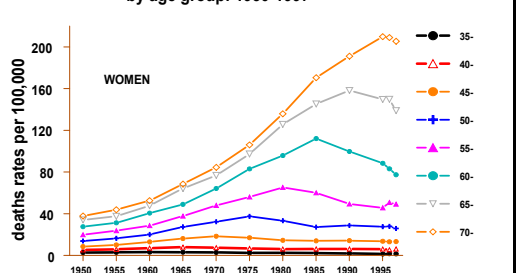
A brief history of cigarettes and cigarette consumption



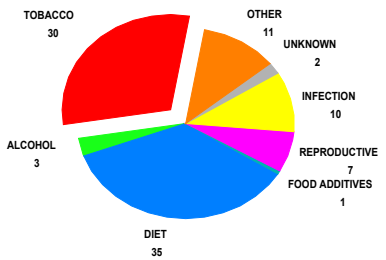
4. Respiratory disease and smoking – lung cancer cont…



4. Respiratory disease and smoking – lung cancer cont…



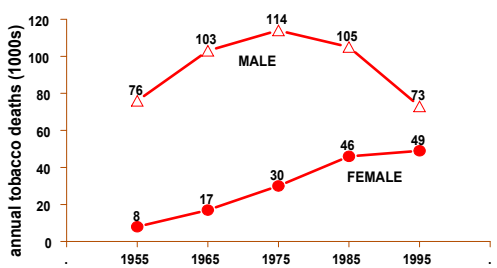
PROPORTIONS OF CANCER DEATHS
ATTRIBUTED TO VARIOUS CAUSES



Lesser known health effects

Oral Cancer
Bladder Cancer
Premature Birth
Diabetic Sores
Peripheral Vascular Disease
Macular Degeneration
Deafness
Urinary incontinence
Osteoporosis
Myeloid Leukaemia
Cervical Cancer
Meningococcal Disease
Tooth & Gum Problems
Back pain
Infertility
Early menopause
Depression
General Anxiety Disorder
Learning Difficulties
Delinquency

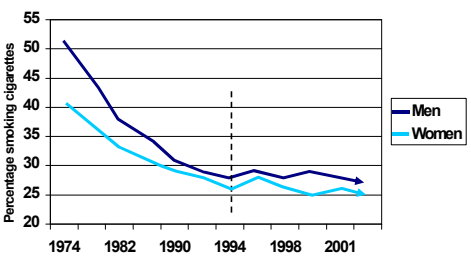
UK smoking attributed deaths
(all ages, all causes)



Source: Peto & Lopez 1994

Smoking trend - UK

Smoking prevalence by sex (aged 16 +)



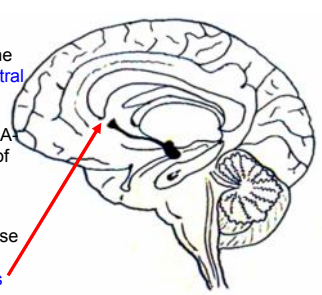
Source: General Household Survey, 2002

Why Can't Smokers Just Stop?

- **Nicotine Dependence**
  - Positive reinforcement
  - Negative reinforcement

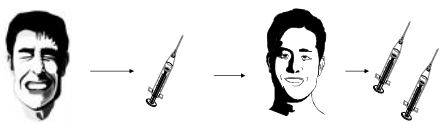
Positive reinforcement

- Nicotine binds to nicotinic acetylcholine receptors in the Ventral Tegmental Area
- This increases NDMA-initiated burst firing of the mesolimbic dopamine pathway
- This increases release of dopamine in the Nucleus Accumbens



Negative reinforcement

Withdrawal discomfort → Puff on a cigarette → Withdrawal relief → More puffs



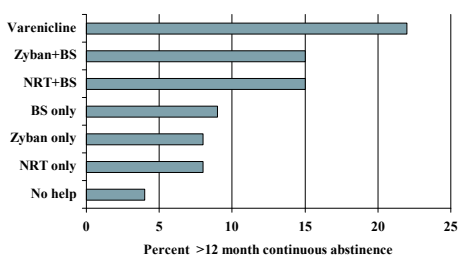
Why Can't Smokers Just Stop?

- **Nicotine Dependence**
  - Positive reinforcement
  - Negative reinforcement
- **Psychological Dependence**
  - Coping strategy, social pressure, used as a reward, emotional attachment.
- **Habit**
  - Behaviour repeated every day in many situations – difficult to break the habit.

Smoking Cessation Aids

- Nicotine Replacement Therapy (NRT)
  - 6 forms (patch, gum, lozenge, inhalator, microtab, nasal spray)
  - Top strength for people smoking 20 or more cigarettes a day
  - Use for at least 2 months
- Bupropion (Zyban)
  - 150mg daily for first 6 days then up to 300mg (65+yrs or diabetic stay on 150mg dose throughout)
  - 8 week course (starting 6-12 days before quit day)
  - Contraindicated for patients with vulnerability to seizure or already on medication lowering the threshold for seizure (e.g. MAOIs, anti-psychotics, antipdepressants, systemic steroids…)
  - Carries seizure risk similar to anti-depressants of 1/3000
  - Carries risk of allergic reaction of 1/1000
- Varenicline (Champix)
  - New available, licensed last year
  - Partial agonist for nicotinic receptors
  - Patients with moderate to severe renal impairment use lower dose
  - Nausea is main side-effect

Best estimates of quit rates



BS=intensive behavioural support

The Role of the Clinician

1. **Check smoking status**
   'I just need to check something. In my records I have you down as a smoker/non-smoker; is that correct?'
   - Confirmed non-smokers: no further action
   - New non-smokers: Give praise then no further action
2. **Smokers: Discuss the link between smoking and their current health condition or likely future health**
   'I am very worried about your chest which is certainly being made worse by your smoking….'
3. **Make sure that patients are aware of effective treatments to help them stop and encourage them to use these**
4. **Ask whether they have been doing anything about their smoking and offer help**
   'Have you been seen by our Stop Smoking Service? No? Well they have helped a lot of very heavy smokers like you to stop and I would like you to make an appointment to see them straight away'

Overcoming Barriers

According to GPs the main barriers to raising the issue of smoking with patients are:

- Concerns over the relationship and
- Time

- The Relationship
  - Focus on links with patient's current or future health, offer of help and dealing with replies.
    - **Tips** – (1) Show understanding that giving up is difficult and be supportive (2) Pt tried before but failed, praise them if they managed to stop for a week or more and reassure them that sometimes it takes a few attempts before they succeed and that can learn from prior attempts and strengthen the next one then advise them to see a specialist
- Time
  - Transfer all extended discussion and treatment to Stop Smoking Service
    - Average time taken per smoker (<3 minutes), and 10 seconds per non-smoker

Coleman T & Wilson A (1996) Anti-smoking advice in general practice consultations: general practitioners' attitudes, reported practice and perceived problems. *Br J Gen Pract. 46(403)*:87-91.

Brief Advice

- Given to ALL SMOKERS
- Takes <3 minutes per smoker
- Focussing on cessation not reduction
- Triggers a quit attempt in about 40% of smokers
- **Increases 12-month sustained abstinence by 1-3%**
- **No good evidence for effectiveness of brief advice from other health professionals**

Conclusions

- The study of smoking has contributed to the development of epidemiological methods
- Smoking is not directly related to asthma but has indirect effects through interaction with asthma treatment
- There are important dose and duration effects on risk of wheezing, lung function decline and lung cancer
- FEV_1 declines gradually over a lifetime but is accelerated in susceptible smokers; cessation does not reverse damage but the rate of decline reverts to normal
- Risk of lung cancer stabilises with cessation, but does not decline in absolute terms
- Epidemiological studies do not establish the precise mechanisms by which smoking causes respiratory disease

What does this mean for clinicians?

- Clinicians have an important role in advising patients to stop smoking
- May save more lives by giving brief advice than in any other way
- Clinicians must be aware of the relationships between smoking and diseases to be able to give their patients relevant advice
- Behavioural support and use of NRT/Bupropion (and likely Varenicline) is the treatment of choice for smoking cessation

Teaching Appendix D: Group work

Royal Free and University College Medical School

Year 3: Epidemiology and Public Health Teaching 2008/2009

A. The following example was taken from Peto R *et al.* BMJ 2000: 321:323-329.

The study was conducted during 1988-93 in a part of southwest England. Potential cases were patients younger than 75 who were referred with suspected lung cancer to the five hospitals in Devon and Cornwall that investigated lung cancer. For each case a population control was obtained, selected randomly either from lists of the local family health services authority or from electoral rolls, and a hospital control was selected from patients whose current admission was for a disease not thought to be related to smoking. Controls were matched for age, sex, and broad area of residence to the patients with suspected lung cancer. Cases and controls were eligible for the study only if they were current residents of Devon or Cornwall, had lived in one of these two counties for at least 20 years, and could be interviewed in person by research assistants about smoking habits and other relevant characteristics. The final diagnosis of cases was sought; those who had a smoking related disease other than lung cancer were excluded; and the few who had a disease not known to be associated with smoking were transferred to the hospital control group. Similarly, the final diagnosis of all the hospital controls was sought, and those whose main reason for being in hospital was a disease known to be related to smoking were excluded from the study.

The distributions of the smoking habits of the population controls and hospital controls were closely similar, and the results are presented here with these two control groups combined. Further details of the study design and methods of data collection and analysis have been given elsewhere.[8] Information was obtained about the smoking habits of 667 men and 315 women with a confirmed diagnosis of lung cancer and of 2108 male and 1077 female controls.

A large number of men and, to a lesser extent, of women had stopped smoking well before 1990. Hence, particularly for men, robust estimates can be obtained from the 1990 data of the effects of prolonged cessation on the avoidance of risk (table 1).

Table 1. Comparison of risk of lung cancer between all current smokers, all former smokers, and lifelong non-smokers.

	Men			Women		
Smoking status	**Cases**	**Controls**	**Odds ratio**	**Cases**	**Controls**	**Odds ratio**
Current smoker	379	602		197	218	
Former smoker, stopped						
<10 yrs ago	146	339		68	93	
10-19 yrs ago	92	306		18	80	
20-29 yrs ago	31	221		8	144	
30+ yrs ago	16	240		-	-	
Never smoked	3	400		24	542	
Total	667	2108		315	1077	

1. What type of study was this?
2. Was the recruitment of cases complete? Could some have been missed?
3. Why were some controls recruited in hospital and other through health authority and electoral rolls?
4. Table 1 shows the numbers of male and female cases and controls by smoking status. Calculate the odds ratios for lung cancer by smoking status in men, using non-smokers as baseline.

5. What was the relationship between smoking status and lung cancer?
6. How many times more or less likely were those who stopped smoking >30 years ago to be diagnosed with lung cancer, compared to non-smokers?
7. What are the main advantages of this study design?
8. What are the main limitations of this study design?

B. The second example is based on an MRC study (hosted by UCL).

The study population is a stratified sample (N=5362) of all single, legitimate births that took place in England, Wales and Scotland in one week in 1946. Data were collected at birth and soon after birth. Further information about health and development was collected 10 times up to age 15 years. Thereafter 9 data collections were made up to and including that at 43 years. Research nurses have been the main sources of information on health in adulthood, and adult health has been measured in terms of biological and cognitive function, disability, illness and death.

The birth weights were recorded at birth by the person delivering the baby, or taken from records within 2 months. In infancy data was collected by health visitors when the cohort children were aged 2 years, and they asked mothers for their study child's experience of pulmonary disease (pneumonia, bronchitis, bronchiectasis) by that age. FEV1 was measured by research nurses trained by us) at home visits, using electronic spirometers when the cohort members were aged 43 years; the measure used here is the best of 3. Smoking information (current cigarette smoker or not) was collected in interviews at the same home visit.

Table 2. Percentage of subjects in the lowest fifth of FEV_1 at 43 yrs, males.

Number of infant biological adversities*	**Non-smoker at 43 yrs (n=1823)**	Adult smoker **(n=712)**
0 (n=1497)	15.1% ($^{167}/_{1105}$)	20.4% ($^{80}/_{392}$)
1 (n= 914)	22.2% ($^{142}/_{641}$)	30.4% ($^{83}/_{273}$)
2 (n= 124)	29.9% ($^{23}/_{77}$)	44.7% ($^{21}/_{47}$)

*Birth weight below 3000g &/or pulmonary illness by age 2 years.

What type of study was this?
For whom is this study population representative?
How was "case" (outcome) defined?
How was "exposure" defined in this study? What does this "exposure" reflect?
Using the numbers in Table 2, what measure of an association between exposure and outcome can be calculated? Please calculate these figures among male smokers and non-smokers.
What was the pattern of the associations?
How many times more likely were smokers and non-smokers in the highest exposure category to experience the outcome, compared to men in the lowest exposure category?
Why did the authors present figures separately for smokers and non-smokers?
What are the advantages of this study design?
What are the main disadvantages of this study design?

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Teaching Appendix E: Useful references

Year 3: Epidemiology and Public Health Teaching
Respiratory Disease and Smoking and Measurement of Exposure Effect

West R, Shiffman S (2004). *Smoking Cessation.* Oxford: Health Press.
A fast fact guide to smoking cessation in clinical practice

Lung and Asthma Information Agency
www.laia.ac.uk
Factsheet resource on the epidemiology of lung disease

Office of National Statistics (UK)
www.statistics.gov.uk

ASH UK
www.ash.org
Contains a wealth of information on policy, epidemiology, research and clinical issues. Also has useful tips and advice for smokers who want to quit

Cancer Research UK
www.cancerresearchuk.org
Useful resource for facts and figures

Cochrane Database – Smoking Cessation Reviews
www.scsrn.org

Professional Assisted Cessation Therapy (PACT)
www.endsmoking.org
Materials and research updates for clinicians

Treat Tobacco
www.treatobacco.net
Up-to-date reviews for clinicians and advice on treatment

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Teaching Appendix F: Evaluation form

Epidemiology and Respiratory Disease

Please rate today's lecture and teaching with reference to the following criteria

Content of the lecture

I found the teaching session interesting
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

The depth of information presented was just right
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

I feel my knowledge of epidemiological methods has improved
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

I feel my knowledge of the links between smoking and respiratory disease (asthma, COPD and lung cancer) has improved
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

I feel better equipped to raise the topic of smoking and cessation with a patient
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

Teaching

The lecturer's presentation style helped me learn
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

The teaching material was presented clearly and coherently
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

If applicable: The lecturer dealt with questions well
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

The lecturer was approachable
1. Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

If you have any suggestions for how this lecture could be improved or any general comments please note these on the back of the sheet.

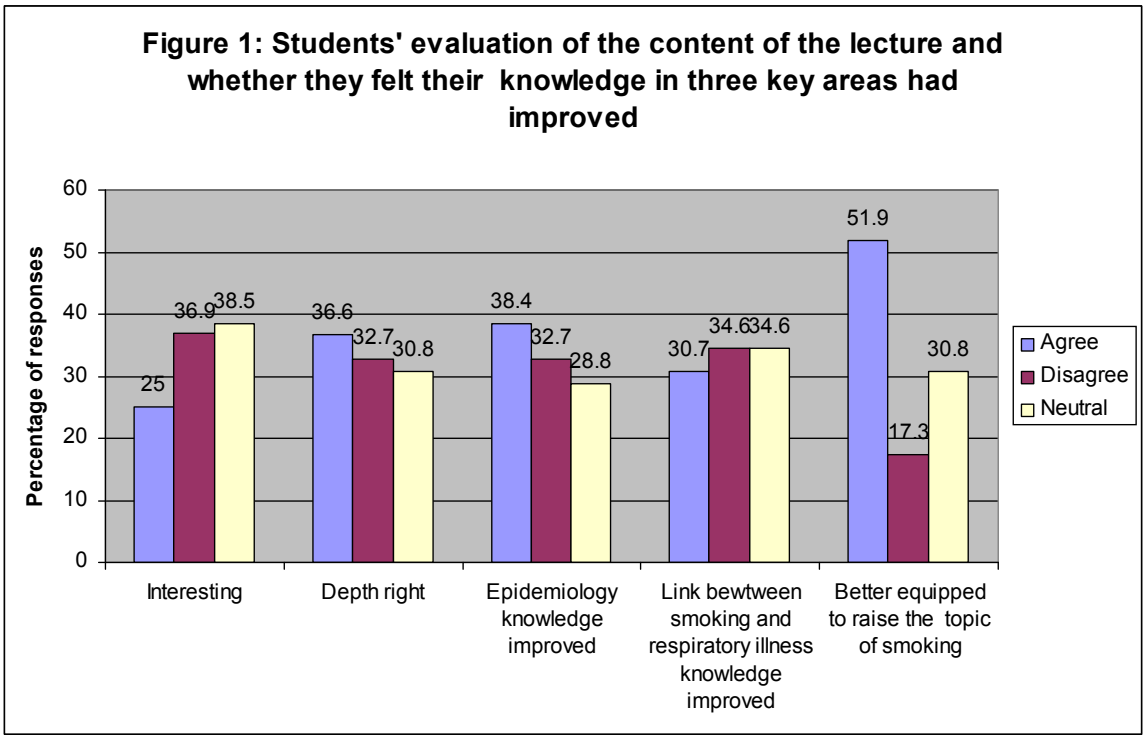
THANK YOU FOR TAKING THE TIME TO COMPLETE THIS FORM

Teaching Appendix G: Evaluation report

Third Year Medical Students' Evaluation of the Epidemiology and Respiratory Disease Lecture – 10/05/07

52 medical students returned the evaluation form and the majority (63.5%, n=34) felt that their knowledge had improved as a result of the lecture in at least one of the three key areas covered (i.e. epidemiology methods, links between smoking and respiratory disease, raising the topic of smoking with patients). 21.2% (n=11) felt an improvement in knowledge in one of the areas, 25% (n=13) in two of the areas and 17.3% (n=9) in all three areas. The area where most students felt that their knowledge had improved was in raising the topic of smoking with patients (51.9%, n=27).

A third of students however, did not feel that their knowledge had improved in any of the areas. Two of these students offered additional comments stating that they had already been taught much of the lecture before. Closer examination of the data is represented in Figure 1 below which may be reflecting this.



Only a third of students felt that their knowledge of epidemiology methods (38.4%, n=20) and of the links of smoking with respiratory disease (30.7%, n=16) had improved. This appears to be more related to the content of the lecture as only 36.6% (n=19) of students agreed that the depth of information presented was just right rather than the teaching as this was rated highly by the majority of students with 65.4% (n=34) finding that the teaching material was presented clearly and coherently.

In conclusion, the evaluation indicates that the topics covered in this lecture may need to be compared to the content of the lectures that the students have been taught previously and revised if appropriate.

Optional Unit 5.1 – Case Study: Intervention to Change Health-Related Behaviour

Implementing a Group Smoking Cessation Intervention in the NHS

The benefits of smoking cessation to both the smoker and the NHS have led to it becoming a public health priority. This is reflected in the government's investment in campaigns to raise awareness of tobacco-related illnesses, providing smoking cessation medications on prescription and a specialist behavioural support service. The NHS following the guidance of the National Institute for Clinical Excellence (NICE, 2002) takes a predominantly pharmacological approach to smoking cessation intervention but also recognises that a considerable level of motivational support is important.

It is evident from the research into the psychopharmacological effects of nicotine in tobacco, that nicotine is addictive and encourages dependency in most smokers. Smoking releases nicotine into the blood stream and stimulates nicotinic acetylcholine receptors in the ventral tegmental area of the brain. This increases the release of dopamine in the nucleus accumbens and is experienced as a sensation of pleasure positively reinforcing the behaviour of smoking. Chronic stimulation of the nicotinic acetylcholine receptors leads to neuronal adaptation and withdrawal symptoms in the absence of nicotine, thereby also negatively reinforcing the behaviour. Withdrawal symptoms include irritability, depressed mood, difficulty concentrating, urges to smoke, increased appetite and restlessness. The acute physiological symptoms of nicotine withdrawal typically last for two months (Hughes, Higgins, & Bickel, 1994).

The NHS specialist services use a combination of pharmacological support (i.e. nicotine replacement therapy (NRT) or Bupropion (Zyban))[2] and behavioural support directed towards helping clients to get through the withdrawal symptoms. This is the

[2] Since November 2007 the smoking cessation aid Varenicline has also been offered .

'Withdrawal Oriented Therapy' approach (Hajek, 1989, 1994) recommended by smoking cessation guidelines following systematic reviews of the evidence of several clinical interventions (West, McNeill, & Raw, 2000). Interventions using either pharmacological support or behavioural/psychological support alone demonstrate success rates of approximately 12% (i.e. abstinence rates of at least six months). This rate is more than double that of quitters using no treatment (5%). When interventions include both pharmacological and behavioural support from health professionals the rate of success increases from approximately 12% to 21% (West & Shiffman, 2004).

One of my roles as a Research Health Psychologist is to facilitate group smoking cessation interventions at the NHS South Essex Stop Smoking Service. I completed the training required to become a Level 3 Specialist Smoking Cessation Adviser in June 2004. The Level 3 intervention consists of a 7-week group support programme based on withdrawal oriented therapy. This case study refers to my second experience of being the Lead Facilitator of a 7-week group intervention. The clients attending the group were either referred to the service by a health care professional or self-referred.

5.1a Assessing the Suitability of Clients for Health-Related Behaviour Intervention

At the first session of programme each client is seen individually by one of the advisors to go through the client's clinic assessment form. The advisor briefly explores with the client their prior history of quit attempts and factors affecting motivation to quit followed by a discussion of the client's medical history with respect to any contraindications to using NRT or Zyban. During this consultation the advisor assesses whether the client demonstrates (and/or reports) a mental health problem which may seriously interfere with the client's quit attempt or cause disruption to the group (e.g. florid psychosis, deafness, alcohol intoxication). In these cases, the client would be

referred to the appropriate health care professional or offered individual support intervention from one of the stop smoking advisors). For this particular group of clients, no referral or individual intervention was required. Seventeen clients came to the first two pre-quit sessions of the group of which two decided not to return to make a quit attempt. The first two sessions are regarded as introductory sessions to the group programme and the stop smoking aids. Only those who agree to work towards a goal of complete abstinence from the designated quit day (i.e. Session 3) as part of the group are asked to return. Alternative support is available for those who choose not to.

5.1b Identify and Negotiate the Behaviour Change Goals of the Clients

The primary goal of the intervention is to assist clients to cease smoking from Week 3 of the intervention programme. This is integral to the group intervention promoting a shared experience of coping with the withdrawal effects of stopping smoking at the same time and also creating a social responsibility to the other members of the group to remain abstinent. At the first session, the goal of the programme for complete abstinence rather than gradual cessation is emphasised and the theory behind this discussed. Reducing the number of cigarettes smoked does not necessarily equate to a reduction in nicotine intake as cigarette can be smoked more efficiently through compensatory inhalation (Jarvis, 2004) and may also lead to greater psychological dependence on the cigarettes that are smoked. Clients who are not motivated towards this goal are discouraged from attending any further sessions and advised to speak to myself or the co-facilitator after the session to discuss alternative options.

Negotiating use of pharmacological assistance goals. The acute physiological symptoms of withdrawal from nicotine as is the case of abstaining from smoking can be reduced with the help of a smoking cessation aid. The clients are informed of the

benefits of using a smoking cessation aid, the contraindications for their use, the possible side-effects and how to use them correctly. Common misconceptions about the addictive potential and harm to health of using the medications are also addressed. Clients wishing to use one of the stop smoking aids discuss this with one of the facilitators at the end of Sessions 1 or 2 and are given a letter to take to their General Practitioner (GP) stating their attendance at the clinic with a prescription request. In the cases where the advisor has identified to the client that the medication is contraindicated for use, this is noted on the GP letter to direct the GPs attention to it to stimulate discussion. The decision to use a medical aid to assist cessation is up to the client and not a requirement for taking part in the group programme.

Negotiating psychological/cognitive goals. The behavioural support aspect of withdrawal oriented therapy is to identify cognitive, behavioural and situational barriers to cessation of each individual. The aim of the group programme is to provide a supportive environment where these are challenged and practical solutions offered by other group members and the facilitators. Practical behaviour change goals are then negotiated for each individual. Two advisors are recommended for each group and position themselves amongst the group members rather than in front of them. This serves to distance this intervention from the traditional health-professional patient relationship setting where the health professional is viewed as the expert and promote a more empowering and equal role.

Negotiating social goals. A key part of the withdrawal oriented therapy approach is the motivational support provided by other group members. The setting of goals to encourage a social responsibility to the other group members to remain abstinent is used. These include setting up a 'buddy' support system where daily contact is encouraged between a pair of group members. Similarly, a betting game is

negotiated where the bet placed by the buddy is lost in the event of the client smoking. The clients are also asked to make a promise to the rest of the group that not even a puff of a cigarette will be smoked over the coming week. Setting these goals is encouraged by the facilitators and subject to negotiation with each individual.

5.1c Assess the Cognitive, Behavioural and Situational Determinants, of and Influence on, Relevant Current Behaviour

The assessment of the determinants and influences on smoking behaviour was briefly explored at the first session when each client was seen individually by an advisor. These individual assessments were conducted away from other members of the group (i.e. out of hearing range) to ensure confidentiality of what was discussed. An example from one of the clients that I had assessed was that he perceived a key function of his smoking behaviour to be the prevention of the escalation of anger into violent action. Questioning him further revealed that his perception of a cigarette suppressing anger stemmed from a situation which happened during a previous quit attempt where he had a violent outburst in a situation of high stress. We discussed how increased aggression had been identified as a common acute withdrawal symptom of stopping smoking so is likely to be attributable to withdrawal rather than the common perception among smokers that smoking physiologically suppressing anger.

5.1d Develop a Behaviour Change Plan Based on Cognitive-Behavioural Principles

After each behavioural determinant particular to the client had been identified during the assessment period, it is reflected back to the client to raise their awareness of its influence and to stimulate consideration of how the influence could be reduced. To return to the example of the taxi-driver, I prompted him to consider the situation more

deeply by proposing mechanisms through which smoking might be helping him to suppress his anger (i.e. through the action of inhaling deeply, a focus to channel his anger through and perhaps a warning signal to the person irritating him). From this brief assessment the case formulation made was that smoking had become a learned and trusted coping response to confrontational situations. Finding an alternative way for the client to deal with increasing levels of anger in confrontational situations were discussed (e.g. simple relaxation techniques like deep breathing and counting) for him to consider.

Throughout the programme, my role as the lead facilitator was to elicit the exploration of perceived barriers of each individual, correcting misconceptions and encouraging practical goal focussed solutions (ideally coming from the individual inspired by the ideas of other group members). An outline of how this is elicited can be seen in the intervention guide (see log). Some clients for example agreed that a difficult barrier to remaining abstinent was being in social situations particularly in bars and pubs where they are likely to experience a strong temptation to smoke. Reflection on what it was that led to a strong temptation in this particular situation and explanations included a weakened resolve to abstain from smoking following the consumption of alcohol, being surrounded by people who are smoking (particularly friends), and associating smoking with relaxation. The individuals were first asked of how they thought they might be able to reduce the desire and possible coping strategies to deal with this. A few were raised (e.g. avoidance of social drinking situations initial weeks when the craving from withdrawal would be at its strongest, holding a glass of drink in each hand to avoid reaching for a cigarette, using a nicotine inhalator to mimic the behaviour).

To encourage reflection on the strength of the psychological smoking addiction, common irrational cognitions that prevent an individual from confronting the discrepancy between the behaviour and the individual's beliefs were highlighted. For example the statements 'smoking in secret doesn't count', 'I can just have one cigarette and stop' and 'I'm not addicted to cigarettes, I just enjoy them' (even the ones outside in a rain storm?)' were discussed.

The importance of having motivators and rewards for complete abstinence was also discussed and reinforced where possible. For example a few of the clients had mentioned that one of the main reasons they wanted to give up smoking was due to the financial cost adding that they seemed to find money for cigarettes when often they couldn't afford other things. As a facilitator I took the opportunity to make the financial impact of smoking more real by bringing in the incentive strategy used by clients in previous groups. This is that clients would save the money which would have been spent on cigarettes in a jar over the month and then spend it on a reward. One client for example took his wife on holiday to Spain with the money saved, and another had saved enough money after a few months to have a new kitchen fitted. The importance of reward is also reflected in the group programme as the group is informed at Session 3 that there would be a party on the final session for all those who had remained abstinent.

All goals were agreed during each session and re-evaluated weekly. Those consenting to the buddy-matching goal would agree to contact their buddy a certain number of times during the first week. Modifying the frequency and method of contact (i.e. phone call, email, text) would be considered at the next session. The primary goal of complete abstinence was emphasised each week. If a client has returned to smoking before the next weekly session they are discouraged from returning to the group as it is likely to have a negative impact on the rest of the group. Clients who had smoked a

cigarette then stopped again (i.e. had a lapse) are encouraged to return and reflect on what happened then modify their coping strategies to prevent this happening again. In this group, 5 clients had relapsed back to smoking and did not return to the group. None had returned to the group following a lapse.

5.1e Ensure Monitoring and Support for Behaviour Change Plan

Carbon-monoxide (CO) is highly toxic gas which binds to haemoglobin in the blood stream reducing the blood's capacity to carry oxygen. Levels of CO in the blood can be detected through exhaled air using a Smokerlyser machine. A baseline reading of this is taken from each client prior to quitting smoking (i.e. at session 2). As smokers regularly inhale the smoke from their burning cigarette, this reading is several times that of a non-smoker. CO has a rapid half-life and within a week of quitting smoking an individual would show the reading of a non-smoker (i.e. a reading of <10ppm). At each of the four sessions after quit day, each client is asked as they arrive to the session whether they had smoked a single puff of a cigarette and then they are asked to blow into the CO machine to verify this. Apart from validating self-report of abstinence, the CO readings are used as a motivational tool in two ways. Firstly by detecting and encouraging complete abstinence and secondly by showing the immediate health benefit of stopping smoking by seeing the reduction of levels of CO (a poisonous gas) in the lungs to the level of normal non-smoker.

In addition to monitoring CO abstinence, the weekly sessions are used to support clients with the barriers or difficulties they encounter in their quit attempts. Our role as advisors for the final four sessions of the programme is to encourage the clients to share their experience of remaining abstinent over the previous week and how they have dealt with difficulties. When difficulties are raised the client is invited to explore the

situations/cognitions leading up to it and then the advisors facilitate a discussion with the other members of the group to encourage sharing of coping strategies and group bonding. This promotes self-monitoring of situations/cognitions leading to urges to smoke and ideas of appropriate ways to respond to them.

5.1f Evaluate Outcome

Fifteen clients made a quit attempt of which 63% (n=10) achieved the primary goal of 4 weeks continuous abstinence from smoking. This success rate is typical of NHS specialist service interventions (Judge, Bauld, Chesterman, & Ferguson, 2005). Feedback from the clients during the last session with regard to what they found helped them to quit was having the support of the group and feeling that by smoking they would be letting not just themselves down but also the rest of the group (particularly their buddy). A few also explained that receiving reassurance from the advisors that the withdrawal effects or side-effects they were experiencing were normal was particularly helpful. Clients are asked to complete a service evaluation form at the end of the programme presented to them at the last group session or by post to those who did not attend the last session (see log). On reflection this evaluation form gains little information that can be used to improve the intervention and recommendations for its re-design have been made.

At the one year follow-up only a small proportion of those who had made a quit attempt (27%, n=4) reported remaining abstinent which is approximately 10% higher than the one-year outcomes reported for the NHS specialist services (Ferguson, Bauld, Chesterman, & Judge, 2005). It is perhaps not surprising that the relapse rate is high considering that the focus of the withdrawal oriented approach is to motivate clients through the first few weeks of cessation where withdrawal symptoms are at their

strongest. The high relapse rate however, is a problem shared across different types of interventions and a Cochrane review concluded that there was not sufficient evidence to recommend any of the interventions as effective for relapse prevention (Hajek, Stead, West, & Jarvis, 2005). A large part of this problem is likely to be our limited understanding of the process of relapse. The topic of my research project endeavours to develop this understanding.

5.1g Negotiate Completion, Follow-Up or Referral as Appropriate

The treatment programme consists of 7 weekly sessions and successful completion is self-reported continuous abstinence (CO validated where possible) for at least the final two weeks of the programme. Two weeks of abstinence is the benchmark used by the NHS proposed in the Russell Standard (West, Hajek, Stead, & Stapleton, 2005) as a successful quit attempt. Self-reported smoking status is obtained via telephone follow up a year later. Clients who did not successfully complete the programme were contacted after the group had ended to offer further support or referral if smoking cessation was still their final goal. Unexpected shift changes during the group programme for example prevented one client from completing the course. Referral was made for her to visit a local pharmacist who was trained in providing individual smoking cessation support.

Reflection

Delivering this smoking cessation intervention to both groups and individuals now feels natural to me but this was not always the case. In a group setting I tend to be reserved and attempt to blend in with the others rather than to draw attention to myself (unless I know most of the people in the group well). Speaking to a large group of

people (i.e. 20 or 30 people) who I have never met before and encouraging them to feel comfortable speaking in front of the rest of the group was therefore a challenge. Fortunately my considerable experience of public speaking assisted me to do this well from the start. However, the skill of encouraging the group members to interact with each other rather than just with me only developed once I had overcome my discomfort with being the centre of attention and was able to relax and concentrate on facilitating this.

Confidence in my ability to deliver the intervention well has grown with the development of this and other skills through a number of different methods. For example, I learned how to improve the facilitation skills that I initially found difficult to implement through studying how the more experienced facilitators did this and reflecting on this. Encouraging clients to participate in the buddying system and setting up social goals for example requires considerable skill. Initially when I had facilitated this section, the clients were reluctant to buddy up and some chose not to take part. The next time, I observed how a more experienced co-facilitator did this and noted ideas of how to use this to improve my delivery of this section in a diary after the session.

Initially when I facilitated Sessions 3 to 7, I felt uncomfortable presenting clients with reasons to explain their experiences and offering practical solutions. This was due to my concern that this might serve to devalue their experiences or that I would be perceived as not understanding what they were going through. Experience with facilitating this intervention developed my understanding of the difficulties facing smokers attempting to stop and allowed me to validate their difficulties by sharing with them the experiences of others and also to frame advice by drawing on the successful techniques used by others.

Training others in how to implement both Level 1 (i.e. brief advice to stop smoking) and Level 2 (i.e. individual smoking cessation support) has also contributed to my ability to deliver the intervention. Before training others, I enhanced my understanding of the skills needed through reflection on the communication techniques I and my colleagues use naturally in addition to the specific techniques needed to conduct intervention. This enhanced understanding in turn strengthened my application of these skills in practice.

References:

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Optional Unit 5.8 - Case Study: Disseminate Psychological Knowledge to Address Current Issues in Society

Working as a researcher and stop-smoking advisor in the NHS South Essex Stop Smoking Service (SESSS) I came to realise that whilst it was effective at helping smokers to quit in the short-term (i.e. four week success), the majority of these return to smoking within a year. The department of health requires the stop-smoking services to record and report the number of smokers who make a quit attempt and also the number of successful quitters at the end of treatment (i.e. four week quitters). Examination of the annual figures of the SESSS revealed that on average approximately 70% of those who set a quit date with the service went on to successfully quit. The SESSS also kept records of one year quitters and only 25% of successful four week quitters reported being abstinent at the one year follow-up. Discussion with colleagues at the service revealed that they had attempted to reduce the relapse rate by offering additional group sessions (e.g. on weight loss and drop-in groups for successful quitters) inspired by the suggestions of clients but these were poorly attended and so were stopped.

At the UK National Smoking Cessation Conference (UKNSSC) 2006, I attended a presentation on relapse prevention outlining the high relapse rate common to the services and other interventions. This prompted me to learn more by consulting the research literature. Studies examining the success rates of NHS stop smoking services found 50% four week success rate and 20% one year success rate (Ferguson, Bauld, Chesterman, & Judge, 2005). Similarly, the high relapse rate was common across interventions and attempts to reduce this have not proved to be fruitful. This is reflected in the conclusions of a recent systematic review that found there to be insufficient evidence to recommend any specific interventions to prevent late relapse (Hajek, Stead,

West, Jarvis, & Lancaster, 2009). Further examination of the literature revealed that very little is understood about relapse and as such identified a gap in the literature. If we are to successfully intervene to prevent relapse, it is necessary to develop our understanding of the process of cessation and relapse.

This inspired the research in this thesis that aimed to develop our understanding of smoking cessation, long-term maintenance and relapse. I prepared a research proposal together with my workplace supervisor to define this need and an application was submitted to the Cancer Research UK Population and Behavioural Sciences Committee for a small project grant. The grant was awarded to cover my salary and materials for one year and three months to conduct three studies to examine the causes and processes of smoking cessation and relapse. The first two studies were of qualitative design and took an Interpretative Phenomenological Analysis (IPA) approach (Smith, Flowers, & Larkin, 2009) to gain an in-depth understanding of the experiences of smokers and ex-smokers. The third study took the key findings of the previous two studies and examined them in a survey.

This programme of research identified several findings that merit dissemination to researchers and other health professionals in the field of Health Psychology and smoking cessation. This is reflected in the acceptance of all abstracts submitted for oral presentations in Division of Health Psychology Conference, European Health Psychology Conference and UK National Smoking Cessation Conference (UKNSCC) and a poster presentation at the Society for Research in Nicotine and Tobacco conference. Invited plenary presentations summarising the findings of all three studies have also been given at the UKNSCC and also the NHS Annual London Tobacco Control Conference.

Dissemination of research findings though publication in peer-reviewed journals is an important skill to master if my research is to make a contribution to the body of knowledge upon which scientific advancements and practice is made (Michie & West, 2004). The importance of disseminating research findings through publications is reflected in the requirements of grant funding applications. I was unable to be the principle investigator on the grant application for this programme of research as the funding body would only consider applications from a post-doctoral researcher with a publication record. The expectation to publish findings from results is reinforced in the terms and conditions of the award stating that the principal investigator has a responsibility to do so. As such publication of the findings in peer- reviewed journals has been a key endeavour since the completion of this programme of research despite running out of funding.

The current case study presents an account of the first article from this research programme to be accepted for publication in a peer reviewed journal (Vangeli, Stapleton, & West, 2010b). This article is based on the analyses of the data of relapsed participants responding the survey study. The title of the article is: "Smoking intentions and mood preceding lapse after completion of treatment to aid smoking cessation".

5.8a Identify and Analyse Psychological Components of Current Social Issues

More than 75% of smokers who manage four weeks of abstinence as part of a smoking cessation programme go on to relapse and little is known about how to prevent this occurring (Etter & Stapleton, 2006; Ferguson et al., 2005). The findings of the second study in the research programme suggested a number of factors that might precipitate this *late* relapse and directed attention to the intentions, mood and availability of cigarettes. A literature search was then conducted to identify relevant

research in the area. Whilst the circumstances of first lapse had received considerable attention in *early* relapse (i.e. individuals who relapse within a month) (Shiffman, 2006) its circumstances in late relapse had been largely neglected. A better understanding of this in late relapse could help develop effective relapse prevention interventions.

The UCL Tobacco Research Group (TRG), a team of specialist researchers was consulted on the design of the questionnaire and to make an assessment of the usefulness of the data that it would collect. All agreed that exploring the circumstances of first lapse in late relapse was an area that required research attention. With the exception of one senior researcher who believed that the limitation of recall bias in the survey study proposed diminished the value of the findings, the rest of the research team felt that the findings would make a significant contribution to the literature despite this limitation. The concern raised by the senior researcher is an important one and is possibly the reason that examination of first lapse among late relapse has been almost completely ignored thus far. Whilst reducing recall periods is possible by regularly collecting data from individuals (e.g. monthly questionnaires) this would require a vast budget. It would also be highly demanding for participants and as such a high attrition rate would be expected. A study of this nature may also fail to get ethical approval. Therefore, in the absence of a better available method to examine late relapse it was decided that gaining some understanding is better than none. My university supervisor also thought the study was worthwhile despite the limitation of recall bias and approved the questionnaire.

A case for the importance of theory development in health psychology research has been proposed and its inclusion in empirical work urged (Abraham, 2004). The current study was primarily designed to explore the prevalence of findings from Study 2 but also to examine these in relation to existing theory. PRIME theory (West, 2006)

offers a comprehensive account of motivation with attention to both cognitions and feelings in behaviour change. As such PRIME theory provided a suitable framework for the examination of the circumstances of first lapse. As I am fortunate to have the author of PRIME theory as my workplace supervisor the study benefited from the confident generation of hypotheses specifically in relation to the areas of study interest. The second author of the article was invited to be so following his substantial contribution in guiding me in database management and statistical analyses for the study.

5.8b Present Psychological Analyses of Current Social Issues

Recognising the contribution of theory-based research to advancements in scientific enquiry and the dominance of the quantitative paradigm in smoking cessation research the article was framed in the context of PRIME theory. Presenting the findings as shown in the thesis (i.e. further exploration of interview findings followed by an examination of these from the perspective of PRIME theory) would probably have been less appealing to the intended audience of primarily smoking cessation researchers. It also may have diluted the impact of the findings and therefore its contribution to the literature may have been less apparent to the reviewers assessing it.

Prior to preparing the article for submission to a peer-reviewed journal, the findings framed from the perspective of PRIME theory were presented at the DHP conference and also that of the SRNT. This afforded an opportunity to test the palatability of the findings and their presentation among both health psychology and smoking cessation researchers. The study was well received at both conferences and an accomplished professor in the field of smoking cessation and relapse attended my poster presentation and commented that he looked forward to reading the published article.

Following this positive response I felt encouraged to draft the article adopting the same approach as that of the oral and poster presentations. I consulted general guidelines for writing papers for publication and fashioned the article accordingly (Michie & West, 2004; West, 2000).

I presented a first draft of the article to the TRG at UCL. Additions to the analysis and revisions to improve the clarity were suggested. I drafted the article several times adding increasingly complex analyses. One of the authors recommended that the complex coding and analyses be removed as these took up much space in the article and reduced the clarity of the key findings. Whilst at the time I was disappointed to hear that the article would not benefit from several weeks of work, I was consoled to have advanced my skills in statistical analysis (e.g. using SPSS syntax to create combined variables following preference coding) under the guidance of the second author.

The article was initially submitted to Nicotine and Tobacco Research (NTR) for its inclusion to the journal to be considered. NTR is a respected peer-review journal particularly for smoking cessation researchers with an impact factor in 2009 of 2.557. Considering the limitations of the study (i.e. cross-sectional design, modest sample size and recall bias) we did not submit it to the journals of higher impact in the field (e.g. British Medical Journal, Archives of Internal General Medicine,). The study was considered for review at NTR but despite receiving largely positive comments from reviewers the concerns raised in relation to recall bias was considered by the editor to be sufficiently strong to reject the article. I was greatly disappointed but following discussions with the co-authors I felt reassured that the study was worthy of publication. In a meeting with the co-authors the reviewer comments were discussed and we identified those that would strengthen the article if addressed. I revised the article accordingly and following a suggestion made by the second author I conducted further

analyses to investigate whether the data indicated an effect of recall bias with length of recall time. The analysis found no evidence of an association and was incorporated into the article.

The revised article was submitted to Patient Education and Counseling (PEC). PEC is an interdisciplinary journal attracting patient education and health promotion researchers including those in the field of smoking cessation with an impact factor of 1.975 in 2009. PEC also sent this article for review and the reviewers' comments evaluated the article highly and recognised the significant contribution of the study to the existing research base. The article was accepted with only minor amendments.

Reflection

Writing articles for publication has and continues to be the most challenging part of the research process for me. Highly developed language and written skills are needed to present the research in an articulate and convincing manner. It was not until 2008 when I began writing papers for publication that I came to realise that I was not in complete possession of these skills. That is, whilst I was a competent academic writer I was not a highly skilled one. Detailed guidance from my workplace supervisor with an impressive record of in excess of 300 peer-reviewed publications has afforded considerable development in my academic writing skills. Similarly the drafting suggestions offered by other members of the research team at UCL and my university supervisor have helped me to progress this skill. Attention to the phrasing used in published articles by accomplished researchers has also contributed to this. I recognise that I still have a long way to go before I become an expert at writing research articles but I am hopeful that with experience this expertise will eventually come.

In addition to the ability to write in an articulate and scientific manner, patience and perseverance to write several drafts of articles and re-analysing the findings differently upon the suggestion of more experienced researchers or to incorporate another wave of data that has been collected since the writing of the paper commenced is also required. I have found this particularly challenging and have been fraught with self-doubt by the time of the third draft. As my knowledge and experience of writing articles and conducting statistical analyses has developed however, the task of re-analysis and re-drafting articles has become less arduous. Through comparison of the earlier with the later drafts it is clear that the quality of presentation greatly improves gaining clarity and is more convincing.

On my academic writing journey thus far, I have come to realise that writing papers for publication is a process and not simply a written account of the study following its completion. I am learning to embrace critical comments from peer-reviews and not to internalise them as a personal attack on my competence. Recognising the improvement to my papers following the critical appraisal of peers, I now evaluate the comments and use those that are constructive to improve my work. As my experience of peer review has grown so has confidence in my ability and I am able to defend my work in relation to comments I believe to be misjudged or not appropriate. This confidence has come from critically appraising the work of peers to assist them to improve it (e.g. in TRG meetings) and recently also from reviewing articles for peer-reviewed journals. Confidence in defending my work has been nurtured through the experience of defending my decisions in TRG meetings and also through addressing reviewers' comments in letters to journal editors, a funding committee and also an ethical committee. The positive evaluation of papers written for dissemination through their acceptance for publication in respected peer-reviewed journals of which I am first

author (Vangeli, Stapleton, & West, 2010a; Vangeli et al., 2010b; Vangeli & West, 2008) has probably afforded the greatest confidence boost. I also hope to publish the findings from the two qualitative studies of the programme of work. One is currently under review and the other in preparation.

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Dissemination Appendix A: Article published in peer review journal

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Smoking intentions and mood preceding lapse after completion of treatment to aid smoking cessation

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Objective: To examine the situation preceding "late" smoking relapse, particularly the availability of tobacco, mood and intentions at first lapse.

Methods: A questionnaire was sent to 1439 adults identified as abstinent after treatment with a National Health Service stop-smoking clinic over the previous 3 years. Relapsers were asked where they had obtained their first cigarette, their mood and intentions immediately before first lapse.

Results: 40% (n=556) responded, of whom 35.8% (n=199) had relapsed. At the time of first lapse, only 27.1% had made a decision to return to smoking while 48.9% intended to smoke only one or two cigarettes before stopping again. In 45.7% of cases, respondents bought cigarettes to smoke again. Prior to lapse the majority (53.8%) reported "really needing a cigarette". Similarly 53.8% reported being miserable at the time, while only 16% were happy.

Conclusion: The most common pattern of late lapse appears to be intending to suspend the quit attempt temporarily in circumstances of needing to smoke and of negative emotional state, and in many cases cigarettes are actually sought out.

Practice Implications: Promoting strong 'not a puff' rules, a non-smoker identity and identifying negative mood as a potential vulnerability are important components of relapse prevention intervention.

1. Introduction

The chances of an attempt to stop smoking succeeding permanently vary from less than 5% with no assistance to around 25% with optimal treatment [1]. Much is known about factors triggering relapse early in quit attempts [2], but less about what might be termed 'late relapse'- after, for example, a month of abstinence. Studies have found that 70-75% of smokers who achieve 4 weeks of abstinence relapse within the first year [3 4] and of those still abstinent at year 1, a further 30% relapse after that [4]. A recent systematic

review has concluded that there is insufficient evidence to recommend any specific interventions to prevent late relapse [5]. A better understanding of the causes may help to develop effective relapse prevention interventions. This paper reports a study examining smokers' intentions and mood at the time of first lapse after a period of abstinence.

Previous studies examining relapse have followed different criteria for what constitutes initial abstinence, making it difficult to separate predictors of relapse following a minimum of 30 days of abstinence from those for which only 24 or 48 hours of abstinence was achieved. Similarly, the definition of relapse varies with some researchers interpreting any report of smoking as relapse, and others applying some criterion of consecutive smoking to qualify as relapse. Studies report various predictors of relapse. For example, recent studies report that higher levels of nicotine dependence predict relapse early on[6 7] but the association diminishes beyond the first few months of abstinence[6 8]. Other background characteristics such as gender, levels of stress and parental smoking have been reported as predictors of relapse following at least 3 months cessation [9]. A study found an interactive effect of depression symptoms, nicotine dependence and weight change on relapse [10]. Another found that negative temporal comparisons (i.e. evaluating the present non-smoking state as less desirable than the past smoking state) predicted relapse [11]. However, none of these studies examined the circumstances of the first cigarette smoked, i.e. the initial lapse. Study of first lapse could be important to an understanding of relapse since it is well known that a lapse will lead to a return to regular smoking in the large majority of cases [12 13].

Marlatt and colleagues found that late relapse in alcohol addiction occurs in high-risk situations often characterised by negative affect, interpersonal conflict, and social pressure. This has led to a cognitive-behavioural model of relapse prevention [14]. This model has been influential in the smoking cessation field, with the majority of relapse prevention interventions focussing on assisting abstainers to identify high risk situations and using coping skills to prevent smoking during these situations. A review of these and other relapse prevention interventions however, found that no interventions to date had sufficient evidence to support their use [5 15]. One large study has found that taking an extended course of varenicline to aid cessation (i.e. 6 months versus 3 months) reduced relapse [16] but more research is needed in this area.

Anecdotal reports from clinicians suggest that late relapse 1) is impulsive, 2) rarely involves a decision to resume smoking permanently, and 3) often occurs in response to negative mood. However, we could find little systematic literature on this although Shiffman and colleagues have undertaken a series of studies on lapse and relapse early in the quit attempt (i.e. changes in momentary mood, stress, self-efficacy and the immediate environment) [2]. Studies have also investigated first lapse without differentiating whether it was early or late [17].

The PRIME Theory of motivation [18], named after the five putative layers of motivation: plans, reflexes, impulses, motives and evaluations, provides a simple conceptual framework within which to address these issues. A core tenet is that all goal directed behaviour results from the momentarily strongest of potentially competing 'wants' and 'needs'. Wants involve feelings of anticipated pleasure or satisfaction, and needs involve feelings of anticipated relief. These are generated by stimuli present in the immediate environment interacting with past experience. It proposes further that deliberate behaviour change, such as stopping smoking, involves invoking a 'personal

rule' and maintenance of that change requires that the want or need to adhere to that rule is more powerful than competing wants and needs at every moment when the opportunity to engage in the old behaviour pattern is present. This suggests that 1) first lapse will often be impulsive in the sense that it will be a response to a heightened want or need to smoke triggered by the immediate situation where tobacco is readily available, 2) the intention at first lapse will often be to temporarily suspend the 'no-smoking rule' rather than to abandon it completely, and 3) negative mood would heighten the need to smoke given that smokers retain the belief that smoking makes them feel happy, relaxed and able to manage depressed mood [19].

This study examined these predictions by assessing smokers' retrospective reports of intentions and mood at the time of their first lapse following the end of treatment. In particular: 1) whether they intended to go back to smoking, to smoke a few cigarettes only, or whether they smoked without formulating any intentions about their 'no smoking' rule; 2) whether cigarettes were available at the time or whether they had to seek them out; 3) whether they remembered feeling happy or unhappy at the time; and 4) whether they felt that they needed a cigarette. It was also of interest to assess whether any of these factors changed in relation to the length of time before lapse.

2. Methods

2.1. Design

A postal questionnaire was sent in December 2007 to former patients who had set a quit date with the National Health Service (NHS) South Essex Stop Smoking Service between September 2004 and September 2007, and who were defined according to NHS outcome criteria as successful quitters. By these criteria successful quitters are those who remain completely abstinent (i.e. no smoking at all) for at least the final two weeks of the 4-week treatment programme. In 72.9% of cases, abstinence had been validated by attending at the clinic and providing a carbon monoxide (CO) reading of <10ppm. The remaining 27.1% had not attended for CO verification but had reported abstinence by phone or letter. Although it was intended to sample all patients within this period (n=2220), invitation letters were sent to only 65.1% (n=1439) due to a computer error. There were no significant differences in age, sex, ethnic origin or socio-economic status between those omitted and those invited. Treatment consisted of a 6-week behavioural support programme delivered either individually or in a group. Behavioural support included guidance on the appropriate use of smoking cessation aids, information and advice on withdrawal symptoms and techniques to increase motivation[20]. Following a 2-week period of preparation, smokers were seen weekly for 4 further weeks after quit day. The majority (88.9%) attended the group treatment programme.

2.2. Sample

Of the 1439 questionnaires sent out, 38 were returned as not known at that address, 10 people had died, and 1 completed questionnaire was unreadable, leaving a base sample of 1390. Five hundred and fifty-six (40%) questionnaires were returned completed after 3 mail-outs. Responders were approximately 5.6 years older than non-responders (t=7.8, df=1388, p<0.001). There were no differences between responders and non-responders on gender, social status or ethnicity. A total of 35.8% (n=199) of responders reported current smoking at the time of questionnaire completion. A minority of these (11.1%, n=22) had lapsed at some point during the first two weeks after quit day, with the rest (88.9%) maintaining abstinence throughout the whole 4 weeks after quit day. The characteristics of the analysis sample are shown in Table 1.

2.3. Questionnaire items

The questionnaire was developed following interviews and pilot work on clients of the same smoking cessation service. The survey asked for current smoking status, age, sex and age of starting smoking. Those who were currently smoking were asked for how long after treatment ended they had remained abstinent before having a first cigarette, where they got that cigarette from (possible responses: I was offered the cigarette or cigar by someone; In order to smoke I bought cigarettes or tobacco; There were cigarettes or tobacco around at the time), what was going through their mind when they were smoking it (possible responses: I had decided that I would go back to smoking; I thought I could smoke one or two cigarettes and then stop again; I just lit up and smoked before I realized what I was doing; I just gave up on trying to stop), how they were feeling just before they smoked it (possible responses: I really needed a cigarette; I was happy; I was miserable). As the primary aim was to establish the presence or absence of feelings experienced prior to lapse as a dichotomy we did not use a graded response scale such as a Likert scale. Respondents were also asked if they still wanted to stop smoking and whether they thought they would be able to stop smoking in the future.

2.4. Statistical Analysis

The present analysis examined the questionnaire data only from those who had relapsed. Descriptive statistics were used to explore much of the data. For each of the first lapse items, the data was coded as '1' for those who responded 'Yes', and '0' for those who answered 'No' or did not tick either option. Chi-square tests were used to examine associations between each of the characteristics of first lapse and time spent abstinent prior to lapse.

3. Results

3.1. Availability, intention and mood at the time of first lapse

Table 2 shows responses to questions about the first cigarette smoked in the 199 relapsers when the responders were prompted to recall the first lapse (i.e. "When you smoked for the first time …"). Overall, 45.7% of those who relapsed bought the first cigarette and 54.3% either accepted the cigarette from someone else or cigarettes were available to them at the time. Almost half of responders reported that at first lapse, a temporary return to smoking was the intention (i.e. to smoke 1 or 2 cigarettes and stop) while a further 8.5% had no particular intentions concerning their no-smoking rule. The majority of responders reported feeling miserable prior to first lapse (53.8%) and a small proportion felt happy (16.6%). More than half reported that they really needed a cigarette.

There was no significant association between either availability, intention or mood at the time of first lapse with age or sex (table 2). A significant association was found between 'really needed a cigarette' and SES, with 'needing a cigarette' most common among responders who were in social category 3 (i.e. full-time students/retired/other), and least common in social category 2 (i.e. managerial/professional/intermediate) (X^2=9.376, df=2, p=0.009).

3.2. Association between the characteristics of first lapse and duration abstinent prior to first lapse

Of the 186 responders who gave information on the duration of abstinence prior to lapse, over half reported the first lapse as occurring within 3 months post treatment (48.7%, n=97) (Table 3). A further 24.1% (n=48) reported the first lapse between 3 and 6 months, and the remaining 20.6% (n=41) lapsed after 6 months. Duration of abstinence post-treatment ranged from 0 days to 2 years with a median value of 3 months.

There was a small and non-significant trend for earlier lapsers to buy their cigarettes (X^2=3.426, df=1, p=0.064). Accepting offer of a cigarette was more common for late relapsers (X^2=7.510, df=1, p<0.01).

A temporary suspension of the rule of abstinence (i.e. to smoke one or two cigarettes and then stop) was the most commonly reported intention, regardless of time to lapse although there was a marginally significant trend towards a higher proportion of lapsers reporting this intention with longer time to lapse (X^2=3.760, df=1, p=0.052). The proportion of lapsers with the intention to give up on trying to stop smoking at the time of first lapse was lower the longer the duration of abstinence (X^2=12.961, df=1, p<0.001).

The majority of relapsed responders (87.9%, n=175) reported that they still wanted to stop smoking and 74.4% (n=148) thought that they would be able to stop smoking in the future.

3.3. Recall bias

This study involved the recall of events and feelings that happened months or years previously and this raises the possibility that recall bias may have influenced the results[21]. To examine the effect of length of time over which subjects were asked to remember, the responses of those who reported their first lapse to have been less than 6 months before completing the questionnaire (26 subjects) were compared with those who first lapsed 6 months or more before completing the questionnaire (160 subjects). The 13 subjects who did not give the date of their first lapse were excluded. We were not able to examine shorter recall times due to the small number of subjects who first lapsed closer to the date of questionnaire completion. When these two groups were compared on the responses to the questions shown in Table 2 there was no evidence that responses differed according to length of time since the first lapse had taken place. For the 9 items shown, all X^2 values were less than 3 and all p-values were greater than 0.1.

4. Discussion and Conclusion

4.1. Discussion

This study found that the most common pattern of first lapse after the end of treatment involved temporary suspension of the no-smoking rule while needing a cigarette in the context of negative mood. In almost half of these cases cigarettes were purchased. Only a small minority reported that they smoked without realising what they were doing and the prevalence of this behaviour was not related to length of abstinence.

The percentage buying cigarettes was twice that reported in the only other study to examine it [17]. That study was smaller and followed a different methodology which may account for the difference. The hypothesis that late relapse would be predominantly impulsive was not borne out. It appears that in many cases it was premeditated.

However, it did primarily involve intended suspension rather than abandonment of the no-smoking rule.

The majority of first lapses were preceded by negative affect. This is similar to what has been found for early lapses [22]. The finding that needing a cigarette remained important suggests that anticipated relief remains a dominant smoking motive long after the quit attempt and long after the end of the withdrawal syndrome. This is supported by Dijkstra and Borland's findings that residual outcome expectancies of smoking predicted late relapse but this effect was completely mediated by craving[16].

The present study had limitations. It is evident from the relatively low relapse rate among responders that a disproportionate number of those who had relapsed did not respond to the survey. Although we cannot rule out the possibility of a non-response bias having influenced our results, there appeared to be little evidence of this from an examination of demographic differences between responders and non-responders. We might also have expected our results to have been affected by recall bias. Again, in subsidiary analyses we could find no evidence that the length of time over which subjects had been asked to recall events and feelings had influenced their responses.

4.2. Conclusion

This study suggests that a substantial proportion of quit attempts may fail late on due to a perception that abstinence can be briefly suspended and then resumed again without high risk of relapse. This perception increases with the duration of abstinence. At the time immediately before lapsing poor mood appears to predominate, although it is unclear if it is a contributing factor in the lapse, or simply results from an expectation that a lapse is about to happen.

4.3. Practice Implications

Our results support the need to focus on two aspects of relapse prevention advice that are currently quite widely promulgated: 1) promoting a strong 'not a puff' rule to counter the tendency for smokers to think that they can suspend their no-smoking rule to smoke one or two cigarettes and then stop again and 2) emphasizing the importance of identifying negative mood as a potential vulnerability and equipping smokers with coping mechanisms that do not involve smoking.

Acknowledgments

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SECTION D – SYSTEMATIC REVIEW

Predictors of Attempts to Stop Smoking and Their Success in Adult General Population Samples

Abstract

Background

The majority of smokers who attempt to stop-smoking do so without formal intervention. Knowledge of the predictors of quit attempts and quit attempt success in general population samples may allow for the better targeting of interventions to promote these two events.

Methods

An electronic search of EMBASE, Pubmed, Web of Science, PsychINFO and the Cochrane Tobacco Addiction Group specialised register for articles that examined predictors of smoking quit attempts and/or quit attempt success prospectively in adult general population samples was performed. Key authors in the field were also contacted for relevant studies soon to be published. Nine studies met the inclusion criteria and data were extracted independently by two researchers.

Results

There was a high level of methodological heterogeneity between studies examining predictors. This review found through comparison of conceptually similar variables that motivational factors dominated prediction of quit attempts whereas dependence consistently predicted success. Social grade also predicted success but was

only examined in two studies. None of the other socio-demographic factors predicted making a quit attempt or quit attempt success.

Conclusions

Motivation to stop smoking and dependence are associated with different stages of the quitting process and many assumptions about predictors of quit attempts are not supported by the evidence. The methodological heterogeneity limited the findings to review of simple associations between predictors and outcome not adjusted for confounders. There is a need for a common standard in the definition of quit attempts and quit attempt success to be reached. Similarly achieving some uniformity in predictor measures is necessary to enable identification of predictors via the pooling of results across studies through formal meta-analysis.

Introduction

Cigarette smoking is the leading cause of premature morbidity and mortality in industrialised nations (USDHHS, 2004). It is important for smokers to stop smoking as young as possible because for every year that a smoker over the age of 40 continues to smoke their life-expectancy reduces by approximately three months (Doll, Peto, Boreham, & Sutherland, 2004). Between 25-48% of smokers make a quit attempt in any given year in western countries (CDC, 2010; Lader, 2009) but of these a small proportion manage to stay quit in the long-term (Stapleton, 1998). Understanding what predicts quit attempts and remaining abstinent should help us determine where to direct our efforts to better influence these. Although there has been one systematic review of predictors of smoking cessation, it did not differentiate quit attempts and quit success (Caponnetto & Polosa, 2008). Informal reviews have suggested that different factors are involved in generating attempts to stop versus the success of those attempts (West, McEwen, Bolling, & Owen, 2001). This paper provides, to our knowledge, the first systematic review of predictors of quit attempts and quit attempt success in general population samples.

The current review does not examine predictors from intervention studies as these may be influenced by those interventions or selection of volunteers into the study. Stop-smoking clinic attendees for example are found to be older, more likely to be female and more heavily dependent compared with smokers in the general population (Gilbert, Sutton, & Sutherland, 2005; Hughes, Giovino, Klevens, & Fiore, 1997). In addition, the vast majority of people in general population studies engage in quit attempts without formal intervention (Lader, 2009). Some senior tobacco control advocates have suggested that research into self-quitting and population approaches to

smoking cessation have been neglected by researchers and have called for more effort in this area (Chapman & MacKenzie, 2010).

By examining predictors this study attempted to build a picture of who is more likely to make a quit attempt, and among those who do, who is more likely to be successful. It restricted consideration to studies that 1) examine predictors prospectively and 2) are involve adult populations. Prospective examination of predictors is needed to minimise the effects of recall bias. Adolescent smokers and smokers in particular subgroups (e.g. with mental health problems) may be different and would require a separate review. Ideally the study would be able to examine predictor variables after adjusting for others but no two studies used the same set of covariates in their multivariate analyses so this was not possible. The review therefore mainly summarizes the results for each predictor in isolation.

This study aimed to synthesise the evidence of predictors in general adult population samples associated with 1) a smoker making a quit attempt and 2) success once a quit attempt has been initiated.

Methods

Search Strategy

Electronic bibliographic databases including the Cochrane Tobacco Addiction Group specialized register, PUBMED, MEDLINE (1950-), EMBASE (1980-) (ISI Web of Science with conference proceedings (1945-), and PsychINFO (1806-) up to 31st December 2009 searched with the terms: 'Smoking AND (cessation OR quit) AND predict* AND (population OR national)'. The search terms were inclusive in an attempt to locate all studies examining predictors of smoking cessation (see appendix 1 for study protocol).

Studies identified by search strategies were screened for eligibility by one reviewer (EV) and one third were also independently screened by another reviewer (ES) with 100% agreement. A hand-search of the reference lists of included studies and of conference abstracts was also carried out and leading researchers in the field contacted.

Details of the method of data collection, outcome measures, recall period, participant summary, sample size, response rate, and analysis method were extracted and compiled into a table independently by the author EV and another researcher (Eline Smit). EV compiled tables of the predictor variable measures used in each study and the direction and strength of their associations. ES independently extracted data from each study of the strength and direction of association for each predictor examined inputting this into the table skeleton created by EV. There was 95% initial agreement in the data extracted. The discrepancies were checked against the study paper, discussed and resolved. The research protocol for the study including data-extraction forms and tables can be found in Appendix A. The original tables containing the predictor data were 12 or 14 pages long. To improve clarity the predictor variables that were examined in only one study were moved to a separate table and the remaining were collapsed into one variable where appropriate with the detail of each variable defined in a footnote.

Inclusion and Exclusion Criteria

Studies specifically examining predictors of cessation attempts and/or predictors of the success of attempts in adult (i.e. ≥16 years of age) general population samples were included in this review. The review was limited to studies written in English and excluded studies involving interventions. Studies examining predictors of past quit attempts among current smokers were also excluded, since by definition they only examined predictors of failed quit attempts.

Outcome Measures

A quit attempt was defined as follows: the participant was a smoker at baseline and at a follow-up interview or questionnaire was recorded as having made an attempt to stop smoking between the baseline interview/survey and a follow-up. Success of a quit attempt was defined as follows: in participants who reported that they had made an attempt to stop smoking, they reported not having smoked since that attempt at a follow-up interview or questionnaire.

Quality Assessment

The quality assessment of observational studies in systematic reviews is particularly difficult and has been noted by several reviewers. There are many recommended and validated tools available to assess quality of intervention studies particularly randomised controlled trials. Fewer however exist for evaluating the quality of observational studies and those that do have not been fully validated (Higgins & Green, 2009). The Cochrane Non-Randomised Studies Methods Group (Reeves, Deeks, Higgins, & Wells, 2009) recommends that reviews of observational studies consider using one of three quality assessment checklists or tools. Upon examination, none were directly applicable as the current review was neither concerned with effect of intervention nor prognostic variables of disease. Initially attempts were made to adapt the checklists for the current review however the creation of a meaningful checklist was not possible due the high level of heterogeneity between the studies and also the unclear direction of bias (e.g. which predictor and outcome measures are least susceptible to bias?). An appraisal of quality is important to the interpretation of the evidence in systematic reviews and as such general methodological differences between studies are presented and their relation to quality discussed. In addition, the methodological

heterogeneity limited the findings to review of simple associations between predictors and outcome not adjusted for confounders.

Data Analysis

Due to the high degree of variation between the studies in the included predictors and the absence in many studies of sufficient detail for the relevant effect sizes to be calculated, the majority of predictors examined could not be meaningfully combined via meta-analysis. In these cases the evidence for each predictor was synthesised using a narrative review. Where three or more studies used similar measures for a predictor variable, a formal meta-analysis was undertaken to calculate a pooled result using the odds ratios. When both univariate and multivariate associations between the predictors and outcomes were given in a study, the univariate result was preferred in this review. Where only multivariate associations were given, these were included. In the formal meta-analyses, heterogeneity between studies was identified by Chi^2 test and an inverse variance random effects model used to allow for heterogeneity between studies (Fleiss, 1993). Sensitivity analyses were performed excluding the multivariate associations from the pooled results. The findings were similar to those in the main analyses and as such are not presented here.

Results

Search Results

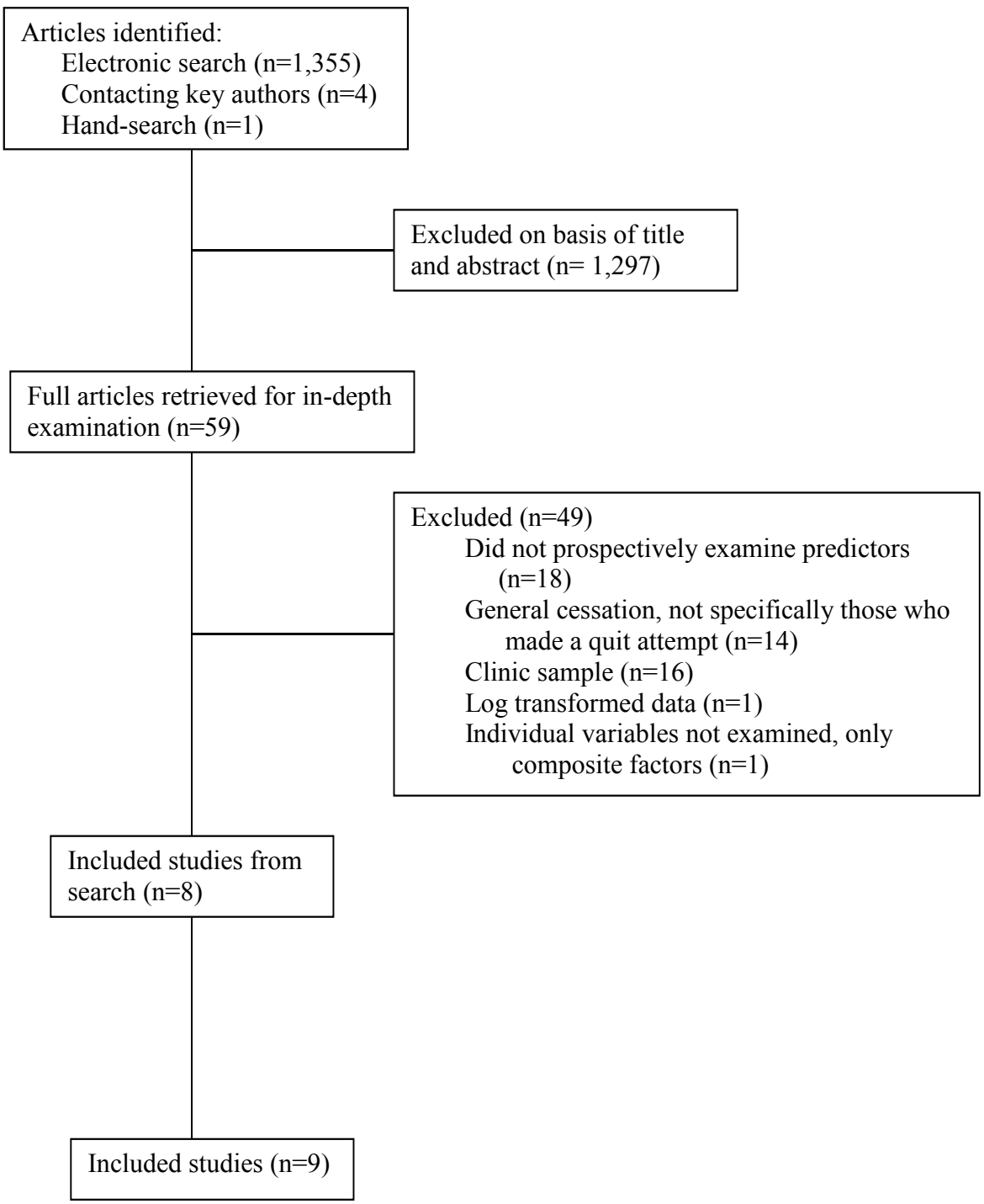
Of the 1,355 articles identified by the literature search, four met the inclusion criteria for the review of predictors of both quit attempts and the success of quit attempts. A further eligible study was identified through a hand-search of cited references in the included studies and a further four through contacting authors of which three were unpublished. Figure 1 outlines the study selection and exclusion process.

An additional study examining the success of quit attempts was found but not included in the review as it addressed the more specific issue of differential prediction at different abstinence points (Herd, Borland, & Hyland, 2009).

Description of Included Studies

All nine studies were included in both sections of the review (i.e. predictors of making a quit attempt and quit attempt success) and varied in design (Table 1). Three were national surveys and based in the UK (Fidler & West, 2011*;* West et al., 2001), or Japan (Hagimoto, Nakamura, Morita, Masui, & Oshima). Four were international with two based in Canada, USA, UK and Australia (Borland et al., 2009; Hyland et al., 2006), one in the US, UK, Canada, France and Spain (Zhou et al., 2009) and one in Malaysia and Thailand (Li et al., 2010). The number of participants examined in each study for making a quit attempt ranged from 267 to 13,324 and for quit attempt success 141 to 6,840.

Figure 1: Flowchart of the study selection and exclusion process.



Review Table 1. Characteristics of Included Studies

Source	Methods	Outcome measures & Recall period	Participants	Sample size	Response Rate	Analysis method
Hellman, Cummings, Haughey, Zielezny & O'Shea, 1991	Postal questionnaire All employees at Roswell Park Cancer Institute.	*Quit attempt:* Reported making attempt(s) to stop smoking for at least one day since baseline. *Success:* Reported making a quit attempt at least 30 days prior to follow-up and reported being a non-smoker. *Recall period:* 17 months	*Setting:* New York (USA) *Demographic details:* 30.3% male. 78.3% white. 54.7% married. 30.3% College graduate or higher. 57.3% <40yrs.	*Baseline:* 267 *Attempters::* 141	*Baseline:* 74% *Follow-up:* 76.5%	Univariate data provided. Univariate logistic regression of significant predictor variables. Stepwise logistic regression of significant univariate predictors.
Hyland, Borland, Yong, McNeill, Fong, O'Connor & Cummings, 2006	Computer assisted telephone interview (those responding to at least 80% questions included) International Tobacco Control Four Country Survey (ITC-4) Random digit dialling to recruit ≥18yrs within strata defined by geographical region and community size in each country.	*Quit attempt:* Reported that made any attempts to stop smoking since baseline. *Success:* Reported that made a quit attempt and not smoking at all or smoking less than once per month at follow-up. *Recall period:* 8-10 months	*Setting:* Canada, USA, UK, Australia *Demographic details:* 44.4% male. 88.7% white. College or higher 44.7%. 11.3% <25yrs, 31.8% 25-39 yrs, 36.2% 40-54yrs, 20.7% ≥55yrs.	*Baseline:* 6,682 all (1,665 Canada 1,329 USA 1,837 UK 1,851 Australia) *Attempters:* 2,274 all (694 Canada 454 USA 530 UK 596 Australia).	*Baseline:* Not given *Follow-up:* 75% (75% Canada, 63% USA, 78% UK, 81% Australia)	Univariate data provided. Multivariate logistic regression adjusted for all other potential predictor variables. Interactions between country and other independent variables.
West, McEwen, Bolling & Owen, 2001	Face to face interviews Random probability sampling technique using postcodes in Eng & Wales as basic sampling frame. Sample selected to be representative of adults (16+ yrs) in UK.	*Quit attempt:* Reported that tried to give up smoking altogether since baseline. *Success:* Reported that made a quit attempt, not currently smoking and had not smoked for at least 3 months. *Recall period:* 12 months	Setting: UK Demographic details: 44% male. Age (mean) 44yrs (15.6yrs SD). Age completing education (mean) 16 yrs (1.7yrs SD). 58% in manual occupation.	*Baseline:* 865 *Attempters:* 167 (221 before excluding those who made a quit attempt in last 3 months)	*Baseline:* 61% *Follow-up:* 68%	Univariate logistic regression Multivariate logistic regression including the three variables: beliefs about health risks, enjoyment of smoking and social pressure with two as covariates.
Hagimoto, Nakamura, Morita, Masui	Postal questionnaire Ipsos JSR Company's access panel based	*Quit attempt:* Reported that made a quit attempt lasting more than 1 day in the past year (i.e. since	*Setting:* Japan	*Baseline:* 1,358	*Baseline:* 72.1%	Univariate logistic regression.

Source	Methods	Outcome measures & Recall period	Participants	Sample size	Response Rate	Analysis method
& Oshima, 2009	on the Basic Resident Register in Japan. Stratified sampling methods using sex, age and district, and selected a roughly equal number of males and females. P Recruited participants aged ≥ 20 yrs.	baseline). *Success:* Reported that made a quit attempt and not smoking any cigs for the proceeding 6 months or longer at follow-up. At least 1-wk abstinence outcome also presented. *Recall period:* 12 months	*Demographic details:* 52.1% male.	*Attempters:* 312	*Follow-up:* 83.5%	
Zhou, Nonnemaker, Sherrill, Gisenan, Coste & West, 2009	Online questionnaire sent to smokers expressing willingness to quit in next 3 months. Excluded those who were pregnant or inconsistent smoking status responses. ATTEMPT internet panel cohort study of smokers aged 35-65 yrs Panel members are internet users volunteering for online research studies. A random sample who met age, country and participation criteria emailed invitation. In the US smokers were previously identified.	*Quit attempts:* Report that made a serious attempt to stop smoking for good that lasted for at least a day during the past 3 months (i.e. since previous assessment). *Relapse:* Report that made a quit attempt in previous 3 months and current cigarette smoking or having smoked any cigarettes in the last 3 months for subsequent assessments (even a puff). *Recall period:* 3 months (3 month follow-ups for 18 months)	*Setting:* US, UK, Canada, France, Spain *Demographic details:* 55% male. 96% white. Age (mean) 46yrs, SD 7.4yrs. 59% higher education. 73% employed. 65% married or living with partner.	*Baseline:* 2,431 (71 Canada 843 France 289 Spain 737 UK 491 US) *Attempters:* 1,466	*Baseline:* Not given *Follow-up:* 67.7% 1st 75% 2nd 60% 1st ,2nd,3rd 34% all 6 f/ups	Discrete time survival analysis (DTSA) based on hazard probability (multivariate).
Borland, Yong, Balmford, Fong, Zanna & Hastings, 2009	Computer assisted telephone interview ITC-4 Stratified random digit dialling procedure to recruit >18yrs within strata defined by geographical region and community size in each country.	*Quit attempts:* Report made any attempts to stop smoking since baseline. *Success:* Report that made an attempt, not smoking for a month or more. Those quit for less than a month counted as missing. *Recall period:* 7 mths (W1-W2) 14 mths (W2-W3) 15 mths (W3-W4)	*Setting:* Canada, USA, UK, Australia Demographic details: None given.	*Baseline:* 13,324 all *Attempters:* W1 2,264 W2 1.869 W3 1,864	*Baseline:* 78% *Follow-up:* W1 to W2, 74.7%; W2 to W3, 68.7%; W3 to W4, 71.4%)	Sequential logistic regression; first controlling for socio-demographic effects, then adding intentions to quit, then others. First conducted using wave 1 beliefs to predict wave 2 outcomes, then W2-W3, then W3-W4.

Source	Methods	Outcome measures & Recall period	Participants	Sample size	Response Rate	Analysis method
Li, Borland, Yong, Fong, Bansal-Travers, Quah, Sirirassamee, Omar, Zanna, & Fotuhi, 2010	Face to face interviews ITC – SEA (South East Asia) Smoker Survey Participants aged ≥18yrs were selected based on a multi-stage cluster sampling procedure.	*Quit attempt:* Report that made any attempts to quit smoking since baseline or if they were currently not smoking at follow-up. *Success:* Reported making a quit attempt and no-longer smoking at follow-up. *Recall period:* 17 to 28 months.	*Setting:* Malaysia, Thailand *Demographic details:* Over 90% male. Majority received secondary education. In Thailand, 98% were native Thai, in Malaysia, 71% were Malay.	*Baseline:* 2,426 all (868 Malaysia 1558 Thailand). *Attempters:* 1,453 all (341 Malaysia 1112 Thailand).	*Baseline:* Not given *Follow-up:* 60.6% (Malaysia 43.3% Thailand 77.9%).	Univariate logistic regression. Multivariate logistic regression adjusted for all other potential predictor variables. Country differences examined.
Borland, Yong, Balmford, Cooper, Cummings, O'Connor, McNeil, Zanna, & Fong, 2010	Computer assisted telephone interview Data included when provided data in at least one predictor wave and one outcome wave. ITC-4 Stratified random digit dialling procedure to recruit >18yrs within strata defined by geographical region and community size in each country.	*Quit attempt:* Reported making a quit attempt in the interval between waves. *Success:* Reported making a quit attempt between waves and achieved at least 1 month of abstinence at the follow-up. Those who quit for less than a month were excluded. *Recall period:* Approximately 12 months (not specified just refers to 'annual' survey)	*Setting:* Canada, USA, UK, Australia *Demographic details:* W3-W4: Mean age 46.4yrs (SD 13.7yrs). 42.9% male W4-W5: Mean age 47.3 yrs (SD 13.5yrs). 42.3% male. W6-W7: Mean age 48.5 yrs (SD 13.3yrs). 42.5% male.	*Baseline:* Wave 3 to 4 N=5,369 Wave 4 to 5 N=4,843 Wave 5 to 6 N=4,988 *Attempters:* Wave 3 to 4 N=1,994 (2121) Wave 4 to 5 N=1,662 (1765) Wave 5 to 6 N=1,638 (1779)	Baseline: Not given Follow-up: 78%	Hierarchical multivariate logistic regression. 1st step each motivation predictor (MP) adjusted for demographics. 2nd step all MPs entered together. 3rd controlled for the mixed motivation-related set and 4th for the dependence-related set. 3rd and 4th steps also conducted in reverse order. Treated predictor variables as quasi-linear.
Fidler et al, 2011	Computer assisted face to face interviews at baseline. Postal questionnaire sent at 6mth follow-up to those who agreed to be re-contacted. Smoking Toolkit Study (STS) A random location sampling design whereby participants aged ≥ 16 years were recruited from randomly selected grouped output areas.	*Quit attempt:* Reported making a serious quit attempt in the last 6 months whereby they decided to try to make sure that they would never smoke again. *Success:* Reported making a quit attempt more than 1 month ago, and still being a non-smoker at the 6 month follow-up. *Recall period:* 6 months	*Setting:* UK *Demographic details:* Age mean (SD) 46.3yrs (15.2yrs). 41.5% male. 31,3% social grades A, B, C1, 68,7% social grade C2, D, E.	*Baseline:* 2,257 *Attempters:* 461 (686 before excluding those who made a quit attempt in the last month).	*Baseline:* not given *Follow-up:* 20%	Simple logistic regression. Multivariate logistic regression. 1st urges and enjoyment entered together. 2nd also controlled for demographics.

A total of 76 predictor variables were examined across the eight studies of which less than a third (n=24) were examined in two or more studies. These were grouped into six categories of conceptually similar measures: demographics and physical characteristics, nicotine dependence, smoking and quitting history, desire to quit, evaluations of smoking and quitting, and confidence in quitting. The predictor variables examined for making a quit attempt in each study are presented in Table 2 and for quit attempt success in Table 4. The associations presented in the tables are taken from the original analyses. The variables for which meta-analyses were calculated are presented in Table 3 for making a quit attempt and Table 5 for quit attempt success. Variables examined in only one study are shown in the appendix 2.

Methodological Differences Between Studies

The studies varied considerably in the outcome measures used particularly for success of quit attempts. The quit attempt outcome was measured as one or more self-reported attempts to stop smoking since an earlier survey point and definitions varied. Measures applied were reports of having made: "any attempt"(Borland et al., 2010; Borland et al., 2009; Hyland et al., 2006; Li et al., 2010), "a serious attempt" (Fidler & West, 2011*;* Zhou et al., 2009), "an attempt to give up smoking altogether" (West et al., 2001) and/or "an attempt that lasted for at least 24 hours" (Hagimoto et al., 2009; Hellman, Cummings, Haughey, Zielezny, & O'Shea, 1991; Zhou et al., 2009). Quit attempt success was defined as no longer smoking at a follow-up point and for most studies reporting a period of abstinence of at least one month (Borland et al., 2010; Borland et al., 2009; Fidler & West, 2011*;* Hellman et al., 1991), three months (West et al., 2001; Zhou et al., 2009) and six months (Hagimoto et al., 2009) was also required. Where more than one outcome of success was measured the longest duration of

abstinence was used. Two studies did not include a minimum period of abstinence in their definition of success (Hyland et al., 2006; Li et al., 2010).

The majority of studies followed a recruitment procedure designed to obtain a representative sample of the adult general population. The two that did not recruited smokers employed in a large organisation (Hellman et al., 1991) or smokers registered on a web-based panel and included only those who already expressed an intention to quit (Zhou et al., 2009). The study pre-selecting only those with an intention to quit (Zhou et al., 2009) was excluded from formal meta-analyses examining predictors of making a quit attempt due to the restricted range of participants. Sensitivity analyses including this study were conducted for the predictors of quit attempt success. One study (Fidler & West, 2011) was more vulnerable to response bias as it had a follow-up response rate of 20% compared with that of 60-84% in the other studies.

All studies required responders to recall quit attempts over a number of months. The period of recall involved was up to three months (Zhou et al., 2009), six months (Fidler & West, 2011), 10 months (Hyland et al., 2006), 12 months (Borland et al., 2010; Hagimoto et al., 2009; West et al., 2001), 15 months (Borland et al., 2009), 17 months (Hellman et al., 1991) and 28 months (Li et al., 2010).

Six studies presented univariate associations for all predictors (Fidler & West, 2011*;* Hagimoto et al., 2009; Li et al., 2010; West et al., 2001) or data to enable their calculation (Hellman et al., 1991; Hyland et al., 2006), and the rest only multivariate results (Borland et al., 2010; Borland et al., 2009; Zhou et al., 2009).

Studies requiring participants to recall events that occurred over a longer period, have a shorter follow-up time and smaller samples are at greater risk of bias and as such have been described for each study above. A more formal evaluation of the quality of evidence in relation to the individual studies is not appropriate due to wide heterogeneity in study methodologies. The meta-analyses adjust for sample size but not

the other factors as it is not clear in what direction these would create bias. As such the aim of the current review is to explore the findings in a narrative review and additional statistical pooling of results presented tentatively.

Review Table 2. Predictors of Making a Quit Attempt

	Hellman et al 1991 **n=267**	Hyland, et al 2006 **n=2,274**	West, et al 2001 **n=167**	Hagimoto, et al 2009 **n=312**	Zhou, et al, 2009 **n=1,466**	Borland, et al 2009 **n=1,864**	Li, et al., 2010 **n=1,453**	Borland, et al., 2010 **n=1,638**	Fidler et al., 2011 **n=461**
Demographic and Physical variables									
Country		0[1]			0[2]		++[3]		
Gender* (male=1, female=2)	0	0	0	0	+		0		0
Marital status/living with partner* (No=1 Yes=2)	0		0	0	0				
Have children living at home (No=1 Yes=2)			0	0					
Age	0	-[4]	0	0	0[5]		++[6]		0
Majority/minority group (Maj = 1 Min=2)		0					---		
Education* (Less than college =1 College or more =2)	0	0			0		0		
Income (Trend across increasing income category)		0		0	0				
Employed (No=1 Yes=2)			0		0				
Social class (Scale of increasing affluence)			0						0

	Hellman et al 1991 **n=267**	Hyland, et al 2006 **n=2,274**	West, et al 2001 **n=167**	Hagimoto, et al 2009 **n=312**	Zhou, et al, 2009 **n=1,466**	Borland, et al 2009 **n=1,864**	Li, et al., 2010 **n=1,453**	Borland, et al., 2010 **n=1,638**	Fidler et al., 2011 **n=461**
Dependence		-[7]	0[8]	-[9]	-[9]				0[10]
Cigarettes per day	--		0	---			---[11]		
Smoking and Quitting History Variables									
Age when started smoking	+		0	0					
Past attempts to quit (No=1 Yes=2)		+[12]	+++[12]	+[13]	+[14]		+++[13]		
Longest time off smoking (Never tried =1 quit less than a week=2)		0		+[13]			+++[16]		
Longest time off smoking (Never tried =1 More than 6 months=2)		+		+[13]			+++[16]		
Longest time off smoking linear			+++[17]	+++[13]					
Desire to Quit									
Wish to quit (No=1 Yes=2)				+					
Motivation to quit score	0[18a]		+++[18b]		+[19]			+[20]	
Intention to quit		+[21]	+++[22]	+++[23]	+++[24]		++[25]		
Evaluations of smoking and quitting									
Opinion of smoking (positive/neutral = 1, Negative =2)		+						+	

	Hellman et al 1991 **n=267**	Hyland, et al 2006 **n=2,274**	West, et al 2001 **n=167**	Hagimoto, et al 2009 **n=312**	Zhou, et al, 2009 **n=1,466**	Borland, et al 2009 **n=1,864**	Li, et al., 2010 **n=1,453**	Borland, et al., 2010 **n=1,638**	Fidler et al., 2011 **n=461**
Health benefit outcome expectancy from quitting in the next 6 months		0 [26]					+++[27]	+[26]	
Worries about the effect of smoking on health and QOL		+[28]	+[29]				+++[27]	+[28]	
Enjoy smoking too much to give it up		-[30]	---[30]				---[31]		---[32]
Confidence of success in quitting	0	0[33]	0[33]	+++[34]			+++[35]		

[1]USA=1 vs. Canada=2, UK=2, Australia=2. [2]USA=1 vs. Canada=2, France=2, Spain=2, UK=2. [3]Malaysia=1 vs Thailand=2 [4] 18-24 years=1 vs. 25-39 years=2 or 30-54 years=2. [5]per 10 year increase. [6]18-24 years=1 vs. 55+ years ($p<.01$) and 8-24 years=1 vs. 40-50 years ($p<.05$). [7]Heaviness of Smoking Index (per point increase). [8]Time to first cigarette per point decrease. [9] Fagerstrom Test for Nicotine Dependence (per point increase). [10] Strength of urges to smoke (0=not at all to 5=extremely strong). [11]5 or less vs 15+. [12]Tried to quit within last year (No=1 Yes=2). [13]Made an attempt in lifetime (no=1 yes=2). [14]Significant difference found for making a failed quit attempt in past 3 months (No=1 Yes=2) and for number of lifetime quit attempts (per 4 attempt increase). [16]since they started smoking. [17]in the last 5 years. [18a]1=not at all/a little 2=somewhat/very much. [18b]1=not at all to 4=a lot. [19]Motivation to quit score (1=not motivated to 10=highly motivated) per 2 unit increase. [20] 1=not at all to 5=very much indeed. [21]1=not planning vs 2=other. [22]In next 12 months 1=no, 2=yes. [23]1=no interest, 2=intention to quit after 6 months, 3=intention to quit within 6 months. [24]1=In next month vs. 2=other. [25]Significant when 1=no intention vs. 2=within one month or 2=within 6 months. [26]1=not at all to 5=extremely. [27]1=not at all vs 2=very much. [28]1=not at all to 5=very. [29]1=not at all to 4=a great deal. [30]1=strongly disagree to 5=strongly agree. [31]1= neutral or disagree vs 2= agree. [32]How much do you enjoy smoking? 1=not at all to 4=very much. [33]How likely do you think you will be to succeed? 1=very unlikely to 4=very likely. [34] 1=low, 2=middle, 3=high. [35]1=not at all sure vs 2=very/extremely sure.

[*] See Table 3 for pooled meta-analysis. QOL=quality of life.
0 = no significant association. + = positive association at $p<.05$, ++ = positive association at $p<.01$, +++ = positive association at $p<.001$
- = negative association at $p<.05$, -- = negative association at $p<.01$, --- = negative association at $p<.001$

Review Table 3. Details of Meta-analyses for Predictors of Making a Quit Attempt

Table 3a: Gender and quit attempts (male as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
Hellman (1991)	1.51	0.89-2.55	10.89
West (2001)	1.26	0.88 - 1.70	15.02
Fidler (2011)	0.88	0.73 - 1.05	20.85
Hagimoto (2009)	1.29	1.00 - 1.67	16.72
Li (2010)	1.37	0.97 - 1.96	12.43
Hyland (2006)	1.04	0.94 - 1.16	24.09
Pooled Estimate	1.16	0.98 - 1.37	100
Heterogeneity: Chi^2=16.62, df=5			

Table 3b: Marital status and quit attempts (single as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
Hellman (1991)	1.19	0.73-1.94	64.75
West (2001)	0.82	0.58 - 1.14	17.83
Hagimoto (2009)	1.10	0.77 - 1.57	17.42
Pooled Total	1.10	0.75 - 1.61	100
Heterogeneity: Chi^2=12.57, df=2			

Table 3c: Education level and quit attempts (low as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
Hellman (1991)	1.56	0.92 - 2.66	19.72
Li (2010)	1.10	0.85 - 1.44	31.60
Hyland (2006)	1.13	1.02 - 1.25	48.68
Pooled Estimate	1.19	0.95 - 1.51	100
Heterogeneity: Chi^2=6.82, df=2			

Table 3d: Previously tried and quit attempts (no as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
West (2001)	3.49	2.48 - 5.04	30.84
Li (2010)	1.44	1.22 - 1.70	34.28
Hyland (2006)	2.96	2.66 - 3.29	34.87
Pooled Estimate	2.72	1.55 - 4.79	100
Heterogeneity: Chi^2=68.95, df=2			

Predictors of Quit Attempts

Demographics and physical variables. Gender was examined in seven studies with one finding women were more likely to make a quit attempt (Hagimoto et al., 2009) and the others finding no association (Fidler & West, *2011;* Hyland et al., 2006; Li et al., 2010; West et al., 2001; Zhou et al., 2009). The meta-analysis of pooled results showed no association between gender and making a quit attempt (OR: 1.13, 95% CI: 0.99-1.29).

Marital status was examined in four studies (Hagimoto et al., 2009; Hellman et al., 1991; West et al., 2001; Zhou et al., 2009) and no association with making a quit attempt was found in any study (pooled OR: 1.10 CI: 0.75 – 1.61). Similarly the four studies to examine level of education (Hellman et al., 1991; Hyland et al., 2006; Li et al., 2010; Zhou et al., 2009) found no association with quit attempts. The odds ratios of low versus high level of education were calculated and then pooled via meta-analysis and again no association was found (OR: 1.19, CI: 0.95 – 1.51).

The results of the seven studies examining age were inconsistent. One study found that younger smokers were more likely to have made a quit attempt (Hyland et al., 2006), another found a reverse association (Li et al., 2010) and five studies found no association (Fidler & West, 2011*;* Hagimoto et al., 2009; Hellman et al., 1991; West et al., 2001; Zhou et al., 2009). It was not possible to pool these results in a meta-analysis due to differences between studies in how age was measured and analysed.

None of the studies examining the income of smokers (Hagimoto et al., 2009; Hyland et al., 2006; Zhou et al., 2009) or social class (Fidler & West, 2011*;* West et al., 2001) found an association with making a quit attempt.

Smoking Dependence. Five studies examined measures of dependence. Where more than one measure was reported the most comprehensive was considered in the review (i.e. FTND (Fagerstrom Test of Nicotine Dependence) rather than TDS

(Tobacco Dependence Screener); HSI (Heaviness of Smoking Index) over daily or weekly/monthly baseline smoking). There was some evidence that greater dependence is negatively associated with making a quit attempt as found in four of the studies to examine it (Hagimoto et al., 2009; Hellman et al., 1991; Hyland et al., 2006; Zhou et al., 2009). No association however was found in the two UK based studies that examined urges to smoke (Fidler & West, 2011) or time to first cigarette (West et al., 2001). A pooled result was not possible due to the heterogeneity in measures used to assess dependence.

Number of cigarettes per day. There was some evidence to suggest that the number of cigarettes smoked per day predicted quit attempts. Three of the four studies to measure this found a negative association of increasing number of cigarettes smoked per day and making a quit attempt (Hagimoto et al., 2009; Hellman et al., 1991; Li et al., 2010). The other study found no association and was based in the UK (West et al., 2001). Again it was not possible to pool the results due to the heterogeneity in the measures used.

Smoking and quitting history characteristics. There was good evidence indicating that a past attempt to stop smoking predicted whether a more recent quit attempt was made. This association was found across all five studies that included previous quit attempts as a predictor: life-time past quit attempts (Hagimoto et al., 2009; Zhou et al., 2009) and quit attempts over the previous year (Hyland et al., 2004; Li et al., 2010; West et al., 2001; Zhou et al., 2009). The pooled result of the three studies examining whether a quit attempt had been made in the previous year (Hyland et al., 2006; Li et al., 2010; West et al., 2001) indicated that smokers who had made a previous quit attempt were almost three times more likely to make a subsequent attempt (OR: 2.72, CI: 1.55-4.79). One study also found a significant linear trend with

increasing number of past attempts increasing likelihood of making a subsequent quit attempt (Zhou et al., 2009).

A positive linear association of longest length of abstinence in a previous quit attempt was found with making a quit attempt in both studies to examine this (OR: 1.20, $p<0.001$(West et al., 2001) and $p<0.001$ (Hagimoto et al., 2009)).

Desire to quit. Motivation to quit was assessed in five studies and although the results could not be combined due to differences in the measures used all found higher levels of motivation to be positively associated with making a quit attempt (Borland et al., 2010; Hagimoto et al., 2009; Hellman et al., 1991; West et al., 2001; Zhou et al., 2009).

Similarly, regardless of the form of the measure used reporting an intention to stop smoking was found to predict quit attempts relative to those reporting the absence of intention among all the studies to examine it (Hagimoto et al., 2009; Hyland et al., 2006; Li et al., 2010; West et al., 2001; Zhou et al., 2009).

Evaluations of smoking and quitting. In the two studies to measure it having a generally negative opinion of smoking was predictive of making a quit attempt (Borland et al., 2010; Hyland et al., 2006). Similarly having concerns about health(Borland et al., 2010; Hyland et al., 2006; Li et al., 2010; West et al., 2001) was found to be predictive in the studies that measured these.

A positive association between making a quit attempt and expecting that stopping smoking would be beneficial for health and/or have other gains was found in two studies (Borland et al., 2010; Li et al., 2010) although no association was found in another (Hyland et al., 2006).

There was good evidence that greater enjoyment of smoking was negatively associated with making a quit attempt as found in all studies to examine this (Fidler &

West, 2011; Hyland et al., 2006; Li et al., 2010; West et al., 2001) despite the diversity of the measures used.

Confidence in quitting. There was some evidence that confidence in quitting is predictive of making a quit attempt among two studies of East Asian populations. Both found that those who had high confidence were more likely to make a quit attempt than those who had low confidence (OR 1.82, CI: 1.32-2.53 (Li et al., 2010) and OR: 1.73 CI: 1.23-2.42 (Hagimoto et al., 2009)). The three studies of Western populations however, found no association with making a quit attempt (Hellman et al., 1991; Hyland et al., 2006; West et al., 2001).

Review Table 4. Predictors of Quit Attempt Success

	Hellman, et al 1991 **n=141**	Hyland, et al 2006 **n=2,274**	West, et al 2001 **n=167**	Hagimoto, et al 2009 **n=312**	Zhou, et al, 2009 **n=1,466**	Borland, et al 2009 **n=1,864**	Li, et al., 2010 **n=1,453**	Borland, et al., 2010 **n=1,638**	Fidler et al., 2011 **n=461**
Demographic and Physical variables									
Country		0[1]			+[2]		+[3]		
Gender* (male=1, female=2)	0	0	0	0	0		0		-
Marital status/living with partner* (No=1 Yes=2)	0		0	0	0				
Have children living at home (No=1 Yes=2)			0	0					
Age	0	0	0	0	+[4]		+++[5]		0
Majority/minority group (Maj = 1 Min=2)		0					+		
Education*) (Less than college =1 College or more =2)	0	0			0		0		
Income (Trend across increasing income category)		0		+	0				
Employed (No=1 Yes=2)			0		0				
Social class (Scale of increasing affluence)			+						+

	Hellman, et al 1991 **n=141**	Hyland, et al 2006 **n=2,274**	West, et al 2001 **n=167**	Hagimoto, et al 2009 **n=312**	Zhou, et al, 2009 **n=1,466**	Borland, et al 2009 **n=1,864**	Li, et al., 2010 **n=1,453**	Borland, et al., 2010 **n=1,638**	Fidler et al., 2011 **n=461**
Dependence		- [6]	-- [7]	- [8]	- [8]				--- [9]
Cigarettes per day	-		-	0			--- [10]		
Smoking and Quitting History Variables									
Age when started smoking	0		0	0					
Past attempts to quit		0 [11]	- [11]	- [12]	- [13]		0 [12]		
Longest time off smoking (Never tried =1 quit less than a week=2)		-		- [12]			--- [15]		
Longest time off smoking (Never tried =1 More than 6 months=2)		0		0 [12]			+++ [15]		
Longest time off smoking linear			0 [16]	0 [12]					
Desire to Quit									
Wish to quit (No=1 Yes=2)			0	-					
Motivation to quit score	0		0 [17]		0 [18]			- [19]	
Intention to quit		0 [20]	0 [21]	- [20]	0 [22]		+++ [23]		
Evaluations of smoking and quitting									

	Hellman, et al 1991 **n=141**	Hyland, et al 2006 **n=2,274**	West, et al 2001 **n=167**	Hagimoto, et al 2009 **n=312**	Zhou, et al, 2009 **n=1,466**	Borland, et al 2009 **n=1,864**	Li, et al., 2010 **n=1,453**	Borland, et al., 2010 **n=1,638**	Fidler et al., 2011 **n=461**
Opinion of smoking (positive/neutral = 1, Negative =2)		0						0	
Health benefit outcome expectancy from quitting in the next 6 months		- [24]					0[25]	0[24]	
Worries about the effect of smoking on health and QOL		0[26]	0[27]				0[25]	0[26]	
Enjoy smoking too much to give it up		0[28]	0[28]				0[29]		0[30]
Confidence of success in quitting	0	0[31]	0[32]	0[33]			+++[34]		

[1]USA=1 vs. Canada=2, UK=2, Australia=2. [2]USA=1 vs. France=2, Spain=2, UK=2. No association was found when Canada=2. [3]Malaysia=1 vs Thailand=2 [4] per 10 year increase. [5] 18-24 years=1 vs. 55+ years. [6]Heaviness of Smoking Index (per point increase). [7]Time to first cigarette per point decrease. [8] Fagerstrom Test for Nicotine Dependence (per point increase). [9] Strength of urges to smoke (0=not at all to 5=extremely strong). [10]5 or less vs 6-4/15+. [11]Tried to quit within last year (No=1 Yes=2). [12]Made an attempt in lifetime (no=1 yes=2). [13]Significant difference found for making a failed quit attempt in past 3 months (No=1 Yes=2) but not for number of lifetime quit attempts. [15]last serious attempt. [16]in the last 5 years. [17]1=not at all to 4=a lot. [18]Motivation to quit score (1=not motivated to 10=highly motivated) per 2 unit increase. [19] 1=not at all to 5=very much indeed. [20]1=not planning/no interest vs 2=other. [21]In next 12 months 1=no, 2=yes. [22]1=In next month vs. 2=other. [23]Significant when 1=no intention vs. 2=intention in one month but not when 2=intention beyond 1 month. [24]1=not at all to 5=extremely. [25]1=not at all vs 2=somewhat/very much. [26]1=not at all to 5=very. [27]1=not at all to 4=a great deal. [28]1=strongly disagree to 5=strongly agree. [29]1= neutral or disagree vs 2= agree. [30]How much do you enjoy smoking? 1=not at all to 4=very much. [31]How likely do you think you will be to succeed? 1=very unlikely to 4=very likely. [32]No association was found for the confidence item[(31)] but a positive association ($p<.05$) was found with increasing disagreement with the statement: I don't think I could give up smoking because I would suffer too much with the withdrawal symptoms. [33]1=low vs 2=middle, 2=high. [34]1=not at all sure vs 2=very/extremely sure.

[*] See text for pooled meta-analysis. QOL=quality of life.
0 = no significant association. + = positive association at $p<.05$, ++ = positive association at $p<.01$, +++ = positive association at $p<.001$
- = negative association at $p<.05$, -- = negative association at $p<.01$, --- = negative association at $p<.001$

Review Table 5. Details of Meta-Analyses for Predictors of Success of Quit Attempts

Table 5a: Gender and success (male as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
Hellman (1991)	0.68	0.31 - 1.52	13.00
West (2001)	1.27	0.68 - 2.39	10.68
Fidler (2011)	0.62	0.41- 0.94	15.11
Hagimoto (2009)	1.72	0.88 - 3.38	10.01
Li (2010)	1.14	0.70 - 1.89	13.16
Hyland (2006)	1.06	0.87 - 1.28	20.07
Zhou (2009)	1.04	0.78 - 1.39	17.98
Pooled Estimate	0.99	0.75 - 1.32	100
Heterogeneity: Chi^2=21.16, df=6			

Table 5b: Marital status and success (single as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
Hellman (1991)	1.08	0.52 – 2.27	34.40
West (2001)	0.53	0.26 - 1.10	18.73
Hagimoto (2009)	0.78	0.29 - 2.08	13.16
Zhou (2009)	0.96	0.71 - 1.28	33.70
Pooled Estimate	0.87	0.57 - 1.33	100
Heterogeneity: Chi^2=7.28, df=3			

Table 5c: Education level and success (low as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
Hellman (1991)	1.57	0.74 – 3.34	6.97
Li (2010)	0.68	0.46 - 1.02	18.66
Hyland (2006)	0.84	0.70 - 1.02	46.22
Zhou (2009)	1.04	0.78 - 1.41	28.17
Pooled Estimate	0.90	0.74 - 1.09	100
Heterogeneity: Chi^2=4.35, df=3			

Table 5d: Previously tried and success (not tried as ref)

Study	Odds Ratio	95% confidence interval	% Weight in pooled analysis
West (2001)	0.38	0.20 - 0.77	19.38
Li (2010)	1.08	0.83 - 1.40	38.84
Hyland (2006)	0.72	0.60 - 0.88	41.77
Pooled Estimate	0.75	0.50 - 1.11	100.00
Heterogeneity: Chi^2=10.86, df=2			

Predictors of Quit Attempt Success

Demographic and physical variables. No association was found between gender and quit attempt success when the studies were combined (OR: 0.99, CI: 0.75 – 1.32). An effect of gender was observed in one study with females being more likely to succeed than males (Fidler & West, 2011) although the majority of studies found no association (Hagimoto et al., 2009; Hellman et al., 1991; Hyland et al., 2006; Li et al., 2010; West et al., 2001; Zhou et al., 2009).

Similarly, no association between marital status and quit attempt success was found in the individual studies (Hagimoto et al., 2009; Hellman et al., 1991; West et al., 2001; Zhou et al., 2009) or when combined (OR: 0.87, CI: 0.57 – 1.33).

Two studies found that older smokers were more likely to be successful in their quit attempt than the youngest smokers (Li et al., 2010; Zhou et al., 2009), and a further five found no association (Fidler & West, 2011*;* Hagimoto et al., 2009; Hellman et al., 1991; Hyland et al., 2006; West et al., 2001). Again it was not possible to statistically combine the results due to heterogeneity in the measures used.

There was some evidence that greater affluence predicted the success of quit attempts but the results were mixed. The two studies to examine social grade were based in the UK and both found a positive association on success with increasing social grade (Fidler & West, 2011*;* West et al., 2001). Similarly the study based in Japan found success to be associated with increasing income (Hagimoto et al., 2009) whereas two international studies found no association (Hyland et al., 2006; Zhou et al., 2009). The sensitivity of the international studies to detect an association may however be limited as a composite measure across the income levels of four countries was applied. No association between education level and success was found in any of the studies measuring this (Hyland et al., 2004; Li et al., 2010; Zhou et al., 2009).

Dependence. There was good evidence that dependence was associated with the failure of quit attempts. All six studies to examine dependence found those who were of lower dependence were more likely to succeed (Fidler & West, 2011*;* Hagimoto et al., 2009; Hellman et al., 1991; Li et al., 2010; West et al., 2001; Zhou et al., 2009). Again due to the variety of measures used and the heterogeneity in how they were analysed a formal meta-analysis was not possible.

Number of cigarettes smoked per day. There was some evidence that the number of cigarettes smoked per day predicted success. Three of the four studies to examine it found that the greater the number of cigarettes smoked the less likely the quit attempt was to be successful (Hellman et al., 1991; Li et al., 2010; West et al., 2001) and no association was found in the other (Hagimoto et al., 2009).

Smoking and quitting history characteristics. There was some evidence that having attempted to quit smoking previously was negatively associated with quit attempt success but this was inconsistent. A negative association was found in 3 studies (Hagimoto et al., 2009; West et al., 2001; Zhou et al., 2009) and two studies found none (Hyland et al., 2006; Li et al., 2010).

There was some evidence of success being associated with the longest time off smoking in a previous quit attempt. Where the longest time off previously was less than a week the current attempt was less likely to be successful when compared to those who had not made any previous attempt (Hagimoto et al., 2009; Hyland et al., 2004; Li et al., 2010). Where the longest previous time was 6 months or more however, the current attempt was more likely to be successful than those who had not made a quit attempt.

Desire to quit. The findings of the two studies to examine wanting to quit were inconsistent. One study found a negative association of wanting to quit on success (Hagimoto et al., 2009) and another found no effect (West et al., 2001). Similarly, of

the four studies that measured the level of motivation to quit one found increasing motivation to have a negative effect on success (Borland et al., 2010) and the others found none (Hellman et al., 1991; West et al., 2001; Zhou et al., 2009).

No association between intention to quit and success was found among the three Western studies to examine it (Hyland et al., 2006; West et al., 2001; Zhou et al., 2009). Conflicting results were found among the two East Asian studies. One found a negative association with success the more immediate the intention to quit (p=0.018 (Hagimoto et al., 2009)) and the other that those who intended to quit within a month were more than twice as likely to succeed than those without intention (OR: 2.46, CI:1.61-3.75 (Li et al., 2010)).

Evaluations of smoking and quitting. No associations were found between quit attempt success and opinion of smoking (Borland et al., 2010; Hyland et al., 2006), worries about the effect of smoking on health (Borland et al., 2010; Hyland et al., 2006; Li et al., 2010; West et al., 2001), and enjoyment of smoking (Fidler & West, 2011; Hyland et al., 2006; Li et al., 2010; West et al., 2001).

The expectation that stopping smoking in the next six months would be beneficial was found to be positively associated with quit attempt success in two studies (Borland et al., 2010; Li et al., 2010) but not in the other study to examine it (Hyland et al., 2006).

Confidence in quitting. Confidence in succeeding if the smoker was to engage in a quit attempt was examined in five studies but the evidence was inconsistent. One study found that the odds of success among smokers who were very sure or extremely sure that they would succeed were 2 to 3 times greater than those who were not at all sure (Li et al., 2010). Four studies however, found no association with increasing level of confidence on success (Hagimoto et al., 2009; Hellman et al., 1991; Hyland et al., 2006; West et al., 2001) although one of these did find a negative association of

increasing strength of belief that they would not be able to stop smoking because of the withdrawal symptoms on success (West et al., 2001).

Discussion

This systematic review demonstrates the high level of methodological heterogeneity across studies in the predictors examined, the measures used and their analysis. Similarly the outcome measures of quit attempts and quit attempt success varied considerably. Although this heterogeneity restricts the ability to draw firm conclusions in the case of several predictors, it was possible to identify a number of common associations upon the examination of conceptually similar variables. This review found evidence that several factors predicted quit attempts but few predicted the success of quit attempts.

There was good evidence that factors relating to desire to quit and evaluations of smoking or quitting predicted quit attempts. There was also evidence that confidence in quitting predicted attempts but only in the two East Asian studies. None of these motivational factors however were found to consistently predict the success of attempts. Their failure to predict the success of quit attempts may be related to the dynamic nature of these variables. The quit attempt outcome is most proximal to measures taken at baseline and as such more likely to be predicted by them.

Having made a quit attempt in the past, and achieving a greater length of abstinence predicted making a subsequent quit attempt. There was some evidence that smokers who have made a past attempt to quit are less likely to succeed than those who have not previously tried, particularly if the longest time of abstinence achieved is less than a week. This raises the question of whether smokers should be discouraged from making frequent attempts to stop smoking in rapid succession. This association was not evident however for smokers who had previously achieved six months of abstinence

with one study finding that these smokers were more than twice as likely to succeed in their quit attempt relative to those who had not tried to quit previously. A curvilinear association between the longest length of previous abstinence and the success of quit attempts is possible and warrants investigation in future studies.

Lower dependence predicted the success of quit attempts among all the countries to examine it. With the exception of national UK based studies, lower dependence was found to be predictive of quit attempts. The reason for this difference is unknown. A survey of tobacco dependence treatment policies in 36 countries found those in the UK had the most comprehensive policies with easy access for smokers to both pharmacological aids and free behavioural support (Raw, Regan, Rigotti, & McNeill, 2009). It is possible that the absence of an association is linked to these comprehensive policies encouraging all smokers (including those of greater dependence) to make a quit attempt.

None of the socio-demographic variables were found to be predictive of making a quit attempt or quit attempt success. These findings challenge widely accepted views of predictors inspired by informal reviews of research evidence. A common view for example is that women or single smokers are less likely to succeed in a quit attempt than men or married smokers. This view is supported by the findings of a number of studies also identified in the general review of predictors of cessation (Caponnetto & Polosa, 2008). Predictors of quit attempt success however have primarily been explored in intervention trials of smokers seeking help to quit and as such are based on an unrepresentative subset of the general population. There was no evidence of these associations in the current review examining predictors among adult general population samples.

Cultural differences in predictors were also observed with East Asian smokers appearing to be more sensitive to cognitive factors than smokers in Western

populations. Having a high confidence in quitting was highly predictive of whether a quit attempt was made in East Asian samples but not predictive in the Western samples. Confidence in quitting was also highly predictive of success in one of the East Asian studies but not the other. Similarly, intention to quit was associated with quit attempt success in these two studies although the direction of association differed. The greater influence of cognitive variables in the East Asian populations suggests that different intervention approaches are necessary for countries in the early stage of the tobacco epidemic. It is therefore recommended that researchers continue to explore these variables in future studies particularly in non-Western populations.

This review has identified variables that predicted making a quit attempt and quit attempt success in general population samples. Some clear conclusions emerged but the remarkable level of the methodological heterogeneity between studies limited the findings of this review. As such only simple associations of predictors and outcome without adjusting for confounders could be meaningfully examined. The majority of included studies presented several potential predictor variables including those that were not significant and as such the findings are not expected to be particularly vulnerable to publication bias. Despite the limitations stemming primarily from the methodological heterogeneity characteristic to reviews of observational studies, this is the most comprehensive method of reviewing the evidence of predictors of smoking cessation attempts and success. The alternative is to rely on informal reviews that may not be supported by the evidence as observed in the current review. To increase comparability of observational studies in this area achieving some uniformity in predictor measures examined and a common standard for outcome measures adopted is needed. Agreement between researchers on measures is necessary to take this area of research forward. A call is also made to researchers to present univariate statistics or data to enable their calculation in studies examining predictors to enable meaningful pooling of results.

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Review Appendix A: Predictors of quit attempts and quit attempt success examined in only one study

	Quit attempts	Success
Demographic and Physical		
Urban/Rural (Urban=1, Rural=2)	+++[1]	-[1]
Age completing education	0[2]	0[2]
BMI	0[3]	0[3]
Race (White=1, Other=2)	0[4]	0[4]
Job title (Professional/tech/admin=1, Non-professional=2)	0[4]	0[4]
Employed (0-9 years=1, Ten or more=2)	0[4]	0[4]
Dependence		
Baseline smoking (Weekly/monthly = 1, daily = 2)	-[5]	-[5]
Tobacco Dependence Screener (Not dependent =1, Dependent =2)	+[6]	0[6]
Depth of inhalation (Mouth=1, Throat/chest=2)	0[4]	0[4]
Smoking and Quitting History		
Years smoked (1-9 years=1, Ten or more=2)	0[4]	0[4]
Number of prior serious quit attempts (Never/one=1, Two or more=2)	+[4]	-[4]
Frequency of butting out	+[7]	-[7]
No. of smoke free days in past 3 months per 10 day increase	+[3]	0[3]
Whether cut down in past 12 months (No=1,Yes=2)	++[2]	0[2]
Whether cut down in past 12 months to stop vs not cutting down	+++[2]	0[2]
Whether cut down in past 12 months for its own sake vs not cutting down	0[2]	0[2]
Environment		
Social pressure index (No=1, A lot/some=2)	+[4]	-[4]
Smoking allowed at work (Yes=1, No=2)	0[4]	0[4]
Home smoking ban (No=1,Yes=2)	+++[1]	0[1]
Partner objects to smoking (No=1,Yes=2)	++[2]	0[2]
Visit and doctor's advice to quit smoking over previous year (None=1, visits and no advice=2, visits and advice=3)	+++[6]	0[6]
Presence of other smokers (No=1,Yes=2)	0[3]	-[3]
Smokers live with (None=1, Some=2)	0[4]	0[4]
Ex-smokers live with (None=1, Some=2)	0[4]	0[4]
Friends current smokers (Few=1, Most=2)	0[4]	0[4]
Friends ex-smokers (Few=1, Most=2)	0[4]	0[4]
What price cigarettes would need to be to motivate quitting (per category increase)	---[3]	0[6]
Desire to Quit		
Likelihood of quitting in next year (Very/fairly likely=1, somewhat/not likely=2)	+[4]	0[4]
Evaluations of smoking and quitting		
Lifestyle outcome expectancy from quitting	+[7]	0[7]
Belief about effect of smoking on current health (scale of increasing agreement)	+[2]	0[2]
Worried smoke more than safe (Not at all/a little=1, somewhat/very much=2)	0[4]	0[4]
Belief about effect of smoking on future health (scale of increasing agreement)	+[2]	0[2]
Risk of smoking to a person's health (Great/moderate=1, none/not sure=2)	0[4]	0[4]
Risk to non-smoker exposed (Great/moderate=1, none/not sure=2)	0[4]	0[4]
Importance of quitting (scale of increasing importance)	+++[5]	0[5]
Belief that cigarettes give confidence in social situations (scale of increasing agreement)	0[2]	0[2]

	Quit attempts	Success
Belief that giving up smoking would lead to unacceptable weight gain (scale of increasing agreement)	0[2]	0[2]
Weight concern score (per 2 unit increase)	0[3]	0[3]
Confidence to prevent weight gain (per 2 unit increase)	0[3]	0[3]
Belief that could not cope without cigarettes (scale of increasing agreement)	0[2]	0[2]
Belief that smoking is the main source of pleasure (scale of increasing agreement)	0[2]	0[2]
Self-exempting beliefs (scale of increasing agreement)	0[8]	0[8]
Risk-minimising beliefs (scale of increasing agreement)	---[8]	0[8]
Belief that there are far worse things for self than smoking (increasing scale of agreement)	-[2]	0[2]
Possible problems when quitting (Few=1, Many=2)	0[4]	0[4]
Confidence/self-efficacy in quitting		
Belief that could not stop smoking because of withdrawal symptoms (Agree to disagree scale)	0[2]	+[2]
Current health		
Wanting to quit due to current health problem or hospitalization vs. other	0[3]	0[3]
Bothered by chronic health condition in last 3 months	0[3]	0[3]
Had symptoms of depression/anxiety in last 3 months (No=1,Yes =2)	0[3]	-[3]
Smoking-related symptoms (None=1, Any=2)	0[4]	0[4]
Illness (None=1, Any=2)	0[4]	0[4]
Health rating (Excellent/good=1, Fair/poor=2)	0[4]	0[4]

References

1. Li L, Feng G, Jiang Y, Yong HH, Borland R, Fong GT. Prospective predictors of quitting behaviours among adult smokers in six cities in China: Findings from the International Tobacco Control (ITC) China Survey. *Addiction* in press.
2. West R, McEwen A, Bolling K, Owen L. Smoking cessation and smoking patterns in the general population: a 1-year follow-up. *Addiction* 2001;96(6):891-902.
3. Zhou X, Nonnemaker J, Sherrill B, Gilsenan AW, Coste F, West R. Attempts to quit smoking and relapse: factors associated with success or failure from the ATTEMPT cohort study. *Addict Behav* 2009;34(4):365-73.
4. Hellman R, Cummings KM, Haughey BP, Zielezny MA, O'Shea RM. Predictors of attempting and succeeding at smoking cessation. *Health Educ Res* 1991;6(1):77-86.
5. Hyland A, Borland R, Li Q, Yong HH, McNeill A, Fong GT, et al. Individual-level predictors of cessation behaviours among participants in the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control* 2006;15:83-94.
6. Hagimoto A, Nakamura M, Morita T, Masui S, Oshima A. Smoking cessation patterns and predictors of quitting smoking among the Japanese general population: a 1-year follow-up study. *Addiction* 2009;105(1):164-73.
7. Borland R, Yong HH, Balmford J, Cooper J, Cummings K, O'Connor R, et al. Motivational factors predict quit attempts but not maintenance of smoking cessation: Findings from the International Tobacco Control Four country project. *Nicotine & Tobacco Research* 2010;*12*(Supplement 1):S4-S11.
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Review Appendix B: Systematic Review Protocol

Predictors of Attempts to Stop Smoking and Their Success in Adult General Population Samples

Background

In order to be able to stop smoking two separate events are necessary: first to make a quit attempt, and second to be successful. Understanding the process underlying these two events should help us to develop better interventions to encourage and help smokers to quit. Evidence has been emerging that different factors influence attempts and success of attempts[1, 2] but to date there has been no systematic analysis on this.

The chances of an attempt to stop smoking succeeding permanently vary between 3-6%[3] when self directed to 25% when behavioural and pharmacological support is used[4, 5]. The majority of attempts are unsuccessful[6] and identifying predictors of success has important implications for intervention design to better assist those who are less likely to succeed. Understanding what predicts quit attempts and remaining abstinent should help us determine where to direct our efforts to better influence these. Although there has been one systematic review of predictors of smoking cessation, it did not differentiate quit attempts and quit success [7]. This to our knowledge will provide the first systematic review of predictors of quit attempts and quit attempt success in general population samples.

The current review will not examine predictors from intervention studies as these may be influenced by those interventions or selection of volunteers into the study. Stop-smoking clinic attendees for example are found to be older, more likely to be female and more heavily dependent compared with smokers in the general population [8, 9]. Also

in studies on clinic samples, predictors are not the main focus of the study and therefore including these increases the risk of bias from selective reporting of significant predictors.

Prospective examination of predictors is needed to minimise the effects of recall bias and measure characteristics antecedent to the quit attempt or outcome. Adolescent smokers and smokers in particular subgroups (e.g. with mental health problems) may be different and would require a separate review.

By examining predictors this study attempts to build a picture of who is more likely to make a quit attempt, and among those who do, who is more likely to be successful. It restricts consideration to studies that 1) examine predictors prospectively and 2) are involve adult populations.

Review Questions

What is the evidence for prospective predictors of making a quit attempt in adult general population samples?

What is the evidence for prospective predictors of quit attempt success in adult general population samples?

Search terms

Smoking AND (cessation OR quit) AND predict* AND (population OR national OR international)

The search terms are deliberately inclusive so that papers are not missed.

Databases searched

Pubmed

ISI web of knowledge (Medline 1950- 2010, web of science with conference proceedings 1945 -2010)

PsychINFO (1806 – 2010)

Cochrane tobacco addiction group specialised register

Hand search
Addiction
Nicotine and Tobacco Research
Reference lists of included studies

Researchers contacted for knowledge of unpublished data/ongoing studies
- Professor Ron Borland (subsequently invited to collaborate onto the study)
- Professor Shu-Hong Zhu
- Professor Levy

Study Selection Criteria
Inclusion criteria
- General population sample (i.e. not recruited for particular clinical conditions)
- Adult participants (≤16 years of age)
- Specifically examining predictors of quit attempts and/or specifically examining success in those who made a quit attempt
- Does not involve a clinical intervention
- Written in English

Exclusion criteria
- Articles examining the same predictor variables from the same study and duplicating waves (i.e. a study reporting same partial/complete sample as another). In this case only the most representative of the studies will be included.

Search procedure
The lead reviewer will select studies for inclusion in the review. A second reviewer will independently screen a random third of the papers for suitability (using the study eligibility for review form).

Study Quality Assessment Checklist and Procedures
- Study design
- Study sample and selection
- Outcome definition and measures
- Recall period
- Response rate
- Analysis

Data extraction strategy
Details of the studies agreed to be eligible for the review will be extracted and compiled into tables by the lead researcher and double-checked. All details in the table will be examined by a second reviewer highlighting any errors in extraction or discrepancies in interpretation between the reviewers. Any discrepancies will be discussed and resolved with the opinion of the other reviewers where necessary.

Study Eligibility for Review Form

General Information

Date of extraction:

Study Title:

Author contact details:

Identification number in the systematic review:

Identification of reviewer:

Study Characteristics
Verification of study eligibility

1) General population sample (i.e. unselected subjects in non-intervention setting) ☐
2) Adult participants (e.g. ≥ 16 years) ☐
3) EITHER specifically examining predictors of quit attempts ☐
   AND/OR of success of quit attempts ☐
4) If success is an outcome it is examined among those who made a quit attempt ☐
5) Does not involve any clinical intervention of any kind ☐

Notes:

Tables: Characteristics of studies examining predictors of quit attempts (Table 1) and quit attempt success (Table 2)

Authors / Study ref	Population	Design & data collection	Recall period	Data Source	Methods of recruitment	Definition of		Participants (e.g. age of sample, sex)	Sample size		Response Rate		Analysis method
						quit attempt	success		Baseline	Attempters	Baseline	Follow-up	

Tables of outcome

The lead reviewer will create skeleton tables 1 and 2 containing each predictor variable examined in the included studies. Data will be extracted and entered into the tables by the lead reviewer and also independently by a second reviewer. Any discrepancies will be recorded, discussed and resolved.

Table 1: General predictor outcome table for predictors of making a quit attempt, indicating whether the predictor was found to be significant and if so the direction of the relationship.

Table 2: General predictor outcome table for predictors of quit attempt success, indicating whether the predictor was found to be significant and if so the direction of the relationship.

Format of general outcome tables

Predictor variable	**Study 1 (n=????)**	**Study 2 (n=???)**	**Study 3 (n=???)**	**Study 4 (n= ???) etc**
e.g. increasing age	+ ($p<0.05$)		0	+/-
e.g. sex (male=1, female=2)		0		0
e.g. cigarettes per day	0	- ($p<0.05$)	- ($p=0.06$)	- ($p<0.001$)
Etc…				

Predictors of making a quit attempt (No=1, Yes=2). Similarly, Predictor of quit attempts success (No=1, Yes=2)

Key: + positive relationship; - negative relationship; +/- curvilinear relationship; 0 no significant relationship; cells to be left blank where the predictor was not examined

NOTES:

- In studies where the participants were recruited in waves and examine multiple follow-ups where there is some participant cross-over, a pooled result will be calculated and reported. Where an article contains the previous waves in their entirety then pooling is not necessary and the most representative sample is taken.
- If more than one definition of success is examined (e.g. 1 week abstinence and 6 months abstinence) the longest length of abstinence will be included in the study (i.e. 6 months).
- Where predictors have been examined over multiple countries, the combined data-set will be used where available in preference to those that examine the predictors within each country individually.
- Separate tables containing the effect sizes for each predictor variable will be drawn up by the lead reviewer where conducting a meta-analysis would be appropriate. The data extracted will be double-checked by a second reviewer.

References

1. Hyland A, Borland R, Li Q et al. Individual-level predictors of cessation behaviours among participants in the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control* 2006;15:83-94.
2. West R, McEwen A, Bolling K, Owen L. Smoking cessation and smoking patterns in the general population: a 1-year follow-up. *Addiction* 2001;96:891-902.
3. Hughes JR, Higgins ST, Bickel WK. Nicotine withdrawal versus other drug withdrawal syndromes: similarities and dissimilarities. *Addiction* 1994;89:1461-70.
4. Cahill K, Stead LF, Lancaster T. Nicotine receptor partial agonists for smoking cessation. *Cochrane Database Syst Rev* 2008:CD006103.
5. Stead LF, Lancaster T. Group behaviour therapy programmes for smoking cessation. *Cochrane Database Syst Rev* 2005:CD001007.
6. Etter JF, Stapleton JA. Nicotine replacement therapy for long-term smoking cessation: a meta-analysis. *Tob Control* 2006;15:280-5.

7. Caponnetto P, Polosa R. Common predictors of smoking cessation in clinical practice. *Respir Med* 2008;102:1182-92.
8. Gilbert H, Sutton S, Sutherland G. Who calls QUIT? The characteristics of smokers seeking advice via a telephone helpline compared with smokers attending a clinic and those in the general population. *Public Health* 2005;119:933-9.
9. Hughes JR, Giovino GA, Klevens RM, Fiore MC. Assessing the generalizability of smoking studies. *Addiction* 1997;92:469-72.

Systematic review – second reviewer guide

1. Search through the 522 titles and abstracts and extract those that are eligible for the study. Please also note the reference of the studies that you required a full-text document to ascertain if eligible. Also create a table to note down the studies that appear to be eligible but were not together with the reason for exclusion.

2. Check that you agree with all details entered in Table 1 & 2 (i.e. summary of included studies). Alter using track changes 1) any incorrect details, 2) details not needed, and 3) add anything missed that might be relevant

    - Note any factors which you feel would be important to include in quality assessment of the studies.

3. Predictor tables 3 (quit attempts) & 4 (success). For each predictor variable examined in each study enter into the table '0' if no effect was found or the direction of effect and its significance if given. In cases where a study presents multivariate models only, this is reported in the table. Where studies present multivariate models but also enough data for univariate statistics to be calculated, the univariate calculations are used (e.g. Hyland 2006)

    - The ORs and CIs have not been presented in the table due to many variables having several categories.

4. Put your initials and also the date you completed the table at the top of the first page

Thank you!